

LABOR PROCESSES WITHIN A COMMODITY SYSTEM:
A COMPARATIVE STUDY OF WORKERS IN APPLE PACKING HOUSES

by

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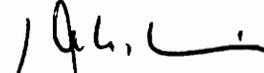
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ABSTRACT

This study is a comparative analysis of how two forms of capitalist production intersect with gender to shape the labor process in apple packing houses of Virginia, United States and the VI Region, Chile. It illustrates how differences in growers' production systems, as well as traditional undervaluation of women's work, shape the organization of the apple-packing workplace.

A theoretical framework based on the notion of labor processes was developed to study growers' farming systems and their use and management of labor. Production is conceptualized as a system based upon the relation of labor process and value-creating process. The study focused on two interrelated dimensions: 1) production as difference between exchange and use value and 2) the intersection of gender inequality and capital and its effects on the organization of the workplace and on women's ability to increase control and autonomy.

Five apple farms were selected in each of two regions - one in Chile and the other in the United States. From these farms one hundred-twenty workers were chosen to be interviewed by stratified random sampling. In addition, the farm operator of each farm was interviewed.

Labor in both regions is gendered and tightly controlled. However, the manner in which sample growers approach gender relations and the nature of labor control mechanisms differ

from one region to the other. Such differences are associated with the type of production systems, the degree of articulation of farming systems with the modern economy, the type of ownership, the relation the owner had with the workers, and traditional undervaluing of women's work expressed in wage differential according to gender and job segmentation.

Explanations that propose an association between women's income and autonomy are inadequate. First, women often worked because their family demanded that they do so, and, second, the type of work done by women in packing houses does not increase their economic power relative to men because a) the majority earn less than men, b) women's packing-house work is commonly viewed as an extension of women's housework, and c) women themselves think of their wage-work contribution as secondary and supplemental.

Although women's work choices are predicated upon reasons other than personal satisfaction, the majority value the possibility of meeting other women at work. Understanding why women enter packing-house employment needs to go beyond questioning women whether they do or do not need to work for wages. Explanations of how the contradictions in women's roles and attitudes affect how labor power is reproduced within the workplace are needed when addressing gender and work.

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CHAPTER 1: STATEMENT OF THE PROBLEM

The increasing globalization of agricultural production (Bonnano 1989; Goldfrank and Gómez 1991; Meillasoux 1987) has resulted in progressive productive and social differentiation¹ among agricultural producers, regions and countries (De Janvry et al. 1986; Lobao 1990; Rivera 1988). At the same time, agricultural producers have become closely integrated into the world market through commodity, labor, and input markets. The reorganization of production has exacerbated unequal relationships between capital and labor. Labor has turned into a major commodity not only for individual producers but for nations as well.

Gender has always been a key determinant in the organization of production processes. However, current theories on agricultural labor processes do not provide an adequate framework for the analysis of gender differences. Specifically, the existing theories do not address the intersection of capital and gender inequality that shapes labor processes. Rather, these approaches have focused on the labor market (either supply or demand), the individual

¹ By productive differentiation I mean the specialization in the production of certain commodities for export. By social differentiation I mean a division between agricultural producers based on the unequal access, control and use of resources they managed.

attributes of workers, the exchange relations within the workplace, and the sociopolitical forces associated with the economy and state policies. Thus, the overall impact of gender, and how it shapes labor processes and markets, tends to be either ignored or hidden by structural analyses that assume all workers are equal or are treated similarly.

The purpose of this dissertation is to comparatively analyze how different forms of capitalism intersect with gender to shape the labor process in Virginia, USA, and the VI Region of Chile. Specifically, this research compares and contrasts apple-packing houses in the Central Valley of Chile and Virginia. I compare how the workplace is organized, how labor is used, distributed, and controlled in two different farming systems. I seek to explain why the patterns of labor organization differ in packing houses in the two apple-growing regions. In this regard, I expect that differences in growers' production systems, as well as traditional undervaluation of women's work, will shape the particular organization of the apple-packing workplace.

Apple production is organized quite differently in the two regions. Apple production in the VI Region is export-oriented and capitalistic. In Virginia, apple production is carried out mainly by classic entrepreneurial farm businesses (see Edwards 1979), for which the product has chiefly a domestic and regional market. I expect these differences to

shape very distinct labor processes in both production systems, particularly regarding labor relations and labor management. At the same time, traditional views regarding women's place and women's work interface with current organization of production to reinforce existing forms of gender subordination, such as wage differentials according to gender and job segmentation. To assess labor dynamics comprehensively, this dissertation also examines the reasons women and men give for participating in the packing house labor market. Household economic needs and patriarchal ideology are expected to be primary predictors of women's and men's decisions regarding participation in packing house employment. However, it is expected that men and women will be affected differently. Because men do not have household responsibilities, economic need and lack of employment alternatives predict men's incorporation into packing-house employment.

This dissertation will contribute to a better understanding of how the economic system, and the intersection of gender and current organization of production, shape labor processes in the apple industry.

CHAPTER 2: THEORETICAL FRAMEWORK

In this chapter I review and discuss current theoretical approaches to labor markets: 1) neo-classical economic theory, human capital theory, and functionalist perspectives, 2) structural perspectives, and 3) neo-marxist theories. The subsequent section addresses several shortcomings of these theories and argues for an integrated view of labor processes rather than labor markets. Understanding labor as a process implies conceptualizing the system of commodity production as a unity of the labor process and the value-creating process. This means, on the one hand, seeing the production process in terms of the difference between exchange value and the use of labor (Marx 1967 and 1972). On the other hand, it means addressing the intersection of gender inequality and capital and its effects on the organization of the workplace. The focus on labor processes, therefore, implies a reformulation of previous theoretical approaches into an integrated framework that constitutes the basis of the analysis in this dissertation.

Current theories have focused on 1) the individual attributes of workers (e.g., human capital theories which focus on the supply side), 2) the labor market and the exchange relations within the workplace (e.g structural perspectives which focus on the demand side), and 3) the sociopolitical forces associated with the economy and state

policies (e.g. the neo-marxist theories, which focus on the sociopolitical context).

The understanding of specific labor processes and the transformation of the global market economy and its effects on labor and production requires a multidisciplinary or eclectic approach which integrates insights from a variety of theoretical perspectives and methods. I advance a combined analysis of 1) how sociopolitical and economic factors influence the ways in which apple growers organize production jobs, position themselves for opportunities, and gain control over the workforce with 2) an analysis of how the political and social construction of gender inequality interfaces with apple growers' organization of production and is used by capital to establish and maintain its position. Briefly stated, the contradictions of capital and labor have taken place within a framework of socially and culturally-generated assumptions that have systematically affirmed the unequal, subordinated, and less important character of female labor. It also implies that the overall impact of gender, and how it shapes labor processes and the organization of production, should be treated as empirical questions, rather than assumed a priori.

2.1 Neo-classical Economic Theory

Neo-classical economic theory assumes an open, fully competitive market process in which individual characteristics

are identified and rewarded according to their societal value (Hicks 1963; Polanyi 1957). In this view, workers participate in a free, competitive market where parties share relatively equal bargaining power, equal access to job opportunities, and full information and can freely move and choose in response to changes in supply and demand in different parts of the market (Mincer and Polachek 1974).

Human capital theory, a subset of neo-classical economics (Horan 1978: 536), and its sociological analogue, functionalism, have developed a set of explanations for labor market processes that associates the characteristics of workers and the earnings they obtain (Becker 1971; Mincer 1970, 1974; Polachek 1981) and identifies some unemployment as voluntary (e.g. family choices, leisure, etc.) (Becker 1965, 1985; Mincer and Polachek 1974; Sandell and Shapiro 1978). Key assumptions of human capital theory and functionalism are that personal investment in education and training translates into stocks of accumulated capital which permeate differential job positions and earnings (Averitt 1968; Becker 1965; Mincer 1970; Mincer and Polachek 1974). That is, workers are said to invest in things to make themselves more productive and attractive to capital, such as improving their skill level. Earning differences and job positions are thus accounted for by these variables and represent compensations to personal investment. "Human capital models single out individual

investment behavior as a basic factor in the heterogeneity of labor incomes" (Mincer 1970).

Applied uncritically, these theories suggest, for example, that gender differences in labor productivity and wages are due to family responsibilities, physical strength, education and training, absenteeism and turnover (Becker 1985). But, as Strober and Arnold (1987) explain, "Where women face a wage penalty over and above that paid loss of accumulated experience, the reason is as likely to be related to discriminatory practices of employers as to actual skill depreciation." Further, Huff-Stevenson (1988: 89) contends that "even if a statistical association between women's lower wages and intermittent labor force participation exists, it is extremely difficult to separate cause from effect." She calls this a problem of "simultaneity," that is, causality flowing both ways.

New attempts from human capital theory to measure wage differentials and occupational distributions focus on the productivity differences operationalized as different amounts of energy expended in the workplace (Polachek 1981; Becker 1985). Thus, women who have to take care of domestic responsibilities (child care, food preparation, etc.) will divide their energy between the household and the market, while men will fully allocate their energy to the market sector. In Becker's view (1985: 549), differences in energy

expenditures account not only for wage differences, but also for differences in occupational distributions. Although human capital models include control variables such as "pre-labor force discrimination" (e.g. influence of sex-role stereotyping, etc.) (Blau and Duncan 1967; Featherman and Hauser 1976; Hudis 1976; Sewell and Hauser 1975), their focus on productivity differences minimizes and obscures the role of labor market discrimination and structural organization of jobs (Acker 1988a and 1988b; Coverman 1988; Nash and Fernández-Kelly 1983; Nash 1983, 1990; Reskin and Roos 1987; Sokoloff 1980 and 1988).

Human capital theory and functionalist perspectives² have been criticized on empirical (Beeghley 1988; Blaug 1976; England 1984; England et al. 1988; Farkas and England 1988; Ollenburger et al. 1989; Schiller 1980) and ideological grounds (Bloomquist 1990; Kalleberg and Berg 1987; Kalleberg and Sorensen 1979; Kanter 1977; Summers 1991). The problem with these perspectives is that their explanations imply that labor markets are functioning effectively, that workers are paid according to their productive worth, and that no public policy interventions are necessary (Huff-Stevenson 1988: 91; Tomaskovic-Devey 1987; Schiller 1980). In this framework, policy prescriptions take an individualistic approach which

² For a comprehensive review of these arguments see Becker 1971; Mincer 1974; Blaug 1976 and Schiller 1980.

leaves to each person the duty of upgrading human capital through education and training, and hence justify no further government expenditures or social interventions aimed at helping the poor. However, human capital solutions make no provision for the resources necessary for greater investment, leaving it up to the individual (Becker 1985). Further, the poor strata, even if they are willing to educate themselves, have no resources to invest in their education (Beaulieu 1988; Lyson 1985, 1989). To assume that the market is an invisible hand which regulates demand is a fallacy which dismisses the important effects of power relations within the market sphere.

2.2 Structural Perspectives

Structural perspectives³ have challenged human capital and functionalist views in several ways. Structural perspectives oppose individual characteristics as explanatory variables, emphasized by the supply thesis. A structural explanation of individual characteristics maintains that, for example, race, gender, and education are not themselves the cause of differential positions in the labor force nor of salary differences, but are characteristics that may serve as a screening device (Arrow 1973; Tomaskovic-Devey 1987) or a signal (Bowles 1978) when hiring employees.

³ Here I am referring exclusively to the dual economic approach to labor. I distinguish dual labor market theories from segmented labor market theories later on.

Although structural perspectives are diverse, a common thread connects these approaches. Structuralists agree that analysis should be focused on the context in which differences among workers are created. Structural perspectives center the discussion around the social order that constrains individual choices and shapes the positions that workers fulfill (e.g. the organization of work, division of labor within the workplace, the character of promotion ladders, and the control mechanisms by which workers are directed, evaluated, and rewarded). Key variables in this framework are those related to structural factors associated with the economy (dual economy) (Hodson 1978; Hodson and Kaufman 1982; Horan 1978), firms, or industries (firm size) (Bielby and Baron 1986; Hodson and England 1986), and the internal organization of the workplace (division of labor by task and sex) (Coverman 1988; Glenn and Feldberg 1977; Kanter 1977). Organizational differences are often assumed to mediate the effects of macro-structures on individual inequality (Kalleberg 1983). Hence, this framework is concerned with the demand aspects of the labor market (Coverman 1983; Corcoran, Duncan and Ponza 1983; Farkas and England 1988; Tomaskovic-Devey 1987), with particular attention to quality and quantity of employment.

Following this line of reasoning, exponents of structural perspectives emphasize that employers rather than employees determine the number of jobs and the rewards associated with

them (Reskin and Roos 1987; England et al. 1988). Differences are therefore a structural issue which cannot be understood by reference to individual characteristics alone (Hodge and Laslett 1980: 129).

From this point of view, discussions of labor markets address the influence of the economic structure and social organization on the differential demand for and use of labor (Rogers and Goudy 1981). These theories presume that male and female occupational differences are shaped in part by the characteristics and organization of the economy, including the demand for specific labor (e.g. women's labor), and the extent to which similar opportunities are open to men and women. Thus, these perspectives hold that a complete understanding of female/male occupational differences must take into account structural arrangements through which men and women enter the labor force and compete for jobs (Abrahamson and Sigelman 1987; Oppenheimer 1970; Stafford and Fosset 1989).

Researchers using structural determinants of occupational differences, particularly sex segmentation and unequal labor positions of women, have studied such effects in several contexts, including organizations (Baron and Bielby 1980, 1984; Bielby and Baron 1986; Kanter 1977; Lyson 1985, 1989), industries (Bridges 1982; Oster 1975), and non-metropolitan areas (Rogers and Goudy 1981; Semyonov 1983). Studies have concluded that gender-based occupational outcomes are strongly

predicted by structural arrangements governing the stratification system in the local community through the opportunities available in the local area.

Analysis of the effects of economic structure and social organization on workers' outcomes was further developed by those holding dual labor market structural views (Hodson and Kaufman 1982; Horan 1978). The influence of the economy was discussed by researchers preoccupied with policy problems of poverty and underemployment. These researchers posed the existence of a dual market. Accordingly, the economy is composed of distinct sectors that vary in rewards and opportunities provided to workers (Doeringer and Piore 1971; Gordon 1972; O'Connors 1973; Piore 1975; 1979). The basic hypothesis maintains that as a result of the uneven development of production, the private labor market has been divided into two distinct sectors (i.e. primary and secondary) with little mobility between them. The primary sector offers jobs with relatively high wages, good working conditions, chances of advancement, and employment stability. By contrast, the secondary sector offers low-paying jobs with poor working conditions, little chance of advancement, manifest employers' discrimination, considerable job instability, and high turnover among the labor force (Piore 1975: 126).

Research in this tradition thus concludes that the

important distinction for analyzing the economy is between good and bad jobs rather than between skilled and unskilled workers (Kalleberg and Sorensen 1979). It contends that higher turnover rates of workers in the secondary sector are a result of institutional constraints and lack of good jobs. Therefore, attempts to resolve workers' underemployment must focus on the creation of jobs rather than on giving workers more skills and training (Friedland 1980, 1984; Friedland et al. 1981; Gordon 1972; Rosenfeld 1985).

Dual labor market theory has been criticized for establishing false dichotomies between sectors of the economy. Cain (1975, 1976) and Evans (1979) argue that there is considerable mobility between primary and secondary sectors. Moreover, Portes et al. (1989) maintain that a rigid separation of the economy into two isolated and distinct sectors neglects the fact that these sectors articulate because they are functional to each other. On the other hand, most research on the dual labor market centers on job outcomes such as earnings, turnover rates, etc. Relatively few studies have attempted to explain the origins of different job outcomes and relate such findings to different economic and/or state sectors.

While structuralists do challenge human capital and functionalist views by incorporating structural dimensions (e.g. individuals' labor market options are constrained by

social structural factors) into their analysis, they have overemphasized demand factors and exchange processes. Efforts of structural perspectives to describe the structure and distribution of work and inequality have tended to focus on the exchange process between workers and employers and on the economic factors affecting such exchanges. But they have downplayed the socio-political context surrounding these relations (e.g. the dialectical nature of the relation between macro-economic processes and domestic policies).

2.3 Neo-Marxist Theories

Neo-marxist theories provide us with a better analysis of the socio-political origins of differences in the distribution of work. Researchers in this tradition have attempted to analyze labor market segmentation in terms of how and why productive activity is organized the way it is. Braverman (1974), Edwards (1979), Gordon et al. (1982), and Phillips and Taylor (1980) have reformulated previous arguments on segmentation by bringing in explanations concerning the development of capitalism and the dynamics of monopoly capitalism. Their basic assumption is that labor market divisions persist because they facilitate the operation of capitalist institutions. They counter those explanations which assume that labor markets are governed by obscure, freely acting forces of supply and demand. A key variable in this framework is the "social structure of accumulation,"

which refers to the arrangement of social, political and market institutions necessary to sustain the process of capital accumulation (Edwards 1979; Gordon et al. 1982: 9-10, 22-26).

In this view, the state appears as a central actor which shapes (and regulates) the organization of labor and the interplay of labor and the economy. In terms of the organization of labor, the state acts through such mechanisms as controls over hiring procedures, rules for importing alien labor, etc. (Block 1980; Offe and Ronge 1979; Poulantzas 1978). In terms of the organization of economic production, the state acts through special price policies, regulation of foreign trade, etc. (Braverman 1974; Cardoso 1973; Goldfrank and Gómez 1991). The state, in this view, responds to specific dominant groups and is an arena for class struggle.

Neo-marxist theorists go also beyond earlier formulations that reduce the analysis of labor market dynamics to employers' "tastes for discrimination" (Becker 1971; Hodge 1973) or to institutional forces such as "systemic discrimination" (Barret and Morgenstern 1974). For example, Bonacich (1976) argues that the differential price of labor is not due to ethnic origins of those entering the market, but is rather the result of differential resources associated with employers' attempts to replace higher paid labor by cheaper labor. Similarly, Reich (1981), Roemer (1979), and Thomas

(1985) explore ethnic discrimination as employer mechanisms to weaken workers' bargaining position.

With regard to gender discrimination, a comparable argument can be made. As Deckard and Sherman (1974: 481) explain, "sexism helps to divide male from female politically, making it easier to rule both." For the same reasons, Szymanski (1976) argues that the capitalist system needs an oppressed group of workers to perform menial, low-paying tasks, and that this could be achieved by either sexism or racism.

However, the understanding of sociopolitical dynamics affecting differential opportunities for employment, relevant to neo-marxist theory, must be complemented with an analysis of supply and demand factors. Otherwise, we fall into arguments such as that of the industrial labor reserve or relative surplus population (Braverman 1974: 386) to explain the social organizational forces facilitating capitalist accumulation and technological change. For example, the fact that women are capable of being used as a reserve population does not explain their disadvantaged status (Gilligan 1987; Harding 1987; Hartmann 1976, 1981; Joekes 1987b; Smith 1987).

Women's paid work cannot be fully understood without taking into account the unpaid contribution of women's reproductive labor, especially labor allocated to the reproduction of the labor force. A complete understanding of

women's position at work needs to incorporate into the analysis of "socially necessary labor" (advanced by neo-marxists) a detailed specification of the inequalities built into gender relations.

2.4 Labor Processes Within a Commodity System: A Study of Apple Packing-House Workers.

It is becoming recognized that the sociology of work needs an eclectic approach, drawing upon and integrating insights from a wide range of theoretical perspectives and value orientations (Kalleberg 1983).

I seek to integrate the emphasis of 1) structural perspectives on the marketplace as the locus of exchange processes, 2) neo-classical theory on supply side characteristics, and 3) neo-marxist theory on sociopolitical contexts with an analysis that emphasizes gender relations. Despite the often substantial differences among these theories, the need for a comprehensive explanation of the articulation between work-related processes and production strategies requires the integration of all of these approaches.

In this sense, any correspondence among what is produced; associated technological characteristics; and the organizational, occupational, class, ethnic and gender differences should be treated as empirical questions and not assumed a priori. I want to explain why certain groups of

workers are "more attractive" for employers, and how those attractive characteristics are produced and reproduced within the workplace structure.

A key notion articulating this framework is that of labor processes as opposed to labor markets. Labor markets are commonly defined as "the arenas in which workers exchange their labor power in return for wages, status, and other job rewards" (Kalleberg and Sorensen 1979: 351; Kalleberg and Berg 1987). However, this operationalization of the notion with its focus on the exchange processes occurring in particular settings does not acknowledge the social, historical, and economic context which shapes specific labor market relations; does not incorporate the effects of an individual's position on specific labor settings and exchanges; and does not link labor exchanges to the system of production in which those labor processes are embedded and enacted.

In this regard, the notion of labor process advanced in this study integrates the socio-historical and political context in which relations of production and labor are realized; the structural determinants of labor (e.g., the organization of work itself, the division of labor or internal task differentiation, promotion ladders, control, and reward mechanisms); and the effects of workers' individual positions on the labor process. It then links the analysis of labor processes with particular commodity systems of production.

The analysis of labor in agriculture cannot dismiss the specificity that particular agricultural commodity sectors, and the nature of the commodity being produced, bring to it. In this framework, the labor process is analyzed as part of a particular system of commodity production. A system of commodity production conceptualizes the farm (e.g., the apple orchard) as a single unit of commodity production.

The relation of the commodity system of production to labor directs attention to certain variables, which include 1) the nature of growers' farming systems (e.g. the changing structure of the market and capital), (2) the use and management of labor (technological transformations), (3) the role of scientific research and extension activities (cost efficient and cost/benefit strategies to generate economic surplus), and (4) the structure of marketing and distribution networks (state sectoral policies).

However, macro-analyses of labor processes, especially those processes that involve women, cannot be conducted without considering gender relations. Labor processes are crosscut by gender, ethnic, and class positions, which are formalized in the social division of labor. Therefore, the analysis of labor processes and interrelations among the economic system, the state system, and the labor force cannot dismiss the specificity brought to this process by the gender, class and ethnic relations in which these are immersed.

The fact that gender, class, and ethnic variables (viewed as individual positions) reinforce the existing logic of accumulation inherent in capitalist development, as Marxists contend, does not explain why certain labor pools (i.e., women, Hispanics, blacks and immigrant workers) are crowded into relatively limited niches of the economy (e.g. service and agricultural sectors).

A key assumption in this framework is that gender is a structural relationship shaping management and organizational decisions and not just a label attached to workers in apple farms. To understand the effects of gender, and its articulation with the systems of capital and labor, it is necessary to explore the systems of inequality that are built into capitalist society.

In part this means reconceptualizing human capital characteristics such as age, education, and skill levels. These characteristics must be seen not as factors that enhance an individual's earning power, but rather as factors that affect the interplay of commodity production systems, human decisions, opportunities available to workers, and the "worth" attached to women's work.

In the rural sector the dynamics shaping specific labor processes and the opportunities for all workers are affected by the organization of production (Lobao 1990), the geographic labor markets (Bloomquist 1988; Kale 1986; Tigges and Tootle

1990), the traditional segmentation of labor markets by gender (Treiman and Hartmann 1982; Pigott 1985) and the specific nature of a worker's position, such as being a woman or an alien minority (a seller of one's labor who has little bargaining power) (Ollenburger et al. 1989; Seitz 1992). Although individual characteristics (such as age or literacy rate) in the rural sector may determine who receives low-paying or seasonal jobs, as opposed to better-remunerated and stable jobs, these characteristics cannot fully account for the supply of those jobs (Tigges and Tootle 1990). Individuals participate in a geographically limited labor market with boundaries often limited by proximity to residence (Bloomquist 1990; Litcher and Constanzo 1986). In addition, the extensive processes of industrial transformation in agriculture have been accompanied by profound changes in industrial and occupational structures. Tigges and Tootle (1990) have shown that those rural and non-metro labor markets highly dependent on agriculture are the most affected by global competition, economic downturns, and unemployment.

Further understanding of working women's position in the rural sector (including the position of women working in packing houses) requires an analysis of patriarchal

structures⁴. While the interaction of individual characteristics, transformation in the structure of agriculture, and existing segmentation of the labor market affect women and men, they do so differently. These differences are related to the general patriarchal system in which men control the labor of women in virtually all aspects. For Hartmann (1976: 208), the basis for the subordination of women to men resides in the interaction between capitalism and patriarchy. Therefore, patriarchy as a system of hierarchical relations between men and women interlocks with capitalist social relations and explains the coincidence of gender and class into specific labor niches. As Hartmann explains:

... the hierarchical domestic division of labor is perpetuated by the labor market, and vice versa. This process is the present outcome of the continuing interaction of two interlocking systems, capitalism and patriarchy (Hartmann 1976: 139).

Patriarchy assumes new forms as the development of industrial capitalism progresses (Eisenstein 1978; Joekes 1987a).

Coincidence of gender and class positions in specific labor processes are considered as a key axis in the study of women and work (Beechey 1987; Gacitúa 1990; Osterman 1988;

⁴ Feminist theorists have used the term patriarchy to describe the relation between genders (Hartmann 1976; 1981; Cott 1988; Daly 1978; Sachs 1983; Sokoloff 1988). Hartmann (1976, p.18) defines patriarchy as "a set of social relations which has a material base and in which there are hierarchical relations between men and women... The material base of patriarchy is men's control over women's labor power."

Phillips and Taylor 1980; Seitz 1992). Class directs attention to the profound differences in women's material conditions, while gender complements such an analysis by focusing on unequal relations and control of resources between the sexes.

The macro-analysis of labor processes, especially those processes which involve a majority of women, cannot be studied without special attention to the specificity of gender relations (Muñoz-D'albora 1990; Valdés-Subercaseaux 1988). Women's labor force participation is immersed in a process that constantly links economic development and the unequal relationship of the genders by class. In this sense, the positions that women maintain in the class structure, the family, the domestic gender division of labor, and its correspondence with the incorporation of women to the sphere of paid work are emphasized.

I have criticized human capital theory, functionalist views, structural perspectives, and neo-marxist theories of labor market dynamics. I have proposed a comprehensive understanding of labor (as opposed to a fragmented one) which reformulates and integrates supply, demand, and sociopolitical factors into one framework with gender relations at the center of the interrelation between capital and labor. I also have advanced the concept of labor processes rather than labor markets, because it allows a better understanding of the interplay between labor and capital. In this regard, I have

broadened the analysis of labor by introducing other factors (such as the farming system, the commodity nature of production, and globalization of markets) which specify the forces shaping particular labor processes. Finally, I have integrated into this framework the significance of two systems of inequality, capitalism and patriarchy, for the analysis of labor. I have focused my discussion on the effects of gender position, labor, and capital on the coincidence of women and minorities (men and women) in apple packing houses and the attractiveness of such labor pools to apple growers.

CHAPTER 3: METHODOLOGY

There is no single methodological procedure associated with this research. Rather, this dissertation utilized historical, comparative, feminist, and systems analyses. The importance of a historical, comparative, and feminist analysis has been documented elsewhere (Hartsock 1987; Rodriguez and Venegas 1989; Smith 1987). Comparison is important to this study in order to assess differences and similarities in apple farms in both countries. Examination of documents and changes over time complement this analysis. A feminist standpoint is central in that it sensitizes the analysis to issues of gender inequality. Finally, a systems analysis is important because it conceptualizes the apple farm as a system of production with connected subsystems (commercialization, technical advice, agroecological environment, etc.) and focuses the analysis in the dynamics of such subsystems with the logic behind the production of a commodity such as apples.

3.1 Central Units of Analysis

The study of factors that shape apple labor processes and the examination of workers within apple packing houses imply different analytical levels. This dissertation focuses attention on one central unit of analysis and three secondary ones.

The central unit of analysis in this dissertation is apple labor processes in the Central Valley of Chile and the

Commonwealth of Virginia in the United States. Secondary units of analysis are: 1) the apple farming systems, whose marketing and productive strategies shape specific use of the labor force; 2) the State, whose federal and local law affects the demand and supply of labor; 3) labor segments (categories of workers) in apple packing houses.

3.2 Units of Analysis and Method

The following conveys a detailed explanation of each unit of analysis, an explanation of the method used for each case, and the sampling procedure for each unit. Later these units will be discussed with respect to the interview schedule and the data collected.

Apple Labor Processes

The role and impact of the following variables in both countries was assessed:

1) Supply of labor. This refers to the availability of people to work for the season in the apple firm. This includes assessing those people available to work, workers' stated reasons for entering this particular labor process (such as strategy of survival, limited choices, unemployment, and aspirations), worker's job history and the demographic characteristics of workers (such as age, educational level, marital status, and number of children).

2) Demand for labor. Assessing the need for a specific labor force in the apple firm during the harvest and packing

season, includes exploring the grower's stated reasons for hiring a specific labor force (including profit, limited choices, labor shortage, wages, and workers' benefits).

3) Sociopolitical context. Macro-economic and legal policies that affect the relation of apple production and marketing with use and composition of the labor force. Data were gathered from interviews with workers and growers. An interview with the Virginia Employment Commission explored aspects of supply and demand for migrant and seasonal farm labor and gathered statistical information about trends in migrant and seasonal labor force participation during the last ten years.

The Apple Farming System

Marketing and productive strategies were compared in both countries. Differences and similarities were related to apple labor process dynamics.

1) Commodity destination. This refers to export versus world market and domestic consumption versus local market.

2) Organization of production. This includes technology use and delivery of technical assistance (such as leaf spraying, fertilizer use, and extension service); commodity use (including juice, sauce, and fresh market); price of commodity for each uses; quality control (apple size and grade); distribution system (such as use of brokers vs. direct sales to individual buyers); division of managerial labor, and

type of firm (including size).

3) Costs of production include the costs of inputs (such as trees, fertilizers, and variety of apples); wages; infrastructure (controlled atmosphere storage capacity); packing house (average number of apples packed per season); and margin of profit.

Historical analysis helped document changes in apple growing during the last 10 years. Historical information was gathered from interviews with growers and extension service specialists, and statistical information came from the Virginia Apple and Peach Survey published by the Virginia Agricultural Statistics Service.

The State

Differences and similarities with respect to laws and regulations among the following variables were documented:

1) Labor law. I examined the effect of agricultural labor law on labor supply (minimum wage laws; laws governing unionization; RAW, SAW, and H-2A programs).

2) Chemical regulations. This involved a comparison of the effects of the prohibitions associated with the use of particular pesticides on apple production.

An historical analysis of legal documents was conducted to assess changes in legislation and its effect on production and labor. In the U.S. I reviewed the Immigration Reform and Control Act (IRCA) of 1986 and three programs that were

designed under the IRCA to prevent potential labor shortages. These programs are 1) the Special Agricultural Worker Program (SAW), 2) Replenishment Agricultural Worker Program (RAW) and 3) temporary non-immigrant alien workers for specific agricultural duties (H-2A). In Chile I reviewed recent changes in the labor law and unionization rights. In addition, laws regarding prohibition of some pesticides and fungicides were examined (Virginia Chemical, Drug and Pesticide Unit), as were laws dealing with workers' rights to unionize.

Labor Segments in Packing Houses

Comparison of the following variables in both countries helped to establish similarities and differences in terms of labor arrangements and control over labor in packing houses. Data were gathered on individuals which gave information about labor segments in the packing houses.

1) Gender segmentation. Channelling of workers into particular job positions according to gender (job ascription, stratification).

2) Control strategies. Strategies for controlling the work force.

3) Management strategies. Organization and administration of packing houses.

4) Wage differences. Wage differences by gender and type of job.

5) Workers' wage work decisions. Workers' decisions regarding packing-house wage work, options available to them, and differences in workers' choices by gender.

Data were gathered from interviews with workers and growers.

3.3 Sampling Methods

Selection of the Apple Farming Systems

Access to apple growers in the U.S. was gained with the collaboration of an extension and fruit specialist, Dr. Richard Marini, from the Department of Horticulture at Virginia Polytechnic Institute and State University. Access to apple firms in Chile was gained with the collaboration of a technology firm AGRICOSAN. Ten apple production firms were selected as case studies: five in Chile and five in Virginia.

Statistics from the Virginia Apple and Peach Survey indicated that in 1987 the state of Virginia had a total of 343 apple orchards. The fruit-producing areas of Virginia identified by the survey are: 1) the Shenandoah Valley (84 orchards), 2) Piedmont (70 orchards), 3) Roanoke Valley (77 orchards), and 4) Southwest (112 orchards). In Chile the fruit producing area in the VI Region is subdivided into the provinces of Cachapoal, Cardenal Caro, and Colchagua. All apple growers in Cachapoal have private packing houses, while none of the packing houses belong to private growers in Cardenal Caro and Colchagua.

Apple farms were selected only if they met the following criteria: 1) over 125 acres of apple orchard⁵, 2) existence of a packing house in actual operation, and 3) authorization by the owner to conduct the research interview. In Virginia the apple farms selected could be classified as "large" and "very large" operations. These farms are located in the four fruit-producing areas: Frederick County (Shenandoah Valley), Nelson County (Piedmont), Botetourt and Franklin Counties (Roanoke), and Patrick County (Southwest), the counties which have the higher number of trees⁶ (see Fruits, Nut Trees Survey 1989). In the VI Region, the growers selected also owned large apple farms and have gross sales over \$250,000 annually, in U.S. dollars (Murdock and Leitritz 1988: 87).

Selection of Workers

I used a stratified random sample for interviewing workers of packing houses. One hundred twenty workers were interviewed: 60 in Virginia and 60 in the Central Valley of Chile. First, each grower agreed to provide a list with the names of the workers in each apple-packing house. Each list

⁵ In the state of Virginia a large apple farm is one that has from 125 to 300 acres. A very large farm has 300 acres or more (Putnam 1989, p.56). In the VI Region, a large apple farm is one that has over 80 acres (CIREN-CORFO 1989).

⁶ In the case of the Southwest area I did not have access to Carroll County so I choose Patrick County where access to a particular apple firm was possible.

constituted the entire population. Second, the list was stratified by sex (male/female), with sex determined by examining names in the sampling frames and checking with growers. Third, a simple random sample of workers was drawn from each list.

The number of women and men interviewed in each research site approximates the proportion of women to men observed in studied packing houses (see Table 1).

Table 1. Average Number of Packing House Workers in Virginia and the VI Region for 1987-1991, by Sex				
Sample	Total Packing Labor Force	Women Total	Men Total	Proportion women to men
Virginia	133	102	31	3.3
Percent	(100)	(76.7)	(23.3)	
VI Region	226	137	89	1.5
Percent	(100)	(60.6)	(39.4)	

In Virginia packing-houses I interviewed 46 women (76.7%) and 14 men (23.3%), while in the VI Region, I interviewed 37 women (61.7%) and 23 men (38.3%) (see Table 2). Data collected for each of these samples were used to develop within-stratum estimates.

Since the process of interviewing apple-packing house workers is based on consent, an individual's non-consent or refusal to be interviewed was acknowledged. In the case of

non-consent, I randomly selected another name from the same stratum. I replaced each case in this way until the desired sample size in each stratum of each apple- packing house was reached.

Table 2: Virginia and VI Region Sample				
Area Sex	Virginia		VI Region	
	Men	Women	Men	Women
Total	14	46	23	37
Percentage	23.3	76.7	38.3	61.7

Selection of Growers

I interviewed the owner of each apple farm.

3.4 Quantitative and Qualitative Analysis

To help establish comparison across strata for individuals, farms, and countries, I used descriptive statistics, such as the median, a measure of central tendency. The following indicators based on individual-level data were examined: wages, number of individuals who packed and who did other jobs (running forklifts, storing filled boxes), education, and age. For the analysis of apple farms the following indicators were used: apples produced, price for apples, gross sales, number of boxes packed, storage capacity, number of workers, and land devoted to growing apples.

Historical Analysis

Legal documents which described changes in labor laws were reviewed. Growers were interviewed to determine changes in production strategies and labor demand.

3.5 Interviewing Methods

By prior arrangement with each apple grower, workers were interviewed in their place of work in both countries. In Chile this was necessary to facilitate the relations with growers and to prevent any misconception about the research goals. In Virginia, during the first informal meetings with growers and workers, I found that workers commonly rejected interviews after work hours because of fatigue. I was advised by the workers that more workers would agree to be interviewed in the packing-house during work hours. Also, growers declared a preference that the interviews take place in the orchard packing house. In addition, it would have been far more expensive and time-consuming to locate workers in their widely separated communities than it was to talk to them at the apple firm. Another benefit of interviewing on the job is that it allowed a closer integration of interviewing with field observations.

A reimbursement procedure was implemented to compensate workers' time lost, which would otherwise reduce their hourly wages. I paid workers for the time used for interviewing purposes. The equivalent of an hour minimum wage (US\$4.25.) was reimbursed either to the worker or grower. In most cases

growers prefer to be reimbursed directly so as to incorporate the money themselves into the worker's salary. In other cases growers refused to be paid, and they let me interview workers without discounting interview time from workers' pay checks. In Chile the growers did not reduce their hourly wages when workers were interviewed, so I did not have pay the workers.

Because the interview schedule was open ended, the length of time devoted to interviewing was highly variable. The average time required to complete an interview with workers was a little over 50 minutes. The average time required to complete an interview with growers was 2 hours.

3.6 Reliability

Worker Interviews

Reliability of informant responses was insured in three ways. First, each ethnic group had its own interviewing peculiarities related to age, language, culture, and education. For example, Mexican workers were interviewed in Spanish using differing degrees of formality in addressing interviewees according to age ("usted" versus "tu"). During the interviews I considered and recorded such differences so that judgements could be checked and definitions tightened.

A second method used was the standard technique of checking internal consistency. The interview schedule had numerous areas of overlap that worked effectively for this purpose, such as job history and employment options and

choices.

Finally, the overall consistency of each individual interview was compared with data obtained from the interviews with growers.

Grower Interviews

In the case of grower interviews, reliability was insured following the same procedures. Appendix 2 contains the explanation of topics covered by the interview.

CHAPTER 4: A COMMODITY SYSTEM: APPLE PRODUCTION

Research on the agricultural industry shows that the organization of economic production has developed unevenly, resulting in a progressive differentiation of socioeconomic structures (Lobao 1990; De Janvry et al. 1986; Rivera 1988).

To assess the relevance of agricultural change and consequent socioeconomic transformations on work inequalities, it is necessary first to describe and analyze the farming systems under which those work inequalities are enacted.

The following chapter addresses the question: **What are the apple farming systems in Virginia and the VI Region in Chile?** To characterize these systems and comparatively analyze them, this study will focus on the regional system of apple production in each country. These systems are discussed in terms of: a) United States and Chilean agricultural trends, b) Virginia and VI Region agroecological factors and land distribution, c) Virginia and VI Region agricultural economy, d) general characteristics of sampled growers and their farming systems, and e) differences and commonalities of farming systems studied. Sampled growers were further compared on the basis of four critical factors associated with their farming systems: 1) degree of capitalization, 2) use of extension services, 3) manner of implementing chemical regulations, and 4) marketing patterns and price received.

The conceptual framework presented here provides

guidelines by which information on apple growers' farming systems was gathered, analyzed, and compared. Central to this framework is the notion of farming systems as an analytical tool when analyzing sampled units of production (e.g. the apple farm) in Virginia and the VI Region. In the farming systems approach, farms are viewed as systems with interconnected subsystems (such as land use, resources, and labor subsystems) (Feldstein and Poats 1990; Quijandría 1991). In this study, the analysis of such systems is not based on the diagnosis of the whole farming system, but has instead a predefined focus on a particular commodity: apples.

Explanation and comparison of sampled apple farming systems in Virginia and the VI Region centers the analysis on the changing nature of the relations of agricultural production. In turn, understanding the transformation of the relations of agricultural production requires attending to the emerging forms of the capitalist economy, which include political relations, competitive market structures and the organization of labor.

The analysis integrates different perspectives in the discussion of Virginia and VI Region cases. A comprehensive explanation of the nature of production processes and the socio-historical and political factors shaping them was done. The underlying basis of this explanation assumes that the actual rate of surplus value realized in apple growing is

dependent upon the nature of the production processes (e.g. the organization of production), the nature of the commodities produced, the socio-historical system (specific policies and regulations) particular to each country, and the interrelation of capital, gender, and labor.

With regard to the organization of economic production, Marx (1972) explains that the fundamental basis for inequality in a society comes from differential social relationships which correspond to a specific economic dynamic between capital and labor. According to Marx (1972), the value of commodities is equal to the value of three factors required to produce them: constant capital (infrastructure: land, raw material, and machinery); variable capital (the value of labor power which is directly related to the costs of subsistence and basic reproduction); and surplus value (which is reflected in the unpaid contribution of labor to the production of the commodity). Upon selling the commodity, the capitalist realizes surplus value that in its monetary form can be reinvested into production, providing the basis for successive expansions of production and accumulation of capital. Thus, the more the capitalist is able to reduce the costs of production (variable and constant capital), the higher the rate of extraction of surplus value. The relation of capital and labor is further specified by gender. Gender is a relation which points to power differentials between men and

women built into the labor process. Gender interacts with the capitalist mode of production to shape specific labor outcomes. A focus on gender relations is critical to understanding women's economic position; that is, to explain why women, rather than men, constitute the subordinated group in capitalist work forces. As McKintosh (1981: 3) cogently argues, "only in a society where men and women constitute unequal genders is there any reason why gender should be an important organizing principle of the social division of labor." An example is the traditional undervaluing of women's work in both monetary and symbolic terms.

The progressive globalization of the economy is another factor shaping the labor process. Nation states operate within a capitalist world-system in an increasingly interdependent global economy where nations are forced to compete with one another to enhance their international trading position and to capture as large a share as possible of the gains from trade. Participation in the world market economy has redefined the division of labor. In this sense, labor has turned into a major resource not only for individual capitalists, but for individual nations as well. A cheap, flexible, and docile labor supply has turned into a major asset for export-oriented industrialization in developing nations and for agricultural economic activities in core countries.

Selective industrialization of particular commodity sectors has implied, in turn, a different set of capitalist relations of production (Friedland 1980; 1984) which have many similarities to production relations in other branches of industry (De Janvry et al. 1986). This means that the nature of specific agriculture commodity production systems involve the widespread "commodification" of social processes (i.e. exchange, production, distribution and investment processes) in all spheres of economic life (Wallerstein 1983: 15-17). Interacting with the trend toward selective industrialization of specific commodity sectors is the seasonal character of agriculture labor. Fructiculture is an industry where the seasonal cycles result in an interrupted use of labor in the overall production system. Because of seasonality, apple production tends to involve a disjuncture between production time and labor time (Buttel, Larson and Gillespie 1990; Friedland et al. 1981; Mann and Dickinson 1978; McMichael 1987).

The organization of economic production described by Marx and the interaction of gender and capital take place within specific socio-historical and political formations which shape policies for each economic sector and particular commodities of those sectors. State intervention and particular policies favoring the development of fruit production have implied drastic transformations of growers' organization of

production, management strategies and use of labor.

The rapid structural change in fructiculture (e.g. feminization of the labor force) directs attention toward the critical factors of apple production and marketing: the nature of the farming system, the relations between growers and processors, and issues of access and control over a cheap agriculture wage labor force.

Apple Production in the United States and Chile.

The following presents a general discussion of United States and Chilean agriculture and sampled apple farming systems. This chapter attempts to situate the analysis of sampled Virginia and VI Region apple farming systems within the general political, economic and social context shaping agricultural transformations in both countries. It also describes the sample of growers studied in each of these areas.

It is important to point out at the beginning that farms sampled are defined here as large apple farming systems.⁷ These large operations are conceptualized as capitalist apple production units (as opposed to peasant subsistence economy). They target their production basically to the market, and the

⁷ The sample of apple farms in both countries can be considered large apple operations if income (Leistritz and Murdock 1988) constitutes the measure of farm magnitude. However, if we incorporate in the analysis other measures such as size (Putnam 1989), the sample of apple farms selected can be considered medium to large operations.

production criteria are based on obtaining as much surplus revenue as possible using wage labor or a combination of wage and family labor.

4.1 United States and Chilean Agriculture

The combined effects of long term agricultural restructuring, monetary policies in the 1980s oriented toward lowering inflation, world-wide recession, and a sharp rise in the value of the dollar contracted international market demand for United States and Chilean farm products (Brown and Deavers 1987; Flora 1990a; Flora and Christenson 1991; Goldfrank and Gómez 1991; Henry et al. 1986; Murdock and Leistritz 1988; Murdock et al. 1986; O'Hare 1988; Ollenburger et al. 1989). Policy makers in both countries implemented a combined strategy of providing continued high subsidies for some agriculture products (grains in the U.S., wood in Chile) and, at the same time, allowed industry to adjust to new world supply and demand conditions.

In both countries, the state has instituted agricultural policies to stabilize supply and farm income by establishing a floor for product prices and thereby absorbing price risk for some crops. Apples are not among these crops (Easterbrook 1985; Goldfrank and Gómez 1991). In the case of Chile, a central objective of economic adjustment was to expand the production of export commodities (Gacitúa and Bello 1991, 1992; Venegas 1992). Export expansion was consolidated by the

introduction of price supports in 1982 (Gómez and Echeñique 1988). In the United States, producing for export also became a goal, which required extensive intervention from the government to subsidize exports of certain agricultural products (Flora 1990a).

4.2 VI Region Agroecological Factors and Land Distribution

The VI Region is located in the Central Valley of Chile. The total land area is 1.64 million hectares (4.1 million acres). The area goes from 33' to 45' South latitude and from 70' to 72' West longitude.

Apple growing is located between pre-mountain irrigated land and the coastal land. The VI Region is bordered to the north by Valparaíso and the Santiago Metropolitan Region, to the east by Argentina, to the west by the Pacific Ocean, and to the south by the Maule Region.

The regional capital is Rancagua, located 86 km. (53 miles) south of Santiago, Chile's capital. The VI Region is subdivided into the provinces of Cachapoal, Cardenal Caro, and Colchagua. Cachapoal concentrates 68% of the regional population, with the remaining 27% in Colchagua and 5% in Cardenal Caro. All apple growers with private packing houses are located in Cachapoal, which is why the province was selected for this study.

Agricultural land in the VI Region is 9.4% (822,000 hectares) of the country's total (INE, 1992). The most

important crop in the region is fruit, and the area produces 28% of the country's total fruit production. After grapes, apples are the most important fruit crop in the VI Region. VI Region apples account for 42% of national apple production.

4.3 Chile and VI Region Agricultural Economy

The year 1973 marked a period of dramatic changes in Chilean society. The military regime which seized power engaged in what O'Donnell calls the deepening of the economy; that is, they constructed an economic-political order favorable to expanded accumulation, based on near-total integration into the world market.

The opening of the Chilean domestic economy to the international market was based on an invitation to multinational investors and export promotion of natural resources (fruit, fish, and wood). This opening implied a new agrarian structure, stimulated by certain policy options (e.g. de-regulation of the role of the state, privatization of land, and a new labor plan) (Bruna and Silva 1990: 33-44; Crispi 1980).

The national government sought to stimulate exports through macroeconomic policy changes rather than through specific policy incentives (Morán 1989). Thus, tariff reductions, elimination of non-tariff barriers, liberalization of trade flows, and exchange rate policies were all used to convert the Chilean economy into an open one.

The new political and economic panorama implied a shift from previous strategies of development based on import-substitution industrialization to development strategies based on export-oriented industrialization. Export strategies were initiated by CORFO, a state development corporation established under Frei's presidency in the mid 1960s. Goldfrank and Gómez (1991) explain that the actual success of the agricultural sector is due to 1) state planning for export diversification under Frei and Allende; 2) state subsidies in infrastructure, tax breaks and commercial promotion under Pinochet, and 3) the introduction of price supports after the 1982 crisis.

In Chile since 1982, the economic crisis has led to a departure from the neo-liberal model in agriculture, with growing state intervention formalized in price supports and other protective measures for agriculture (Hojman 1990a). The objective of such changes in agriculture was intended to consolidate a strategy of non-traditional agriculture export crops, based on comparative advantages, to meet debt repayment obligations.

After 1984, as part of Chile's effort to revitalize growth, the state adopted a number of specific measures designed to stimulate exports. These included 1) eliminating the stamp tax on exports and the value added tax on imported inputs to be used for export-oriented activities, 2) offering

a special "draw-back" to exporters of non-traditional goods equal to 10% of the free on board (FOB) value of the exported merchandise⁸, and 3) creating special credit programs to offer working capital to exporters (Ossa 1988; Morán 1989; Rodriguez 1988).

Neoliberal modernization of agriculture demanded from traditional growers a new entrepreneurial rationality, which meant a reorganization of production, a vertical integration of capital, and extensive technological adaptations. This type of modernization was particularly evident in fruit production. It also demanded from agriculture growers the ability to shift from traditional crop production to highly profitable non-traditional export agricultural commodities (seeds, fruit, wood-chips).

Change in agriculture policies has also affected land tenure, the use of land, and of other productive resources. On the one hand, non-traditional crop export expansion (mostly fruits, horticulture products, and seeds) has a higher labor demand than traditional crop production, with a favorable impact on employment. On the other hand, only those growers who could afford to expand and shift productive activities remained in business. Hand in hand with a fruit production

⁸ The total value of non-traditional exports of a particular product (e.g., apples) had to be less than 2.5 million dollars in 1983 and 1984 to be eligible for a draw back.

boom, modernization of rural areas in Chile brought about extreme inequality and a marked social differentiation with extraordinary capital investments and profits for commercial farms⁹, an increasing predominance of international agricultural business in the making of the local market (Bradshaw 1989; Hojman 1990a; Goldfrank and Gómez 1991), and worsening local conditions for poor peasants¹⁰ (Gacitúa and Bello 1992; Hojman 1990b; Rivera and Cruz 1984; Rivera 1988; Saez 1986).

The modernization of agriculture rests on deep and complex socioeconomic contradictions (Gacitúa 1992). Poverty of agricultural workers and small growers has increased. Poverty is expressed, in part, by the inability of small growers to cope with growing competition, capital disparities, and the rapid transformation that dominant forces in the agricultural sector are demanding. Impoverishment of large numbers of peasant and agricultural workers has provided an important pool of workers for the fruit sector in the VI Region (Rodríguez and Venegas 1989). Accelerated expansion of capitalist apple production has increased demand for

⁹ Commercial apple farms are characterized by an average 150 acres, an intensive use of technology, high capital investments, and use of seasonal wage labor force with a smaller proportion of full-time year round employees.

¹⁰ Small production units are characterized by less than 30 acres, and very low capitalization and technology.

temporary workers, and economic hardship has led small holders (rural women and men) as well as rural-to-urban migrants to provide the required supply for packing and harvesting tasks.

4.4 VI Region Sampled Growers and Their Farming Systems

The sample of growers interviewed in the VI Region consists of large apple growers (Murdock and Leitritz 1988: 87). These farms have an average annual gross sales over \$250,000 in U.S. dollars and an average land size of 682 acres.

The specific literature on the fruit-producing region describes a new entrepreneurial professional class linked to Chile's fruit production for export (Cruz 1986; Gómez 1986; Goldfrank and Gómez 1991; Rodriguez and Venegas 1989). All the growers interviewed in the VI Region had professional degrees (two were commercial engineers, two had a business administration diploma, and one was an agronomist). They manage their farms as full capitalist enterprises with an entrepreneurial logic.

The VI Region apple farms are highly capitalistic, export-oriented businesses. Farms are divided into a hierarchical structure where growers retain the power to establish rules and procedures. Sampled VI Region growers explained that their farm responsibilities were related to financing production, commercialization, and labor.

VI Region apple growing is a highly concentrated and

integrated type of industry with strong government support. Growers interviewed in the VI Region have used government support to expand production for export. Sampled growers in the VI Region buy excellent quality land in those valleys where land is available and fruit production is possible. Several explanations account for geographic dispersion: 1) growers have expanded their fruit operations because economic (cost-benefit) analysis indicates the feasibility and profitability of fruit businesses, and 2) land is available due to changes in the Chilean agricultural economy (such as liberalization of the land market).

Pressures to expand have tended to result in a diversification of fruit products, as well as a process of vertical integration to include more stages of production into the growers' farming operations. Where products once passed through several stages of production from farm to basic processor, to wholesaler, to exporter, with each being performed by a different business, now the sampled farms of the VI Region are increasingly centralizing all these stages within one corporation. Apple production in Chile involves a complex process where production, packing, storage, commercialization, and export activities are becoming centralized and vertically integrated in one economic unit under the control of a single person. For example, three out of the five sampled VI Region growers owned their own fruit

exporting company and did all their production and commercialization.

Product diversification and/or business expansion have lowered VI Region grower's risks and provided them with new areas of investment. At the same time, it has produced large seasonal work forces and the need for growers to incorporate more structured management practices. In this type of farm operation it is no longer possible, or viable, for the grower to directly supervise and control all aspects of production and labor. Supervision or administration has been delegated to keep the business running. Farm tasks in the VI Region are highly differentiated and structured.

On the other side, small growers (part of the supply side of capitalist expansion) have been forced into distress sales (which explains the presence of a large pool of agriculture workers). According to Goldfrank and Gómez (1991: 6) "virtually all [small growers] were systematically denied credit and technical assistance in part due to the idea that large farms are more efficient than small." Hence small growers have suffered increased pauperization, proletarianization, and semi-proletarianization (Korovkin 1990; Scott 1990), becoming the labor supply for non-traditional export industry.

4.5 Virginia Agroecological Factors and Land Distribution

Virginia is located in the South Atlantic region of the

United States. The total land area is 40,767 sq. miles (105,676 sq. km.). Virginia is bounded by the Atlantic ocean on the east and surrounded by North Carolina, Tennessee, Kentucky, West Virginia, and Maryland. Virginia's topography includes mountains and valleys in the west, including the Blue Ridge Mountains and Allegheny, Piedmont Plateau, Coastal Plains, and the Eastern Shore.

The state capital is Richmond, 180 miles (289.6 km.) southwest of Washington D.C, the capital of the United States. The Virginia Department of Agriculture and Consumer Services has identified five fruit producing areas in Virginia. These are 1) Shenandoah Valley, 2) Piedmont, 3) Roanoke, 4) Southwest, and 5) Coastal Plain. Sampled growers represent the first four fruit producing areas of Virginia. Growers interviewed were located in Frederick, Nelson, Franklin and Patrick counties. These counties were chosen because of their relatively important apple operations vis-a-vis other counties of the region (1987 Virginia Apple and Peach Tree Survey).

Farm land use in Virginia represents 1.2% (23,332 acres) of the country's total (U.S. Dept. of Agriculture). Chief crops in Virginia are tobacco, peanuts, winter wheat, corn, grain, apples, tomatoes, and sweet potatoes. Although tobacco is the most important cash crop, Virginia's apple production ranked fifth in total U.S. apple production and fourth in apple yield per bearing acre (536) for 1989 (Putnam 1989: 50).

Virginia produces 7% of national apple production.

4.6 United States and Virginia Agricultural Economy

In the U.S. the combined pressures of the 1980 monetary crisis, a long-term structural decline in the natural resources base, and a newly emerging industrial restructuring of the non-farm economy have left rural areas at a competitive disadvantage (Deavers 1991: 2). Although agriculture is considered an important economic activity in more than a fifth of U.S. counties (Bender et al. 1985), over time its importance as an economic base for the country has decreased while that of manufacturing and service has grown (Lobao 1990). The restructuring of the agricultural sector has been accompanied by declines in other traditional industries such as mining, forestry, and labor-intensive manufacturing. Structural change in agriculture has meant a declining role for farming as a source of income, as other rural sectors have expanded.

The decade of the 1980s in U.S. agriculture has been described as a generalized farm crisis. The crisis was a result of low commodity prices, high real interest rates, falling land values, and contracting markets (Knutson et al. 1983; Molnar and Wu 1989). By 1986, about one fifth of all growers were considered to be under financial bankruptcy or foreclosure or were leaving farming altogether (Heffernan and Heffernan 1986; Murdock and Leistritz 1988). As Lobao (1990)

puts it, these changes led to a generalized crisis in the agricultural sector and rising inequality between rural and urban areas and among types of growers. Increased competition and lower prices for agricultural commodities have led to what Flora (1990a) calls risk-reduction strategies. Such strategies include higher technology use to lower wage costs and speed up output and a rigid division of labor, with high priced labor (management) making the technical decisions and lower price (manual) labor carrying them out (Majka and Majka 1982; Tweeten 1988).

At the same time, governmental policies have tended to support large growers through a series of labor programs (H2A, SAW, RAW)¹¹ aimed at reducing the wage bill, lowering overall costs of production, and guaranteeing a cheap and steady labor supply for agriculture. Local governments have also helped growers advertise their crops and funded extension services for growers. As in Chile, the transformation of the United States agricultural economy coupled with the financial crisis in the early 1980s fostered a process of increased social differentiation among farmers (Albrecht and Murdock 1988; Lobao 1990; Tweeten 1984; Wimberley 1983, 1985). The transformation included a decline in the number of farms and

¹¹ For a description of these labor programs see Appendix 1.

farm population. There were fewer farms with larger average acreage, specialized labor, changing patterns of farm ownership, and increased hired labor requirements in some cropping sectors (Lin, Coffman and Penn 1980; Lobao 1990; McDonald and Coffman 1980; Wimberley 1987). In the early 1980s, Wimberley (1983) noted that there was a trend toward the control of more farm land (over 500 acres) by fewer growers, a large population of small growers (50 acres or less) and a declining segment of medium size farms (51-499 acres).

As part of this process, economic control of agriculture has become concentrated, with 20% of farms accounting for 80% of total farm sales (Bender et al. 1985). Accordingly, Leistritz and Murdock (1988) argue that large-scale operations having the advantages of volume buying and selling, may be involved in production of high return commodities. They also tend to have easier access to credit. On the other hand, Lines and Zulauf (1985) and Murdock et al. (1986) argue that small farmers are less likely to have incurred high debts, since they did not have the option of borrowing extensively to expand operations. All in all, mid-size farms with gross sales of \$40,000 to \$250,000 (dollars) are more likely to be "squeezed out" because of higher debt/asset ratios and greater cash flow problems.

Growers in Virginia, as in most of the United States,

face strong pressures to reduce production costs to remain cost-competitive. Specifically, apple growing and marketing in the state has become very competitive as a result of declining apple prices and poor market niches. In this environment some apple orchards and growers are no longer able to continue in the apple business, because their ability to grow and market apples profitably has deteriorated (Coale 1991). There is a trend toward fewer, more intensively farmed orchards. Changes in apple production are part of a broader shift in farm structure (Tweeten 1988). For example, in Virginia, apple orchard acreage decreased 9% from 1982 to 1987, while tree density increased 6% for the same time span. In 1987, there were 30% fewer orchards compared to 1982 records (1987 Virginia Apple and Peach Tree Survey).

Growers with high costs of production, poor quality apples, the wrong varieties, poor marketing practices, and/or weak financial positions have been the most vulnerable. In addition, forces that go beyond the orchard increasingly affect growers' businesses. These forces include increased government regulations of chemical use and complex regulations for farm labor.

4.7 Virginia's Sampled Growers and their Farming Systems

The sample of growers interviewed in Virginia corresponds to those growers who had to adjust their production, marketing, and management strategies. These growers have had

to maintain an ongoing orchard replacement program, keep debt to a moderate level, and transform orchard management and pomological practices (e.g. introduce new technology, new apple varieties, use cheap migrant seasonal workers, etc.). Virginia growers interviewed own very large operations¹² with average annual gross sales over \$250,000 dollars, and an average of 802 acres. These farms are commonly managed by the family and located in the best orchard sites.

The Virginia sample of apple growers fits Nikolitch's (1972: 1-2) definition of the traditional family farm grower, defined as "a primarily agricultural business in which the operator with his family does most of the managerial activities." It is a classic entrepreneurial system (see Edwards 1979) in which a father-family team operates the farm. Wives and daughters participate in the farm work. However, the father-son nexus is the core familial relationship in farming. Of the five growers interviewed in Virginia, four of them have been growers all their lives, despite their increased linkages to other sectors of the economy. The other one holds a professional degree (MS in horticulture), but has been in farming for a long time, working with his father.

Virginia growers interviewed also fit Putnam's (1989)

¹² Putnam (1989, p.57) classifies apple orchards as follow: very large operations 300 or more acres; large operations 125-300 acres; medium size 50-125 acres; small 50 or less.

description of typical Virginia growers as "traditionally inwardly focused upon on-farm activities to successfully produce apples." In the Virginia sample, growers' personal involvement in all aspects of production was enhanced by the geographical concentration of apple farms operations and by the limited scope of their domestic markets. That is, the local reach of their product and prices that could not be higher than those of local competitors severely restricted Virginia growers' options to expand their operations and to set prices. In this sense, Virginia growers were less inclined to introduce major new technology into their operations than were VI Region growers. Financial success largely depended on the quality of the product, as well as on an efficient system of labor. Apple quality and an efficient system of labor demand higher personal involvement and control over production and the labor process.

4.8 Differences and Commonalities of Farming Systems Studied

Apple growers sampled in both countries own large farms. In the U.S., large-size operations are those with gross sales over \$250,000 (U.S. dollars) annually (Murdock and Leitritz 1988: 87). In Virginia, sampled growers' annual gross sales of all farm products range from \$450,000 to \$700,000, while in the VI Region the range was from \$200,000 to \$800,000 (in U.S. dollars) (see Tables 3 and 4).

Table 3. Gross Sales from all Farm Products and Gross Sales from Apples only, in Virginia by Sampled Grower, 1990

Sample	Gross Sales	Apple Income	% of Gross Sales in Apple Income
Grower1	450,000	400,000	88.0
Grower2	500,000	370,000	74.0
Grower3	350,000	280,000	80.0
Grower4	430,000	300,000	69.8
Grower5	700,000	400,000	57.1
Total	2,430,000	1,750,000	72.0
Average	486,000	350,000	72.0

Source: Interviews with Virginia Apple Growers

Table 4. Gross Sales from all Farm Products and Gross Sales from Apples only, in the VI Region of Chile by Sampled Grower, 1990

Sample	Gross Sales	Apple Income	% of Gross Sales in Apple Income
Grower1	800,000	240,000	30.0
Grower2	420,000	130,000	31.0
Grower3	750,000	375,000	50.0
Grower4	475,000	116,000	24.4
Grower5	200,000	60,000	30.0
Total	2,645,000	921,000	34.8
Average	529,000	184,000	34.8

Source: Interviews with VI Region Apple growers

Average Virginia growers' gross sales from all farm products amount to \$486,000, slightly lower than the VI Region growers \$529,000 (in U.S. dollars).

Important differences are related to the proportion of apple gross sales to the gross sales of all farm products in

both countries. For Virginia growers, gross sales from apples represent 72% of total gross sales of all farm products. In the VI Region, gross sales from apples represent 34% of total farm product sales. The fact that income from apple sales for the sample of Virginia growers is a larger percentage of total farm sales than for the sample of VI Region growers is congruent with differences in their production strategies and overall production systems. Differences in gross sales of all farm products and apples only for the sample interviewed in both areas confirms the trend toward specialized fruit production in Virginia (only peaches and apples) and the VI Region (peaches, apples, kiwis, grapes, pears, prunes). But at the same time, it calls attention to the more diversified fruit production strategy of the VI Region sample.

As for land acreage, sampled Virginia growers' total agricultural land ranged from 275 to 1,713 acres, while land devoted to growing apples ranged from 150 to 300 acres (see Table 5). In the VI Region (see Table 6) sampled growers' total land used ranged from 123 to 1,977 acres, while land used for apple growing ranged from 36 to 161 acres. Land used by Virginia sampled growers for apple growing represents 30% of their total land. Land used by VI Region sampled growers for apple growing represents a 16% of their total land.

Table 5. Total Land Acreage, and Total Land Use for Apple Growing in Virginia, by Sample Grower, 1991.

Sample	Total Land	Apple Land	% of Total Land in Apple Orchard
Grower1	1,713	200	12.0
Grower2	800	300	37.5
Grower3	650	150	23.0
Grower4	570	300	52.6
Grower5	275	250	91.0
Total	4,008	1,200	29.9
Average	802	240	29.9

Source: Interviews with Virginia Apple Growers

Table 6. Total Land Acreage, and Total Land Use for Apple Growing in VI Region, by Sample Grower, 1991.

Sample	Total Land	Apple Land	% of Total Land in Apple Orchard
Grower1	1,977	161	8.0
Grower2	741	148	20.0
Grower3	371	168	45.0
Grower4	198	50	25.2
Grower5	123	36	29.3
Total	3,410	563	16.5
Average	682	113	16.5

Source: Interviews with VI Region Apple Growers

With regard to average apple volume (measured as the number of apple boxes packed per season) produced in the best and worst season over the past five years, the sample of Virginia growers packed more apples (average 60,900 boxes) than VI Region growers (average 52,000 boxes) (see Tables 7 and 8).

Table 7. Total Number of Apple Boxes Packed and Sold in Virginia in the Best/Worst Season, and Average Number of Boxes Packed and Sold, by Sampled Grower, 1987-1991 Period.

Sample	Best Season	Worst Season	Best to Worst Season Rate
Grower1	125,000	40,000	3.1
Grower2	90,000	31,000	2.9
Grower3	35,000	15,000	2.3
Grower4	70,000	20,000	3.5
Grower5	160,000	23,000	7.0
Total	480,000	129,000	3.7
Average	96,000	25,800	3.7

Source: Interviews with Virginia apple growers

Table 8. Total Number of Apple Boxes Packed and Sold in the VI Region in the Best/Worst Season, and Average Number of Boxes Packed and Sold, by Sampled Growers, 1987-1991 Period.

Sample	Best Season	Worst Season	Best to Worst Season Rate
Grower1	110,000	45,000	2.4
Grower2	55,000	8,000	6.9
Grower3	110,000	50,000	2.2
Grower4	90,000	10,000	9.0
Grower5	42,000	20,000	2.1
Total	407,000	133,000	3.1
Average	81,400	26,600	3.1

Source: Interviews with VI Region apple growers

There are similar trends with regard to apple volume packed in Virginia and VI Region samples. Land use for growing apples by sampled Virginia growers is nearly double the amount used by the sample of VI Region growers. Again,

differences in the relation of average number of apple boxes packed and land use point to the type of farming system operating in both sampled areas. In fact, sampled VI Region growers' use of land and yield per acre is much more technology- and capital-intensive than that of sampled Virginia growers. Those differences reflects the character of the sampled VI Region apple farming systems.

In this sense, it can be argued that overall sampled VI Region growers get more apple volume and probably more income out of small land acreage than do sampled Virginia growers. Sampled Virginia growers on average have more land and also use more land for apple growing than do VI Region growers. But, sampled VI Region growers have higher total gross incomes from farm sale products than Virginia growers. Probably the above relates to the VI Region degree of vertical integration (e.g concentration of different stages of production).

Differences in vertical integration, expansion, concentration, and diversification in both sample areas are related to the type of apple farming system and to capital availability. Differences can be conceptualized as a general tendency toward agricultural specialization in both countries (see Table 9). Yet fruit production in the VI Region is much more diversified (in terms of type of fruit produced) than in Virginia. VI Region fruit production is vertically integrated, while it is not in Virginia.

Table 9. Total Fruit Production in Chile and the U.S., 1979-1981; 1987-1991 Period.

	Total Fruit Production (Tons)					
	79-81	87	88	89	90	91
CHILE*	739	1,527	1,758	1,955	2,233	2,337
U.S.**	27,904	28,314	28,779	29,542	29,637	30,025

Source: (*) CIREN/CORFO 1992.

(**) Fruit Situation and Outlook Yearbook, USDA, 1992.

Critical Factors Associated with Farming Systems

Growers interviewed in Virginia and the VI Region were further compared on the basis of four critical factors associated with production and marketing of apples. Four factors, which were directly associated with growers' access to resources, management of such resources and state policies for agriculture, were identified by sampled growers in both areas as being critical to maximizing production and the margin of profit: 1) degree of capitalization¹³, 2) access to and adequacy of extension services, 3) chemical regulation, and 4) marketing and price. These factors can also be viewed as critical resources which may favor or constrain growers'

¹³ By degree of capitalization I mean growers' capital availability (infrastructure and money). Capital availability affects sampled growers' scope of choice and shape their decisions regarding apple production, apple marketing, and labor usage.

farming options and decisions.

Individual growers' decisions regarding their productive units (tree replacement, technology adaptation, and labor management) have a critical impact on production and commercialization strategies. However, growers' decisions regarding the organization of production to maximize profit are also affected by degree of capitalization, access to technology transfer programs and overall production related knowledge, adequate productive infrastructure, commercial alternatives, and supply and management of labor. In this regard, all the growers interviewed in both countries think that a top quality crop is the single most important factor in obtaining a margin of profit. Growers said that a top quality crop has the best chance of being sold for a good price.

Degree of capitalization

Fundamental to apple production is capital, an increasingly important factor of production within the fruit sector (Coale 1991; Cruz 1986; Gómez and Echeñique 1988; Putnam 1989; Rivera 1988; Saez 1986).

Fruit production for growers interviewed has turned into a highly sophisticated technical process requiring substantial capital investment. Growers in Virginia and the VI Region samples have successfully remained in business by investing in new tree varieties and orchard replacement programs, and maintaining a balanced debt position. In addition, sampled

growers have transformed their orchard practices based on the introduction of technology, purchase of information systems, and changing labor practices to reduce full time employees and hire more seasonal labor for harvest and packing.

Differences in capital investment were measured indirectly through questions relating to infrastructure, technology adoption, and information systems. Growers were asked what investments they had made in new equipment, infrastructure and technology (such as coolers, storage rooms, packing houses, and controlled atmosphere rooms), and what type of information systems they use.

Investment in the Orchard and Packing House.

Growers interviewed in Virginia have upgraded their old equipment rather than purchasing new equipment. This means that they have done minor repairs and generally continue production with traditional equipment. Virginia growers have no controlled atmosphere storage rooms and an average of two to three traditional coolers. One grower has no cooler at all, which means he has to sell his crop immediately. Changes in equipment include increased compressor capacity, better insulation and refrigeration equipment, and some furnace and ventilating fans for the packing house. In this regard, there is no major capital investment in the case of Virginia growers.

With respect to orchard investment, growers interviewed

in Virginia expressed that they have: 1) continued to replace large old trees with smaller ones because they are easier to harvest and come into full bearing earlier (six years) than traditional varieties (twelve years), 2) changed apple varieties to more commercial ones, and 3) introduced new technology to maximize production and minimize risk. Technologies such as root and leaf analysis and soil control have been introduced, along with new spray and herbicide control programs and pruning methods. For Virginia growers, the key elements to staying in business and maximizing profit are good technology packages (herbicide programs, quality control tests, efficient chemicals) and good packing of the product. Investments, then, are targeted to secure crop quality.

Growers interviewed in the VI Region said that they have modernized most of their equipment. Four out of the five growers have purchased a complete new set of packing equipment since 1987, and two growers mentioned the possibility of introducing computerized packing line units¹⁴. In addition, three of the sampled growers have controlled atmosphere storage rooms, and the rest have five or six traditional coolers which have also been upgraded (e.g. increased

¹⁴ The introduction of computerized packing units means that apples are better calipered, and that the packing line can be set to a much more precise pace.

compressor capacity, better insulation) with the latest technology. With respect to orchard investments, sampled growers in the VI Region have 1) completely replaced old with new trees, 2) invested in new apple varieties, and 3) introduced the latest technology to manage the crop root and to carry out leaf analysis, soil controls, new spray and herbicides control programs and pruning methods.

I found that while Virginia sampled growers have introduced changes into their orchards, changes are more limited than those implemented by the VI Region sample. For example, VI Region growers have been replacing orchard trees at a much more accelerated pace than Virginia growers, basically because they have more capital available. Chilean government policies have affected changes in exporters' farming systems through support in the form of soft loans and low taxes on imported production machinery and inputs.

Virginia and VI Region growers' differences in investment allocated to equipment, orchards, and the packing house are also associated with degree of capitalization and the scale of their farming operations. While for Virginia growers investing in their orchards is important to producing a top quality crop and to remaining competitive, it is also true that their investments are limited by the nature and scope of their operation (e.g. production for the domestic market, stable demand, local outreach of their produce), and, on the

other hand, they lack capital and labor. Sampled Virginia growers do not think it is economically feasible to expand production (expressed as more land acreage). Only one grower interviewed in Virginia indicated that he was likely to expand his operation by purchasing additional acreage. One other grower was thinking of purchasing a tractor. In contrast, all sampled VI Region growers manifested their intention to double apple production in the next five years.

For most growers interviewed in Virginia, the limited scope of their operations and the lack of capital and labor directly affected their decisions about expanding their operations. Decisions are also affected by increasing chemical prohibitions and labor regulations.

We know our ability to harvest is within certain limits, so we don't plant these tremendous acreage that we can't take care of. Because of that we don't expand beyond what our limitations are. Also our management capabilities are just for these acres, so unless it is economically feasible to expand, we will not do it (Grower in Virginia).

The expansion of agribusiness activity in Chile has necessitated an expansion of infrastructure and facilities to handle the increased volume and diversity of products. Cold storage represents an important area of growth, given the increase in exports of fresh fruits. The nature and scope of VI Region apple farming systems sampled (e.g. production for the international market and increasing competition) shape their production, as well as their investment behavior.

Sampled VI Region growers agree that to maintain a competitive edge in the international market, they need not only a good quality crop, but also the latest technology and equipment to increase volume vis a vis the stringent price situation. Dependence on international market demand plays an important role in shaping VI Region growers' production and management strategies. Pressures to maintain profits vis a vis domestic competition of multinational corporations (e.g. Clee, Unifrutti, Del Monte) and other countries' fruit exports have forced growers to make major investments and change their traditional pomological practices.

I will not risk anything if I want to remain in business. I will try to control most of production, and invest accordingly in what is necessary. You must invest without stint if you want to stay in business (VI Region grower).

Also the growth in fruit exports has brought about investments in highways, transportation and communications, ports, and airports. The private sector in Chile has made some of these investments (communication, transportation, and cargo handling services), while the state has made others, including construction of two important highways from fruit production areas to ports (in the V and VI Regions). In United States, private sector investment in infrastructure external to the orchard, is smaller compared to that of Chile. The United States government has made major investments in communication systems and highways systems.

Extension Services

Expert advice to growers in the form of pomology programs, plant protection programs, apple storage technology, information systems, and marketing strategies and alternatives are important mechanisms toward meeting regulatory changes and competitive challenges.

In Virginia and the VI Region, similar efforts toward maintaining a strong system of applied research and extension services to apple growers have been developed. In both countries sampled growers have effectively adopted current apple growing practices (e.g. pruning, varieties, strain selection, etc.). Competitive pressures, according to sampled VI Region growers, and regulatory challenges, according to sampled Virginia growers, have accelerated and intensified the need for changes.

Institutional advice and extension services are viewed by growers in both countries as a needed and positive tool for meeting the competitive challenges and regulatory mandates. However, there are differences in both countries in terms of services that are offered without cost to the growers and services that truly represent an investment because they imply the actual purchase of expert information.

Extension services are vital to fruit production. Growers in Virginia and the VI Region seek expert help to improve their production and marketing systems, including

advice about improving crop quality and yields per acre and controlling production risks such as diseases and pests. In Virginia, sampled growers basically work with the expert assistance offered by 1) Virginia Polytechnic Institute and State University Cooperative Extension Service, 2) the Virginia Employment Commission, 3) the Virginia Apple Commission, and 4) the Virginia Department of Agriculture and Consumer Services.

In the VI Region, sampled growers are advised by hired expert help (such as agronomists, lawyers and accountants), and receive expert assistance offered by 1) National Agricultural Research Institute, 2) Fundación Chile, 3) the Chilean Development Corporation, 4) PROCHILE, 5) the School of Agriculture of the Catholic University, and 6) the Chilean Agriculture and Livestock Service.

Expert Assistance to Sampled Virginia Growers

Virginia Tech Horticulture Department (VTHD) provides free information and services to apple growers in agriculture related aspects. First, the VTHD maintains a strong applied research program in pomology, plant protection, and apple storage to support growers' farming systems. Second, the extension specialist of the VTHD visits individual growers on a regular basis to assist with orchard problems (root stock and orchard system performance, diseases, pruning, pest controls, orchard weed control, fertilization responses,

etc.). This expert does individual orchard assessments and conducts tests to assess orchard system performance. Third, the VTHD also conducts a series of annual meetings with growers to answer general questions and give updated information regarding fertilizers and chemical use, chemical regulations, new pomological practices, and growing strategies.

The Virginia Employment Commission (VEC) is in charge of examining, reporting on, and making recommendations about a broad range of farm labor and immigration issues on a free basis. First, the VEC is in charge of determining if there is a shortage of workers. Then, they determine the number of additional aliens to be admitted for temporary residence to meet a shortage of workers to perform seasonal agricultural services (SAS). These aliens are known as the replenishment agricultural workers (RAW), and the number of such workers to be admitted in each fiscal year is known as the "shortage number." Each state secretary calculates the annual numerical limitation concurrently with their determination of the shortage number. Regulations regarding the procedure to be used in the determination of the shortage numbers and calculation of the annual numerical limitation have been promulgated by the Office of the Secretary, United States Department of Agriculture and the Office of the Secretary, United States Department of Labor. Second, the VEC is

responsible for ensuring that Virginia growers attempt to recruit United States workers before requesting foreign workers. The VEC must insist that Virginia growers circulate job offers through the interstate job clearance system operated by the U.S. employment services, place advertisements in newspapers and/or on the radio as required by the regional office of the Employment and Training Administration (ETA), and cooperate with employment service efforts to contact workers and organizations regarding potential employment. Third, the VEC is also in charge of determining the prevailing wage for the state, based on annual surveys sent to Virginia growers. Fourth, the VEC is in charge of enforcing the law regarding workers' rights violations. Fifth, the VEC provides information to growers regarding the actual farm worker laws.

Virginia Cooperative Extension Service in cooperation with the U.S. Department of Agriculture provides growers with actual information on farm labor issues through its bulletin, Farm Labor News.

The Virginia Apple Commission is an apple promotion and market development organization funded through grower assessments. This organization conducts promotion and public affairs programs geared to the specific needs of the state's apple growers.

The Virginia Department of Agriculture and Consumer Services compiles statistics on tree fruit production in

Virginia. It provides information such as apple and peach tree bearing and acreage devoted to apple and peach production to growers and other interested parties through its annual "Virginia Apple and Peach Tree Survey,"

Expert Assistance to Sampled VI Region Growers

In contrast, sampled VI Region growers invest considerable amounts in expert help. All VI Region growers hire a permanent agronomist or an individual with an equivalent degree to assist with orchard production problems, an accountant for payroll and farm economics, and a lawyer -on a contract basis- for labor related problems. In addition, they purchase specific information from national research centers (Fundación Chile, PROCHILE, the School of Agriculture, the Chilean Development Corporation and the Agriculture and Livestock Service) and from international experts (fruit experts from other countries, such as the United States and South Africa). The state also provides some free assistance through the National Agricultural Research Institute.

Technology transfer is a key activity in the development of Chilean fruit. Among the institutions which provide free advice to sampled growers is the National Agricultural Research Institute (INIA). INIA concentrates on production and technology transfer. INIA organizes groups of large commercial growers in each region and meets with them on a monthly basis to discuss and analyze issues and innovations in

production. In addition INIA provides paid services like soil and fertility analysis, foliar analysis and humidity analysis.

Fundación Chile is a state organization which provides free technology advice to commercial growers. This organization serves growers mainly through seminars where high level specialists share their knowledge. Fundación Chile's emphasis is on post-harvest technology in handling fresh fruit for export. Fundación Chile also provides laboratory services to analyze soil and foliage on a fee basis.

The Chilean Development Corporation (CORFO) is a state-supported organization which provides funding for ongoing agriculturally-related research and technology development. Growers purchase such information.

PROCHILE is a state institution whose central objective is to stimulate exports. It is in charge of seeking potential new exporters, providing market information, establishing commercial contacts, and handling product inquiries from abroad. It also edits a magazine on these topics and publishes annual directories of export and import companies.

The Agriculture and Livestock Service (SAG) is an agency of the Ministry of Agriculture for ensuring the quality of agricultural exports. SAG officials are in charge of certifying quality and sanitary conditions. With respect to sanitary conditions of fresh fruit exports to the United States, there is an inter-governmental agreement which

provides for a joint inspection point at the ports of shipments, where SAG and USDA inspectors take samples of lots ready for shipment. In addition, USDA inspectors make spot checks of the pre-certified shipments. SAG and USDA inspectors also visit packing houses and cold storage plants to check handling, storage, and fumigation practices.

The Exporters Association, in agreement with the School of Agriculture of the Catholic University in Chile, does extensive quality control verification on fruit. Another institution relevant to quality control is Fundación Chile, which uses laboratory tests to verify quality and to certify it through a quality seal. In the case of processed produce, it is common to have a quality certification extended by specialized companies hired by the buyer.

Differences regarding investment in technical expertise are associated with state services available to growers and the scope of apple operation and state intervention in both countries. Besides the needed "know how" of the business, technical expertise is viewed in both countries as essential to the reproduction of the system. In this sense, while both Virginia and VI Region growers sampled have free advice from state institutions, VI Region growers have to purchase services (like laboratory analysis of root stock, quality control seals, etc.). For this and other reasons related to issues of comparable quality (e.g., yields per acre and

programs to help growers with such things as credit and international marketing), VI Region growers go an additional step by investing in full time employees and frequent advice to assist with production and labor related problems. VI Region growers invest considerably more than Virginia growers in what is perceived as a "need" or "requisite" for long-run less costly apple operations. The above is also part of sampled VI Region growers' strategy of control of over production processes.

One important aspect that shapes differences in available services to growers is the relation between the final market for fresh produce, government services, and labor supply. It appears that in Virginia, state services for apple growers are targeted to apple production and farm labor. In the VI Region, state intervention focuses on apple production and marketing. The final destination of fresh fruit production - an international market for the VI Region sample and a domestic market for the Virginia sample- makes a difference in terms of growers' needs. For sampled VI Region growers, a well organized state infrastructure supporting production and marketing is essential for international market access, while in Virginia a well organized system of labor supply and apple production is important to remain competitive. Although VI Region growers had a labor shortage this year, on the whole labor supply has not been a problem. Available agricultural

labor is cheap in Chile. In the case of Virginia, the relation between production surplus and labor has influenced the organization of a state apparatus to bring cheap seasonal workers from abroad.

Chemical Regulations

Chemical use is related to pests, plant diseases, and overall crop practices. According to sampled growers in both areas, regulations that banned effective pesticides and fungicides for crop control have resulted in decreased crop size and quality. Recent changes in United States chemical legislation for agriculture, such as prohibition of ALAR and EBDC (ethylene bis dithiocarbamate) fungicides¹⁵, resulting from increased consumer awareness and concerns of the government and ecological groups regarding health and safety issues, have affected pomological practices throughout the world. Concerns over freshness and food safety have influenced policy regulations, with consequent costs and social impacts among growers, processors, and consumers.

At the same time, concerns over the environment stem from European governments and European ecological groups, such as the new German government law requiring the use of recyclable

¹⁵ Ebdc (ethylene bis dithiocarbamate) fungicides help prevent premature apple blemishes, and pest diseases on apple crops. According to Marini (1992:35-36) loss of EBDC fungicides in 1989 made control of summer diseases more difficult, especially in foggy sites.

apple boxes. Producer country governments, such as Chile, have had to adapt to these regulations because of increasing rejections of shipments by U.S. Food and Drug Administration officials¹⁶.

In terms of the social impacts of chemical regulations, there is a positive trend toward better informed consumers. On the one hand, growers have been forced to be sensible to the interplay of chemicals, fertilization, irrigation and other agriculture factors. There is also a positive trend toward higher awareness of environmental damage and degradation and the health impact of food consumed.

Overall the subject of chemical use is tricky in terms of the social and economic impact on specific growers and the general consumer. As Flora (1990b) argues, "costs and benefits of pesticide use and other environmental laws relate to the degree of risk assumed by a society and the mechanisms necessary to control that risk." In this sense, chemical risk cannot be assessed on an individual basis, because the consequences of private decisions are public. The issue transcends individual choices and needs and relates to the struggle among different interest groups in the design and

¹⁶ In this regard it seems rather awkward that pesticides continue to be an integral part of high technology agricultural development projects by the U.S. Agency for International Development (AID) and the multilateral lending institutions (for an interesting discussion on this issue, see Murray and Hoppin 1990).

implementation of appropriate policies dealing with environmental and human risk.

The economic impacts of chemical regulations upon apple growers are of a different nature. Changing regulation of chemicals implies 1) a more complex type of operation requiring more careful chemical programs and 2) higher capital investments in inputs associated with more expensive and less effective chemicals.

The increased and more stringent chemical residue testing of fresh fruit carried out by the U.S. Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) have required apple growers world-wide to change pomological practices. By the mid-1980s, some exporters began to encounter increasing problems associated with the use of pesticides and consequent pesticide residues on fruit.

Pressures due to the rejection of imported and U.S. fresh produce forced growers to implement greater control over pesticide usage and other farming practices. For example, the U.S. Department of Agriculture's (USDA) quarantine against produce containing insect pests and plant diseases and specifications about grading and quality affected growers' farming practices (Murray and Hoppin 1990: 7). When growers interviewed in both countries were asked about the major changes in government legislation that have affected their operations, all growers interviewed said that the banning of

chemicals such as ALAR and EBDC fungicides have negatively affected their production and marketing systems.

Growers in both countries agree that the loss of ALAR has affected the volume and appearance of apples available in the late spring and summer months. ALAR was a tool for lengthening apple storage and, hence, the marketing season. ALAR helped growers maintain good internal fruit conditions while developing commercial color levels for fruit placed in long term storage.

Controversy over ALAR's safety led to the withdrawal of the chemical from the market by its manufacturer in 1989, pending completion of the regulatory review process. The loss of ALAR as a production tool triggered a number of changes in production practices related to apple storage and marketing (Coale 1991). In the case of sampled Virginia growers with no controlled atmosphere storage rooms, there is an overall tendency for apples to be marketed earlier and faster, which in turn, has meant a higher reliance on the seasonal market. Sampled VI Region growers have also been affected by the prohibition of ALAR, especially those who export to the U.S. market. However, VI Region growers' comparative advantage is precisely in capturing seasonal markets (see Figure 3), so shipping apples at this point is not such a burden. In addition, VI Region growers have the advantage of having controlled atmosphere storage rooms, which helps them to

preserve internal fruit conditions over and above what a traditional cooler can do.

Figure 3. Apple Production Activities by Month and Sampled Area.			
VIRGINIA		VI Region	
Month	Productive Activity	Month	Productive Activity
January	No market activ.	January	No market activ.
February	No market activ.	February	No market activ.
March	No market activ.	March	Harvest and sales
April	No market activ.	April	Harvest and sales
May	No market activ.	May	Pack and Sales
June	No market activ.	June	Cold storage
July	No market activ.	July	Cold Storage
August	No market activ.	August	Cold Storage
Sept.	Harvest and sales	September	No market activ.
October	Harvest and sales	October	No market activ.
Nov.	Pack and Sales	November	No market activ.
December	Cold storage	February	No market activ.

Source: Coale 1991.

With regard to EBDC fungicides ruled off the market, growers in both countries expressed their concern over "not having adequate elements to do a better job." Lack of EBDC fungicides has resulted, according to sampled growers, in an average 20% to 30% apple loss due to apple blemishes and increased earlier fall diseases. Growers said available fungicides on the market are less effective, which means intensified spraying to control and additional labor costs because of more frequent spraying. Thus, costs of production, including a higher chemical bill, have risen "...up to one third compared to earlier years," according to sampled

growers.

In addition, marketing was affected by specialized demand requirements. Some buyers, such as the baby food industry in the U.S. (e.g. Gerber, Heinz), do not buy apples if they are sprayed with some chemicals. This type of buyer is afraid of loosing market share due to public concerns over chemical residues in children's food.

Marketing and Price

With regard to marketing in each area, apple promotion and market development organizations, such as Virginia Apple Commission and Fundación Chile, have targeted their efforts to the specific needs of apple growers.

Apple production in sampled areas is oriented to satisfying the fresh fruit market. All ten growers interviewed agreed that fresh markets were the "use" that pays the most. Growers in both countries said they get 50% more out of the fresh market compared to other apple products, such as juice or apple sauce. In the VI Region sample, an average 79% of apples produced, compared to an average 77% in Virginia sample, are sold in the fresh market. In the Virginia sample, the rest of the apples produced go to juice and sauce, while in the VI Region sample it goes to juice only.

Growers interviewed in Virginia and the VI Region differ in the marketing destination of their apples. Sampled Virginia growers basically produce apples for domestic

consumption. A very rare exception was the year 1991, when most apple production went to Europe and some to Latin American countries. A freeze in Europe and a small crop in Washington state opened a door to the international market for Virginia growers. However, this did not imply a price increase.

On the other hand, sampled VI Region growers target their apple production to the international markets, because its demand is higher and pays far more than the Chilean domestic market. Selling apples in international markets is more critical to sampled VI Region growers than to sampled Virginia growers. Export alternatives are an important aspect of VI Region growers' production strategies, but are less important for Virginia growers' production strategies. Further, half of sampled VI Region apple orchards are still not producing 100% of the crop potential. In the case of sampled Virginia growers, most of their orchards are already producing at 100%. They have just begun replanting. Sampled Virginia growers' strategies respond to a limited demand for their apple crop and to their ability to manage and control their farming operation.

Differences in product destination are basically related to demand/price for the crop. In the United States there is a growing domestic market for apples related to 1) changes in people's diet (the public is consuming more fruit and

vegetables) and 2) with purchasing power parity (U.S. buyers have a more homogeneous purchasing power to buy food). Sampled Virginia growers have a limited market demand compared to other U.S. growers, such as Washington State, and out-of-season competitors from foreign countries, such as Chile.

In Chile, although diet patterns may be changing as well, purchasing power for food is lower than in the United States. This is especially true in an environment of depressed salaries, meaning that a much smaller percentage of Chileans can afford a balanced diet which includes high quality fresh fruit (Gacitúa 1992; Gacitúa, Bello and Wimberley 1992).

Differences in domestic demand pressure growers to adopt specific types of commercial strategies. For example, demand for apple quality in the United States is the same in the domestic and international markets, and price differences are not significant. This is one explanation for sampled Virginia growers' indifference regarding export alternatives for their apple crop. In Chile, domestic demand for fresh fruit is constrained. Only 15% of the population has the ability to pay for top quality apples. The rest can only afford cheaper, low quality apples. Demand for quality is not the same in the Chilean domestic market as in the international market. The above explains in part growers' decisions regarding the destination of their apple production to markets where they can get the best prices.

Sampled Growers' Marketing Channels and Marketing Strategies

All growers interviewed in Virginia, and two of the VI Region growers, sell most of their apple crop through brokers. In the past five years, sampled Virginia growers have sold approximately 80% of their apple production for fresh markets and the food processing industry through local brokers, while 20% of fresh apples were sold directly through individual contracts with Virginia food chains, like Kroger, Food Lion, and Wades. For the same period, two VI Region growers have sold most apple production (90%) for fresh markets and for the juice processing industry through local brokers, and 10% of inferior grade fresh apples directly to "La Vega," the biggest national fresh market, located in Santiago. The other three sampled VI Region growers have their own exporting companies. While they sell directly to the markets (international market/La Vega), these growers have the advantage of not dealing with intermediaries to sell their apple crop. However, this strategy also involves extra risk associated with a more complex managerial system and costs associated with marketing.

Intermediaries do play an important role in both countries. In Virginia and the VI Region, brokers and apple processors are located in the area and buy directly from growers. These brokers and apple processors in both countries have standardized price and apple grade quality. There is no

significant variation in price offered to growers among brokers. Apple prices in Virginia are mostly determined by the domestic market,¹⁷ while in the VI Region they are determined by the international market¹⁸ (see Tables 9 and 10). Sampled growers are basically dependent upon intermediaries to market their crop because they do not have other alternatives. In most cases, growers have maintained a long term (six to eight year) relationship with particular brokers, which is a double-edged sword, because at the same time that brokers guarantee taking the product out of the farm, they also exercise control over marketing channels. The three VI Region growers who own exporting companies have an advantage in terms of control over marketing. These growers can bargain for apple volume (quotas) directly, while at the same time bypass the percentage that an intermediary always gets from production sold.

¹⁷ In Virginia the price structure for apples is influenced by the size and variety of the national crop rather than total U.S. apple production (Putnam 1989). Factors such as variety, quality, and time of marketing affect seasonal price variations in specific regions. For example, sampled Virginia growers indicated that North Carolina apples have a better initial price than Virginia apples because of a weather advantage; North Carolina apples ripen before Virginia apples.

¹⁸ Apples prices are affected by both domestic and international policies. For example, apple exporters were affected positively by the 1992 Chilean government devaluation of the dollar from February to April. Apple exporters are also affected by the European community price policy for fruit imports and fruit quotas.

Marketing and Apple Prices

Price is central to generating a surplus that allows growers to expand or remain in business.

Table 9. Total Apple Production and Price per Pound (cents) for the United States and Virginia, 1985-1989					
Total Apple Production (million pounds) by year					
Area	1985	1986	1987	1988	1989
USA	8,110	9,421	10,742	9,131	9,966
VA	370	400	455	425	325
Price per Pound (cents) by year					
Area	1985	1986	1987	1988	1989
USA	10.9	9.7	8.6	12.7	10.2
VA	9.9	9.5	9.1	11.1	10.0

Source: Fruits, Tree Nuts and Horticulture Specialties Survey, 1991.

According to sampled growers in both areas, prices in past years, except for 1991, have been low. Sampled growers said their apple prices went up as a result of a general freeze in Europe, which destroyed the apple crop for the 1991 season. The Virginia sample's sales were additionally boosted by a domestic factor, a bad crop in Washington State.

Regarding the relation between apple prices and marketing, apple revenues (real price multiplied by quantity) must cover the total costs of production to generate a profit. Since price varies widely throughout the season, a good proxy

for assessing price revenues is the percentage of income generated via apple revenues that only covered production costs.

Table 10. Total Apple Production and Price per Apple Pound (cents) for Chile and the VI Region, 1985-1989					
Total Apple Production (million pounds) by year					
Area	1985	1986	1987	1988	1989
Chile	500	580	630	660	755
VI R.	210	241	262	281	315
Price per Pound (cents) by year					
Area	1985	1986	1987	1988	1989
Chile	10.9	9.5	9.8	9.8	11.3
VI R.	10.9	9.5	9.8	9.5	10.6

Source: INE, 1992.

When growers were asked in how many of the last five years income from apples covered production expenses, including wage bills, all sampled Virginia growers indicated that costs associated with apple production were covered for an average of three years. Four of the VI Region sample said that costs associated with apple production were covered for all of the past five years, while one said that costs were covered for only three years. As indicated by growers in both countries, profits are affected when the price per bushel does

not increase relative to the rate of inflation.

Summary

The VI Region and Virginia samples correspond to large commercial apple growers. But differences in the nature and scope of their operations are evident in their production and marketing strategies. While VI Region growers are described as a new entrepreneurial professional class linked to capitalistic, export-oriented businesses (Goldfrank and Gómez 1991; Rodriguez and Venegas 1989; Zeitlin and Ratcliff 1988), Virginia growers are characterized as a classic entrepreneurial or family-farm business with local outreach (Edwards 1979; Nikolitch 1972).

Both samples are specialized fruit growers, yet fruit production in the VI Region is much more diversified than in Virginia. VI Region growers' strategy responds to a more technology and capital intensive use of land compare to Virginia sample. Diversification also relates to the degree of vertical integration of VI Region growers' apple production. Lack of capital, the local marketing of their product, and production for the domestic market have limited the scope of Virginia growers investments in the orchard and their choices regarding the expansion of their operation. In contrast favorable Chilean government policies (e.g. soft loans and low taxes for imported goods) for exporters, increasing competition, production for the international

market and depressed internal demand has resulted in accelerated expansion, diversification of fruit products, as well as a process of vertical integration to include more stages of production into the VI Region growers' farming operations.

CHAPTER 5: Apple Farming Systems and Labor Processes

This chapter will examine the labor processes in apple harvesting and in apple packing houses in Virginia and the VI Region. It will answer the question: **How do apple packing houses and harvest labor processes operate?** I give special attention to apple-packing houses' labor processes. To comprehend the dynamics of labor processes in both countries, I focus on the interrelation of labor demand and supply. Demand and supply are analyzed in terms of their articulation with socio-historical, economic, and political contexts and patriarchal structures.

Although labor is a critical factor associated with the system of apple production, I have decided to treat labor in a separate chapter because of the relevance of the theme to this dissertation. Part one gives a general characterization of the organization of apple farming systems and the use of family labor. I also analyze the relationship between socioeconomic conditions and the use of a specific labor force to harvest apples. In part two, I carry out a detailed analysis of packing-house labor processes.

Part I Introduction

Labor is a critical factor of production, and production is a key component of the process of capital accumulation. As I have discussed earlier, the specific character of the

sampled Virginia and VI Region growers' degree of capitalization, organization of production, marketing, and government regulations shape growers' farming systems within the capitalist economy. Variations in the farming systems and strategies of capital accumulation are related to the internal dynamics of each country. These internal dynamics are shaped by the degree of competition among growers, size of apple operations, the impact of specific government policies and programs, the spread of technological change and adaptation, and the level of class consciousness and feasibility of workers' organization. In addition, apple firms use prevalent inequalities by gender to decrease costs of production through reduced wage bills. Because growers do not benefit from an undifferentiated labor force, a key assumption is that gender relations interact with the specific nature of sampled farming systems and shapes the use of the labor force and the worker's position.

5.1 The Organization of Apple Farming Systems and Use of Family Labor by Sampled Growers

VI Region Farming and Use of Family Labor

The sampled VI Region apple farms are highly capitalistic, export-oriented businesses. These farms are hierarchical structures where growers retain the power to establish rules and procedures. Sampled VI Region growers are at the top of the operation, overseeing part of the business

activities. These growers describe their similar position: that of general manager. Since in all VI Region cases the rules and procedures for organizing the packing house are set by the growers, growers use hired personnel to administer packing-house production activities and labor. The social organization of VI Region sampled farms is based on a rational-legal type of authority (Weber 1964). This type of authority rests on commitment to a formally enacted and impersonally administered set of rules. In other words, the rules, set by VI Region growers sampled, pertain to a social position -that established norms define as an authority position- and not to the individual persons who may happen to occupy the position, as in the Virginia cases.

Selection of persons to occupy positions of authority or subordination, in the VI Region cases, is also governed explicitly by the formally enacted rules.¹⁹ For example, in the case of hired staff in the VI Region, women are hired to do secretarial work, a male accountant to do payroll, and a male mechanic cares for packing and orchard equipment. In addition, two men are hired to be orchard and packing-house managers. All of these employees are hired on a permanent basis. The packing-house manager is, in all VI Region cases, a trusted male employee, whose role is to administer the

¹⁹ These rules may specify certain requirements in terms of education or expertise.

packing work-force and the organization of the packing workplace. The managers have full rights to fire and hire. The managers carry out the growers' orders with enough weight to be an efficient mediator of the labor process.

VI Region growers do not intervene directly on the packing floor, but speak through their managers. The grower's office in all VI Region cases is physically separated from the packing house and the packing house workers. Moreover, VI Region growers discourage any lateral contacts by establishing vertical lines of communication through the manager.

Virginia Farming and Use of Family Labor

The social organization of Virginia sampled farms is based on traditional authority (Weber 1964). Weber characterized this type of authority as a relationship between the authority figure and subordinates, based essentially on personal relations. In the Virginia cases, farming is a family-based enterprise, closely tied to kinship lineage. Wives and daughters participate in the farm work. However the father-son dyad is the core familial relation of farming. This generational linkage, as Simpson et. al (1992: 240) explains, gives the farm a collective identity. The farm is planned and operated to survive in the future. Shared family work is a means to fuse family and farm and to make the family a grower organization (Glenn 1982).

In Virginia four out of five growers said that although

they assume the role of the "general manager," their role goes beyond that title: "I am the president, the general manager, and the principal investor. I am responsible for everything on a year-round basis." All Virginia growers supervise the packing work activities directly. They maintain a close relation with managers and intercede immediately, with full power to resolve problems, fire and hire workers, and so forth. Since management in Virginia is based on kinship relations, the grower's intervention is extended through the family. Decisions regarding packing-house labor activities and the organization of the workplace are administered by the family.

Growers are helped by the other family members and hired wage labor. Women (spouses, daughters-in-law, and daughters) do secretarial work and payroll, and men (generally sons) are packing managers, while additional men are hired to do pruning, spraying, and so forth. Family cooperation is an important variable for farm production in Virginia. The family cooperates with hired labor especially in the peak periods of increased labor demand. The family is counted on to do work as it appears without increasing the direct costs of the operation. This is especially evident in the case of family women who work only during harvest time. On the other hand, family men participate in the operation year round. One Virginia grower describes the set of responsibilities for

himself as the owner. He hires a full-time, year-round female non-family member to perform secretarial work and payroll, and hires two seasonal, non-family male laborers, a manager for the packing house and another for the orchard.

In all Virginia cases, growers have their office in the packing-house building where they actively oversee the packing operations, evaluate the workers, and direct the managers. The grower's and manager's technical knowledge of the work process and the functioning of the packing equipment is technically competent. Most sampled growers, and all managers, participate at one point or another in the packing-house work stations by helping out, especially when they are pressured by time. Also, managers know how to repair the packing-house equipment and ordinarily do the repair jobs.

Virginia and VI Region growers sampled differ in the type of authority exercised. These differences are embodied in the social organization of farming. VI Region growers exhibit a rational legal type of authority compared to Virginia growers' traditional type of authority.

In the case of VI Region sample, growers' authority is based on an impersonally administered set of rules which defines and govern the working relationship. Workers' commitment to authority relates to formally enacted authority positions and not to the individual person who may happen to occupy the positions. The division of labor for management

activities in the VI Region cases rests on the selection of persons to occupy the position of authority governed by formal requirements of education or expertise, which is much more suited to the modern economy and capital accumulation. In contrast, Virginia workers' commitment to authority is based on a personal relationship with an individual and not with formally enacted rules. In the Virginia cases, informal understandings and personal loyalty are binding principles of working relations. The division of labor for management activities in the Virginia sample is based on family labor and inheritance of control, and growers use personal loyalty and paternalism to control workers.

5.2 Demand and Supply Dynamics of Harvest and Packing Labor

Sampled VI Region Growers' Demand and Supply for Labor

In the VI Region, the geographic origin of the apple work force is national. Chile has no international migrant labor for apple harvest and packing. In all sampled cases, the costs of reproduction of the work force are borne inside the country. Sampled VI Region growers' labor force for apple harvesting is seasonal.²⁰ Seventy percent of harvesters are

²⁰ A seasonal farm worker is a person who during the year 1) worked 25 or more days or parts of days in farm work, 2) earned at least half of her/his earned income from farm work, 3) did not work full time in farm work year-round for one employer, and 4) was not a full time student (PREALC 1983; MILAW 1991).

rural small holders,²¹ 20% are agricultural workers, and 10% are urban migrants.²² In the VI Region the rural work force is either from the community nearest to the orchard or from the nearby coastal sector (40 to 50 miles away). This rural work force is composed of semi-proletarianized peasantry (the small holders) whose household requires wage employment at least part of the year from some of its members, or landless rural proletarians (agricultural workers) who work seasonally. The urban workers are generally from the region's capital city (Rancagua) or from the country's capital (Santiago). This urban work force is formed by unemployed and/or youth (women and men) who need to complement pooled income for reproduction needs (Venegas 1992). The labor force the sampled growers used in apple packing is 90% from small holders' households nearby the orchard, and 10% agricultural workers.

The progressive relocation of workers from the traditional hacienda to semi-urban dwellings implies a major

²¹ Small holders are peasants who most commonly own less than 12 hectares (less than 29.652 acres) and have a type of subsistence economy. The peasant farming system is based on a subsistence economy oriented to the reproduction of the farm unit.

²² A migrant farm worker is a seasonal worker who 1) was not a full-time student travelling in an organized group, and 2) had to travel to do farm work so that s/he was unable to return to her/his permanent residence each day (CEPAL 1982; GAO 1988; MILAW 1990).

transformation of agrarian structures and consequently of labor dynamics. Displacement from agricultural land has increased the number of workers who work on a temporary basis in the agricultural sector. On the other hand, economic hardship and/or under/unemployment in urban areas has also supplied a labor pool for agricultural seasonal demand of sampled growers in the VI Region (Venegas 1992).

Similarly to Virginia, the labor process in the VI Region sample is characterized by the segmentation of the work force. Only men work in the orchard, while men and women work in the packing house, but in clearly differentiated tasks.

Sampled Virginia Growers' Demand and Supply for Labor

In recent years, the cost/price squeeze, increased quality demands, and consequent higher costs of production have shaped the dynamic of labor use, management, and especially labor compensation. Sampled Virginia apple growers indicated that they have undergone a transition in how they obtain, compensate, and manage labor because of increasing relative costs of farm labor (measured as wage bill).

On the demand side, it has been consistently difficult for sampled Virginia apple growers to offer salaries to domestic workers which are competitive with non-farm labor opportunities. Non-farm wages, benefits, hours and overall work settings are better than agricultural employment conditions. According to sampled Virginia growers, overall

economic hardship and technology adoptions have changed but not eliminated the demand for labor. On the supply side, present negative impacts on quality of life of rural communities and farm families (Heffernan and Heffernan 1986; Nash 1989; Tweeten 1988) have resulted in increased participation of farm women in the labor process.

Sampled Virginia growers use seasonal farm workers for apple harvesting and packing. One strategy that sampled growers use for obtaining a harvest labor supply has been to shift to cheap, mobile foreign labor. In this context, the government has supported growers' needs through the establishment of foreign labor programs, such as H-2A, RAW and SAW. For sampled growers, these programs have been successful mechanisms for obtaining a constant supply of cheap alien labor to harvest their apple crop. Eighty percent of the labor force used by sampled Virginia growers to harvest apples are Mexican workers who leave their families and communities in México. Twenty percent are Jamaicans, who are U.S. residents with their families and communities in other U.S. states. With regard to packing labor, sampled growers continue to rely on a majority of United States citizens. The labor force used in apple packing, by the same growers, is 77% U.S. citizens -mostly white women- with their families and communities nearby, and 23% temporary Mexican workers.

Another element that characterizes the construction of a

specific labor process in the Virginia apple industry is the rigid gender segmentation of the labor force. Women work in the packing house and men in the orchard. Although there are men in the packing house, the proportion of women to men is three to one, and men do some types of jobs while women do others.

5.3 Apple Harvest Labor Demand and Supply

VI Region Sample Apple Harvest Labor Demand and Supply

Post-1973 macroeconomic policies favor increased privatization and liberalization of the Chilean economy. These policies reversed the traditional tendency of the economy toward strengthening social property and the role of the state. The traditional welfare state functions were minimized, with the market as the fundamental mechanism for resource allocation (Hojman 1990b). The effect of this process on the peasantry, the working class, and state-dependent sectors of the middle class is evident in decreased satisfaction of basic needs. The effect on the health and education of rural inhabitants is particularly deleterious (Cruz and Rivera 1987; Goldfrank and Gómez 1991; Rivera 1988).

In addition, unfavorable adjustment policies meant a lack of employment in the urban areas. Nationally, adjustment occurred at the expense of decreased taxation for social services. For example, Goldfrank and Gómez's (1991: 5) analysis of neo-liberal Chile indicates that 30% to 40% of the

Chilean poor have nutritional deficiencies due to extreme skewness of income distribution. Torche (1987) has suggested that the poor were about 45% of the Chilean population, and Hojman (1990b: 31) explains that 20% of the population in Chile received about 59% of the national income in 1989.

Increasing economic hardship and urban unemployment and underemployment stimulated a migration trend from urban to rural sectors during peak harvest and packing periods for seasonal employment. This temporary migrant population is basically young women and men who work in semi-urban and rural packing houses and young men who work at the orchard during apple harvest. Landless peasants follow crop harvests in the country, and small holders, who employ a part-time work strategy to complement their subsistence economy (Campaña 1985; Cruz 1986; Cruz and Rivera 1987; Rivera 1988), also migrate temporarily to follow the harvest. Seasonal employment is attractive to this pool of workers, because agricultural wages in fructiculture are among the highest in rural Chile.

Land Tenure and Labor Law: Changes in the Rural Sector

Changes in labor laws and land tenure patterns led to the dismissal of permanent farm workers, their relocation to rural towns, and their replacement by temporary workers. In addition, macroeconomic adjustment policies accelerated the expansion of fructiculture with consequent specialization and

intensive use of technology, resulting in increased demand for a temporary labor force and decreased demand for permanent workers. Agricultural expansion led to increased land concentration in the hands of farm business persons, and growing polarization between big and small holders. Sampled apple growers draw on this pool of small holders (men, women and children) who live nearby for apple harvest and packing.

From the mid-1960s onward, successive governments implemented increasingly radical land reforms. This process was stopped in 1973. The agrarian counter-reform left 55% of the total reformed land in peasant hands. The rest was returned to previous owners or sold to private entrepreneurs. Lack of credit and technical support forced some 50% of small peasants to sell their land (Crispi 1980; Muñoz-D'albora 1990). As a result of land privatization and economic hardships, a large pool of landless labor was created.

Historically, the landless pool was composed of traditional farm workers (inquilinos) who used to live inside the big farms (latifundios). In Chile, labor force legislation forced agricultural employers in 1970 to substitute payment in kind by 100% payment of minimum wage in cash. In response to changes in the labor law, agricultural employers started a process of replacement of permanent workers by temporary ones. The expulsion of resident workers from the traditional large farms was part of the strategy to

lower costs of production, as workers' wages became more costly for growers (De Janvry et al. 1986).

In 1979 the Chilean Government introduced a new labor plan (plan laboral). This plan included 1) reforms of the norms that regulated union organization and collective bargaining, and 2) reforms of the laws that regulate individual contracts (Suazo-Venegas 1991).

In the rural sector, the introduction of reforms to union activities and collective bargaining banished any possibility of labor organization by restricting union activity to farms with more than 15 permanent workers. This restriction, in some cases, further accelerated growers' replacement of permanent workers by temporary ones. For workers, restrictions of labor union activity contributed to the process of systematic destruction of peasant organization initiated by the military regime. Lack of organization meant that workers were powerless to confront violations regarding work.

At the same time, reforms to the law regulating individual contracts left permanent workers at the mercy of their employers. According to the law, permanent farm workers could be fired without compensation for years of work, by claiming "business organization needs." The 1991 reform of this law returned compensation benefits to permanent workers. If permanent farm workers were fired, they were to be

compensated one month per year plus vacations²³ - up to 11 months. This new provision was limited to those workers hired after 1981. Seasonal workers must be provided a contract and social security benefits, but they can be fired without reason and are not entitled to severance pay. In this sense, one sampled grower's strategy to avoid paying compensation to permanent workers, and avoid union-related problems, has been to hire permanent workers with a type of monthly (30 days) or semi-annual (6 month) contract. This type of abuse, among others, has been denounced by the Chilean House of Representatives (Suazo-Venegas 1991; Cámara de Diputados de Chile 1991).

What makes seasonal harvest workers so attractive to sampled VI Region apple growers? Seasonal harvest workers have three main advantages for capital: 1) low cost despite the fact that these growers pay the highest salaries in the agricultural sector, 2) constant supply resulting from increasing economic hardship, and 3) worker's lack of legal protection.

Small-holder peasants represent the predominant supply of harvest labor for the sampled apple growers. The use of small

²³ According to the Chilean law, employers must pay vacations to permanent (full-time) workers. For each year of labor, an individual worker has the right to 15 week days of vacation. If an employee, hired on a permanent basis, is fired before completing the year, then the employer must pay proportional vacations to the month worked.

holder peasants as wage laborers in the VI Region apple harvest focuses attention on the reduced costs to capital that this labor force represents. Insufficient resources have resulted in small holders' households becoming more dependent on wage labor as a strategy to secure household survival. Unlike strict proletarians, these small semi-proletarian households provide substantial portions of their own subsistence and reproductive needs through the peasant household production system and the sale of agriculture and petty commodity goods and services. In this sense, small holders' households have accepted wage work at lower wages than proletarian workers because their farms' production supplements their wage earnings.

Similarly, urban migrants and landless peasants represent a low cost labor pool. In this case, increasing costs of living and depressed wages in the country have augmented the need for employment among household members in both rural and urban sectors and have helped to keep wages relatively low, reducing apple growers' costs. Survival needs have resulted in a labor pool (urban migrants and/or landless peasants) willing to work extra hours in harsh conditions, for the salaries that seasonal agricultural work pays. Although salaries are high compared to others in the agricultural sector (Rodriguez and Venegas 1989), wages are still low if we compare them with primary products' escalating prices (Gacitúa

1992).

Legal norms (e.g. seasonal contract and labor union law) controlling the use of farm labor have favored growers' demand for a temporary worker with little or no legal protection. Legal norms have helped create a vulnerable and powerless labor supply of sampled VI Region apple growers.

Virginia Sample Apple Harvest Labor Demand and Supply

The harvest labor force of the sampled Virginia apple growers is formed by U.S.-based Jamaican nationals and non-resident Mexican aliens²⁴. The Mexican work force differs from the Jamaican. Generally Mexican workers are a temporary, imported labor force which reproduces itself and bears the costs of reproduction in México, while the Jamaican work force reproduces itself and bears those costs in the U.S. The fact that Mexican workers are not legal residents and seldom have the appropriate work papers implies that they are in a much more vulnerable position than either American or Jamaican workers to bargain for wages or to plead for other benefits, such as a contract and social security benefits.

On the other hand, reproduction costs borne by the state in the case of unemployed Jamaicans has an impact on the employment options available to them. In the case of residents and citizens, the state takes the responsibility of enforcing

²⁴ See MILAW 1991 for a detailed explanation of Migrant alien labor law.

minimum standards under which no citizen or resident is obligated to take a certain job. Citizenship or having legal status, as opposed to undocumented alien status, allows people to subsist when no jobs are available to them. In the case of Mexican aliens, the U.S. economy bears none of the responsibility of providing for them or absorbing them between harvests. Instead, that responsibility rests with the Mexican economy and society. The wide differences between membership or exclusion (legal versus illegal alien status) from the welfare state make undocumented workers "more attractive" to employers than citizens or resident aliens, as the latter can always exercise their right not to take employment.

It is in this context that sampled growers' continuous replacement of Jamaicans by Mexican workers must be understood. Sampled growers' use of Mexican workers instead of Jamaicans involves a fundamental transformation of the labor process related to issues of control over the work force. As sampled growers said, Mexican workers are easier to control. Such control is easy precisely because Mexicans do not have other job options than that for which they are recruited nor do they have the possibility to organize, make demands, and have a union to support their demands. Thus, they accept the tasks and salary they are assigned without overt complaint.

Legalities and Sampled Virginia Growers Harvest Labor

Analysis of the demand and supply sides of Virginia apple labor processes directs attention to the way macro-level forces associated with the economy, workers' individual characteristics (specifically citizenship), and sectoral labor laws impinge on the micro-relations between employers and workers in determining specific labor niches.

Since 1943, U.S. growers have been legally importing labor from abroad on a seasonal basis to harvest selected agricultural commodities (for a detailed review of today's alien labor programs for U.S. harvest, see Appendix 1). Today legal non-resident labor is largely confined to the Northeast apple industry and the sugar cane harvest in South Florida (Griffith 1986; Whitener 1988).

The legal dispute over imported alien labor revolves around the issue of whether domestic workers will and can do the work done by imported aliens. This polemic is especially sensitive at times of high domestic unemployment. Up to now, and despite the numerous suits before local Departments of Labor, the existence of domestic unemployment (with statistics that clearly demonstrate the phenomenon) are not enough to stop alien labor imports. Over the years, sampled apple growers indicated that they "have attempted to recruit domestic labor," but have failed to produce a "willing, experienced, serious, and reliable" domestic labor force. As one grower said, "Local men just don't want to work for the

wages we offer them." Interviews with sampled Virginia apple growers suggest that their basic line of reasoning is that the problem is not one of workers' availability, but one related to welfare as an alternative to work and perceived "workers' laziness, poor work quality, and instability." For example the growers indicated:

We used to hire locals but we can't get them any more, because of the welfare and unemployment system of this country.

Locals don't want to work, and more important they don't have to. They prefer to collect welfare than work for salaries paid during harvest. They don't want to work on a piece-rate basis, because they are slow. They are not trained to do this type of job.

Mexicans come here with one purpose, one reason, and that is to work, to get the most out of their work. They are serious workers; they work and want to make more money.

Migrant labor is more dependable, they work better and are more satisfied with the job.

Sampled growers seek to have a stable and cheap pool of willing workers that lowers the costs of production. Good quality is also a major element for adequate marketing of growers' produce. Thus, the issue is not insufficient labor, but rather a labor surplus which creates cheap labor. In this sense, state policy facilitates the labor surplus, discouraging farm workers' labor unions, and allowing payment of minimum wages (Friedland et al. 1981; Majka and Majka 1982; Thomas 1985; Thomas-Lycklama and Niejholt 1980).

For example, the courts have generally ruled in favor of

continued labor force imports. According to Griffith (1986) this relates to "timing of the legal battles." Generally allegations were heard immediately prior to harvest:

Without a quick decision there existed the possibility that the apple crop would be totally ruined. The pressure was therefore on the judges to rule in favor of the growers or else bear the responsibility of letting a 20 million dollar apple crop be lost because of lack of labor or reliance on workers whom growers have shown, in their annual report, to be unreliable (Griffith 1986: 880).

Virginia Harvest Labor Process

On the other hand, apple harvest jobs in Virginia sample are never really open. Replacing the formal labor process is an informal network which provides a permanent supply of alien labor. In response to the demand for labor in Virginia, this flow has acquired a force of its own, driven, most commonly, by the weight of social relations and exchanges among workers and by growers' reinforcement of such networks through regular seasonal employment.

Aspects that influence demand and supply for harvest labor and make Mexican workers more attractive to Virginia growers are related to 1) the legal conditions that set the type of labor arrangement, 2) geographical and physical conditions that surround labor camps, 3) the crew leader system, and 4) sociopolitical aspects of the Mexican labor force.

First, imported Mexican workers -because of the type of

contract they have- are certified to work for a single apple grower with no freedom to move to another job or search for better job alternatives. In this sense they represent a captive, semi-feudal labor force which ensures workers' dependence on growers.

Second, Mexican workers remain in labor camps during the harvest weeks, without their families, and are bused to orchards and encouraged to work seven days a week for an average of 14 hours a day. All sampled Virginia growers house harvest workers in labor camps. Social organization in the labor camps reinforces control over the labor force. There is no separation between life at work and life away from work for Mexican workers. The labor camps function to reinforce the isolation and powerlessness of the workers.

Third, four Virginia growers interviewed use a crew leader. The crew leader system is a variant of informal networks. In the crew leader system, the grower contracts the crew through a crew leader and lets the crew leader be responsible for workers' welfare (e.g. health and food) and behavior. In this sense, the grower guarantees for himself a "manageable" supply of workers. Besides the expressed need for securing a stable supply of foreign labor to harvest, two other reasons support sampled Virginia growers' interest in hiring a crew leader: 1) they limit their legal responsibilities to fewer workers, and 2) they limit their

employee managerial responsibilities to the crew leader. With regard to legal responsibilities, sampled growers most frequently use crew leaders as subcontractors as a way of evading legal responsibilities for the treatment of workers. Only the crew leader is directly hired by the grower. In relation to the managerial responsibilities, sampled growers use crew leaders to supervise and control the foreign crew. In this case, almost all contact between the growers and the working crew is through the crew leader. According to sampled growers, 99% of Mexican workers did not speak English. Growers give the crew leader ample power to fire, hire, and punish "his" harvest workers. The crew leader's power derives primarily from his serving as a nexus between the worker and the grower and the "outside world." Growers do not interfere with his management, and thus the cost of harvest labor management in time and effort for growers is insignificant.

There are large disparities between core and periphery nations in terms of wages, living standards and workers' expectations. For example, in México a rural peasant makes US\$1,500 annually and an urban service workers makes US\$3,000 annually. It can take them three or two years, respectively, to earn what they make in the U.S. in six to eight weeks of intensive harvest work. For some Mexican harvest and packing workers interviewed, the U.S. represents the possibility of saving money for annual household reproduction. For others,

it represents the possibility of saving money to install some kind of business of their own back in México. For all of them, the U.S. represents the possibility having more cash than they have ever earned before. In this way, growers guarantee for themselves harvest crews willing to "break their backs" for the money they earn.²⁵

From the above, it is clear that Virginia apple growers will continue to find an "abundant, willing and reliable" harvest labor supply from México. First, the socioeconomic conditions of Mexican workers are not likely to change in the near future, and so their willingness to come to work in the U.S is not likely to decrease. Second, it is highly unlikely that domestic workers will be willing to work under the harvest labor conditions described. In this regard, the specific conditions associated with the organization and structure of apple harvest jobs prevent domestic labor from taking those jobs. I doubt that any U.S. farm worker would fulfill this position in a similar manner, especially if we consider meager wages and strenuous work conditions.

In this sense, growers' allegations that "locals don't want to sacrifice and work" are real. However, these allegations are real because the government is not willing to

²⁵ All harvest workers were paid through a complex wage and piece-rate payment system which resulted in less than minimum wage per hour.

enforce better working conditions for agricultural workers. It is, then, predictable that as long as Mexican workers continue to "break their backs" for little money, growers will continue to use this work force. From this angle, apple growers are making a rational and cost-efficient decision when they hire an inexpensive and pliable labor force.

5.4 Sampled Virginia and VI Region Labor Relations in the Apple Harvest

It appears that in both countries, a more competitive apple industry sector is created by forfeiting the job security and social insurance of a large portion of the labor force. Indeed it seems that poverty, economic hardship and foreign status (in the case of Mexican workers in Virginia) are the most effective mechanisms for growers to reduce costs associated with apple production and commercialization. Pockets of unemployment, poor health, and poverty, in Virginia and the VI Region, and concentration of minority populations (in the Virginia cases) are part of the same labor process and tend to persist for reasons other than the "loss of comparative advantages" in regional, national and international markets. It seems reasonable to argue that these labor forces coincide and persist in specific labor contexts because they tend to create and support a "comparative advantage" for **other** segments of the populations (e.g. the apple growers).

Seasonal harvest workers in Virginia and the VI Region sample almost always earn less per hour in wages than urban workers and are seldom covered by contract seniority rules governing lay-off and recall. They almost never receive a benefit package equal to that of permanent employees, and seldom receive any health care benefits. Apple farming systems in both countries seize upon prevalent inequalities of class and use them to their advantage. Harvest workers' class in the VI Region and the interrelation of harvest worker's residency status and class in Virginia means that poor Mexican and Chilean migrants and peasant workers, respectively, have limited potential for negotiating the price of their labor above the costs necessary to reproduce it at a given level of skill because the enforcement of their position is severely constrained by their position in society. This conceptualization of residency status and/or class in capitalist production processes in both countries relates to the way in which capitalist labor processes and the drive to accumulate capital generate a social structure appropriate to the reproduction of surplus value (Thomas 1985). In other words, the political construction of agricultural labor processes for harvest²⁶ enables apple growers to 1) benefit

²⁶ This can be extended to packing dynamics too. However in that case the process is shaped basically by the interrelation of gender and class. This will be discussed in the next section of this chapter.

from a steady supply of low status, politically vulnerable labor, 2) exercise arbitrary authority over wages received by these workers, and 3) set labor-intensive conditions to offset wage costs and increase efficiency.

Government policies in Virginia and the VI Region (e.g. control over hiring norms, wages, etc.) have helped shape agricultural labor force dynamics (Campaña 1985; Flora 1985; Flora and Flora 1989; Gilbert and Howe 1993; Korovkin 1990; Majka and Majka 1982; Rivera 1988; Tienda 1986). In both countries, government policies (e.g. macroeconomic adjustment policies, and alien labor law) have been supportive of the demands of large apple growers. Agricultural labor has simply lacked the leverage with government agencies and officials necessary for the institutionalization of changes proposed. In the case of Virginia, the government has periodically intervened to regulate and manipulate the agricultural labor supply favoring growers' demand. In the case of the VI Region, government law and macroeconomic adjustment have shaped labor dynamics through unfavorable working regulations for seasonal workers and skewed income distributions. However, this does not imply that organized labor has not negotiated hard in the formulation of labor laws. Unfortunately, in the case of the apple-harvest labor force, because of the instability of migrant labor, there is not much possibility for union activity and/or labor organization. In

addition, seasonal farm-workers' labor unions are limited or prohibited in both countries.

Part II Packing House Labor

In this section I will discuss how the organization of production peculiar to Virginia and VI Region apple growing affects packing house labor processes. Specifically, it examines **how the workplace is organized, how labor is used, distributed and controlled, and why it differs in two different production systems.** In this regard, I expect that differences in growers' production systems, as well as the traditional undervaluation of women's work, will shape the particular organization of an apple-packing workplace.

To assess labor dynamics comprehensively, I also examine **why women and men say they participate in the packing-house labor market.** Household economic needs and patriarchal ideology are expected to be primary predictors of women's decisions regarding participation in packing house employment. Women's decisions are expected to differ from men's. In the case of men, economic need and lack of employment alternatives are expected to predict their incorporation into packing house employment.

5.5 Composition of Sampled Apple Packing House Labor Force

Sampled growers in the VI Region hired an average of 15 permanent workers and an average of 154 seasonal workers, while sampled Virginia growers hired an average of 6 permanent

workers and an average of 63 seasonal workers.

Seasonal workers in Virginia and the VI Region samples work either in packing houses (packers) or in the orchard (pickers) (see Tables 11 and 12).

Table 11. Average Number of Seasonal Workers Hired in Virginia for 1987-1991, by Sampled Grower and Occupation (packing-house or harvest)					
Sample	Total Labor	Packing Labor	%	Harvest Labor	%
Grower 1	70	30	(42.9)	40	(57.1)
Grower 2	56	23	(41.1)	33	(58.9)
Grower 3	55	25	(45.4)	30	(54.6)
Grower 4	54	22	(40.7)	32	(59.3)
Grower 5	81	33	(40.7)	48	(59.3)
Total	316	133	(42.1)	183	(57.9)
Average	63.2	26.6	(42.1)	36.6	(57.9)

Source: Interviews with Virginia apple growers

Table 12. Average Number of Seasonal Workers Hired in the VI Region for 1987-1991, by Sampled Grower and Occupation (packing-house or harvest)					
Sample	Total Labor	Packing Labor	%	Harvest Labor	%
Grower1	200	55	(27.5)	145	(72.5)
Grower2	130	37	(28.5)	93	(71.5)
Grower3	220	62	(28.2)	158	(71.8)
Grower4	150	47	(31.3)	103	(68.7)
Grower5	70	25	(35.7)	45	(64.3)
Total	770	226	(29.4)	544	(70.6)
Average	154	45.2	(29.4)	36.6	(70.6)

Source: Interviews with VI Region apple growers

The average number of months during which workers are employed in packing houses in both areas is four, and in the orchard the average is two months.

Table 13. Average Number of Packing-House Workers in Virginia for 1987-1991, by Sampled Grower and Sex

Sample	Total Labor	Women	Men	Proportion Women to Men
Grower1	30	23	7	3.2
Grower2	23	17	6	2.8
Grower3	25	19	6	3.2
Grower4	22	18	4	4.5
Grower5	33	25	8	6.3
Total	133	102	31	3.3
Average	26.6	20.4	6.2	3.3

Source: Interviews with Virginia apple growers

Packing house workers in the Virginia sample are 42% of the total seasonal labor force, while in the VI Region these workers are 29% of the total seasonal labor force. Of packing-house workers in the Virginia sample, an average of 20 workers are women (76.6%) and 6 workers are men (23.3%) (see Table 13).

In the VI Region sample, an average 27 workers (60.6%) are women and 17 are men (39.4%) (see Table 14). The proportion of women to men is much higher in the Virginia sample than in the VI Region. VI Region apple growers interviewed use more male labor in the packing houses than Virginia growers. As in Virginia packing houses, men drive

the fork lift and load boxes, but in the VI Region men also pack apples.

Table 14. Average Number of Packing-House Workers in Virginia for 1987-1991, by Sampled Grower and Sex

Sample	Total Labor	Women	Men	Proportion Women to Men
Grower1	55	32	23	1.4
Grower2	37	25	12	2.1
Grower3	62	37	25	1.5
Grower4	47	28	19	1.5
Grower5	25	15	10	1.5
Total	226	137	89	1.5
Average	45.2	27.4	17.8	1.5

Source: Interviews with VI Region apple growers

The following data refers exclusively to the sample of packing-house workers interviewed. Sixty workers were chosen in Virginia and 60 in the VI Region for a total of 120. The number of women and men interviewed in each research site roughly approximates the average percentage by sex observed in Tables 9 and 10. In Virginia packing houses I interviewed 46 women (76.7%) and 14 men (23.3%), while in the VI Region, I interviewed 37 women (61.7%) and 23 men (38.3%) (see Table 15).

Table 15: Virginia and VI Region Sample				
Area Sex	Virginia		VI Region	
	Men	Women	Men	Women
Total	14	46	23	37
Percentage	23.3	76.7	38.3	61.7

Source: Elaborated by the author.

Age and Education of Virginia and VI Region Sample

Sampled Virginia packing-house workers have a mean age of 35 years. The ages of these workers range from 20 to 67 years in the case of women, and from 19 to 68 in the case of men. Mean age for women is 39.6, while for men it is 30.9 years. Sampled VI Region packing-house workers have a mean age of 29 years. The ages of these workers range from 18 to 53 years in the case of women, and from 20 to 51 in the case of men. Mean age for women is 29.1, while for men it is 28.6 years (see Table 16)

For sampled Virginia workers the mean years of education is 10.5 for women and 11.1 for men, compared to sampled VI Region educational levels with means of 8 years of education for women and men (see Table 17).

Table 16. Age Distribution for Sampled Packing House Workers in Virginia and VI Region Sample, 1991

Age Range	Virginia		VI Region	
	Male	Female	Male	Female
18 - 22	3	3	3	6
23 - 27	5	7	10	17
28 - 32	1	4	4	2
33 - 37	2	7	6	1
38 - 42	0	6	0	7
43 - 47	1	6	0	1
48 - 52	0	7	1	0
53 - 57	1	2	0	2
58 - 62	0	2	0	0
63 - 67	0	2	0	0
68 - 72	1	0	0	0
Total Cases	14	46	24	36

Source: Interviews with workers in Virginia and the VI Region.

Table 17. Education Distribution of Sampled Packing House Workers in Virginia and the VI Region, 1991

Education	Virginia		VI Region	
	Male	Female	Male	Female
00 - 03	0	0	0	0
04 - 06	0	5	13	12
07 - 09	4	8	4	17
10 - 12	7	26	6	8
13 - 15	3	7	0	0
Total cases	14	46	23	37

Source: Interviews with Virginia and VI Region workers.

5.6 The Organization of Production and the Packing-House Workplace Dynamics

Virginia and the VI Region correspond to two different production systems. While both are capitalistic, VI Region

apple production is export-oriented and Virginia apple production is a family-based grower organization for which the product has chiefly a domestic and regional market. The specific character of these production organizations, reflected in the ways in which growers organize production activities, use their families' labor, and relate to the working process, affects the organization of the work force and the workplace in packing houses.²⁷

In Virginia organizational and management responsibilities of the packing house labor force tended to be overwhelmingly concentrated within the family, while in the VI Region the labor force was hired and had no kinship relation to the owner.

Sampled Growers' Degree of Control and Personal Involvement In Packing-House Labor Activities

The specific character of VI Region and Virginia growers' systems also affected the degree of involvement and control the growers exerted over the packing-house labor processes. The degree of control and personal involvement that growers exerted is much more personal and direct in Virginia than in

²⁷ The packing house is the place where apples are taken directly from the orchard, to be washed, waxed, selected and approved or rejected, sorted into different grades, and packed into boxes according to grade. Once apples are packed, apple boxes are taped, and either placed in cold storage or loaded onto trucks. The packing process is highly automatic. Once apples enter the packing house they are carried through an automated line from one work station to another.

the VI Region.

In Virginia, as shown in the previous section, sampled growers' personal involvement in all aspects of production was enhanced by the geographical concentration of apple farm operations and by their limited scope. That is, the local reach of their product, dependence on limited market areas, and prices that could not be higher than those of competitors severely restricted Virginia growers' options to expand their operation and to set prices. Financial success largely depended upon the quality of the product, as well as on an efficient system of labor. These factors demanded higher personal involvement and control over the labor process and greater ability to manage the workplace.

Sampled Virginia growers employed a variety of mechanisms to control packing-house workers. Control was exercised through a) direct supervision of packing-house tasks (what has to be done, and who does what); b) discipline norms (what is proper work behavior at packing houses); and c) direct evaluation of work output (noticing and correcting). For example, management supervision was evident in assigning workers to particular work stations, spending the day walking among workers, noting and correcting mistakes, and speeding up production laggardness. Sampled growers and managers watch closely over the hours and pace of work, controlling the beginning and end of work shifts and breaks. Strict

discipline norms did not allow workers to abandon their work stations without permission. Workers needed to ask permission to go to the bathroom or to leave work areas. Workers are forbidden to abandon their work stations more than twice every shift. Strict supervision also penalized workers who engaged in long talks with nearby neighbors, and those who made too many mistakes or were late from breaks. Although strict supervision was in place, Virginia apple growers did not have written policies. Policies were "known" informally, according to workers' responses. Thus, work policies regarding workers' penalties (public reprimand and firing) were decided on an employee-by-employee basis through discussions between the individual worker, the grower and/or the manager. In this regard, I observed a lot of paternalistic attitudes on behalf of growers. For example, some Virginia growers appeal to personal feelings and loyalty to correct workers. Other growers manifested preferences for some workers, and were softer with them, than with other workers.

In the VI Region, the degree of direct control and personal involvement of sampled growers was much lower than in Virginia. As I indicated before, growers in the VI Region needed to expand production out along their cost curves, increasing competition. Pressures to expand have tended to result in a diversification of products, as well as an expansion to include more stages of production in the farms'

own operations. Where products once passed through several stages of production from farm to basic processor, to wholesaler, to exporter, with each performed by a different business, now VI Region farms are increasingly centralizing all these stages within one corporation.

Product diversification and/or business expansion have lowered sampled VI Region growers' risks and provided them with new areas of investment. At the same time, it has produced large work forces and the need for growers to adopt more structured management practices. In this type of farm operation it is no longer possible or viable to exercise all the personal involvement and direct control exhibited by Virginia's apple farming systems. Supervision or administration must be delegated to an efficient structure to keep the business running. Tasks in the VI Region are much more differentiated, resulting in the need to hire more personnel for specific jobs than in Virginia.

Labor control within the sampled VI Region packing houses is much more consolidated and structured. Packing norms are written and handed out with the contract to workers. Strict coding of violations guide the managers' decisions. Managers have full power to fire and hire workers and to intervene in the packing-house labor organization. Even though control is more "formalized" in the VI Region sample compared to the Virginia sample, similar mechanisms are used by managers in

both case studies. For example, managers constantly monitored workers to keep them at their tasks. The manager directed the work, penalized or rewarded workers, and evaluated in the same fashion as in Virginia. However, rules were formalized and penalties applied on the basis of such norms.

For Weber (1958; 1964) the increasing complexity of the organization of production requires a more efficient, systematic, and predictable form of social organization. VI Region sampled growers' social organization of production reflects this form of modern bureaucracy, characterized by 1) a continuous organization of official functions bounded by rules; 2) a specified sphere of competence;²⁸ 3) the organization of offices which follows the principle of hierarchy; 4) written technical rules or norms which regulate the conduct of an office, the application of which requires specialized training; and 5) an administrative staff, the members of which are completely separated from ownership of the means of production or administration (Weber 1964). In contrast, Virginia sampled growers' traditional system of authority and paternalism obscures considerations of

²⁸ This sphere involves a) a sphere of obligations to perform functions which has been marked off as part of a systematic division of labor, b) the provision of the incumbent with necessary authority to carry out these functions, c) clearly defining the necessary means of compulsion and subjecting their use to definite conditions (Weber 1964).

efficiency and organizational needs, which in turn hampers the transition to a modern organization of production. As observed before, in the Virginia sample packing-house rules and authority positions (e.g. management) are not formalized nor is ownership separated from administrative functions.

In this regard it is possible to argue that while the nature of power and control mechanisms are similar in both research sites, the way in which power and control is operationalized differs from one place to another. Such differences are related to the type of relation the manager has with the owner and to the type of production system. For example, while Virginia growers and managers act on a similar interest -the "family" farm- and decisions regarding labor control and management rested with them, VI Region managers and growers do not share similar interests, and the manager is not a decision-maker, but rather an enforcer. Family management in Virginia facilitated growers' supervision of production and labor activities in that growers had a similar idiosyncratic view for control and managerial purposes. On the other hand, the manager's role in the VI Region is transformed into an enforcer of the policies of the grower and the requirements of the productive apparatus. Although the manager in the VI Region might behave as an effective enforcer of the grower's interest, his status is always that of an employee. This relation between managers and growers in the

VI Region is further crosscut by class. In Virginia, managers and growers own the place and as such they are their own bosses. In the VI Region, there is a separation between ownership and management, managers are not only employees, but they are also subject to be fired.

Control and Resistance

Workers use hidden or open resistance to protect themselves against work pressures. Tight control over workers in the packing houses, as a technique for meeting production standards, allows very little interaction among workers. However, workers in both Virginia and VI Region packing houses constantly attempted to resist the restrictions against talking, for example. I observed several such interactions between nearby workers. Other subtle forms of resistance were utilized by women, especially in the VI Region. Women tried to get on the manager's "good side." Informal talks with women revealed that they use smiling and flirting with the manager to get permission for breast-feeding for example²⁹.

Explicit forms of resistance such as engaging in union activity was absent in both research sites. Discussion with packing-house workers in Virginia indicated that 22 of 60 were

²⁹ It is important to note that Chilean law allows women 30 minutes each four hours for breast-feeding. However, informal talks with women in the VI Region indicated that this law was not enforced. Women also said they were scared of loosing their jobs if they accused the owner.

unaware of this option, and the rest did not want to answer the question. In the VI Region, discussion with packing workers revealed a more drastic answer. Forty-six out of 60 workers refused to answer the question, and the rest said they were unaware of the option.

Resistance is further crosscut by the type of personal relations that growers established with workers. In Virginia, growers' and managers' power and ability to control the work force was enmeshed in a whole network of personal relations, especially with women. In contrast, VI Region growers avoided personal relations with their workers. The manager mediated such relations, but aside from occasional flirting and smiling with women, personal contacts were sanctioned by traditional norms, written rules, and by the growers' control over managers' behavior.

The type of personal relations in Virginia and its effects on women's resistance corresponds to two associated factors. First, the female labor force in the packing houses has remained relatively stable over the years. Forty out of 46 women indicated that they had been seasonal workers for the same packing house over a period of more than three years. Seventeen of these women had been seasonal workers in the same packing house for more than ten years. Second, working over the years in the same packing house has implied for the women interviewed a feeling of "belonging" and "familiarity." Women

interviewed felt the packing house was a "familiar workplace," and described their relation to the owners as "very close ones" or "family-like relations." These personal ties between growers and women workers tended to obscure the real working and class relations between them. Loyalty had a direct and personal meaning for these workers, and many were reluctant to break the bond it formed. In this sense, women's resistance, and in general packing-house worker's resistance, was also mediated by the degree to which women identified themselves with the grower and his family.

Weber (1964) discusses the notion of loyalty in traditional authority arguing that at the base of working relations between authority positions and subordinates there is a continuum whereby loyalty to the leader is reinforced by certain obligations of the leader to care for his/her subordinates. In the Virginia cases, the grower's leadership and command was informalized by many workers and served to motivate them to work and not resist. Grower's paternalistic attitude toward women was carried onto the packing floor so that relations of dependency and subordinated female roles were clearly reproduced. These ties were also strengthened by women's attitudes. The majority of workers indicated that the best way to solve work problems, and in some cases personal problems affecting their job, was to discuss them with the grower. In contrast, VI Region working relations, especially

with growers, have a much more formal connotation. At no point in the interviews did women express a feeling that the packing house was a family-type place, or that the grower was a relative in any sense of the word. For Weber (1964) rational-legal authority is embodied in bureaucratic organizations, which defines and establishes boundaries between administrators and workers. In this sense, class boundaries in the VI Region packing houses were clearly established and separated growers from workers.

The issue of control is also mediated and defined by the social construction of gender relations. In both places authority is based on patriarchal relations, yet operationalized in a form which is congruent with the types of authority in place (e.g., traditional vs. rational). In Virginia, employers' reinforcement of loyalty forms and support of family-like relations and feelings among women workers are valuable mechanisms of labor discipline. This environment of "personal relations" between the employer and the employees - highly correlated to the type of traditional values emphasized in Virginia - is utilized by growers as a powerful resource for controlling workers through emotions. Growers do this in a variety of forms, for example, excusing women from being on time to work in the morning. Growers secure other gains from these women, such as feelings of gratitude and loyalty. By contrast, the VI Region rational-

legal type of authority uses strict boundaries between employers and employees, and clearly defined hierarchies among workers. However, the designation of job hierarchies - in the VI Region - is not so much an issue of technical progression of jobs by skill (as it will be discussed later), as it is the politics of allocation of labor by gender which is in place. That is, control operates through formally established rules defined by the social construction of gender rather than production (e.g., predominant ideas of worth of women's work). In this sense, the mechanism by which formal rules are enacted are clearly **redefined** by patriarchal social relations. In another vein, this is one powerful argument as to why we cannot state that rules are neutral. For example, in the VI Region, apple packing (done exclusively by males) is considered a skill job for which wages are higher (about 40 percent) than for sorting and cleaning apples (done only by women). In Virginia cases, by contrast, packers (men and women) are paid no more than cleaners or sorters (women only). The critical differences is in the sex of the workers. The sex differential in these research sites is real and it relates to male/female social position (e.g., the social construction of women's and men's worth and roles in society).

5.7 Gender and the Organization of the Workplace

The organization of the workplace and the work force is also gender defined. This is, traditional views of women's

and men's roles, behavior, and the nature of their work domains shape the use, distribution, and management of the packing house labor force.

Workers in the packing house are placed in different work stations along the packing line. There is a fairly well-established division of labor in both packing-house sites, with women and men workers normally segmented into different jobs and work stations. In the packing house, it is possible to distinguish five work stations.

The first work station is for apple washing and waxing. This job is done generally by two men. One man transports apple bins in a fork lift and places them in the washing tank. The other man helps supervise this process until apples are waxed.

The second work station is for apple selection. Several women select apples into rejected and approved groups. This job requires them standing for the whole shift while doing the same task.

The third work station sorts apples. Again, women do this job. They are in charge of sorting apples into different grades. The machinery is automated, and the women doing this task sit for the whole shift.

The fourth work station involves apple packing. In the VI Region, men stand for the whole shift in different lines, specify apple grades and pack apples in boxes, while in

Virginia women do this job.

The fifth work station is for apple placement. These tasks are done by three or four men and include sealing the boxes, counting the apple boxes by grade and writing it down in a report, and carrying them to cold storage or loading them onto trucks. There is an additional male job which involves carrying the bin where rejected apples are placed out of the packing house either to the place where the grower has the apple cider plant or to cold storage or trucks belonging to juice firms. In the VI Region, all growers interviewed sell rejected apples to the juice industry; in Virginia, some growers make apple cider and sell it in their retail stores, and others sell rejected apples directly to the juice industry.

In both research sites, there is a male supervisor who oversees the packing house activities. This task involves dealing with workers and machinery problems, as well as with the organization of the workplace.

Capital uses segmentation of the labor force to increase control and profits. Capital does not benefit from an undifferentiated labor force, but rather from previous socio-cultural training that implies specialization in meticulous, delicate work, and the gentle behavior learned by women in the context of domestic work and traditional norms and values. In this sense, there exists a marked difference between men's and

women's status within the family and society, which is reproduced inside the packing house and used to advantage by the growers' system of production. Such differences are expressed in lower salaries for women, strict job segmentation by gender, and job stereotyping and differential assessment of workers' capacities and skills.

5.8 Gender, Packing-House Labor Demand and the Nature of Work

Packing-house employment is largely labor-intensive, and growers in both countries benefit from the reduction in labor costs that the use of female labor allows.

For Braverman (1974), demand for female labor relates to technological change. He argues that technical change in production had tended to generate more and more narrowly-specified, repetitive, dead-end jobs associated with low skill levels. The consequence of this change in the composition of jobs is said to be doubly advantageous to employers. The relative increase in the number of unskilled, low-paid jobs can reduce the total wage bill. Women are then seen as especially suited to perform such jobs. The problem with Braverman's argument is that he assumes gender relations rather than explains their operation. Braverman does not explore the social forces behind, and implications of, women's relative powerlessness within production structures.

Findings from this study suggest that women are not used only to curb production costs. Growers in Virginia and the VI

Region explained that the most important factors influencing demand for women workers in packing houses were related to availability of a female labor supply and to the specific abilities women bring to maintain the good quality of the product.

Growers have taken on more female labor as it became available because it is cheaper, and then modified the composition of jobs to fit this newly available labor force. With the incorporation of women into seasonal employment, growers discovered the benefits of structurally-imposed feminine abilities (such as gentleness and ability to perform monotonous and delicate tasks), which they have used to the advantages of their system.

Although it is true that women packing-house workers are a cheaper source of labor than male workers, the reasons cannot be found only in the technical change argument, as they cannot be found in the supply argument alone. In this regard, gender relations become important in mediating the demand for female labor.

Gender mediates and influences growers' demand for labor and the organization of the packing-house workplace. Thus, women being a cheaper source of labor than men relates basically to the social and cultural structures which set the

framework for unequal gender relations. Braverman³⁰ (1974), in contrast, places greater emphasis on workers' skill level and the supply of workers with different skills to explain why different workers are sorted into particular jobs. The skill label of a job and of its holder may become a secondary determination of the job grade, rather than a proper description of the job itself (Hossfeld 1990). Indeed, skill labelling of jobs -in VI Region and Virginia packing houses- is determined more by the gender of the workers carrying it out than by the nature of the task performed. Incorporating women into subordinate areas of the packing house, for example, is one way in which patriarchy is maintained and extended under conditions of capitalist economic restructuring (Faulkner and Lawson 1991: 22-23). Likewise, Massey (1983: 86) suggests, that "relations within production, do not just take advantage of an externally-constructed ideology, they further reinforce it."

One way in which gender inequality rather than skill prevails in grower's decisions is in the wage system in packing houses in both countries. Packing-house women's wages in both research sites are lower than men's. According to

³⁰ According to Braverman (1974) women are particularly suited to low paying jobs caused they have a shorter working life than men since they withdraw from the labor market periodically to bear and rear children, and this leads them to undertake less training, acquire fewer production skills, and generally be less committed to wage employment.

Mackintosh (1981: 13) "once men and women workers have been created as two relatively non-competing groups within the labor force, with men relatively privilege in terms of wages and work conditions, then there exists a material division between men and women which can be exploited by management, and which reinforces women's social and economic subordination in the new economic sphere."

Wages are set according to the type of job workers do in both the VI Region and in Virginia packing-houses. The type of jobs workers do correspond to gender hierarchies, evident in the stereotyped description of jobs. This issue will be discussed later.

Packing-house wages in the VI Region and in Virginia are related to the task performed.³¹ However, the ranking of packing-house jobs in the VI Region is reflected in wage differences much more than in Virginia. In the VI Region, apple selection and sorting - women's jobs - are the lowest rungs of the occupational ladder in packing-houses and are the lowest-paid jobs in the place (average daily wage US\$5.5 dollars). On the other hand, fork-lift drivers and workers who seal boxes and load trucks (all men) are in higher occupational ranks and are paid accordingly (average daily

³¹ There is not a uniform payment system. In the VI Region, apple packers are paid on a piece rate system, and the rest are paid a daily wage rate. In Virginia all packing workers are paid by hours worked.

wage US\$7.8 dollars). Packers' wages are set by their own output pace. An estimated average piece rate wage for packers is US\$8.6 dollars per day.

The wage differential between packers and cleaners/sorters in the VI Region is justified by packer's faster work rates. On the packing line, the effectiveness of a packer rests on raising the general work rate and having other workers keep up with him. In real terms, there is no difference related to productivity. Women's jobs involve careful cleaning and sorting of apples. In this sense, women's greater care comes along with male packers' output rates. Yet employers and other male workers distinguish packers approvingly in terms of productivity, meaning speed of working. By contrast they talk of women's slow pace as being "prompted" by packers to faster production. Employers in this sense are able to justify a faster pace of work without having to increase women's wages. Also, having men paid on a piece rate basis among a female hourly workforce is a far more cost-effective means of ensuring social distance and control.

Grower's organization of production in the VI Region leaves to the workers themselves the process of control by creating a division of tasks based on an unequal assessment and treatment of male and female workers. Control over output pace is set by the workers themselves, with the pace-rate function of packers being regarded as the sole reason for his

wage premium. This is another way of institutionalizing the gendered wage differential.

In Virginia, there are no significant differences between women and men who pack apples and women who select and sort apples. All of these workers' jobs are of similar occupational rank, and workers are paid US\$4.25 an hour. Workers -all men- who drive the fork lift, load trucks, and seal boxes are in a higher occupational rank and receive an average hourly wage estimated at US\$5.50.

Packing house managers in both research sites occupy the highest occupational rank and receive higher salaries than the rest of workers. In the VI Region, managers receive an average daily wage of US\$9.20 dollars compared to an average hourly wage of US\$6.00 in Virginia.

The wage differential that exists between men and women is justified by growers on the basis of a) viewing women's work as an extension of women's housework and thus of lesser value; b) considering women's work as a supplement to men's income; and c) labelling of women's work as unskilled and therefore less valuable than that of men. Growers justify the wage structure on such gender "qualities" which are the same ideological reasons for paying men and women differently.

The whole ideology that justifies the wage differential and the mechanism for controlling production and labor processes is based on sex differences. In social terms, men's

roles are to be superordinate to women, to have superior rights to ownership of property (breadwinner role) and to be able to have access and control over women's domestic labor (Russman 1980; Joeke 1985). In these ways men and women have different social positions which, among other things, justify and legitimize the assessment of men's and women's performance in wage employment as not equivalent.

The political and social construction of gender inequality has been at times diffuse, but a constant means by which capital has established and maintained its position. The historical contradictions of capital and labor have taken place within a framework of social and culturally-generated assumptions that have systematically affirmed the subordinated and less important character of women's labor.

Findings of this study suggest that women enter the packing labor force on different terms than men. Women are bearers of labor power as well as of gender characteristics which express themselves in the asymmetrical relations of the packing house sexual division of labor. And the manner in which women's labor has been used by capitalist production has rested upon prevalent inequalities by gender. Growers in both countries view women's primary job as pertaining to the private sphere (the home), and they assumed women's employment to be of lesser value, secondary in importance and temporary.

For example, employers in both countries repeatedly

argued that they prefer to hire men on a permanent basis because they were "serious workers, who needed the job more than women did." Others would justify their preference for male workers because of the skills needed (physical strength, etc.). Similar arguments were given for justifying paying men more than women in packing houses. As one grower summarized the reasoning, "Men have considerably more skills than women and that is why they rightly earn a higher paycheck." Grower's were asked why women who knew how to drive a fork lift and were willing to do such a job or to load trucks were not allowed to do so. Growers in both countries invariably answered that driving a fork lift involved considerable driving and coordination abilities and that they would not risk their operation by allowing women to do such work. The same was true for loading trucks: "It involves considerable strength and that is a male attribute." The same logic applied in the case of VI Region growers who would not allow women to pack apples. "This job belongs to men who have experience and good hand-eye coordination."

There is an inherent contradiction in growers' arguments, especially evident when women's natural aptitudes are played against men's skills. On the one hand, skills associated with feminine characteristics are learned at home via reproductive work and not in the workplace and hence are ignored. On the other hand, jobs where women are considered to be naturally

better are classified as unskilled and paid as such. For example growers consistently said that women workers were "better able to perform careful work at all stages of production." Careful work was defined as the feminine ability to perform routine activities, delicate tasks (such as apple sorting and cleaning), to have good hand-eye coordination, and to have considerable patience. However, growers in both countries did not find it appropriate to pay workers (women) who have these "skills" more than those who lack them (men). Furthermore, when growers were explicitly asked to value female work over male work in the packing house, they invariably expressed that the capacity to perform heavier work was of no less worth to them than the generally accepted ability of women to provide more "conscientious work." Growers also insisted that women's productivity was no less than men's. Some growers in Virginia believed it was actually higher. Most growers talked enthusiastically of women's more serious, more obedient and more careful quality of output. By comparison, they said that men's work was often sloppy. Certainly no grower associated women's lower wages with lower productivity, but rather with the nature of their work and lack of skills.

In this sense, this study has reasons to conclude that there is a systematic overvaluation of masculine attributes and a corresponding undervaluation of feminine ones which not

only justifies a differential wage premium, but also constrains any opportunities for women moving into men's jobs. Physical strength in packing houses commands higher wages and better job positions than careful work does.

These data suggest that the **worth** attached to women's and men's work, rather than productivity or skills, sets differential opportunities and wages for men and women in the packing-houses. As Carney and O'Kelly (1990: 121) explain, the ideological and practical embeddedness of women in the family unit determine the prevailing views of their status in the labor force, even when that status seems deceptively elevated to one of privilege. This raises a further issue related to current explanations of gender relations at work. On the one hand, the human capital emphasis on experience and training appears to be overshadowed by current valuations of women's and men's working abilities. On the other hand, segmented labor market explanations of the concentration of women in routine and repetitive work due to women's low status does not answer why women are preferred to men for certain types of jobs. To answer this question it is important to consider why women are found suitable for certain jobs, and why men are not.

Growers often expressed that they prefer women precisely because these are women's jobs. It is often because such jobs have been defined as "women's work" that they are devalued and

not because of their intrinsic properties. And this is why women are a cheap source of labor power. As Phillips and Taylor (1980: 85) have argued "It is the sex of those who do the work, rather than its content which leads to its identification as skilled or unskilled."

Because women's work is devalued, men do not do these jobs. In Out to Work, Kessler-Harris (1982: 316) observed that "The inequality of the job market was rooted in fundamental assumptions about women's biology, psyche and social roles." Similarly, Sklair (1987: 12) explained that "employers could pay women less money because of the belief that they are less skilled than men, irrespective of their skill levels." Once a gender division of labor is established, male workers will resist being assigned to work regarded as feminine. In the packing-houses, especially in the Chilean ones, the mere crossing of a man to a women's table caused a series of whistles and caused men to be regarded as homosexuals.

The gendering of work valuation should not be underestimated, for it represents a major challenge to most accounts of labor markets and the causes of gender discrimination. Not only labor market theory, but human capital and marxists theories, assume that the labor market itself operates with non-gendered principles. These theories postulate that gender differentiation is largely determined by

work itself. However, these case studies of ten packing houses suggest that work itself has no intrinsic sexual division except for the one that is attached to it by the interrelation of patriarchy and capitalism. For this reason, it is fair to maintain that market competition is not "free" but rather works within and through gendered structures. The market does not value labor independent of gender. Thus the functioning of the labor process involves not only the exclusion of women from jobs valued as skilled, but also the downgrading of jobs when they are performed by women.

5.9 Women's Choices Associated with Seasonal Packing-House Work

I will now look at women's decisions regarding their entry to packing-house wage work, and compare them to men's decisions.

Much of the debate about the importance of wage work for women has been in terms of women's capacity to control some type of resources and thus to acquire a degree of personal autonomy (McCrate 1985; Roldán 1985). Control is defined here as the ability to decide about the use and benefits of some resource. From this perspective, it has been argued that wage work might provide women with autonomy to acquire resources, to care for children and to retain control over the profits of their labor. But, how much control and autonomy do women gain? One way to examine this question is to look at women's

expressed reasons for seeking wage work and to their comments about what they like best in their present job.

Deciding the working place

Several findings suggest that wage employment does not translate automatically into an improvement of women's social power. As Standing (1985: 234) explains, "The social matrix within which women's decisions are taken is underpinned by culturally constructed notions of needs and rights which overwhelmingly militate against women's personal needs."

In my research on the VI Region and Virginia, the selective nature of women's employment and women's decisions are clearly connected to the restrictions on women's movement set by the gender relations that prevail in both countries and to household needs.

In terms of the nature of women's employment, the definition of women's "place" and of their domestic roles make it extremely difficult for women in the VI Region to work away from home and to freely choose the workplace and the type of employment. For example, in the case of unmarried women, parents will decide and allow them to work in certain packing houses, where they either know the owner or are working there as well. Married women are allowed to work in packing-houses where husbands either are also working or can directly control them through other family members. Further, most of these women are allowed by their husbands or others to work only for

the season.

Although there are differences in the way in which women in Virginia decide about where to work compared to women in the VI Region, these differences are in terms rather than in kind. In both cases, gender relations in private spheres shape work decisions, and these decisions, therefore, take on particular gendered characteristics. For example, most women in Virginia did not have an external constraint in the form of family pushing them to choose a certain workplace or type of employment. But the reasons they give for choosing a particular working environment reveal how reproductive work roles are linked to women's wage-work decisions. Along these lines, patriarchal ideology is also present in Virginia women's decisions, albeit in a different manner. This is evident when 35 out of 46 women interviewed stated that geographical proximity and/or having worked there before was a major consideration when deciding where to work for the season. Working "close to home" meant -as one woman summarizes the feeling- "not wasting family time and money on the road." Or as another explained, "I need to take care of my kids and get housework done, so the sooner I get home, the sooner I get things organized for the next day." "Having worked there before," meant at least two things: 1) a sense of protection: "Here we are like a family, I feel at home", and 2) no serious threat to family needs: "The owner is easy-

going, he knows us, so if I have a family emergency they will allow us to go" or "He (the owner) doesn't mind me being ten minutes late every morning. He knows I have to wait for the school bus to pick up my kids."

Patriarchal ideology plays an important role regarding the degree of constraints upon women's work choices in both Virginia and VI Region research sites. The whole notion of women's proper place and responsibilities (private sphere) interfaces with the public sphere as a continuum when analyzing women's wage work participation. This is not so clear in the case of men. No male packing-house worker in Virginia or the VI Region had direct family involvement in the decision of where to work. Moreover, the male workers included their public role of breadwinner as part of their job decisions.

Thus, as Smith (1987) maintains, men can do what they do within the public sphere and not seem to have a relation to the private sphere because women do domestic labor. Men's "absence" from the private sphere rests on gender relations. Gender relations stereotype behavior assigning men the "breadwinner" role and women the domestic-breadmaker role.

Given the different nature of women's participation in both the wage labor and the domestic spheres, it is crucial to understand the complexity of the articulation between the existing mode of production and reproduction to explain the

gender division of labor. A way of getting at this issue is to further explore the reasons given for wage-work decisions. Later the articulation among the existing mode of production and women's productive and reproductive roles will be discussed.

Why Did You Choose this Type of Job?

Women's decisions regarding seasonal employment in the VI Region packing houses point not only to the constrained character of their choices, but also to motives linked with household needs. For this reason it can be said that the issue here is not one of choosing to engage in paid work, but rather one of economic necessity.

When women were asked about their motives for seeking their present job, 78% of the women (29 out of 37) indicated that they needed to contribute to household income in order to cover family expenses on a yearly basis:

My husband doesn't have a well-paid job, so I need to help the family pool.

With his salary we cannot do much. I am working for the electricity this year. Last year I worked for water.

My father's income is not stable. And we need furniture.

Another 8% (three out of 37) decided to work to escape isolation of being at home "I was bored at home," or "I feel so alone at home, I need a new environment." And 14% of women (five out of 37) expressed both the need for economic security and personal satisfaction. "We need the money... and I need to

be with other people."

One can thus conclude that in the VI Region case studies, the overwhelming majority of women's decision are justified by an expressed economic need rather than with personal satisfaction or independence. Low income or lack of economic security was a primary motive in women's wage work participation.

In Virginia case studies, women's answers to the same question reflect a greater degree of diversity. Twenty-seven out of 46 of the women (59%) expressed that their families needed the money:

It represents a complement to the house money, and since I have small kids I can't afford a full-time job.

We [the family] need this money, and this is the only job I know how to do.

This is an opportunity to earn some extra cash for my family. We need to save for my daughter's school.

Another 41% of women (19 out of 46) decided to work because they "like this extra money for Christmas." "I want my own money for Christmas" was the most usual answer.

From the above it is possible to conclude that nearly 60% of Virginia case studies show a similar response to VI Region cases. However, a sizeable 40% of women indicated a different sort of answer such as "It means to have my own money and to decide what I do with it". This will be discussed later.

Men in both countries agree upon economic need as a

primary motive for choosing present employment. In the case of VI Region packing-house workers, the wage figure and the type of job were also important reasons for choosing this type of agricultural work. Chilean packers are among the best-paid agricultural workers. And the type of job they do is regarded as easy and comfortable compared to harvest working conditions.

For the money, for what else? We need the money. I and my family need to eat.

I work here for the money. Also I like working under the roof. Out there [harvesting] is too hot.

This is the best I can get. This pays good money, and it is an easy job.

In the case of Virginia packing-house workers, Mexican workers stressed both the possibility of saving money and the type of job.

I can save money, and I work inside. I hate field work. It is too heavy.

It pays good money, and I like driving the fork lift.

And, in the case of North American Anglo male workers, economic need is also associated with the type of job.

I can bring in a little extra money now that the garden is over. Also I like people here. It is easy to become friends when you are in a miserable situation.

I need the money, and this is an easy job. Besides we are like a group. I feel I belong here, we are equals.

Further informal talks with men in Virginia and the VI Region about the nature of work indicated that they perceived

their employment as an integral part of their self-definition and fulfillment of their familial responsibilities. From the above, it is possible to say that men have incorporated wage labor into their self-presentation as much as women have incorporated reproductive roles into theirs.

The entry of women into seasonal wage labor, although similar to that of men in terms of economic motives, manifests a completely different ideology. In this sense it is important to understand two things 1) how women enter the packing-house labor force and 2) how they perceive that process.

For most women in Virginia and the VI Region, entering the packing house labor force corresponds to a household need. In this sense, women enter the packing labor force not as individuals but as constituents of households whose survival depends upon the various members' contributions. This is not a new phenomenon. Ward (1986, 1990) shows how subsistence production interfaces with wage labor to reproduce rural households both socially and physically. Further, working in the packing house is perceived by women as part of their "caring for the family." Most women in Virginia and the VI Region associated earnings with household, rather than with personal, needs.

In the VI Region cases, it was clear that women's incorporation into the labor force is part of a household

livelihood strategy. Of women interviewed in the VI Region, all of them belonged to small-grower households where wage work was important for the family economy. Although Chilean wages have kept pace with inflation, the purchasing power of today's rural households -especially that of small growers- is often insufficient to support the household (Echeñique and Rolando 1989; Gacitúa 1992). Through informal talks, I found that most of these households have incorporated into their survival strategies wage employment of at least one member. This was confirmed by 81% of the women interviewed, indicating that they supplement their income during the rest of the year when they are not engaged in reproductive labor. However, this does not mean that other members' incomes were sufficient to reproduce the household members. It is likely that wives' and daughters' seasonal income made a valuable -if not essential- contribution to the household economy.

In Virginia case studies, today's economic crisis and consequent restructuring of the rural sector economy has increased the need for more cash to support family consumption expenses and farming activities. Structural change in agriculture, as Deavers (1991: 2) shows, "has meant a declining role for farming as a source of rural income." Similarly, Flora and Christenson (1991) indicates that even in farming-dependent counties of the U.S., the mythical family farm which was able to support a household over the years has

historically been rare.

More than half of women interviewed in Virginia, (27 out of 46) lived in a rural household where they either combined small farming with wage work or had a predominant wage work strategy. As in Chile, all of these women indicated that they rely on their husbands' or another family members' contribution to complement income.

Does participation in wage work imply that women have become more independent? The answer is not straightforward. Great caution should guide interpretation of women's responses, since there is much evidence in these case studies that women's dependence is reproduced in several ways.

On the one hand, nearly 40% of the women in Virginia sample do associate wage work participation with some form of empowerment. For example, when women were asked to explain what did the phrase "having my own Christmas money meant," some of them indicated: "It means not buying your husband a gift with his money." Others were more emphatic about autonomy.

It means that for some months I do not have to fake headaches at night. You know... I don't have to do things I do not like so to have some money.

It means a bit of freedom, that I can decide what to do with the money without asking anybody. For example, that I don't have to ask him for money to buy underwear.

It means not explaining... not saying what I am going to do with the money.

In the case of VI Region women, although social power was not associated with control over money, it was associated, in the case of three women, with personal satisfaction. As one woman summarizes the idea.

It means I win the fight. For years I was not allowed to work out of the house [by whom?] By my husband. But things have changed. I am older too, my kids are grown, and there is no need for me to be at home all day. I am happy here. [why?] I needed the change. I enjoy meeting other women. We talk and laugh. We joke a lot around here (VI Region woman).

Compared to the women interviewed in Virginia, VI Region women have interiorized in more profound ways the traditional patriarchal ideology of women's place and roles. However, patriarchal ideology in the VI Region cases is conditioned and reinforced by more oppressive economic relations than in Virginia. VI Region women's lower class position (e.g. not having the means for basic household reproduction) expresses their much more urgent needs of survival than in the Virginia cases. This is evident in VI Region women's choices being overwhelmingly associated with practical needs³² rather than strategic needs.³³

³² According to Moser (1991: 70-71) practical needs refer to women's concrete conditions and to their position in the sexual division of labor. Practical needs are directly associated with human survival, and thus these needs answer to a short-term need (such as family health, food, domestic work, basic services, housing).

³³ According to Moser (1991: 69-70) strategic needs are those needs formulated on the basis of an analysis of women's subordination in relation to men. These needs include a desire for

For most of VI Region women interviewed, strategic needs are basically a luxury. The above is clearly communicated in VI Region women's first reaction (e.g. surprise) to the question why are you working here? "Because I needed the money, for what else?" This answer corroborates findings of Venegas' (1992) study of Chilean seasonal workers which substantiates the hypothesis that poor women's work-related options are associated with survival needs rather than social power. This was confirmed by the speech of a seasonal women worker and elected representative to the Association of Agricultural Workers.

We [seasonal women workers] bought the idea that our incorporation into the labor market was based on us having better aptitudes, or that we were more suited than men for non-strenuous, delicate, jobs. But if women would have not been there as a source of labor, men would have, and men would have done the same job we do now. But the difference is that men -because of culture and socialization- know their worth and we women entered the labor market without any knowledge. We do not go to work looking for economic independence or looking for equality, but looking for our family or household survival. We need to feed our family! I am talking of twelve to fourteen hours' work per day in the season - of women working extra hours precisely because wages are extremely low...

Women's labor capacity proceeds, implicitly, from the biased assumption that women's labor power is a commodity, but

greater gender equality of formal social and economic position and a greater equality in female-male relations in society. It also postulates an alternative to the present sexual division of labor and the organization of societal needs. Virginia women voiced some of these strategic models.

equipped with special, female, capacities. Women's exclusion from economic power ensures their continued economic subordination to men and thus the continuation of the patriarchal system. In this sense, the degree of control that women can gain is viewed by them as temporary. Similarly, their contribution to the household, despite the recognized need for this contribution, is generally viewed -by women and men- as secondary and supplemental. It follows that the issue of women's social power is a tricky one. What is generally true for these case studies is that women's economic role becomes distorted and is put under patriarchal control. The ideology that women are economic dependents working for a limited period of time mainly to supplement family income is further strengthened by the type of work women do, the salary differentials in the packing-houses, and the value that women assign to their participation in the labor force.

The type of work done by women in packing-houses does not increase their economic power relative to men. First, the majority of women earn less (even with the same skills) than men. Second, women's work is commonly viewed as an extension of women's housework, and as less important than men's economic activities in the packing house. Third, women perform the dirtier and more monotonous jobs because they provide a 'second income', supplementing the men's "family wage". And because women are badly paid and limited to

intermittent work, they cannot live alone, economically independent of a man, particularly if they have children.

In this context, again I have to ask what does women's paid employment mean? The structural context under which labor relations are played, the division of labor, prompts workers to believe that women's wage work is less valuable than men's. And at the same time, the women themselves arrive at the packing house having already internalized this ideology. For example, most women in both countries consider their work at the packing houses as different, and of less importance, than men's work. On this basis, they justify getting paid less than men. With regard to their economic contributions to the family, although they acknowledge the importance of their economic contribution, they generally feel their status and identity as wage earners is less important than that of men, and thus value their work as an extension of women's traditional responsibilities.

From the above discussion one could say that the ideology of what constitutes "proper" identity and behavior for women guides much of women's choices and attitudes toward work. In this sense it is feasible to argue that if something is gained by women from packing-house employment, it relates to the domain of ideas rather than to the degree of control over their personal life. This is clearly evident in women's answer to the question "What do you like best about your present

job?"

5.10 What Do You Like Best about Your Present Job?

Although most Virginia and VI Region women's work choices were predicated upon reasons other than personal satisfaction, the majority expressed a feeling of enjoyment with their working situation. This may sound contradictory, but discussion with women in both research sites suggests that for women there is no conceptual dichotomy between the need to work and their enjoyment of the working experience. For women there is a dialectic between the two situations.

I like this job because the people I work with are warm and friendly. I also like the chance to get out of the house. (Virginia woman)

I like people here. I enjoy the possibility of talking and sharing with other women. (Virginia woman)

I like the possibility of getting out of the house for a while. The rest of the year I am only at home. I do not go out, so this time is great for sharing and not feeling so lonely. (VI Region woman)

I like the possibility of changing the environment. I need to get away from my family, and this is a possibility to forget, to talk and have fun. (VI Region woman)

The possibility of meeting other women and getting out of the home environment and away from the family is valued by women. Findings of this study suggest that in addition to financial rewards, many women derive non-material benefits from paid employment.

The above suggests that understanding why women enter

packing house employment needs to go beyond questioning women whether they do or do not **need** to work for wages. This point is especially relevant for a deep analysis of how gender relations are embedded in women's decisions regarding wage work; that is, to learn how the contradictions in women's roles and attitudes affect how labor power is reproduced within the workplace.

From the preceding analysis, it is also possible to argue that understanding of both women's experience of work and women's need for work should direct gender and development planning. This idea emphasizes a shift in the focus of policy from a consideration of women's biological roles to a consideration of socially constructed relations between men and women (Molyneux 1986). This is especially important when we realize that a) women have been completely marginalized from government structures and control of/access to resources, and b) government programs have been promoting a type of integration of women into development processes that emphasizes productive work-related aspects and economic growth issues. While not denying the importance of economic growth as a generator of change, I propose refocusing development by incorporating gender considerations and quality of life issues into the policy dialogue and into the development of policy capacity. This means the need to analyze and take into account women's and men's different qualities in developing

plans and policies. The reasoning behind this is that women and men do not face the same constraints and opportunities in development (specially in the labor process) and that planning on the assumption that they do leads to misallocation and waste of resources. If improving national resource allocation and institutional capacities entails overcoming constraints and enhancing opportunities, then the relative starting positions of women and men must be a part of the baseline analysis for strategy formulation. There is a need to do a serious analysis of the influence of particular conditions of women's lives on the outcome of development policy. In other words, it implies promotion of a type of development agenda which re-addresses the historical gender inequities built into women's reproductive, productive, and community organization roles.

CHAPTER 6: CONCLUSIONS

Labor Processes and Apple Farming Systems

This study compares two forms of capitalist production and how they intersect with gender to shape the labor process. A sample of ten apple growers and one hundred-twenty packing-house workers was selected in Virginia and the VI Region.

The theoretical framework I developed to study growers' apple farming systems and their use and management of packing-house labor was based on the notion of labor processes. Understanding of labor as a process implied conceptualization of the system of apple production as the uniting of labor process with the value-creating process. This meant, on the one hand, seeing the production process in terms of the differences between exchange value and use value (Marx 1967 and 1972). On the other hand, it meant addressing the intersection of gender inequality and capital and its effects on the organization of the workplace.

A Focus on Labor Processes

The study of women's employment and rising women's participation rates in agro-industrial systems, particularly in the developing world's production for exports goods, have become major research themes (Bradshaw 1989; Campaña 1985; Carney and O'Kelley 1990; Deavers 1991; De Janvry et al. 1986; Flora 1990a; Gacitúa and Bello 1991; Hossfeld 1990; Meillasoux 1987; Mies 1988a and 1988b; Ward 1990). Various theories have

been put forward to explain the existence and rapid growth of women's labor force participation in agro-industry.

These theories tend to emphasize labor markets (either supply or demand), individual attributes of workers, exchange relations within the workplace, and sociopolitical forces associated with the economy and state policies. On the one hand, labor supply approaches, such as the human capital approach, focus their analyses on the special characteristics associated with individual traits brought to the workplace. In the case of female labor, human capital theory centers on women's low stocks of human capital (low level of skill), and lack of commitment to wage employment as principal predictors of their job position and salaries (Becker 1965, 1985; Mincer and Polachek 1974; Polachek 1981).

On the other hand, structural perspectives draw attention to the restructuring of capitalist economies and the associated emergence of low-level and poorly paid occupations (Abrahamson and Sigelman 1987; Hodge and Laslett 1980; Stafford and Fosset 1989). Structuralist analyses argue that technological change and the need to reduce the total wage bill have resulted in low-skilled, narrowly-specified, repetitive, dead-end jobs. These jobs, in turn, have translated into a demand from employers for specifically female labor to fill the growing number of low-skill positions created.

Further, neo-marxist analysis emphasizes the separation of production and reproduction under capitalism, the role of women's household labor in supporting capital accumulation, and the resulting flexibility of women's paid labor force participation (Mallon 1986; Momsen 1987; Phillips and Taylor 1980). Neo-marxist examination of the relation of capital and labor maintains that capital uses women as a flexible "reserve army" of labor for the market, a resource which can be hired temporarily (Scott 1986).

However, the study of women's wage-work participation in agro-industrial farming systems cannot be explained from an individualistic, structuralist, or neo-marxist standpoint alone. These theories fail to explain **why** female workers become concentrated in low paying, inferior positions. A focus on labor processes, on the other hand, highlights issues of access to economic and social power, and identifies mechanisms through which women are denied such access. While these factors are complex and often hidden in subtle, discriminatory practices and stereotypes, they are manifest in the gender division of labor and in the worth attached to female packing-house work. As Joekes (1985: 183) notes, "there is no such thing as labor pure and simple. There is male and there is female labor. The two are not the same."

Women workers' competence and job performance, as conventionally measured by human capital analysis, do differ

from men's. However that difference is not always in accordance with traditional views. In this sense, I have argued that characteristics associated with women's/men's labor largely follow from traditional valuation of women's labor, rather than being the natural consequence of women's and men's social roles. Men's and women's social roles do not stem from "nature" (i.e. biology) but are socially constructed and ideologically reinforced and reproduced in the form of gendered valuing of work. In this vein, if we agree that gender relations permeate all social formations, then it is mandatory to recognize that the economic "laws of market competition" work within and through gendered structures. The market does not value male and female labor independently of gender.

Accounts of women's productivity and skill level in the "deskilling" argument (Braverman 1974; Coyle 1982) are also problematic, especially when it is argued that women are particularly suited to, and satisfied with, low-skill poorly-paid jobs because women have a shorter working life than men. Proponents of this conception maintain that women generally withdraw from the labor market to bear and rear children, and this leads them to undertake less training, have fewer production skills, and be less committed to wage employment. However, findings of this study suggest: 1) that the most important factors influencing grower's demand for women

workers in packing houses were related to availability of a female supply of labor and to the specific abilities women bring to guarantee the good quality of the product; 2) the emphasis on women's low level of skill does not explain why women are placed in certain types of jobs in the packing house; and 3) the skill labeling of a job - at least in the packing houses studied - is determined by the sex of the worker rather than the level of skill.

In this study I have concentrated on the nature of women's and men's incorporation to seasonal packing-house wage labor, asking why gender is such a persistent factor differentiating the labor force. I have studied the social relations which influence the supply of labor, the conditions that shape women's job choices and the wage at which they are prepared to work. I distinguish these social relations and conditions influencing women's wage-work options from those available to men. Among other things, findings of this study suggest that although women's and men's wage-work are both influenced by the gendered division of labor and current patriarchal structures, men and women are affected differently. For example, work that women do in one country is done by men in the other (e.g. pack apples into boxes in the case of Virginia women workers), these differences are also associated with relative wage differentials, which in turn relate to the person's sex. Grower's valuing of women's

work vis a vis men's does not correspond to the premium (i.e. wages) that workers received for their skills. In other words, current patriarchal ideology qualification of women's work as an extension of domestic work and thus of less importance and value, is reproduced and operates, in the packing-house labor processes, not only to exclude women from skilled jobs, but also to downgrade those jobs when they are performed by women.

Under capitalism, patriarchal relations take specific forms. Capital uses prevailing inequalities by gender to its reproduction as a system. The historical contradictions of capital and labor take place within a framework of socially and culturally-generated assumptions that systematically affirm the unequal, subordinated and less important worth of women's work. In this line, findings of this study show that capital does not benefit from an undifferentiated labor force, but rather from socially defined gender relations. The differences between men's and women's role status within the family and society is reproduced inside the apple packing house and used to the advantage of the grower's system of production. Such differences are seen in lower salaries for women, strict job segmentation by gender, job stereotypes and differential evaluation and treatment of worker's productivity levels.

As feminists have pointed out, women enter the labor force on different terms than men (Campaña 1985; Seitz 1992;

Ward 1990). Women and men are bearers not only of labor power, but also of gender characteristics rooted in the asymmetrical relations of a sexual division of labor (Young, Wolkowitz and McCullagh 1981; Bello 1992). Like men's, women's labor power under capitalism is transformed into a commodity, but furnished with special, female, capacities. Thus, on the supply side, women's capacity to compete in the packing labor arena is constrained by the social relations in which they are immersed, notably those of the family-based household. These factors interact with patriarchal ideology on the demand side, with the gender division of labor appearing in the gender segmentation of tasks and positions within the labor process, and in discrete areas of wage work.

Apple Farming Systems and Labor Processes

To understand how the organization of production intersect with gender to affect growers' use and management of labor in apple packing houses, I examined the nature of the farming systems, and then I analyzed how the organization of farming systems contributes to gender and class inequalities in the packing house workplace.

The conceptual framework developed provided guidelines by which information on apple growers' farming systems was gathered, analyzed, and compared. Central to this framework was the notion of farming systems as a methodological tool when analyzing sampled apple production units. Farms were

viewed as systems with interconnected subsystems, such as land use, degree of capitalization, resources available, technology, and labor (Feldstein and Poats 1990; Quijandría 1991).

The analysis integrates different perspectives in the discussion of Virginia and VI Region cases. A comprehensive explanation of the nature of production processes, and the socio-historical and political factors shaping them, is presented. The underlying basis of this analysis assumes that the actual rate of surplus value realized in apple growing is dependent upon the nature of the production processes (e.g. the organization of production), the nature of the commodities produced, the socio-historical transformation (specific policies and regulations) peculiar to each country, and the interrelations of capital, gender, and labor.

Findings of this study show that sampled Virginia and VI Region apple farming systems correspond to two different forms of capitalist production. Sampled Virginia apple farming systems are a classic family business, where apple production has chiefly a domestic market and family labor is a major asset for production and labor management. The local reach of sampled Virginia apple production and the fact that prices could not be higher than those of competitors severely restricted Virginia growers' option to expand their farm operation and to increase surplus. Financial success for

growers interviewed largely depended on the quality of the product, as well as on an efficient system of labor. The above resulted in higher grower's personal involvement and control over production, as well as the labor process. The farming systems in Virginia are based on traditional authority, limiting their participation in the modern economy and their capital accumulation.

In contrast, VI Region apple farming are highly capitalistic, export-oriented businesses. Farms are organized into a hierarchical bureaucratic structure where growers establish formal rules and procedures. VI Region apple growing is a highly concentrated and integrated type of industry with strong government support. Sampled growers have used government support to expand production out along their cost curves and to increase their internal competitive position. Pressures to expand have resulted in product diversification, as well as increasing vertical integration to include more stages of production in growers' fruit operations. Product diversification and increasing vertical integration have meant increasing dependence on a seasonal labor force and consequent need for growers to incorporate more structured management practices. In this type of farm system the grower is no longer directly supervising and controlling all aspects of production and labor. Production and labor management has been delegated to an efficient, professional manager who keeps

the business running. Farms tasks in the VI Region sample are highly differentiated and structured, as Weber argues is necessary for participation in the modern economy and for capital accumulation.

Farming Systems, Gender and Labor Processes

The relation of capital and labor is further specified by gender. Gender is an analytical construct which focuses on unequal relations between sexes and particularly, in this study, to inequalities by sex built into the labor process. A focus on gender relations is critical to understanding women's economic and social position; that is, to explain why women, rather than men, constitute the subordinated group in capitalist labor forces.

My findings suggest that gender inequalities are encouraged by both type of sampled growers, and that these inequalities operate to benefit growers by justifying lower wages for female, compared to male, packing-house workers. In both cases, women constitute more than half of the packing-house labor force. Growers benefit from a differentiated labor force. Segmentation of the labor force by gender with lower salaries for women, job stereotypes, and differential assessment of worker's capacities and skills are prevalent in both apple-packing-house cases. I conclude that there is a systematic overvaluation of masculine attributes and a corresponding undervaluation of feminine ones which not only

justifies a differential wage premium, but also jeopardizes any opportunities for women moving into men's jobs in packing houses and constitutes an effective labor control mechanism. Worth attached to women's work compared to men's work, rather than productivity or skills, set differential opportunities and wages for males and females in the packing houses.

Growers justified the sex-wage differential on the basis of: 1) viewing women's work as an extension of women's housework and thus of lesser value; 2) considering women's work as supplemental to men's income; and 3) labeling women's work as unskilled and slower, therefore less valuable than that of men. Growers justify wage differentials on such gender qualities which are the same ideological reasons for paying men and women differently. In this regard, the importance of how work is valued, the gendered process of work valuation, should not be underestimated, for it represents a major challenge to most accounts of labor markets and the causes of gender discrimination. Not only labor market theory, but human capital and Marxist theories as well, fail to consider patriarchy (e.g., the power relations that subordinate women) as an important construct in their analysis. Thus it is not strange that these theories assume that the labor market itself operates with non-gendered principals. These theories postulate that gender differentiations are largely determined by work itself.

However, this study shows that work itself has no intrinsic sexual division except for the one that is attached to it by the interrelation of patriarchy and capitalism. For this reason, it is absolutely rational to argue that market competition is not 'free' but rather works within and through gendered structures.

Sampled growers in Virginia and the VI Region differ in the manner in which they approach gender relations and in the mechanisms growers used to control labor. Even though labor is tightly controlled by sampled growers in both research sites, the way in which power is used to maintain control differs. Such differences were related to the nature of that control, as one system was bureaucratic and the other traditional. In fact, the rules were the same, but the mechanisms to ensure enforcement were quite different. This was evident in the type of relation the managers had with the owners, the type of production system, and the relation that growers' had with their workers, associated with the degree of articulation of the farming system with the modern economy (Weber 1964).

In the VI Region sample there was a separation between ownership and management, while in the Virginia sample ownership and labor management remained within the family³⁴.

³⁴ Weber (1964) discusses this at length in the Theory of Social and Economic Organization.

Differences meant that management roles in the VI Region were transformed into enforcers of the growers' policies in a bureaucratic fashion compared to Virginia where family management implied a similar idiosyncratic view of labor control in the traditional, paternalistic mold (Weber 1964; Edwards 1979). In Virginia, growers' and managers' power and ability to control the work force was enmeshed in a whole network of personal relations, especially with women. Women interviewed in Virginia felt the packing house to be a family workplace, and their relations to the grower as "family-like." Growers encouraged such feelings with paternalistic behavior toward women so that relations of dependency and female subordination was constantly reproduced and used. While Virginia growers maintained a close connection with their packing workers, in the VI Region growers discouraged any personal contact with their workers. In the VI Region the manager mediated such relations, but aside from occasional flirting and smiling with women, personal contacts were sanctioned by growers' control over managers' behavior, by written policies, and by cultural norms.

Differences in grower's mechanisms of control are also gender defined and are closely linked to the type of system and especially, the type of authority in each research cite. In Virginia, the use of emotional ties and the support of a family-like working environment is closely connected to

grows traditional ways of institutionalizing control. In contrast, the VI Region rational-legal type of authority has formalized these relations between employers and employees into a set of rules governing behavior. However, this formalization is mediated by patriarchal conceptions of gender relations and translated in an institutionalization of sex differences. In VI Region packing houses, wages and mobility within tasks - for example - are not dictated by skill, but by the politics of allocation of labor by gender. This is, control operates through formally established rules defined by the social construction of gender rather than production.

Regarding women's choices associated with seasonal wage work, in both areas women's decisions are clearly connected to the restrictions on their movement set by the gender relations that prevail in both countries and to household needs. Economic need was the most important explanation of women's incorporation into the seasonal labor force in both countries. Personal satisfaction, although it has an interesting secondary effect on women's decisions, was only articulated by some women interviewed in Virginia. There was an important difference between women in the VI Region and in Virginia. In the VI Region women generally have to gain the consent of their husbands or male kin to work outside the home, with permission being granted on the basis of economic need. In Virginia, married women did not defer to men to the same

extent as outlined above. This is clearly manifested in the personal satisfaction response and in their alleged "freedom of choice" regarding wage work employment. However, the reasons given by the women in Virginia for choosing apple packing as a job revealed how the ideology of women's place and of their domestic-reproductive responsibilities affected their decisions. In this sense, explanations that propose an association between women's wage work and women's higher control or autonomy are inadequate. Women often worked because they needed to contribute to the family income. Seventy-eight percent of women interviewed in Virginia and 59 percent of women interviewed in the VI Region indicated that they decided to work because they need to contribute to family income. Women's incomes was used for household needs. Findings of this study suggest that if something is gained from packing house employment, it relates to women's interactions with each other rather than to the degree of control that women have over their personal life. Certainly I cannot assume a necessary link between being in wage employment and being able to influence the existing power structures within the household.

From the above, it is feasible to argue that the articulation of gender and development in planning should cause one to strive to understand the nature of women's options, taking into account a) the hierarchy of power

relations between men and women, b) the economic survival strategies of poor households, c) the degree of articulation between reproduction and production spheres in the modern economy, and d) the macroeconomic and social policies in place. It is certainly difficult to assume that women's incorporation into paid work leads to a process of self-control and liberalization of oppressive positions, as it is difficult to ignore the importance of non-material benefits derived from women's working experiences, especially in terms of social relations. Gender and development planning should aim at considering both dynamics adequately by incorporating both practical and strategic needs into their agenda. This means, among others, to further women's incorporation into other private and public institutions, as well as women's dialogue and negotiation capacity with the state managers.

It also implies the need to apply an analysis of women's and men's uniqueness to plans and policies. The reasoning behind this is that women and men do not face the same constraints and opportunities in development (specially in the labor process) and that planning on the assumption that they do leads to misallocation and waste of resources. There is a need to do a serious analysis of the influence of particular conditions of women's and men's lives on the outcome of development policy. The development agenda should re-addresses the historical gender inequities built into women's

reproductive, productive and community organization roles.

Appendix 1

Labor Programs for U.S. Harvest: H-2A, SAW, RAW.

The Bracero Program for Mexican workers and the British West Indies temporary alien labor program were introduced in 1943 as mechanisms to deal with U.S. labor shortages during World War II. In the following years, new programs recreated old programs. These programs continue on the premise that the supply of domestic workers is insufficient to meet the labor demands of specific U.S. agriculture growers.

In 1986, a new legal code was enacted to lessen disruptions to U.S. agriculture in the form of labor shortages, to protect job opportunities of U.S. workers, and to prohibit employers from using exploitable foreign labor to lower wages and worsen working conditions.

The Immigration Reform and Control Act (IRCA) of 1986 produced a comprehensive set of immigration reforms in the shape of three special programs: the guest workers programs (H-2A), the special agricultural workers (SAW), and the replenishment agricultural workers (RAW).

These programs were designed under IRCA to "prevent potentially harmful labor shortages in agriculture, by allowing growers to hire alien labor for specific agricultural duties or service activity over a specified contract period." In exchange for work services, alien workers were provided

with a path toward eventual citizenship (See Milaw³⁵ 1990, for a detailed description of these programs).

While not changing the essence of the traditional temporary alien labor programs, IRCA 1986 emphasized the need to preserve jobs for those who were legally entitled to them: American citizens and aliens who are authorized to work in the country.

In fact, the Immigration and Naturalization Service (INS) has made several provisions for enforcing the law by 1) asking potential employers to certify the need for alien labor and 2) asking Local Departments of Labor (DOL) in each state to enforce the adverse effect wage rate³⁶ (AEWR).

The law requires growers to show the government that they have made certain minimum efforts to recruit U.S. workers before they may obtain approval to import foreign workers. In addition, the Department of Labor (DOL) regulations require growers to make at least the same kind and degree of effort to

³⁵ Milaw 1990 is a computerized information retrieval system for migrant labor law in Virginia, prepared by David Wooddall-Gainey and Jeff Alwang, Department of Agricultural Economics at Virginia Polytechnic Institute and State University.

³⁶ The adverse effect wage rate (AEWR) was designed to ensure that H-2A, SAW, and RAW workers do not adversely affect the region's prevailing agriculture wage. The AEWRs for each state are equal to the annual weighted average hourly wage for field and livestock workers for each region. The offered wage to agricultural workers (aliens and citizens) should be equal to or greater than the AEWR. In no event it can be lower than the federal minimum wage (MILAW 1990).

recruit U.S. workers as they make to recruit foreign workers. Thus the law requires affirmative steps to ensure preferential treatment of U.S. workers. On the other hand, the DOL is responsible for enforcing recruitment obligations and regulations guaranteeing workers the AEWL.

Despite the law and U.S government policies to maintain a balanced position that protects growers and workers rights, issues over undocumented shortages, foreign labor exploitation in the form of lower salaries than the AEWL and unsuitable labor conditions, lack of protection of U.S. and workers' right to work are constantly before the Justice Department (Farm Worker Immigration Policy Report 1990, vol 1 and 2).

The U.S. government continues to maintain the position that the domestic labor market does not contain a pool of labor able to meet the seasonal requirements of agricultural growers. In the case of Virginia apple industry, growers have met the H2A, SAW and RAW requirements for certification throughout the years of dependence on foreign labor.

Appendix 2

The following is an explanation of the areas that the interview schedule covered. This explanation follows the units of analysis. For each unit of analysis, I list the questions that were asked in 1) grower's interview and 2) worker's interview.

1. The Apple Labor Processes

1.1 Supply and Demand of Labor

To assess aspects of the demand and supply of labor.

a. Worker's Reasons for entering the market

How did you find about this job? (get exact information about job seeking process and keep above categories to check answer)

- * a friend told you about and you came here
- * a friend told you and introduced you to the growers in the community
- * the grower contacted you
- * the crew leader contacted you
- * other

- If you weren't working in the packing house, what would you be doing?

- Why did you decide to work here instead?

- What do you like best about this job?

- What do you like least about this job?

- What will you do once the work in the packing house is finished?

- How else do you complement your income during the rest of the year when you are not working? (I am trying to tap presence of informal activities: clean houses, wash for others, crafts, etc.)

- If you could decide about a job, would you prefer a:

- * full-time job
- * part-time job
- * seasonal job
- * not to work at all

* other preference
(explain)

- What type of work would you prefer to do if you had a chance to choose?

- Are you currently married?

(if married)

- Would your husband/wife prefer you not working? Explain (trying to tap decision making for work and also patriarchy)

- Would s/he prefer you had a different job?

- Has this job created problems with your husband/wife?

No ___ Yes ___ Explain

- Would your relatives prefer you not to work?

- Has this job increased problems with your relatives? Explain

- Were you trained to do this job? (to meet skill required)

- Who trained you?

- Are you a U.S. citizen? [only for USA sample]

- Do you have a: [only for USA sample]

* temporary permit

* resident (green card)

* social security, but not resident

* other

- How many years have you been working in this packing house? (explain)

- What month do you start working here?

- When do you stop working for this grower?

- Where do you live most of the year now?

- Where did you live immediately prior to coming to this job?

- What year were you born?

- What is the highest level of education you completed?

- Where were you born?

Job history (To assess worker's choices, job options and supply/demand).

What other jobs have you held in the past year?

Job Calendar: 1990-1991

Job name	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep

- Please tell me about each job (where, type of work, employer, how did it pay compared to working here, did you like it, what were your responsibilities, how much and how did they pay, etc. When there is an interruption ask why they quit and why they waited to get another job).

b. Growers reasons for hiring this labor force

- Why did you hire these particular workers to work here?

- Do you know why the local American workers are not picking apples? [only for USA sample]

- How did you contact seasonal workers?

- Have you had any problems finding workers to harvest and pack the apples in the last 5 years? (explain in detail).

- How did you solve the problem of finding workers? to pack? to pick?

- Which of the following changes, if any, have you made to find people to harvest and pack apples?

* no changes have been made

* no changes have been made, but will change if problems persist.

* switched to a different type of worker or labor source.

* brought machinery so less labor is needed.

* tried to develop a steadier workforce

* found a higher-price market for the apples

* cut back size/acres of labor-intensive crop

* Other

- Have you increased the number of full-time-year-round workers in the past 5 years? Yes _____ No _____ If yes, what led you to seek more help?

- Have you decreased the number of full-time-year-round workers in the past 5 years? Yes _____ No _____ Why?

- How many full-time-year-round workers did you employ in 1990?

- How many full-time-year-round workers are: [only for USA sample]

* foreign men

* American men

* foreign women

* American women

- How many seasonal workers worked for you during 1990?
- How many seasonal workers are: [only for USA sample]
 - * foreign men * American men
 - * foreign women * American women
- Have you increased the number of seasonal workers in the past 5 years? Yes ___ No ___ If yes, Why?
- Have you decreased the number of seasonal workers in the past 5 years? Yes ___ No ___ Why?
- Do you use a crew leader? Why yes or no?
- What is his/her nationality? [only for USA sample]
- How did you contact the crew leader?
- How long have you been working with the crew leader?
- Which are the crew leader's responsibilities:
 - * with you
 - * with the workers brought
- Are there days when you need more than one shift in the packing house?
- How do you handle it? (probe: hire more workers, pay overtime)
- Who decides how many workers to hire each season?
- How does that person reach the number of workers needed?
- How many managers do you use for:
 - * harvesting
 - * packing

2. The Apple Firm

To analyze three different processes that shape the agricultural labor processes 1) Commodity destination, 2) organization of production, and 3) costs of production

2.1 Commodity Destination

b. Grower's reasons for specific marketing strategies

- The apples you produced in 1990 were sold directly by you to: (mark all the appropriates)

- * local supermarket
- * cooperatives
- * Brokers
- * other

- How did you contact

- * the brokers
- * cooperatives
- * local supermarket
- * other

- If you sell to brokers, do you know the destination of your apples?

- Your apple production is directed to satisfy: (mark all the appropriates)

- * internal consumption
- * world market
- * other

- Explain why this is your strategy.

- To be able to make a profit selling apples what are the steps you follow? (the following are not mutually exclusive).

- * Do you conduct quality control tests? (explain)
- * Do you promote your apples?
- * Do you have technical assistance for your crop? (explain)
- * other (explain)

- Do you think you would be interested in exporting apples to other countries Yes ___ No ___ Why?

- If you were to export, what changes do you think would you have to make to this apple orchard?

2.2 Organization of Production

a. Worker's job organization

- How many hours do you work in this job?

- * per day
- * per week

- What are your responsibilities at this job? (Explain exactly what you do).

- Did you work overtime this season?
- When did you work overtime?
- How many extra hours did you work?
- How many days did you work overtime this season?

b. Grower's strategies of organizing production

- What changes have you implemented in the orchard during the past ten years? (probe: trees, varieties, size of trees, use leaf analysis, etc.).

- Is the farm business:
 - * a family farm owned by you?
 - * a family partnership?
 - * a public corporation
 - * other

- How many acres did you/the partnership/the corporation own and how many did you rent in 1990?

- How many acres, both owned and rented, were used for growing apples last year?

- What crops do you grow besides apples?

- What crops did you grow in the past

- If other than apples, why did you change?

- Do you raise livestock?

- Did you raise livestock in the past?

- Why did you change?

- How many years have you been farming this orchard?

- Do you have another orchard?

- What are your responsibilities on the farm? Explain in detail

- Who helps you run this orchard and what are their responsibilities?

- * Family
- * Others

- What percentage of the apples produced went to:
 - * fresh markets
 - * juice
 - * sauce
 - * other

- When is apple production sold (month):
 - * fresh markets
 - * juice
 - * sauce
 - * other

2.3 Costs of Production

b. Grower's costs for producing apples

- How many bushels of apples did you sell in 1990?
- May I know how much did you get paid per bushel?
- Is this a fixed price or does it vary with the season? (explain)
- Over the past ten years has the price per bushel increased? (explain)
- If not, how do you manage to have a margin of profit?
- Which of the following uses pays the most when sold?
 - * fresh markets
 - * juice
 - * sauce
 - * other
- Which would you say is the most important factor for having a margin of profit? (probe for labor use)
- What were the gross sales for all crops including livestock in 1990?
- What were the gross sales of apples only in 1990?
- In how many of the last five years (1986-1990) did income from apples cover production expenses including wages?
- How many controlled atmosphere storage rooms do you have?
- What is the capacity of your controlled atmosphere storage rooms?

- In what ways have the controlled atmosphere rooms been modernized in the last 10 years?

- During the last 5 years how many boxes of apple boxes were packed:

- * in the best season
- * in the worst season

- In what ways has the packing house been modernized in the last 10 years?

- How do you determine how much to pay each worker?

- * packing
- * harvest

- what things do you take into consideration for establishing the wage for each worker?

3. The State

3.1 Labor and Chemical Law

To examine Federal and local in three different bodies of law:
1) chemical and labor.

a. Worker's knowledge and use of labor, chemical and welfare law

- Who can protect you if you get fired?
- Do you choose to work overtime?
- Do you get job benefits (like health insurance, etc.) Yes _____ No _____ (Explain exactly type of benefits).

b. Grower's knowledge and use of labor, chemical and welfare law

- What are the major changes in federal legislation that have affected your operation? [for Chile replace federal by European and USA legislation].

- What are the major changes in Virginia legislation that have affected your operation? [replace Virginia with Chilean].

- Which legislation help the growers the most? (specify/why?)
- * labor
- * chemical/pesticides
- * welfare

- Which legislation makes your job difficult (specify/why?)
- * labor
- * chemical/pesticides
- * welfare

- Are you familiar with:
- * labor law
- * immigration law [only for USA sample]
- * H-2A programs [only for USA sample]
- * SAW [only for USA sample]
- * RAW [only for USA sample]
- * labor camp law [only for USA sample]

- Who advises you on labor law?

- How have changes in pesticide/chemical use affected:
- * apple production (technical)
- * costs of apple production
- * labor force
- * marketing
- * packing house
- * other

- Who advises you on:
- * pesticides/chemicals to use
- * when to use fertilizer/spray

- Do you provide housing for your packing house workers?

- What else do you provide them?

- Who provides food and health care?

4. Labor Segments

4.1 Gender/Ethnic Segregation

To assess organization of labor segments in the packing houses, the following areas are examined: 1) gender/ethnic segregation, 2) control over work force, 3) managerial strategies, wage differentiation.

a. Workers' perception on gender segregation

- What other jobs can you have in this orchard? (tap job segregation)

- Why are you doing this job? (I want to tap job ascription)

For women only:

- Why do you think men in the packing house (women's job definitions)

- * operate the fork lift
- * pack the apple bags?

- Can you do any of these jobs (fork lifting, apple bags)? (Explain)

- Why are you not doing these jobs?

For men only:

- Why do you think women in the packing house: (men's job definitions)

- * pack and sort the apples in boxes

- Do you think you can do any of these jobs (pack and sort apples in boxes)?

- Why are you not doing these jobs?

Men and women:

- Who do you think is the best person to be the manager of this packing house?

- Which are your reasons for choosing (name the option)?

- Which are your reasons for not choosing (name each other option)

- What aspects of your job would you like to change if you could?

- Are you called: (to know job title or position)

- * a packer
- * fork lifter
- * other

b. Grower's Sex/Ethnic Segregation of workplace

- Do you prefer men or women packing apples (explain)

- May I have a copy of them?
- How do the workers know about such policies?
- Do these policies differ for packing and (if yes, explain)

4.3 Management Strategies

a. Worker's perception of management strategies

- Do you think your supervisor [name] does a good job? Explain (probe: fair, clear orders, respect, etc.)
- How does your supervisor help you in your work?
- Are there things s/he could do to make the work go better? (Explain)

b. Grower's managerial strategies

- The following are some problems other growers have with their labor force. How have you dealt with each of these problems (ask type of worker most commonly associated with each problem)

- * tardiness
- * carelessness
- * don't work hard
- * steal from packing house
- * don't follow orders
- * come to work late
- * sickness
- * absenteeism
- * troublemaker
- * bruising apples
- * heavy drinking

- For each case how have you dealt/ and prevent these problems from happening?

- Who made the decision regarding how to solve the problems of finding enough workers to pick and pack?

- Who decides about strategies to solve labor problems in the packing house?

b. Grower's wage differences

- On average, what is the range of wages you pay to your full-time year-round workers?

- This wage is:

- * hourly
- * weekly
- * monthly
- * annually

- How much do you pay the crew leader?

- This wage is:

- * hourly
- * weekly
- * monthly

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- M.A.** Sociology. Specialization in Social Change and Development and International Development. Kansas State University. Thesis: "The Impact of External Debt on Quality of Life of Developing Countries." 1990. Kansas State University.
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PROFESSIONAL EXPERIENCE

- 1993:** **Research Associate.** Rural Development, Sustainable Agriculture, Agriculture Policies and Gender. Grupo de Investigaciones Agrarias (GIA). Research Funded by United Nations.
- 1992-93:** **Assistant Professor.** Instituto Latinoamericano de Doctrina y Estudios Sociales, ILADES. Masters Program in Social Sciences (ILADES - Universidad Gregoriana, Rome).
- 1992:** **Professor.** Ministry of Agriculture (INDAP) and Grupo de Investigaciones Agrarias (GIA). Extension Course: Farming Systems and Gender Analysis.
- 1992:** **Research Associate.** Panel Study on Land Tenure and Natural Resource Management among Mapuche Indians in southern Chile. The study seeks to assess the impact of land divisions on family survival. Grupo de Investigaciones Agrarias (GIA). Research Funded by Ford Foundation.
- 1989-91:** **Research Assistant.** Dr. Dale Wimberley, Department of Sociology, Virginia Polytechnic Institute and State University. Statistical Analysis and Socio-Economic Assessment of External Debt Agrarian Policy and Quality of Life in Third World Countries.
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- 1987:** **Associate researcher.** Project: "Planning, Design and Administration of an Educational Program for Adult Population. Universidad de la Frontera, Temuco, Chile. Funded by the Organization of American States (UNESCO).
- 1985-87:** **Project Leader.** Women and Development Program. SERPAJ (Servicio de Paz y Justicia).
- 1985-86:** **Associate Researcher.** Project: "Social Position, Participation and Subordination of Mapuche and Chilean Women in the South Central Region of Chile. CAPIDE (Center for Research Planning and Development) Temuco, Chile.
- 1983-84:** **Research Assistant.** Project: "Anthropological Value of Chilean Folklore and Art." Pontificia Universidad Católica de Chile.

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- Fidel Sepúlveda, Sara Larraín y Rosario Bello 1982. "Constantes Antropológicas en la Narrativa Chilena." Santiago, Chile: PUC Publicaciones de la Universidad Católica.

PAPERS AT PROFESSIONAL MEETINGS

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- Bello, Rosario. 1992. "A Comparative Analysis of Workers in Apple Packing Houses: Virginia, United States and the VI Region, Chile." Rural Sociological Meetings.

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- 1993:** Sterken Consulting Services (Canada). Evaluation of the Program "Comisión de Derechos Humanos y Pueblos Indígenas", and Recommendations for a Training Strategy on Human Rights and Indigenous People.

- 1993:** Programa de la Mujer (PRODEMU) and Instituto Nacional de Desarrollo Agropecuario (INDAP). Impact Assessment of the Program: "Talleres de Formación y Capacitación de Mujeres Rurales." Recommendations for 1994.
- 1992:** Pan American Health Organization, World Health Organization and Health Ministry of Chile. Assessment of Chilean Health Technologies Research and Production Status and Recommendations on their Export Potentialities.
- 1992:** Ministry of Agriculture (INDAP) and Grupo de Investigaciones Agrarias (GIA). Development Possibilities through Agro-based Micro Enterprises with rural young adults.
- 1991:** Department of International Development, Virginia Polytechnic Institute and State University. Evaluation of Sustainable Development Projects and Gender Issues in the Third World.
- 1991:** Upper Midwest Women's History Center. Evaluation of the book Contemporary Issues for Women in Latin America.
- 1990:** Latin American Women in Development Program, Department of International Development and USAID (United States Agency for International Development), Virginia Polytechnic Institute and State University. Design and Evaluation of Development Projects with Latin American Women.

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