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FROM: JOHN LAMD, PROEXAG PROJECT, USAID/ROCAP

DATE: APRIL 23, 1991

SUBJECT: FINAL REPORT ENTITLED "IMPACT OF PARTICIPATION IN NON-TRADITIONAL EXPORT PRODUCTION ON THE EMPLOYMENT, INCOME, AND QUALITY OF LIFE OF WOMEN IN GUATEMALA, HONDURAS AND COSTA RICA"

As non-traditional agriculture has risen in importance in Central America over the past few years, legitimate questions have been raised as to the impact on women of the structural transformation that is taking place in this region's agricultural sector.

Recognizing the need to conduct an objective study of WID impacts-- both as a means of identifying possible negative impacts and looking for ways to mitigate them and as means of identifying positive impacts and looking for ways to enhance them--in late 1989, USAID/ROCAP management asked the PROEXAG project to set up an independent study, focussing on employment, income and quality of life issues as they relate to women's involvement in NTAE enterprises.

The enclosed study was conducted through SRD Research, Inc., by WID Expert Amalia Alborti, Ph.D., under the supervision of Survey Research and Statistical Analysis Expert Bruce Brower, Ph.D.

While the scope of this effort was too limited to investigate and answer all issues raised about the effects of NTAE growth on women, I believe that it provides an excellent overview and analysis of the impacts--both positive and negative--observed in a sampling of NTAE enterprises in three Central American countries. On balance, the results are quite favorable to NTAE development, as you will see upon reading the report.

I hope that you will be able to take the time to make copies of the executive summary for wide circulation within your mission, and will take the trouble to forward the full text to the WID Officer. For your information, copies are also being sent to the various export support organizations with which we work in your country.

I also hope that you will find this report useful in fending off unfounded criticism of NTAE growth, in justifying existing projects and in preparing or defending design documents relating to future projects.

Finally, I would like to thank you all for assisting Dr. Alborti and her assistants in her field work.

**PROEXAG
NON-TRADITIONAL AGRICULTURAL EXPORT SUPPORT PROJECT**

**IMPACT OF PARTICIPATION IN NON-TRADITIONAL AGRICULTURAL EXPORT
PRODUCTION ON THE EMPLOYMENT, INCOME, AND QUALITY OF LIFE
OF WOMEN IN GUATEMALA, HONDURAS, AND COSTA RICA**

SUBMITTED TO:

**Regional Office for Central America and Panama (ROCAP)
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EXECUTIVE SUMMARY

THE IMPACT OF NTAE PARTICIPATION ON THE EMPLOYMENT, INCOME, AND QUALITY OF LIFE OF WOMEN IN GUATEMALA, HONDURAS, AND COSTA RICA

In Central America the term "nontraditional agricultural exports" (NTAE) is a loose descriptor referring to a mix of different crops in each country that includes fruits, vegetables, cut flowers, ornamental plants, foliage, spices, herbs, and nuts. Non-traditionals have been the focus of much attention by development agencies. They are perceived to hold great promise because: first, they tend to be labor intensive thus helping to address the region's unemployment problems; second, they can often be grown on comparatively small parcels of land, thus achieving a "higher" use of the land and bringing development opportunities within the range of smaller land holders and providing a wider distribution of benefits among the population; and, third, they tend to be high valued, thus helping improve the flow of hard currency into the region.

One of the unspoken assumptions of programs and projects aimed at strengthening the NTAE subsector has been that women will benefit as much as men from increases in NTAE activity, and probably more. This has never been confirmed, however, and in fact little is known about the true nature or magnitude of benefits that may be accruing to women. The question sparking this study is whether the promise of benefits from NTAE exports is translating into real benefits for the women of Central America.

Specifically, the purpose of this study is to analyze the impact on women of involvement in NTAE through its effect on employment, income and quality of life. The first part of this study describes the women and men who work in NTAE production --their civil status, age, education, number of children, and the like. The second part addresses how women experience the impact of NTAE in their lives.

METHODOLOGY

Given the enormity and variety of possible enterprises and persons working in those enterprises, the initial research design assumed a selective sampling of products that would allow for comparisons both within and across the three countries included in the study, namely, Guatemala, Honduras, and Costa Rica. Based on conversations with several key persons involved in NTAE production, the following crops were selected:

1. Melons as a seasonal crop grown in each of the three countries
2. Ornamental plants and/or flowers as a product that is cultivated year-round

3. Specialty products -products that are unique to each country and represent a competitive advantage for them - that include highland vegetables in Guatemala, hard or winter squash in Honduras, and processed tropical fruits in Costa Rica.

Two field interview instruments were prepared, one for worker interviews and the other for management-level interviews from each firm's administration. With the aid of collaborating institutions, select enterprises were contacted and interviews conducted in each country. All interview data has been weighted for country, product, estimated number and sex of workers, and permanent versus temporary status. All findings are based on the analysis of weighted data. All findings are presented in percentages or proportions based on 100.

FINDINGS

NTAE WORKFORCE CHARACTERISTICS AND RESOURCES

NTAE workforce composition varies by product and by type of work performed. Different labor needs are associated with different products. The ratio of pre-harvest cultivation to post-harvest (value-added) processing required for a given product has direct implications for the proportion of female and male labor likely to be sought. Different types of work -- field cultivation, packing, and greenhouse production -- track labor into non-overlapping activities. In fact, it is probably the interaction of the two factors, product and type of work, that best explains the distribution of the workforce by gender in any given context.

Workforce characteristics vary more by type of work than by product. The data indicate that people who engage in field work frequently do so because they have fewer options. If they are women, they tend to include a greater proportion of the youngest (including 15 years old and under), and oldest (45 and over) workers in their midst. If they are partnered, they have more children. Women who work in the field tend to have less education and are more likely to come from households that do not have access to land. If they are men and work in the field, they tend to be older, have less education, and come from households that do not have access to land. Whether male or female, because the products are seasonal, their work is almost always temporary.

People who work in the non-field activities are more closely associated with what is unique to NTAE products, the highly valued post-harvest processing. If they are women and work in non-field activities, they are more likely 25 years old or under (but over 15). If they are partnered, they have none or fewer children. Women who work in non-field activities have more education and are more likely to come from households with access to land, especially if they are unpartnered and still live at home.

If they are men and work in non-field activities, they are decidedly more likely to be 25 or less, and slightly less likely to be partnered or have children. They clearly have more education. If partnered, they are slightly less likely to have access to land, and if unpartnered and still at home, are most likely to come from households with access to land. Whether male or female,

they are considerably more likely than their field colleagues to have permanent jobs. Of the four subgroups, however, male non-field workers are the most likely to hold permanent positions.

IMPACT OF NTAE ON THE EMPLOYMENT OF WOMEN

For a number of reasons, women occupy more than half of the jobs associated with the processing, or post-harvest handling, of the NTAE products selected in Guatemala, Honduras, and Costa Rica in comparison with men who work in NTAE and with women who work in traditional agricultural export products.

First, NTAE creates a level of manual processing encompassed in the post-harvest handling, or value-added, aspect that is not associated with traditional agricultural exports. Second, the conditions associated with the NTAE post-harvest processing phase are such that they invite to the workplace women who, because of social constraints, would not ordinarily work --or be permitted to work -- in jobs related to agriculture that are normally available in their areas.

In other words, NTAE not only increases the number and "quality" of working conditions of jobs available, but because of the latter, also expands the potential labor pool from which it draws workers. Furthermore, because of the personal qualities, such as careful handling and constant and close attention, needed to perform the post-harvest tasks well, women are preferred to men for the majority of the new positions created.

In contrast, women represent 30% or less, depending on the country (See Table 2), of the workforce in field labor for the NTAE products included. The female component of the field workforce is clearly in the minority when compared with the male component. When comparing the extent of female participation in the cultivation of nontraditional agricultural export crops with traditional agricultural export crops, however, the rate of female participation in NTAE field work (apart from harvesting) is markedly higher.

More specifically, women generally do not have a role in the cultivation (i.e. production prior to harvest) of traditional export crops. Thus, the intensity of labor required for the successful cultivation of many of the NTAE crops has the effect of not only increasing the number of positions, but also altering the nature of many of the tasks defined as cultivation. If women are not preferred they are at the least competitive with men in terms of their ability to perform many of these more intensive cultivation tasks.

Greenhouse cultivation (i.e. production under glass or plastic) has proliferated as a medium for NTAE production in flowers and ornamental plants. It has no comparable significance in the production of traditional agricultural exports. Thus, it is not only a new source of jobs but, because of the nature of many of the greenhouse cultivation and packing tasks, a source in which female labor is explicitly preferred. Moreover, as a result of the "quality" of the jobs created, it too draws on the expanded labor pool of women who would not otherwise work in jobs associated with agriculture.

IMPACT OF NTAE ON THE INCOME OF WOMEN

The overall assessment of the impact of NTAE on the income of women is positive. In two of the three countries (Guatemala and Honduras; see Table 14) women are more likely than men to find permanent employment for the crops considered. In the third country, Costa Rica, the percentages of men and women with permanent employment for the products selected is remarkably high (66% for women, and 77% for men). Permanent employment in the high profile NTAE sector is probably one of the best assurances of a good and steady income a person working in agriculture in these countries can have.

This is all the more true when contrasted with traditional export crop production. Excluding bananas, production of the traditional export crops -- sugar, coffee, and cotton -- is seasonal. With the exception of a core field staff, all positions are seasonal, and the overwhelming majority of positions open to women are concentrated in harvesting and paid at a piece rate.

At the same time, opportunities for women to advance to supervisory levels in NTAE are almost non-existent. The skills they master are usually not transferable except to another similar job, and even then they rarely translate into a wage benefit. Legislation designed specifically to benefit women over men is at risk of working to their disadvantage.

In short, NTAE clearly generates employment options for women and in most cases assures them of a government-established minimum daily wage -- if not better -- that multinational enterprises at their central facilities are most likely to pay. However, it does not offer women the incentive of advancement or the financial rewards that accompany it.

As a closing note on wages, a surprising number of people interviewed were uncertain about how much they earn per hour or per day, whether they earn overtime and whether the overtime rate differs from the regular rate, or why their earnings vary from one week to another. In other words, they do not keep track of their hours or calculate what they should be paid. They are much more attuned to the amount they generally receive per week or pay period and trust that they are being paid fairly.

IMPACT OF NTAE ON THE QUALITY OF LIFE OF WOMEN

All indications are that NTAE employment is at worst neutral, but more likely positive in its effects on the quality of life of women, in this study considered primarily from an economic perspective. In addition to assuring better hours and recognized payment of overtime than is ordinarily available to hired labor, employment in NTAE appears to be the preferred employment alternative available, with approximately two-thirds of the women identifying their only other options as domestic services or staying home. NTAE multinational enterprises generally provide satisfactory physical working conditions, including basic sanitary facilities, to their workers at central facilities for packing and greenhouse cultivation.

Economic benefits via income are distributed almost equally between women with family responsibilities (children and/or partner) and unpartnered women without children who live at home, with differing implications for immediate versus longer term impacts on the quality of life. Benefits are also distributed among women located at various points along the socioeconomic scale encompassing the NTAE female laborpool. For the women most in need, NTAE provides an accessible, reliable source of income, for however short a period of time, to directly meet those needs. For the women who can afford not to work but do, NTAE employment may well result in a qualitative change in their own, or a child's, or a household's lifestyle. In either case, much depends on the length of employment and the skills of the individual in managing the income.

To conclude, what must be kept in mind is that NTAE's impact on quality of life and its impact on employment and on income interact: the longer the duration of work and the higher the wage, the more pronounced the quality of life impact is likely to be. For NTAE positions filled by women, single female workers without children still living at home are more likely to hold the short-term, part-time jobs. Unpartnered female household heads and partnered women predominate in the longer-term and full time employment available through NTAE. Thus, in comparison with single women without children still living at home, women with responsibilities for others earn a larger share of the total NTAE income generated by women thereby enhancing their ability to improve the quality of life of themselves and those around them.

IMPLICATIONS FOR ACTION

DEVELOP A SERIES OF INTERVENTIONS AND MATCH THE INTERVENTION TO THE TYPE OF WORK PERFORMED. Workforce composition and the demographic characteristics of the workforce vary markedly according to the product and the type of work performed. By considering select worker traits as well as characteristics of the workplace associated with different types of work, interventions can be tailored to best meet the needs of targeted audiences. The NTAE workplace provides an excellent opportunity to channel public sector service delivery to private sector target audiences. If AID (or any other donor), interested governmental agencies in Central America, or progressive NTAE enterprises were to seek to enhance the impact on women of their projects, various types of possible intervention could be derived from this study. Examples of targeted audiences and tailored interventions might include:

Field workers: female field workers in NTAE generally have less access to education and land, less likelihood of permanent employment, and a greater number of children.

Interventions to improve field workers' quality of life: Establish contact with basic health and social services facilities. Provide information regarding resources, for example, facilitators to establish independent solidarity groups for savings and credit (such as the Grameen Bank model promoted by CARE). If the work location permits, provide child care and pre-school readiness activities, otherwise setup in-town facility.

Interventions to improve working conditions: provision of tarps for shade and water to drink during the midday break.

Interventions to improve workers' skills: basic record keeping including a weekly time sheet and how to calculate wages due.

Packing and greenhouse workers: female packers are comparatively young, often have a sixth grade education, and are frequently single. Female greenhouse workers are more often partnered or female household heads with children, and from households with access to resources.

Interventions to improve packing and greenhouse workers' quality of life: information on family planning; provision of child-care and pre-school readiness activities; information on crops and cultivation practices for crops that could be grown in women's household gardens.

Interventions to improve workers' skills: budgeting and household resource management.

Permanent employees (mostly greenhouse workers): permanent female employees are most frequently either partnered or unpartnered female household heads who have had access to education and may have access to land.

Interventions to improve workers' quality of life: family planning information; establishment of an enterprise-affiliated credit/savings facility to promote savings and encourage cash purchases of larger items; information on crops and cultivation practices for women's household gardens.

ENCOURAGE INTRODUCTION OR EXPANDED CULTIVATION OF NTAE PRODUCTS WITH A HIGHER RATIO OF POST HARVEST (VALUE-ADDED) PROCESSING TO FIELD ACTIVITIES. Not only does the post-harvest processing greatly enhance the value of the NTAE product in question, but it is also the site of the qualitatively better jobs.

ENCOURAGE EXPANDED CULTIVATION OF NTAE PRODUCTS THAT USE GREENHOUSE CULTIVATION. It is not the greenhouse itself as much as the fact that a greenhouse represents an investment that management must capitalize on to insure a profit that makes it such a positive source of employment. Once the structure is in place, management needs reliable, responsible, permanent workers to insure the profitability of the business. It bypasses the constraints associated with other facilities such as freezing plants in that it produces the product it processes and is not heavily reliant on electricity to operate. On the other hand, greenhouse production tends to require a much higher investment per job created.

PROMOTE BENEFITS FOR ALL WORKERS IN NTAE, AND WOMEN WILL AUTOMATICALLY BENEFIT. Women are preferred for many of the tasks associated with NTAE because of the qualities they bring to the workplace. Singling out women for special treatment can initiate a negative backlash effect. Women are clearly and deliberately part of the NTAE workforce and will automatically benefit as all workers benefit.

HIGHLIGHT ACCOMPLISHMENTS OF SPECIFIC ENTERPRISES UNDERTAKEN TO BENEFIT OR ENRICH THEIR WORKERS, ESPECIALLY FEMALE WORKERS. Because NTAE is such a high profile industry, a little praise of the efforts of one enterprise can go a long way in prompting similar efforts on the part of others.

PROMOTE BETTER ACCESS TO BENEFITS FOR PART-TIME AND SEASONAL EMPLOYEES. Since NTAE products are agricultural, it is inevitable that there be seasonal workers. The NTAE workplace can serve as a conduit for public sector delivery services that can be drawn upon throughout the year.

PROMOTE AND PUBLICIZE INNOVATIVE APPROACHES TO ALLEVIATE WORKFORCE CONSTRAINTS. As an example, depending on the profits generated, a number of firms give all their workers, seasonal and permanent, a bonus. Payment of bonuses -- with appropriate accrued interest -- to seasonal workers might be timed to coincide with the onset of the school year when so many additional expenses must be incurred.

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PREFACE

The origins of this study date back to a workshop on "Gender Issues in Development" held by ROCAP in November, 1989. At that time the lack of information on the impact of participation in non-traditional agricultural exports on the employment, income, and quality of life of all workers, but especially women, was recognized. As a result of that workshop and an expanded commitment to gender issues in its projects by ROCAP, an action plan was developed that, among other activities, proposed the present study. It was recommended that the research be conducted under the auspices of PROEXAG, a project of technical assistance for the promotion of non-traditional agricultural exports working throughout Central America, because of PROEXAG's ability to facilitate contact with the appropriate in-country institutions. Indeed, representatives of those institutions¹ made the contacts that allowed the study to happen.

Field research for the study was carried out from March through June of 1990. However, country-specific information was not fully available until January of 1991 at which time the analysis was undertaken.

The in-country research assistants who participated in interviewing include Ana Beatriz Mendizabel de Christophe and Yadira Hueso Arevalo in Guatemala, Alma E. Cuellar and Aura L. Cuellar in Honduras, and Socorro Chaves, Beatriz Tomeu, and Leyla Centeno in Costa Rica. In addition, Ana Beatriz Mendizabel de Christophe, Aura L. Cuellar, Socorro Chaves, Beatriz Tomeu, and Leyla Centeno each wrote about relevant experiences or issues in their respective countries. Their well-done work was critical to the research effort. In addition, a special note of thanks is extended to Bruce Brower, computer and research specialist for PROEXAG. The knowledge, time and support he gave to the study far exceeded what could be expected of him as assignment coordinator.

Finally, and most importantly, the researcher expresses her appreciation to the management of the many firms and farms who described their policies and permitted us to interview their employees, and to those workers who, in turn, told us about themselves. Without their participation this study obviously could not have been completed.

As with any investigation of this nature, however, the analysis, conclusions, and recommendations are those of the author and not necessarily those of ROCAP, PROEXAG, SRD, or Chemonics.

Amalia M. Alberti
Principal Investigator

¹ *GEXPRONT - Gremial de Exportadores de Productos No-Tradicionales de Guatemala*
FEPROEXAAH - Federación de Asociaciones de Productores y Exportadores Agropescuarios y Agro-Industriales de Honduras
CINDE, División Agrícola - Coalición Costarricense de Iniciativas de Desarrollo

PART I

INTRODUCTION

In Central America the term "non-traditional agricultural exports" (NTAE) is a loose descriptor referring to a mix of different crops in each country that includes fruits, vegetables, and cut flowers, ornamental plants, foliage, spices, herbs and nuts. Non-traditionals have been the focus of much attention by development agencies. They are perceived to hold great promise because: first, they tend to be labor intensive thus helping to address the region's unemployment problems; second, they can often be grown on comparatively small parcels of land, thus achieving a "higher" use of the land, bringing development opportunities within the range of smaller land holders, and providing a wider distribution of benefits among the population; and, third, they tend to be high valued, thus helping improve the flow of hard currency into the region. The question sparking this study is whether the promise of benefits from NTAE exports is being translated into real benefits for the women of Central America.

One of the unspoken assumptions of programs and projects aimed at strengthening the NTAE subsector has been that women will benefit as much as men from increases in NTAE activity, and probably more. This has never been confirmed, however, and in fact little is known about the true nature or magnitude of benefits that may be accruing to women, nor has any attempt been made to identify possible offsetting negative impacts. This study addresses those issues and provides some answers.

Specifically, the purpose of this study is to analyze the impact on women of involvement in NTAE through its effect on employment, income and quality of life. The first part of this study describes the women and men who work in NTAE production -- their civil status, age, education, number of children, and the like -- in three select products in each of three countries in Central America. The second part addresses how women in particular experience the impact of NTAE in their lives.

The study clearly indicates that the broadest assessment of the impact of NTAE on employment, income, and the quality of life of female workers is positive. Nevertheless, the impact from specific NTAE products in particular countries and regions is variable and subject to qualification. Patterns of labor demand for NTAE activities such as labor requirements and duration of employment are product, setting, and, frequently, country-specific. The nature and proportion of pre-harvest to post-harvest activities varies markedly by product. Moreover, findings from this study indicate that the characteristics of the workforce are strongly associated with the type of work they perform, and, inversely, that the type of work performed by individuals conditions the impact of participation in the NTAE workforce upon them.

METHODOLOGY

Nontraditional agricultural production is one of the fastest growing industries in Central America rivaled only by growth in nontraditional nonagricultural manufacturing. Given the enormity and variety of possible enterprises and persons working in those enterprises, the initial research design assumed a selective sampling of products that would allow for comparisons both within and across the three countries included in the study, Guatemala, Honduras, and Costa Rica. Based on conversations with several key persons involved in NTAE production, the following crops were selected:

1. Melons as a seasonal crop grown in each of the three countries
2. Ornamental plants and/or flowers as products that are cultivated year-round
3. Specialty products -products that represent a competitive advantage for each country - that include highland vegetables in Guatemala, hard or winter squash in Honduras, and processed tropical fruits in Costa Rica, as products unique to each country.

For purposes of the study two field interview instruments were prepared, one for worker interviews and the other for interviews with key representatives of each firm's administration. The questionnaire used with workers focuses on their employment histories, and their personal characteristics including education, family composition, and access to resources. It takes approximately fifteen minutes per person to complete the interview. The administrative field guides focus on employment policies, numbers of employees, wages, and benefits. It takes forty-five minutes to an hour for the managerial level interviews although a number of interviews lasted approximately two hours due to the more detailed responses offered by the persons interviewed. (Examples of both instruments are included in Annex II.)

With the assistance of relevant institutions including the *Gremial de Exportadores de Productos No Tradicionales* and PROEXAG in Guatemala, FEPROEXAAH in Honduras, CINDE in Costa Rica, and each of the bilateral USAID Missions, in each country two research assistants were identified and names of firms and persons to contact were obtained for each product. Management level personnel were contacted by phone to arrange appointments to explain the purpose of the study and obtain their consent to interview plant and field workers.

Permission was not always forthcoming. Gaining access to information about commercial enterprises is always a challenging undertaking. The challenge increases when the business in question is one as promising and as competitive as nontraditional agricultural export production.

Even with this qualification, and despite excellent institutional collaboration, it was in Guatemala that we clearly encountered the highest level of resistance and reluctance on the part of firms to participate.¹

The principal investigator spent approximately one week with each in-country team of research assistants conducting interviews and coordinating field techniques and data preparation. The in-country teams subsequently completed the remainder of the interviews, coding of responses, and written descriptions of their experiences. Computer data entry and analysis was carried out in Guatemala. (Additional notes on methodology in Annex III).

WEIGHTED DATA

All interview data has been weighted and all findings presented are based on the analysis of weighted data. All findings are presented in percentages or proportions based on 100.

The time, expense, and practicality involved in random sampling or any structured sample design often preclude their use. At the same time, without additional interventions, information generated from a statistically uncontrolled sample cannot be generalized. The process of weighing data is a means of adjusting for non-random sampling procedures that permits generalizing to a larger population. It is not as desirable as a controlled sample in that it does not usually result in as great a level of precision. It does, however, allow us to define proportions or relationships that are likely to hold for the population studied.

As a case in point, for purposes of this study the guidelines used for interviewing workers were to interview two men for every five women in every given context in which men and women were working even if men predominated in actual number. In addition, interviews were conducted in only a select sampling of enterprises. Without any adjustments to this data it would only be possible to describe and analyze information pertaining to the men independent of the information pertaining to the women, and only for the specific enterprises where they work. A random sampling would have necessitated an entirely different approach to the identification of persons to be interviewed. The weighing of data enables us to take the interviews actually conducted, analyze the data obtained, and interpret it in relation to its proportional representation in the larger population. It enables us to say: "Given one hundred people who work in "X", this is the breakdown or distribution of characteristics we are likely to find."

¹ *The researcher is grateful to all the firms who allowed interviews of select employees at both the managerial and labor levels. Mindful of the particularly strong resistance encountered in Guatemala, however, the researcher is especially appreciative to the management of those firms in Guatemala that did permit employee interviews.*

PART II

WORKFORCE COMPOSITION

To better understand the impact of NTAE on the workforce in general and women in particular, it is necessary to know something about the people who work in NTAE. It is towards this end that this section focuses on disaggregating the workforce and identifying relevant characteristics. The information presented in this section is then drawn upon for the analysis of the following section.

In general it is clear that, despite some significant variation within and across products and countries, the role of women in the NTAE formal wage sector is far more extensive than it has been in traditional export crops. It was expected that workforce composition and characteristics within specific products would have similar patterns across all countries because of similar production systems. However, this was not true. Significant variations in workforce composition and worker characteristics have been found within products and across countries.

WORKFORCE BY PRODUCT

As Table 1 illustrates, women constitute a significant portion of the workforce in NTAE production for the products selected. They comprise more than half the estimated workforce for these products in Costa Rica (54%), and more than 40% in Guatemala. Women's participation in NTAE production, while still notable, appears most limited in Honduras (33%).

TABLE 1
COUNTRY LEVEL BREAKDOWN OF WORKFORCE COMPOSITION:
RATIO OF WOMEN TO MEN BY PRODUCT

PRODUCT	GUATEMALA	HONDURAS	COSTA RICA
FLOWERS/PLANTS	55: 45	71: 29	58: 42
MELONS	23: 77	21: 79	52: 48
SPECIALTY	60: 40	59: 41	54: 46
ALL	42: 58	33: 67	54: 46

Also evident from the table is how dramatically the proportion of women to men in the workforce varies according to the product in question. For ornamental plants, in Guatemala women comprise more than half of the labor force (55%), more than two-thirds in Honduras, and slightly over 40% in Costa Rica. In contrast, for melons the workforce in Guatemala and Honduras is overwhelmingly male (80% and 79% respectively), whereas in Costa Rica it is approximately half female.

Notwithstanding that the products are completely different, across countries the sex composition of the workforce for the specialty items is surprisingly similar. For highland vegetables in

Guatemala and winter squash production in Honduras it is approximately 40% male and 60% female, and for processed tropical fruit in Costa Rica, 45% male and 55% female.

WORKFORCE BY TYPE OF WORK PERFORMED

Table 1 highlights the differences in workforce composition when NTAE production is disaggregated by product. Due to the high degree of variability in ratios of male to female labor for the same product across countries, however, it offers limited insight into the distribution of male and female labor. Another approach to the data, more useful to understand the differential allocation of male and female labor, is to look at the type of work performed. Tables 2 and 3 show the workforce disaggregated by type of work performed independent of the actual product.

Table 2 clearly demonstrates that men predominate in field work, whereas women generally predominate in packing and greenhouse activities (the exception to this pattern occurring in packing in Honduras). In each country the rate of female participation in work that is non-field work, whether in packing or in a greenhouse, is approximately double that of female participation in field work. What does need to be kept in mind, however, is that crop-cycle, person-day labor demands for field work always exceed crop-cycle, person-day labor demands for packing for any given product. In other words, more total employee time is expended for field work than for the related packing activities with the ratio of field to processing activities ranging both by product and by level of processing. Estimates of ratios vary from a low of 3:1 to 20+:1. In addition, field work for a given product usually continues for a longer period of time.

TABLE 2
COUNTRY LEVEL BREAKDOWN OF WORKFORCE COMPOSITION:
RATIO OF WOMEN TO MEN BY TYPE OF WORK PERFORMED

TYPE OF WORK	GUATEMALA	HONDURAS	COSTA RICA
FIELD	31: 69	22: 78	29: 71
PACKING (NON-FIELD)	57: 43	35: 65	59: 41
GREENHOUSE (NON-FIELD)	55: 45	71: 29	58: 42
ALL	42: 58	33: 67	54: 46

Table 3 shows the distribution of the male and female labor force for the products considered according to the different tasks performed. When comparing the distributions for male and female labor within countries and by task, in every case the percentage of men engaged in field

TABLE 3
COUNTRY AND GENDER SPECIFIC DISTRIBUTION OF WORKFORCE
BY TYPE OF WORK PERFORMED
(IN PERCENT)

TYPE OF WORK	GUATEMALA		HONDURAS		COSTA RICA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
FIELD	66	40	63	36	24	8
PACKING (NON-FIELD)	24	43	30	33	22	28
GREENHOUSE(NON-FIELD)	10	16	6	31	54	64
ALL	100%	100%	100%	100%	100%	100%

work greatly exceeds the percentage of women.² In contrast, the percentage of women consistently exceeds the percentage of men in non-field activities.

Comparing across countries, Guatemala has the highest percentages of both male and female labor engaged in field versus non-field activities whereas Costa Rica has the lowest. In contrast, Costa Rica leads in the extensiveness of its greenhouse cultivation, with both Guatemala and Honduras far behind. Finally, only in Costa Rica is the percentage of persons in field work so diminished and overshadowed by the non-field activity of greenhouse production.

WORKFORCE CHARACTERISTICS

Civil status, age, and the number of children of NTAE workers are the workforce characteristics considered in this section.

It is frequently assumed that families are the beneficiaries of NTAE employment, but civil status data on employees are generally not available. Similarly, although local managers can often reasonably estimate the average ages of the workers, actual data are rarely forthcoming. Percentages of workers with children, and relative number of children was initially included as an adjunct to civil status. Information about children was intended to allow a comparison of whether field or non-field, female or male workers were more likely to have children, and whether they would have as many. Information on whether workers have children was expected to correlate closely with civil status. As the data and discussion show, however, this was not found to be true for women.

² A word on the overall lower proportion of field labor in Costa Rica seems in order. In Costa Rica the only field workers included are those in melon production, whereas in Guatemala and Honduras field workers from melons and one additional product, highland vegetables in Guatemala, and squash in Honduras, are also included. In Costa Rica the specialty item selected was processed tropical fruits, with a focus primarily on pineapple. Therefore the data from CR only include persons engaged in the processing of tropical fruits, not its production. Had field workers in tropical fruits been included, the percentages of men and women involved in field activities would undoubtedly have increased. However there is no evidence to indicate that the proportion of women to men engaged in field activities would have been substantially altered.

CIVIL STATUS

For the selected NTAE products considered in each country, as Table 4 shows, approximately a quarter of the women and half the men are either married or in a stable union.³ Conversely, slightly more than half of the men and three quarters of the women working in these selected products are without partners.

TABLE 4
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF NTAE WORKFORCE
WITH PARTNERS BY PRODUCT
 (# INDICATES PERCENT OF PERSONS IN CATEGORY WITH PARTNERS)

PRODUCT	GUATEMALA		HONDURAS		COSTA RICA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
FLOWERS/PLANTS	75	50	29	46	62	23
MELONS	49	27	55	22	32	39
SPECIALTY	33	18	46	27	47	22
ALL	47	26	47	24	50	27

As was found in workforce composition, considerable variation exists in civil status category proportions according to the different products, as Table 4 illustrates. For example, despite an overall ratio of nearly twice as many men with partners as women with partners, the ratio of partnered women to partnered men is clearly opposite that of Honduras for ornamental plants, and in Costa Rica for melons.

As Tables 5A and 5B show, of the female workforce in flowers and/or ornamental plants, in Guatemala 50%, in Honduras 55%, and in Costa Rica approximately 75% of the women do not have partners. Among the male laborers, in Guatemala approximately 25%, in Honduras 75%, and in Costa Rica nearly 40% are not partnered. The same inconsistencies and lack of pattern exist for the remaining products. These findings suggest no apparent relationship across countries for the indicators product and civil status for the workforce disaggregated by sex. The lack of association that the breakdown by products demonstrates is highlighted to illustrate the different conclusions that would be drawn if we only considered the data in category "ALL" that refers to the averaged findings for the three products within each country.

The numbers in parentheses provided in Tables 5A and 5B indicate the percentage of persons among the entire male and female workforce who identify themselves as household heads. Among the women, for every product in every country a certain percentage identify themselves as single female household heads. In eight of nine cells (in Table 5A) the percentage exceeds 10%, and in the majority of cases that percentage exceeds 20%. Among men, the incidence of

³ For purposes of this study all forms of relatively stable union between a man and a woman including marriage and consensual union are referred to as "with a partner," or "partnered." In contrast, persons who are single, whether never partnered, or divorced, separated, or abandoned, are referred to as "not partnered." The term "household head" is reserved for persons who identify themselves as such, and almost always implies direct responsibility for the economic welfare of oneself and one or more dependents in a household. Unpartnered heads of households may live with other family members or constitute a family within a family. The critical factor is the economic responsibility assumed by the household head.

single household heads is markedly less. In the majority of cases for product and country combined, men do not identify themselves as single household heads, in only two instances does the percentage exceed 10%, and it never reaches 20%.

TABLE 5A
COUNTRY LEVEL BREAKDOWN OF WOMEN WORKING IN NTAE
WITHOUT PARTNERS BY PRODUCT (IN PERCENT)
 (IN PARENTHESES: PERCENT OF WOMEN WHO ARE SINGLE FEMALE HOUSEHOLD HEADS)

PRODUCT	GUATEMALA	HONDURAS	COSTA RICA
FLOWERS/PLANTS	50 (14)	54 (29)	77 (7)
MELONS	73 (10)	78 (22)	61 (25)
SPECIALTY	82 (15)	73 (28)	78 (39)
ALL	74	76	73

TABLE 5B
COUNTRY LEVEL BREAKDOWN OF MEN WORKING IN NTAE
WITHOUT PARTNERS BY PRODUCT (IN PERCENT)
 (IN PARENTHESES: PERCENT OF MEN WHO ARE SINGLE MALE HOUSEHOLD HEADS)

PRODUCT	GUATEMALA	HONDURAS	COSTA RICA
FLOWERS/PLANTS	25 (<1)	71 (<3)	38 (<2)
MELONS	51 (13)	45 (9)	68 (9)
SPECIALTY	67 (<3)	54 (<3)	53 (18)
ALL	53	53	50

In addition to the finding that approximately three-fourths of the women working in nontraditional agricultural export production for the products included are not partnered, the data also indicate, first, that a considerable portion of that female workforce is comprised of single female household heads, and, second, that the proportion of unpartnered female household heads among the NTAE workforce shows greater consistency within countries than by product.⁴

⁴ The exceedingly low percentage of unpartnered female household heads in flowers and ornamental plants in Costa Rica is the exception. Women are especially involved in flower production in Costa Rica. However the timing of the interviews for this study was particularly inauspicious because it followed on the heels of an extensive survey of all flower producers sponsored by international flower importation interests that yielded inconclusive results. Team members were therefore discouraged from contacting those flower producers for yet another round of interviews. As a consequence the sample does not include the larger producers where the researcher thinks it likely a greater proportion of unpartnered female household heads are found.

Table 6 shows the NTAE workforce with partners disaggregated by type of work. It suggests that:

1. first, men in Guatemala and Costa Rica who work in packing are much less likely to have partners than their male counterparts who work in greenhouses or field work
2. second, the percentage of men with partners who engage in field work consistently and overwhelmingly exceeds the percentage of women with partners who engage in field work, and,
3. third, most of the women with partners who work in melon production in Costa Rica, as shown in Table 4, in fact work as melon packers and not as field workers for melons.

Nevertheless, the data still do not enable us to explain these "patterns" forcing us to entertain the possibility that they are purely the result of coincidence or chance.

TABLE 6
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF
NTAE WORKFORCE WITH PARTNERS BY TYPE OF WORK
 (# INDICATES % OF PERSONS IN CATEGORY WITH PARTNERS)

TYPE OF WORK	GUATEMALA		HONDURAS		COSTA RICA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
FIELD	58	24	63	29	45	7
PACKING (NON-FIELD)	4	18	37	19	27	42
GREENHOUSE (NON-FIELD)	75	50	29	46	62	23
ALL	47	26	47	24	50	27

Tables 7A and 7B show the distribution of the NTAE workforce by civil status and type of work. When comparing findings for women for the three countries, Table 7A illustrates that Guatemala's female workforce is most differentiated by civil status in both field and non-field activities whereas Honduras' female workforce is the least variable. In other words, in Honduras the percentages of women in each civil status category are much more similar to each other than the percentages are in Guatemala. It also shows the high proportion of single female household heads who constitute the workforce. Among the men, Guatemala and Honduras show similar patterns with the male workforce differentiated by civil status for both field and non-field activities. The decidedly lower incidence of single male household heads, as well as their concentration in field activities in all three countries, is also evident. As with the other tables for civil status, however, they do not suggest explanations for the variation observed.

TABLE 7A
COUNTRY LEVEL DISTRIBUTION OF FEMALE WORKFORCE
BY TYPE OF WORK AND CIVIL STATUS
 (IN PARENTHESES: PARTNERED WOMEN WHO SELF-IDENTIFY AS HOUSEHOLD HEADS)

CIVIL STATUS	WOMEN					
	GUATEMALA		HONDURAS		COSTA RICA	
	FIELD	NON-FIELD	FIELD	NON-FIELD	FIELD	NON-FIELD
PARTNERED	24 (11)	27 (5)	29 (16)	32 (22)	7 (7)	29 (13)
HOUSEHOLD HEAD (SINGLE)	7	17	29	24	46	12
UNPARTNERED	69	56	42	45	47	59
ALL	100%	100%	100%	100%	100%	100%

TABLE 7B
COUNTRY LEVEL DISTRIBUTION OF MALE WORKFORCE
BY TYPE OF WORK AND CIVIL STATUS

CIVIL STATUS	MEN					
	GUATEMALA		HONDURAS		COSTA RICA	
	FIELD	NON-FIELD	FIELD	NON-FIELD	FIELD	NON-FIELD
PARTNERED	58	24	63	35	45	52
HOUSEHOLD HEAD (SINGLE)	12	<1	12	<1	12	3
UNPARTNERED	30	76	26	65	43	45
ALL	100%	100%	100%	100%	100%	100%

AGE OF MALE WORKFORCE

At first glance, the distribution of ages in Table 8 seems highly erratic. With some additional observation, however, a series of patterns become more evident, particularly for the men. Specifically, in all three countries men over thirty years of age comprise 40% or more of the field labor whereas they constitute less than 20% of the non-field labor component.

When twenty-five years of age is used as the breaking point, as shown in Table 9, the findings for men are clearly more dramatic. In virtually every case, approximately two-thirds or more of the male field workforce is twenty five years old or older. In contrast, in two of the three countries, namely Guatemala and Honduras, three-fourths and more of the non-field workforce is under twenty-five, and in the third, Costa Rica, approximately half of the male non-field workforce is under twenty-five. In other words, a relationship exists between age of workers and type of work performed by the male component of the workforce. What is not clear is whether these patterns are a reflection of the personal preferences of the workers or whether indeed they are in a position to exercise any choice.

TABLE 8
COUNTRY AND GENDER SPECIFIC AGE BREAKDOWN OF NTAE
WORKFORCE
(IN PERCENT)

GUATEMALA						
AGE RANGES	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
LESS THAN 20	18	68	35	42	27	33
20-30 YRS	36	18	30	41	48	45
31-40 YRS	15	11	14	8	16	13
41 AND ABOVE	32	4	22	4	9	7
TOTAL	100	100	100	100	100	100*

* 2% OF THE WOMEN DO NOT KNOW THEIR AGES

HONDURAS						
AGE RANGES	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
LESS THAN 20	2	33	14	42	36	38
20-30 YRS	26	53	36	35	37	36
31-40 YRS	49	13	36	19	25	23
41 AND ABOVE	23	<1	15	5	2	3
TOTAL	100	100	100	100	100	100

COSTA RICA						
AGE RANGES	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
LESS THAN 20	21	7	10	34	29	30
20-30 YRS	41	75	67	33	52	51
31-40 YRS	34	17	21	20	18	18
41 AND ABOVE	4	<1	2	13	1	2
TOTAL	100	100	100	100	100	100

Among the women, different patterns are evident. In all three countries, two-thirds or more of the women working in crop production in the field as well as three-fourths or more of the women working in non-field activities are thirty years old or less. That is, the overwhelming proportion of women working in any sector of NTAE production, field or non-field, is under thirty years of age. Reviewing that data together with the data on civil status indicates that most of these women are not partnered.

TABLE 9
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF
NTAE WORKFORCE UNDER AND OVER 25 YEARS OF AGE
(IN PERCENT)

COUNTRY	FIELD	NON-FIELD	FIELD	NON-FIELD
GUATEMALA	MEN		WOMEN	
LESS THAN 25	32	78	71	58
25 OR OVER	68	22	29	42
HONDURAS	MEN		WOMEN	
LESS THAN 25	14	83	61	68
25 OR OVER	86	17	39	32
COSTA RICA	MEN		WOMEN	
LESS THAN 25	36	49	34	51
25 OR OVER	64	51	66	49

CHILDREN

Data from Table 10 indicate that in Guatemala 46% of the men and 43% of the women, in Honduras 60% of the men and 64% of the women, and in Costa Rica 43% of the men and 45% of the women have one or more children. Given that about one half of the men and one fourth of the women are with partners, this suggests that a high percentage of single adult-headed households, particularly female headed households, include one or more children as members.

TABLE 10
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF NTAE WORKFORCE
WITH CHILDREN BY TYPE OF WORK
 (# INDICATES % OF PERSONS IN CATEGORY WITH CHILDREN)

TYPE OF WORK	GUATEMALA		HONDURAS		COSTA RICA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
FIELD	59	46	74	67	41	46
PACKING (NON-FIELD)	5	33	37	52	31	75
GREENHOUSE(NON-FIELD)	62	64	29	73	50	32
ALL	46	43	60	64	43	45

Table 10 shows the distribution of the NTAE workforce with children disaggregated by type of work performed. The table is most illustrative when viewed together with Table 6. The two to one ratio of men with partners to women with partners shown in Table 6 disappears in Table

10 that shows men with children and women with children. In the majority of cases the percentage of women with children exceeds the percentage of men with children in any given category.

The increase in percentages when contrasting women who work in the field and have children, as shown in Table 10, with women who work in the field and have partners, as shown in Table 6, merits special note. In Guatemala the increase is 22%, in Honduras, 38%, and in Costa Rica, a full 39%. Increases in the percentages of women with children working in packing or greenhouses over women with partners -- whether or not they have children -- working in packing or greenhouses are not nearly as dramatic.

Table 11 shows the number of children for the NTAE workforce when disaggregated by type of work and civil status. Male and female workforce participants who do not have partners and do not self-identify as household heads are excluded from the table.

A number of points can be gleaned from the table. First, nearly one-fifth of the men with partners who engage in field work in Honduras and Costa Rica do not have children. In contrast, not only do all of the women with partners who engage in field work have children, but they tend to have a larger number of children than their male counterparts. Second, of six possible non-field contexts -- employment in packing and employment in greenhouses in each of three countries-- five of those contexts include cases with women who do not yet have children. Third, those women working in packing or greenhouses who have children tend to have fewer than their female counterparts who work in the field.

Based on the findings presented in Tables 10 and 11, the more relevant observations drawn from the data include: first, depending on the country, nearly half or more of the women who engage in field work have children; second, women employed as field labor who have children have a greater number of children than their male counterparts who engage in fieldwork and have children; third, approximately a quarter of all women who engage in fieldwork must support themselves and their children on their own; and, fourth, women with partners who work in packing or greenhouses are more likely to not have children than women with partners who work in the field. This latter point has potential ramifications for family planning and population control.

SUMMARY OF WORKFORCE CHARACTERISTICS

Based on the preceding data and observations, a number of findings can now be summarized. First, no apparent relationship exists between civil status and product or civil status and type of work for either men or women. Second, in each of the three countries included in the study approximately half of the men and a quarter of the women who work in NTAE for the products selected are partnered. Third, in field work, partnered men consistently outnumber partnered women at a rate of at least two to one. Fourth, the percentage of partnered men in comparison with partnered women in packing and greenhouse activities is highly variable, inconsistent, and without explanation at this juncture. Fifth, and last, the percentage of unpartnered female household heads engaged in either field or non-field activities varies markedly from one country to another but is considerably lower in Guatemala than in Honduras or Costa Rica. This suggests a possible cultural explanation, but is highly speculative at this point.

Taking age into account helps explain why there are so many more partnered men among those who work in the field (See Table 6) than there are partnered men who work in non-field activities (See Table 9): most men who work in the field are older than the men who work in non-field activities. Age does not help explain why there are fewer partnered women in field than non-field activities, however, because the overwhelming majority of all women working in NTAE for the products selected are thirty years old or less.

TABLE 11
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF THE NUMBER OF
CHILDREN OF THE NTAE WORKFORCE BY TYPE OF WORK AND CIVIL
STATUS
(IN PERCENT)

COUNTRY: GUATEMALA	FIELD			PACKING			GREENHOUSE		
	MEN	WOMEN		MEN	WOMEN		MEN	WOMEN	
	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH
NONE	0	0	0	10	58	0	17	0	0
1 OR 2	5	0	98	80	6	36	33	48	100
3 OR MORE	95	100	2	10	36	64	50	52	0
TOTAL	100	100	100	100	100	100	100	100	100

COUNTRY: HONDURAS	FIELD			PACKING			GREENHOUSE		
	MEN	WOMEN		MEN	WOMEN		MEN	WOMEN	
	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH
NONE	19	0	0	0	18	0	0	8	0
1 OR 2	44	54	35	78	30	41	50	26	52
3 OR MORE	37	46	65	22	52	59	50	66	48
TOTAL	100	100	100	100	100	100	100	100	100

COUNTRY: COSTA RICA	FIELD			PACKING			GREENHOUSE		
	MEN	WOMEN		MEN	WOMEN		MEN	WOMEN	
	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH	WITH PTNR	WITH PTNR	W/O P HHH
NONE	19	0	14	13	3	0	19	18	0
1 OR 2	48	3	43	50	56	71	25	82	67
3 OR MORE	33	100	43	37	41	29	54	0	33
TOTAL	100	100	100	100	100	100	100	100	100

Taking children into account introduces another perspective. Children represent a responsibility. Comparing Table 6 with Table 10 reveals that there are notably more women with children than women with partners -- who may or may not have children -- who participate in NTAE. Moreover, the percentages of women with children approaches or surpasses 50% in seven of the nine cells (in Table 10) for women disaggregated by type of work in the three countries. In contrast, the percentages and distribution of men with partners and men with children is very similar. These findings suggest that age and the presence or absence of family responsibility in the form of children, or a partner, or both -- together with other variables yet to be discussed - - are key variables in describing who the men and women are in the NTAE workforce and how they are likely to participate.

WORKFORCE ACCESS TO RESOURCES

Persons who participate or wish to participate in the NTAE workforce differ from one another not only in their characteristics and family responsibilities, but also in the resources they bring to workplace. In turn, these resources directly or indirectly act as filters for the options available to them. Education, a personal resource, and access to land, a material resource, are the two resources explored in this study.

EDUCATION

Unlike the more varied distributions evident in the tables for age and civil status, when the data on education is disaggregated by sex and type of work as is done in Table 12, patterns in educational attainment are readily visible. The overwhelming majority of men who engage in field work in Guatemala or Honduras are unlikely to have completed three grades or more of primary education, whereas the overwhelming majority (in this case, over 90%) of men working in non-field type work have at a minimum completed sixth grade. Similarly, but not as markedly, the majority of women in Guatemala and Honduras who engage in field work are unlikely to have studied past the third grade while the majority working in non-field type work have at a minimum completed sixth grade.

In Costa Rica where a primary education is not only mandatory but widely available, the contrasting levels of educational attainment with type of work are at best mildly evident. In fact, in Costa Rica, two-thirds or more of all workers, whether male or female and whether in field or non-field types of work, are likely to have completed primary school.

Another pattern evident in both type of work categories in Guatemala and one in Honduras is the lower educational attainment of women in comparison with men. Women who are field workers in Guatemala have lower levels of educational attainment not only in comparison with women working in non-field type activities but also in comparison with men who are field workers. Similarly, women who engage in non-field activities have lower levels of educational attainment than men in non-field types of work.

In Honduras the pattern of lower educational attainment for women in comparison with men holds only for women in non-field activities. Women in Honduras who engage in field work actually include 31% who have completed 6th grade, a level of educational attainment not even approached by their male counterparts. The explanation for this anomaly is unclear and beyond the scope of the current work. It is a topic recommended for additional study.

TABLE 12
COUNTRY AND GENDER LEVEL BREAKDOWN OF THE EDUCATIONAL
ATTAINMENT OF THE NTAE WORKFORCE (IN PERCENT)

GUATEMALA						
EDUCATIONAL LEVEL	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
NONE	13	4	10	40	7	21
1ST-3RD	47	4	32	41	12	24
4TH-5TH	13	<5	9	12	27	21
COMPLETED 6TH	12	60	28	7	27	19
ADDITIONAL	16	33	21	<5	27	16
TOTAL	100	100	100	100	100	100

HONDURAS						
EDUCATIONAL LEVEL	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
NONE	14	<1	9	21	12	15
1ST-3RD	71	5	46	28	39	35
4TH-5TH	14	7	11	21	15	17
COMPLETED 6TH	<1	57	22	28	24	25
ADDITIONAL	<1	31	11	3	10	8
TOTAL	100	100	100	100	100	100

COSTA RICA						
EDUCATIONAL LEVEL	MEN			WOMEN		
	FIELD	NON-FIELD	ALL	FIELD	NON-FIELD	ALL
NONE	4	3	3	<1	<1	<1
1ST-3RD	12	15	14	27	5	7
4TH-5TH	12	<1	3	7	10	10
COMPLETED 6TH	57	48	50	26	43	42
ADDITIONAL	15	34	30	40	41	41
TOTAL	100	100	100	100	100	100

ACCESS TO LAND

Guatemala, Honduras, and Costa Rica are still predominantly agrarian societies. Hence, land is used in this study as a proxy for wealth.

People who engage in field work tend to come from agricultural households. This is especially true of men with partners who tend to be older and whose major source of livelihood has been agriculture. In Guatemala, for example, they may be members of cooperatives who spend a portion of their time working on their own land cultivating NTAE products for export through the cooperative, and another portion working on the land of an NTAE enterprise for a set hourly wage.

Table 13 shows the NTAE workforce's household access to land by civil status and type of work. In Guatemala approximately a quarter of the men and a quarter of the women with partners come from households with access to land. As indicated above, this is not surprising and in fact might be less than we should expect given the apparently greater access to land among those working in plant or flower production. Of greater significance for purposes of this study, however, is the fact that approximately one third of the unpartnered women in Guatemala are from landed households as well.

In Costa Rica (recalling that data on field workers' access to land is not available) the data reflect a more widespread access to land. Nevertheless, single women who are not household heads are more likely to come from households with access to land than their female counterparts from partnered households.

It is in Honduras, however, that the pattern of greater access to land among single individuals who are not household heads is most pronounced. Comparing the household access to land of unpartnered men and women to the household access for men and women from partnered households reveals that unpartnered men and women are consistently and notably more likely to be members of households with access to land.

To the extent that access to land indeed correlates with wealth, these findings suggest that younger unpartnered workers in NTAE come from households with greater resources than their fellow workers who have partners and who tend to be older and have children. Findings for access to land are consistent in direction with findings from educational attainment.

VARIATIONS IN THE WORKPLACE

Just as considerable variability exists in the backgrounds and resource bases of the workers in NTAE, the workplace offers a variety of options as well. Temporary versus permanent employment is one of the most important variables, and it is the one that is included in this study.

PERMANENT VERSUS TEMPORARY EMPLOYMENT

In addition to different types of work and different products, another major variant in NTAE opportunities is duration of employment. Since many of the products cultivated are seasonal, the employment generated by those products is temporary as well.

TABLE 13
COUNTRY AND GENDER LEVEL BREAKDOWN OF ACCESS TO LAND
OF NTAE WORKFORCE BY TYPE OF WORK AND CIVIL STATUS
 (# INDICATES PERCENT OF PERSONS IN CATEGORY FROM HOUSEHOLDS WITH ACCESS TO LAND)

GUATEMALA				
TYPE OF WORK	PARTNERED		UNPARTNERED (NOT HHH)	
	MEN	WOMEN	MEN	WOMEN
FIELD	24	23	11	35
PACKING (NON-FIELD)	10	6	33	32
GREENHOUSE (NON-FIELD)	50	48	50	33
ALL	27	26	25	34

HONDURAS					
TYPE OF WORK	PARTNERED		UNPARTNERED (NOT HHH)		SINGLE HHH
	MEN	WOMEN	MEN	WOMEN	WOMEN
FIELD	19	14	46	48	11
PACKING (NON-FIELD)	11	30	81	67	23
GREENHOUSE (NON-FIELD)	0	4	80	93	14
ALL	16	12	67	65	33

COSTA RICA				
TYPE OF WORK	PARTNERED		UNPARTNERED (NOT HHH)	
	MEN	WOMEN	MEN	WOMEN
PACKING (NON-FIELD) ⁵	50	28	24	45
GREENHOUSE (NON-FIELD)	79	25	100	43
ALL	59	25	76	43

* DATA ON COSTA RICAN FIELD WORKERS' ACCESS TO LAND NOT AVAILABLE

Table 14 shows the distribution of permanent positions available where the workforce is disaggregated by type of work. It is readily evident that field work offers the lowest proportion of permanent positions, whereas greenhouse work offers the greatest proportion of permanent opportunities.⁵ Considerable variation exists among the three countries. Guatemala and Costa

⁵ It should be kept in mind that there are temporary workers in greenhouse production, whether of ornamental plants or flowers, and that we never interviewed when they were present. However, it is also equally important to remember that temporary employees in greenhouse labor represent less than an estimated 20% of the total number of employees and that they may be employed at various intervals throughout the year.

Rica both show a high portion of permanent positions, and Honduras decidedly indicates the least.

TABLE 14
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF PERMANENT
POSITIONS
OF NTAE WORKFORCE BY TYPE OF WORK
 (# INDICATES % OF PERSONS IN CATEGORY WITH PERMANENT EMPLOYMENT)

TYPE OF WORK	GUATEMALA		HONDURAS		COSTA RICA	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
FIELD	23	14	<1	1	40	14
PACKING (NON-FIELD)	67	62	12	<1	60	33
GREENHOUSE (NON-FIELD)	100	100	44	30	100	86
ALL	41	49	7	10	77	66

Perhaps most relevant for differences in male and female employment opportunities, however, is the observation that there are consistently less permanent positions held by women than by men regardless of the country or the type of work involved. Referring back to Table 2, for example, despite the fact that women predominate in greenhouse activities in all three countries, and in packing in Guatemala and Costa Rica, in every case a greater proportion of permanent positions for those activities is held by men rather than women.

Table 15 shows permanent employment by civil status and type of work. Introducing civil status into the analysis provides a slightly different perspective on the distribution of permanent positions in NTAE. When compared with the data from Table 15, overall it suggests that men from partnered households are considerably more likely to hold permanent positions than their single male colleagues. For women, however, the data indicate that it is single female household heads who are most likely to hold permanent positions in all three countries, followed by women of partnered households in Guatemala and Honduras, and single women in Costa Rica. It is not clear whether these patterns are a reflection of personal choice on the part of the workers, or the employers, or both, or indeed the result of chance.

Informal conversations with management level personnel suggest that employers deliberately seek either adults who are partnered or unpartnered household heads for permanent positions. The employer is looking for more responsible workers and assumes that persons with family obligations are likely to be more responsible. At the same time, individuals with family obligations are more likely to compete for those permanent jobs and to be responsible because they do indeed have to meet family responsibilities.

TABLE 15
COUNTRY AND GENDER SPECIFIC BREAKDOWN OF PERMANENT
EMPLOYMENT
OF NTAE WORKFORCE BY CIVIL STATUS AND TYPE OF WORK
 (# INDICATES % OF PERSONS IN CATEGORY WITH PERMANENT POSITIONS)

TYPE OF WORK	GUATEMALA				
	PARTNERED		UNPARTNERED (NOT HHH)		SINGLE HHH
	MEN	WOMEN	MEN	WOMEN	WOMEN
FIELD	27	<1	19	17	21
PACKING (NON-FIELD)	100	60	66	54	94
GREENHOUSE (NON-FIELD)	100	100	100	100	100

TYPE OF WORK	HONDURAS				
	PARTNERED		UNPARTNERED (NOT HHH)		SINGLE HHH
	MEN	WOMEN	MEN	WOMEN	WOMEN
FIELD	<1	1	<1	<1	1
PACKING (NON-FIELD)	22	<1	6	<1	<1
GREENHOUSE (NON-FIELD)	100	23	21	7	60

TYPE OF WORK	COSTA RICA				
	PARTNERED		UNPARTNERED (NOT HHH)		SINGLE HHH
	MEN	WOMEN	MEN	WOMEN	WOMEN
FIELD	49	<1	44	15	14
PACKING (NON-FIELD)	100	14	36	34	65
GREENHOUSE (NON-FIELD)	100	100	100	81	100

SUMMARY OF WORKFORCE COMPOSITION AND CHARACTERISTICS
 NTAE workforce composition varies by product and by type of work performed. Different labor needs are associated with different products: the ratio of pre-harvest cultivation to post-harvest (value-added) processing required for a given product has direct implications for the proportion of female and male labor likely to be sought. Types of work – field cultivation, packing, and greenhouse production – track labor into non-overlapping activities. In fact, it is probably the interaction of the two factors, product and type of work, that best explains the distribution of the workforce by sex in any given context.

Workforce characteristics vary more by type of work than by product. The data indicate that people who engage in field work frequently do so because they have fewer options. If they are women, they tend to include a greater proportion of the youngest (including 15 years old and under), and oldest (45 and over) workers in their midst. If they are partnered, they have more children. Women who work in the field tend to have less education and are more likely to come from households that do not have access to land. If they are men and work in the field, they tend to be older, have less education, and come from households that do not have access to land. Whether male or female, because the products are seasonal, their work is almost always temporary.

People who work in the non-field activities are more closely associated with what is unique to NTAE products, the highly-valued labor-intensive post-harvest processing. If they are women and work in non-field activities, they are more likely 25 years old or under (but over 15). If they are partnered, they have none or fewer children. Women who work in non-field activities have more education and are more likely to come from households with access to land, especially if they are unpartnered and still live at home.

If they are men and work in non-field activities, they are decidedly more likely to be 25 or less, and slightly less likely to be partnered or have children. They clearly have more education. If partnered, they are slightly less likely to have access to land, and if unpartnered and still at home, the most likely to come from households with access to land. Whether male or female, they are considerably more likely than their field colleagues to have permanent jobs. Of the four subgroups, however, male non-field workers are the most likely to hold permanent positions.

PART III

ANALYSIS

In Central America, women's role in agriculture has historically tended to be limited to the smallholder farm, often as unpaid family labor. Women have not worked in the cultivation of traditional export crops - coffee, sugar, cotton, and bananas - though they have and still do make significant labor contributions to the harvesting and sorting of coffee and cotton, and care of coffee seedlings. It is with the onset of NTAE products, however, that women's role in agriculture in Central America is evidencing a dramatic change.

Since the focus of this study is the impact of NTAE on women, the analysis is presented from that perspective. The impact on men is not analyzed in great detail, but frequently can be inferred from the discussion.

IMPACT OF NTAE ON EMPLOYMENT OF WOMEN

The impact of NTAE on the employment of women is twofold: first, women who must work are provided additional employment options; and, second, women who would not otherwise seek employment are drawn into the workforce. Each of these points is treated separately.

The category "women who must work" refers to those women whose income is needed to meet the immediate and basic subsistence needs of themselves and other household members, especially their children. Preliminary findings from this study suggest that women who must work can be further divided into two subgroups.

The first subgroup, women who must work and are from resource-scarce households -- as indicated by the resources they have access to and the resources they bring to the workplace -- are concentrated in field labor which can include planting, weeding, trimming, the turning of fruits such as melons, and harvesting. The second subcategory consists of women who also need to work but have a better resource base to fall back on, either material, such as land, or personal, such as education, or both. These women are more likely to work in a greenhouse or packing facility, but will resort to field work in the absence of other options. Although greenhouse employment is the preferred choice, the climatic conditions and natural resource base where a woman resides may not be appropriate for the operation of greenhouses. Greenhouses are usually located between 1000 and 1500 feet above sea level in areas with temperate climates, and require access to water for irrigation.

The category "women drawn into the workforce who would not otherwise seek employment" refers to those women from households with sufficient access to resources -- who may in addition have an education that exceeds minimal levels -- such that they are not obligated to work to meet their own or other household members' basic needs. They may be single or partnered, but are least likely to be unpartnered female household heads with children. If single and still living at home, they are more likely to work in packing, and if partnered, or female household heads, to work in greenhouses. These women are more likely to be found in areas where the climate and natural resource base favor operating greenhouses. As a result, these women have a greater likelihood of obtaining work that is not only socially acceptable but permanent.

Income earned by women who do not have to work to meet basic needs is discretionary income. If a woman has children, the additional income may keep them in school longer. If the household has land, it may finance a shift to a crop requiring greater initial investment. If she is single and living at home, the income may become savings, finance a sewing machine, or be spent on personal and luxury consumption.

What is certain is that women who are not obligated to work are least likely to engage in field labor, and especially not in the kind of field work associated with a crop such as melons.⁶ The explanation for this behavior pivots on prestige: field labor has never held any status outside farming communities. Men who regularly earn their livelihood in agriculture can justify occasional employment as day labor if they are not neglecting their own land. For a woman to work on anyone's land but the household's own implies a loss of status. It is a reflection of poverty and hence only reverted to as an option in case of necessity (Alberti: 1986; Deere & Leon: 1985).

FIELD AND NON-FIELD EMPLOYMENT: IMPLICATIONS FOR LABOR SUPPLY

Field and non-field labor activities vary in a number of important ways. Field labor takes place outdoors with no protection from the elements. If the crop is land extensive, food and water must be carried along. There is often no access to shade, and lunch may have to be eaten in the middle of a field. In contrast, packing activities occur under some form of shelter, even if it is only corrugated roofing mounted on posts. At the least, water and toilet facilities are available. At most, it may be possible to purchase food and drink. Greenhouse facilities also offer some form of protection from sun and rain and, because they are the most permanent type facility, may even provide a lunchroom area complete with tables and chairs.

Besides differential access to facilities, field and non-field activities operate on different time frames. Field production is seasonally-based, but the time frame for post-harvest processing is always shorter than the time frame for field labor associated with that same product. If the packing facility caters to only one product, or type of product, such as melons, then the person employed as a packer is not likely to work for as long a period of time as the person who works in the field. If the packing facility caters to diverse products, however, then the potential length of employment for the individual increases provided that the enterprise is willing to have the same person handle more than one product.⁷

Greenhouse production, whether of flowers or ornamental plants, follows yet another time frame. Production is ongoing throughout the year with an annual cycle marked by periods of intensified activity targeted either to seasons or holidays. Persons working in greenhouse

⁶ *The association is as much with the product as with the environmental conditions in which melons grow. The climate is always hot and dry, and frequently windy and sandy. In addition, because melons are a land-extensive ground crop, cultivating and harvesting them involves considerable walking and stooping.*

⁷ *This is not always the case but tends to vary by the specific post-harvest task the individual performs. For example, someone who washes the product is more likely to be permitted to work with different products than someone who classifies a product by size, the concern being that the classifier might inadvertently confuse the criteria.*

facilities are most likely to find permanent positions because greenhouse activity takes place year-round.

Workers' Criteria

As already discussed, women are likely to enter the labor market in NTAE either through necessity or because of the appeal of the workplace. However, informal conversation with women working in NTAE as well as the data suggest that it is their motivation coupled with their assessment of the following factors that likely channels them to seek employment in either field or non-field labor. These interrelated factors are:

1. arduousness of the task/activity
2. potential duration of employment
3. competition for jobs
4. prestige associated with the task/activity

Women most in need of employment and lacking in material and personal resources that might give them an edge for other jobs are most likely to accept the more arduous alternative of field labor. Because field work has prestige, there is generally less competition for it. It is also possible that the job will last for a longer period of time than a job in packing would.⁸

Women who must work but have some resources to fall back on, at least in the short term, are more likely to compete for jobs either in greenhouse cultivation or packing. For them, field work is the least desirable option, particularly if they are educated.

Women who are drawn into the workforce because of its appeal -- whether because it is enjoyable to be in a work setting where they can socialize, or they find it too boring at home, or the extra income would be welcome, or some combination of these -- exclude field work as an employment option. They are in a position to be selective and will decide to work only if an acceptable choice is available.

⁸ *Indeed, it is considerations such as these that likely explain some of the findings from the study that otherwise remain unclear. These findings include that:*

1. *a disproportionate percentage of women who engage in field work in Guatemala and Honduras are under 15 years of age, and a disproportionate percentage in Costa Rica are over 45*
2. *women who engage in field work have consistently lower levels of educational attainment than women who work in non-field activities*
3. *women with children are disproportionately represented among the female field workforce, particularly for melon cultivation, in contrast with women who work in non-field activities.*

Women who can choose not to work are typically either the unpartnered daughters or partnered women of households with resources sufficient that they can afford not to work.⁹ If the woman is partnered, the decision of what is acceptable employment is as much, if not more so, her partner's as hers. In a partnered household it is the prestige associated with the household -- and not just the status of the individual -- that is at stake. Cultural norms come into play such that what is acceptable in one community or ethnic group may not be in another.

EDUCATION AS A SCREENING MECHANISM

As Table 12 demonstrates, the level of education attained varies with the work performed. What is less clear is how education intervenes and is related with the type of work performed.

According to the management level interviews conducted, education is never a requisite to perform a non-professional level job. Whether the activity is harvesting, sorting, packing, or enforcing quality control, educational attainment is neither a condition nor a predictor of successful job performance. Employers are much more attuned to personal qualities such as responsibility, punctuality, and reliability as characteristics of preferred employees. They explain that they cannot be assured in advance that individuals possess these qualities. As a result, new employees are often hired on a trial basis.

Positions in field labor never require a given level of education, but packing and greenhouse positions sometimes do. Permanent positions, whether in packing or greenhouses, are most likely to have an educational requirement.

Taken together, the responses of management and the data on educational attainment according to type of work performed suggest that education is used as a screening mechanism rather than a job requirement. When an educational standard is set, it is done as a means of restricting access.

From the employer's perspective, establishing a minimum education level for applicants lessens the likelihood that an enterprise will be inundated with an untoward number of applicants for a limited number of openings for which no applicant-screening criteria exist. It also increases the likelihood that there will be applicants for the less desirable field jobs.

From the would-be employee's perspective, awareness that educational requirements exist to apply for certain positions results in self-imposed screening. Those with an education are often unwilling to consider less desirable jobs unless their need is extreme. On the other hand, those with no or very little education resign themselves to less desirable openings knowing well in advance that they are ineligible for the preferred positions.

Education can intervene in other ways as well. People who perform the same or similar type tasks in different countries have different educational levels. In comparisons across even these three countries, what is a low level of attainment in one country is relatively high in another, particularly for women (See Table 12).

⁹ It is the young single women of these households who can afford to spend an average of 40% of their daily wage in work-related expenses, that includes approximately 30% on food, with the remainder spent on transportation.

Nevertheless, within countries, those who work in the less desirable tasks, specifically field work, consistently show lower educational attainment than those who work in the preferred tasks of packing and greenhouses. This pattern suggests that attaining an absolutely higher level of education does not necessarily translate into obtaining a qualitatively better job. In the workplace, educational attainment is relative: if everyone else is achieving absolutely higher levels of education, any given individual must also obtain a higher level of education not to advance so much as to not fall behind.

TRADITIONAL AND NON-TRADITIONAL EXPORT CROPS: LABOR SUPPLY IMPLICATIONS

Growing conditions for production of traditional and non-traditional crops differ in a number of aspects. In turn these differences have implications for the labor supply.

The first difference is in location. Since most non-traditional crops are highly perishable, most NTAE production is located near large urban centers with ready access to paved roads and transportation. The harvested crop must be processed quickly. Hence, it must be near the processing facility and road conditions must be such that the product can be delivered fresh and undamaged to that facility.

These location restrictions are quite distinct from those for traditional exports. Most traditional export production can and does occur in relatively remote areas because the product is not fragile and often can be stored indefinitely. For traditional crops, ready access to infrastructure is a convenience, but not a necessity. These differences in location suggest that traditional and non-traditional crops are frequently not in competition for the same labor force.

The second difference between traditional and non-traditional crop production is the dimension of scale. Whereas most traditional agricultural export production in Central America takes place on extensive plantations, much NTAE production occurs at the level of the smallholder farm. Economies of scale associated with many traditional export crops that favor land-extensive production wane in significance in relation to the labor-intensive cultivation and supervisory demands associated with many NTAE crops. It is the smallholder farm's ability to meet these demands for intensive labor and close supervision for those crops requiring such attention that gives the small farm its competitive edge. Only the processing or post-harvest handling of the crops more likely occurs at a larger centralized facility.

The greater reliance of NTAE on smallholder farms for the cultivation of certain crops limits the competition between traditional and non-traditional export crops for the same land. A recent study conducted in Guatemala (Braun, *et al.*: 1989) indicates that NTAE production not only does not compete for land with traditional (non-export) crops but may actually contribute to their increased productivity.

The last difference is the issue of ownership and/or management. Extensive multinational ownership and involvement in production is common in NTAE. Multinational interests in traditional exports tend to focus on marketing and shipping, but largely bypass production. Due to the NTAE sector's ability to generate foreign exchange, it is also a high profile industry. Given this high visibility, compliance with the letter and often the spirit of labor legislation is virtually assured. This assured compliance with labor legislation underlies NTAE's competitive edge for local labor. Because NTAE and traditional export enterprises tend to be concentrated

in geographically distinct areas, however, the NTAE sector's willingness to meet or exceed government-established wage standards has apparently had limited impact on wages for workers in traditional agricultural exports.

POST-HARVEST PROCESSING AND GREENHOUSE CULTIVATION: IMPLICATIONS FOR FEMALE LABOR

Whereas the preceding issues relate to the workforce in general, post-harvest processing has gender-specific implications as well.

One of the characteristics that most distinguishes non-traditional from traditional agricultural export products is the extent of nonmechanized post-harvest processing associated with nontraditional export products. Whether the NTAE product is, for example, snow peas, winter squash or cut flowers, continual and close attention, a critical eye, and careful handling are required on the part of the worker to ensure that quality standards are consistently enforced. Because women tend to give more close and constant attention to these details, female labor is widely preferred for these post-harvest tasks.

None of the traditional export products are cultivated in greenhouse conditions so comparisons are not possible. It is evident in each country where data were obtained, however, that women consistently outnumber men as employees in all greenhouse cultivation activities. Given the desirability of greenhouse employment — for its prestige as well as work conditions — the predominance of women demonstrates a clear preference by employers for female labor in all aspects of greenhouse cultivation, and is not limited to temporary labor for packing.

SUMMARY OF THE IMPACT OF NTAE ON THE EMPLOYMENT OF WOMEN

For a number of reasons, women occupy more than half of the jobs associated with the processing, or post-harvest handling, of the NTAE products selected in Guatemala, Honduras, and Costa Rica in comparison with men who work in NTAE and with women who work in traditional agricultural export products.

First, NTAE introduces a level of manual processing encompassed in the post-harvest handling, or value-added, aspect that is not associated with traditional agricultural exports. Second, the conditions associated with the NTAE post-harvest processing phase are such that they invite to the workplace women who, because of social constraints, would not ordinarily work — or be permitted to work — in jobs related to agriculture that are normally available in their areas.

In other words, NTAE not only increases the number and "quality" of working conditions of jobs available, but because of the latter, also expands the potential labor pool from which it draws workers. Furthermore, because of the personal qualities, such as careful handling and constant and close attention, needed to perform the post-harvest tasks well, women are preferred to men for the majority of the new positions created.

In contrast, women represent 30% or less, depending on the country (See Table 2), of the workforce in field labor for the NTAE products included. The female component of the field workforce is clearly in the minority when compared with the male component. When comparing the extent of female participation in the cultivation of non-traditional agricultural export crops

with traditional agricultural export crops, however, the rate of female participation in NTAE field work (apart from harvesting) is markedly higher.

More specifically, women generally do not have a role in the cultivation of traditional export crops. Thus, the intensity of labor required for the successful cultivation of many of the NTAE crops has the effect of not only increasing the number of positions, but also altering the nature of many of the tasks defined as cultivation. If women are not preferred they are at the least competitive with men in terms of their ability to perform many of these more intensive cultivation tasks.

Greenhouse cultivation has proliferated as a medium for NTAE production in flowers and ornamental plants. It has no comparable significance in the production of traditional agricultural exports. Thus, it is not only a new source of jobs but, because of the nature of many of the greenhouse cultivation and packing tasks, a source in which female labor is explicitly preferred. Moreover, as a result of the "quality" of the jobs created, it too draws on the expanded labor pool of women who would not otherwise work in jobs associated with agriculture.

IMPACT OF NTAE ON THE INCOME OF WOMEN

Absolute conclusions about the impact of NTAE on the income of women are not possible because the impact varies both within and across countries. The impact of NTAE on the income of women is a function of the duration of employment and the wage rate paid. It varies most by the amount of time during the year that a person is employed. It varies least by the actual wage rate paid in each country. Indirectly, factors such as labor codes and opportunities for advancement come into play. Each of these factors is discussed in the pages that follow.

DURATION OF EMPLOYMENT

Duration of employment is probably the most important factor influencing income.¹⁰ Table 14 shows the prevalence of permanent jobs according to the type of work performed. Persons employed in greenhouses, whether male or female, are decidedly the most likely to have permanent positions.

¹⁰ *The daily wage for NTAE employment is generally at or above the government-established minimum daily rate. At first glance this suggests that simply comparing the amount earned in NTAE with the amount that would be earned in alternate employment would address the issue of impact of NTAE employment on income most directly. However, much of the employment available through NTAE is of a very short duration, for example two or three weeks in packing or harvesting at the peak of the season. Oftentimes the alternatives are available a good part of the year or year-round. To simply compare the two earning rates for the given period would be somewhat misleading. The same distortion could occur by comparing increases in income in NTAE and alternate employment without controlling for the duration of employment.*

For instance, a person who works two weeks of the year at one and one-half times the rate s/he could earn otherwise (eg., 15 instead of 10 Quetzales (Q) per day) has earned the equivalent of three weeks earnings in two weeks. If this person only worked two weeks last year as well and this is the only cash income earned this could be recorded as a 50% increase in annual income. In absolute terms, it means that the person has Q180 instead of Q120.

If another person works for six months, six days a week, at the rate of Q10 per day, s/he earns Q1560. If the person worked the same amount of time at the same rate the year before, this year's earnings represent 0% increase over last year's. Nevertheless, the second person has 13 times the annual income of the first.

Table 16 presents the distribution of exclusively temporary positions. Once again greenhouse employment is unquestionably the most promising for the duration of employment it likely provides to women. Field work is clearly the second best choice in Honduras and a slightly less promising second choice in Costa Rica.

In Guatemala, at first glance it seems that women could be employed for longer periods of time if they work in packing rather than in the field. Because field positions so outnumber packing positions, however, the type of work that offers the greater absolute number of positions that last for longer periods of time depends on the specific NTAE product and the amount of post-harvest processing it requires. In any case, packing comes in third overall on the issue of potentially longer duration of employment.

TRANSFERABLE VERSUS SALEABLE SKILLS LEARNED

Passing commentary on participation in NTAE occasionally cites skills learned as one of the potential benefits, but does not proceed to enumerate those skills, leaving one with the lingering question about what skills they might be referring to. This study did not set out to identify skills either. However, in the course of the study a number of observations were made by representatives from management that are worth noting for what they suggest about skills learned and their importance for subsequent employment. In general, there does not appear to be any clear pattern of recognition by the management of NTAE firms of specific abilities, personal qualities, or experience.

One comment -- about limiting people who work in quality control to only one product -- has already been cited. The point that was made is that individuals who specialize in quality control or classification are frequently restricted not only to one product, but more specifically to one particular type of product such as cantaloupe or honeydew, but not both types of melons. In other words, specialization, which on the one hand may bring these workers five or ten percent more as a daily wage, on the other limits their options, at least within the same enterprise.

As another example, melon producers frequently welcome field labor who have worked in melons in years past. They need less instruction in turning the melons, pinching off suckers, or selecting the melons to harvest. In only one or two instances, however, did the workers' prior experience translate into even a modest wage benefit. In most cases everyone is hired at the same rate to do the same job despite prior experience.

As another illustration, an enterprise that exports roses for special occasions encourages the return of the same cutters and packers as temporary employees by offering them higher wages than they offer to first time workers. In addition, the basic wage paid by the enterprise is slightly above that required by law. In contrast, another enterprise that also exports roses pays minimum wage whether that person has worked with them before or not. The representative of the latter enterprise admitted that the same cutters rarely return.

Yet another enterprise frequently employs temporary workers to prepare fruits for processing. Temporary workers who have worked with them satisfactorily before are given preference as other temporary opportunities arise. In addition, management uses these occasions with temporary employees to screen for potential candidates for permanent positions as they become available. The permanent positions former temporary employees are hired for rarely involve the same responsibilities as the temporary positions they fill.

TABLE 16
COUNTRY AND GENDER SPECIFIC DISTRIBUTION OF TEMPORARY JOBS BY TYPE OF
WORK AND DURATION OF EMPLOYMENT
(IN PERCENT)

GUATEMALA						
DURATION OF EMPLOYMENT	FIELD		PACKING		GREENHOUSE	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
LESS THAN 3 MONTHS	19	61	0	34	0	0
3 MONTHS TO <6 MONTHS	49	37	100	59	0	0
6 MONTHS TO <9 MONTHS	32	2	0	7	0	0
9 MONTHS TO <12 MONTHS	0	0	0	0	0	0

HONDURAS						
DURATION OF EMPLOYMENT	FIELD		PACKING		GREENHOUSE	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
LESS THAN 3 MONTHS	26	34	0	35	0	33
3 MONTHS TO <6 MONTHS	50	47	100	57	100	0
6 MONTHS TO <9 MONTHS	24	16	0	6	0	67
9 MONTHS TO <12 MONTHS	0	3	0	2	0	0

COSTA RICA						
DURATION OF EMPLOYMENT	FIELD		PACKING		GREENHOUSE	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
LESS THAN 3 MONTHS	0	61	33	36	0	0
3 MONTHS TO <6 MONTHS	59	16	67	64	0	0
6 MONTHS TO <9 MONTHS	2	23	0	<1	0	100
9 MONTHS TO <12 MONTHS	39	0	0	0	0	0

What, then, can be said about skills? There seems to be a need to differentiate between skills that are transferable and skills that are saleable. All skills learned in NTAE are not necessarily assets. If the above illustrations provide any indications, it seems that the saleable skills are very specific and can only be used in the same or highly similar contexts. If a person has worked as a flower cutter before, he or she probably has an edge in getting a similar job, but the experience per say is less likely to help that individual get a job as a melon packer. The transferable skills an individual learns or perfects as a result of a work experience would probably be better described as personal qualities rather than specific abilities. When representatives from management were asked what they look for in potential employees for non-professional positions, very few mentioned experience, but nearly all mentioned responsibility, respect, punctuality and a willingness to work. Even their references to experience had less to do with experience in specific tasks, and more with experience working in a formal work setting.

There are exceptions. Some people learn very real transferable and saleable skills such as irrigation, pesticide application, and improved managerial skills. Unfortunately, as we have already seen, the positions that enable individuals to learn or enhance their ability in these more saleable and transferable skills are almost always restricted to men.

WAGE RATES

From the workers' perspective, one of the best features of working with NTAE is the likelihood of timely payment of a guaranteed minimum wage. Given the high profile of NTAE and the extent of multinational investment and involvement, workers of these firms are virtually assured compliance with labor legislation, including wage regulations. If not sufficiently motivated by their own need for reliable workers, multinational enterprises are too visible and too closely scrutinized to do otherwise.

One aspect that is less clear is whether the same level of compliance with wage and benefit regulations is maintained as production activities are contracted-out to smaller local enterprises. The multinational NTAE enterprises that pack and ship for export exercise extreme caution to assure that the products they plan to export meet quality controls and adhere to the international phytosanitary standards in effect. They are under no obligation, however, to assure that national wage and benefit regulations are met at the level of contractors and contract farms. Indeed, their interest in such issues would not only be unwarranted but more than likely unwelcome.

With the shift from larger commercial enterprises to smallholder farms, the prevalence of seasonal employment increases. So too does the prevalence of employment that is part-time, and wages that are set by task, as a piece rate, rather than a daily wage rate. The reason for these shifts in work arrangements available on the smallholder farms in contrast with larger enterprises is that many of the full-time, year-round positions available are more likely filled by household members.

Larger enterprises are not immune to such practices. Indeed, piece rate wages were paid to some workers in large-scale greenhouse cultivation of ornamental plants in Honduras and to workers harvesting export vegetables in Guatemala. The prevalence of part-time work was highest in Guatemala (34% of all women in Guatemala reported not working a full work week, in contrast with 21% in Costa Rica and 6% in Honduras).

Part-time employment and payment-by-task are inherently neutral practices. For impact on income, however, the practices do have more than neutral implications. No matter how good the rate on which income is based, if employment is part-time rather than full-time, or seasonal rather than year-round, or both, there will be less of it. A piece rate recognizes those who work best and rewards optimal performance. It also means that to take advantage of it consistently, a person must perform optimally at all times.

As a closing note on wages, a surprising number of people interviewed were uncertain about how much they earn per hour or per day, whether they earn overtime and whether the overtime rate differs from the regular rate, or why their earnings vary from one week to another. In other words, they do not keep track of their hours or calculate what they should be paid. They are much more attuned to the amount they generally receive per week or pay period and trust that they are being paid fairly.

Differences in Male and Female Wages

In the enterprises that we interviewed in each country, men and women regularly receive the same wage for the same work. Evidence exists, at least for Guatemala, that this is not always the case, however (Magill, et al.: 1989). Wage rates do occasionally differ from one enterprise to another, particularly where the demand for labor is high, forcing the daily rate upward. In such cases, however, both men and women benefit.

Differences between male and female income hinge on opportunities: there are more positions with higher daily wages open to men than to women. Many of these positions are agricultural or field related and include work in irrigation, fumigation, and bee-keeping. Other positions are task-defined with daily wage rates varying slightly for the different tasks. Some tasks are performed exclusively by women, and others exclusively by men. Where a wage differential by task exists and performance of the task is restricted by sex, in all cases noted, the task routinely performed by men is accorded the higher wage rate.

Yet other positions are purely supervisory. Although there is no apparent or explicit reason other than cultural tradition to favor men over women for those supervisory positions, particularly where all the workers are female, they are held almost exclusively by men. Women's best shots at supervisory positions are long shots either in comparatively large enterprises with a high proportion of female workers concentrated in a particular task, or in smaller enterprises as relatives of the owners. In fact, apart from tasks paid at or slightly above the basic daily wage rate, the only other positions generally open to women are those based on piece rates.

LABOR LEGISLATION AND INCOME

Labor legislation varies markedly from country to country and has dramatic impact on the nature of labor relations with employees, including the details of contracts. Length of employment is especially affected by the benefits granted to employees under the law.

Of the three countries included in the study, Costa Rica is undoubtedly the most progressive in content and consistent in enforcement of its labor legislation. According to Costa Rican labor codes, a person must be registered for social service benefits within the first 72 hours of employment. In addition to the wage, the employer must pay nearly 50% additional to the

government-sponsored department of social services to ensure employee access to those services. Once enrolled, workers have access for up to three months even if they are not employed during that entire period, and the employer must continue to pay the social service fees during that time even if the worker is no longer employed.

In contrast, in Honduras and Guatemala, a worker is considered temporary until he or she has worked during a period of 60 days or more. Workers are eligible for social security benefits - and an employer liable for a percentage of the funding -- only for employees contracted for periods exceeding 60 days. In Honduras, this has given rise to the "59 day contract" whereby a person is hired over a period of up to 59 days and then let go. After a brief period of time - usually two weeks -- that person is once again hired under the same arrangement. This cycle may be repeated indefinitely. In Guatemala, fifteen day contracts and part-time employment are more common arrangements.

Comparing the implications of the labor codes on this point, it seems that Costa Rica's, which extends benefits almost immediately to male and female workers alike, discourages employers' attempts to circumvent payments and fosters worker access to benefits.

Not all conditions necessarily achieve their purported ends, however. Another provision of the Costa Rican labor code assures a woman the right to retain her job and receive up to four months of paid maternity leave upon the birth of a child. An earlier study (Magill, et.al., 1989) indicates that this provision actually discourages some employers from hiring women because they prefer to avoid the potential costs involved.

These illustrations suggest several points. First, legislation that benefits all workers benefits women as well. Second, legislation that extends preferential treatment to one subgroup with a cost to another may actually generate a reverse effect.

From the perspective of NTAE workers and income, to the extent that labor legislation favors longer contractual arrangements, as in Costa Rica, workers, and presumably workers' incomes, benefit. In Honduras, an apparent excess of labor and the content of labor legislation combine to discourage longer term contractual commitments.

SUMMARY OF THE IMPACT OF NTAE ON THE INCOME OF WOMEN

The overall assessment of the impact of NTAE on the income of women is positive. In two of the three countries (Guatemala and Honduras; see Table 14) women are more likely than men to find permanent employment for the crops considered. In the third country, Costa Rica, the percentages of men and women with permanent employment for the products selected is remarkably high (66% for women, and 77% for men). Permanent employment in the high profile sector of NTAE is probably one of the best assurances of a good income a person can have.

This is all the more true when contrasted with traditional export crop production. Excluding bananas, production of the traditional export crops -- sugar, coffee, and cotton -- is seasonal. With the exception of a core field staff, all positions are seasonal, and the overwhelming majority of positions open to women are concentrated in harvesting and paid at a piece rate.

At the same time, opportunities for women to advance to supervisory levels in NTAE production to date are almost non-existent. The skills they master are usually not transferable except to another similar job, and even then the skills rarely translate into a wage benefit. Legislation designed specifically to benefit women over men is at risk of working to their disadvantage.

In short, although NTAE clearly generates employment options for women and in most cases assures them of a government-established minimum daily wage -- if not better -- that multinational enterprises at their core facilities are most likely to honor, NTAE employment does not offer women the incentive of advancement or the financial rewards that accompany it.

IMPACT OF NTAE ON THE QUALITY OF LIFE

"Quality of life" is an elusive concept that is difficult to define and nearly impossible to measure. The perspective taken in this discussion is primarily economic, rather than sociological, such as considering the effects on children when mothers work, or health or nutrition-oriented. As long as we assume that people in the workforce are rational, their decision to work in NTAE can be interpreted as a best choice among alternatives, hence signaling a positive impact on their quality of life. The underlying assumption is that NTAE employment is preferred over other options on rational grounds. In any case, several indicators are used in this study to get a sense, rather than a measurement, of the impact of NTAE on that quality of life. They revolve around the themes of "who benefits" and the "site of those benefits."

In the previous section on workforce composition and characteristics, the workforce is disaggregated by type of work or product or both to explore the distribution of characteristics and resources associated with the workplace. In this section the workforce is disaggregated by responsibilities and obligations, as measured by having children, or a partner, or both. The workforce is disaggregated by "responsibility for others" to gauge the impact on the quality of life because "responsibility for others" highlights the likely flow, and not just the existence, of potential benefits.

INDIVIDUAL VERSUS HOUSEHOLD BENEFITS

One of the questions indirectly addressed throughout this study is "who benefits?" It is first touched upon when the workforce is disaggregated by civil status, and then again when it is disaggregated by whether or not a person has children. These two variables are used in relation to quality of life because they indicate whether any benefits accruing from employment and income earned through NTAE are more likely to be experienced by individuals or households.¹¹

¹¹ *It was initially thought that disaggregating by civil status would be sufficient to identify those who could be assumed to control their income from a purely personal versus a household perspective. However, once the prevalence of female headed households with children among the NTAE workforce became evident, the need to modify that assumption also became clear.*

The assumption underlying the association between civil status and/or children and the "quality of life" is that income earned by unpartnered individuals without children is more likely to be used for purely personal ends than income earned by someone who is partnered or has children or both. Indeed the data indicate that in the overwhelming majority of cases unpartnered persons without children retain at least 50% of the income for their personal use.

As Table 17 indicates, in Guatemala and Costa Rica more than half of the women who participate in the NTAE workforce for the products selected are unpartnered women without children who presumably still live at home. In Honduras only one third of the women participating in the NTAE workforce are in that category. Among the men, more than half the NTAE workforce for the products selected is male, slightly more than half of those men do not have partners, and, depending on the country, approximately the same number or slightly less do not have children (See Tables 6 and 10, and respective discussions). Extrapolating from the data for the selected products from each of the three countries, the findings suggest that at least as many single individuals as individuals with responsibilities and obligations for others participate in the NTAE workforce.

TABLE 17
COUNTRY LEVEL BREAKDOWN OF WOMEN WITH AND WITHOUT PARTNERS AND CHILDREN

CHILDREN OF FEMALE WORKFORCE	GUATEMALA		HONDURAS		COSTA RICA	
	WITHOUT PARTNER	WITH PARTNER	WITHOUT PARTNER	WITH PARTNER	WITHOUT PARTNER	WITH PARTNER
WITHOUT CHILDREN	52.5	4.5	34.0	2.2	51.8	2.9
WITH CHILDREN	22.0	21.0	35.4	28.4	21.3	24.0
TOTAL	100%		100%		100%	

Farming systems literature highlights the differential availability of income for various household uses depending on who earned and who controls it. In a Latin American context it is reasonable -- if not always accurate -- to assume that at least a portion of the income earned by partnered men is available for household needs. About one fourth of the women in the workforce have partners, and slightly under half have children. Research indicates, with a much greater degree of confidence, that the income earned by women who are partnered or have children or both is directly channeled to family use.

When the income earner is a single individual who is without dependents and resides at home, cultural norms generally dictate how that income may be allocated. In Latin America it is customary, but not mandatory, to offer a percentage to one's parents, usually between 20 and 50%. The remainder is discretionary income for the individual.

Where this is not the case, that is, where unpartnered persons contribute more than 50% to household ends, the likelihood is that this is a household in need. However, it is much more likely that a daughter's rather than a son's income will be channeled to household ends. Recent research has shown that marginal households employ a variety of complex strategies that often involve the coordination of several individuals to meet their basic needs. Based on indicators including household access to land and level of education, the data suggest that the majority of young, single workers participating in NTAE are not members of households that are in dire need. At the same time, although beyond the scope of this study, preliminary findings indicate that persons participating in such strategies do constitute part of the NTAE workforce.

In short, about half the "quality of life" benefits of NTAE employment via income are likely to be experienced directly by households because about half of the female participants, as well as half the male participants, in NTAE are persons with recognized responsibilities and obligations for others. Where that income is used to meet basic needs, the impact on quality of life is likely to be immediate, and to last as long as employment lasts. In households where the income generated by female NTAE workers with responsibilities for others is discretionary, if employment lasts for a sufficient length of time, it may induce qualitative changes in lifestyle as well.

The benefits via income accruing to the other half of NTAE participants, single individuals, female and male, without family obligations, are likely to be focused on the individual, especially in the short term. More or better clothing, or an appliance may be purchased. The portion contributed to the household by the individual may provide it with a modest amount of discretionary income. In the long term, a portion of that single individual's income may become savings eventually contributing to the financial base for a household yet to be established.

To conclude, what must be kept in mind is that the potential for impact on the quality of life is in direct proportion to the impact of NTAE on employment and on income: the longer the duration of work and the higher the wage, the greater the impact is likely to be. For NTAE positions filled by women, single female workers without children still living at home are more likely to hold the short-term, part-time jobs. Unpartnered female household heads and partnered women predominate in the longer-term and full time employment available through NTAE. Thus, in comparison with single women without children still living at home, women with responsibilities for others earn a larger share of the total NTAE income generated by women, hence increasing their ability to enhance the quality of life of themselves and those around them.

ALTERNATIVES

Another approach to quality of life indicators is through a consideration of alternatives -- what the person would do if not currently employed in NTAE -- and whether that other alternative is indeed a preferred option. As Table 18 shows, staying at home or working in domestic services are the two major competing options. Each involves a different set of considerations.

Staying Home

As an alternative to employment in NTAE, the choice to stay home implies an absolute loss in cash income. Thus, from an economic perspective -- the only perspective fully taken into account here -- staying home suggests a decline in quality of life. If the woman is single, and

TABLE 18
COUNTRY SPECIFIC DISTRIBUTION OF ALTERNATE EMPLOYMENT CHOICES FOR WOMEN

OPTIONS	GUATEMALA			HONDURAS			COSTA RICA		
	EMPLE NOT EMPLE	EMPLE W/O P	ALL	EMPLE NOT? EMPLE	EMPLE W/O P	ALL	EMPLE NOT EMPLE	EMPLE W/O P	ALL
STAY HOME	49	8	32	33	30	25	33	35	39
SELF-EMPLOYED	7	4	12	7	12	13	<1	15	4
WORK IN COFFEE				11	14	7	6		3
SIMILAR WORK	5	17	8	3		5	<1		6
FACTORY	5		5	7	2	3	1	6	2
MAQUILA	1		3				<1	2	<1
SERVICES ¹	13	54	19	32	32	36	38	30	33
SKILLS ²	6	17	11	3		1	2	6	2
WORK OWN LAND	1		<1						
OTHER ³	14		10	4	10	10	18	7	11
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

¹ "SERVICES" INCLUDE DOMESTIC SERVICE, WASHING AND IRONING, AND WORK AS A COOK

² "SKILLS" INCLUDE SEWING AND EMBROIDERY

³ "OTHER" INCLUDES OPTIONS SUCH AS SELLING FIREWOOD, WORKING ON A RELATIVE'S LAND, AND RETURNING TO SCHOOL

does not have children, it may be a loss experienced almost exclusively by that individual. In fact, assuming that she lives with her family, her loss of income may be the household's gain in the sense that her labor once again becomes available to it at minimal expense (her food). If, on the other hand, she has family responsibilities, particularly as an unpartnered female household head, her staying home may have much more far-reaching repercussions in one of two ways. One possible outcome is purely economic -- a decline in discretionary income available for the benefit of the household. A second possible outcome has social implications as well -- a decline in income used to meet basic needs. In the latter case, the woman's staying home may either force another household member, if available, to assume the role of income generator, or force the household members to experience deprivation in satisfying their basic daily needs.

Recalling that women with family responsibilities are more likely to hold permanent jobs or temporary positions of longer duration (See Tables 15 and 16 and related discussion), however, it becomes clear that for a woman with responsibilities or obligations for others to stay at home has potentially more damaging consequences for impact on quality of life. It is therefore surprising to note the high percentage of unpartnered female household heads in Honduras and Costa Rica who say they would remain at home. Assuming that these women do need to

provide for themselves and their children, it suggests a serious lack of viable employment options in the area. Although beyond the scope of this study to pursue, the need to migrate to find work may come into play here. In any case, it also raises the likelihood that another household member must become the source of cash income.

Other Options

Work in services, or domestic service, is used here to include work as a maid, cook, and/or laundress. Domestic service is traditionally a "last choice" option. It lacks status and is often perceived to be, and sometimes actually is, unpleasant. It may require migration. Domestic service is associated with a lack of options, lack of skills, and lack of resources. Nevertheless, it competes only with "stay at home" as the option most likely chosen as an alternative to current employment, and is especially preferred by unpartnered female household heads from Guatemala.

In terms of status, domestic service is most comparable to field work except that women who work as field workers say that they have more freedom as field workers than they would in domestic service. They also say that they earn more cash in NTAE than they would in domestic service where part of their salary is usually given in kind, that is, as food and, where applicable, as board. (Opinions of people working in domestic service are not available for comparison.) These informal appraisals by women suggest that work in any aspect of NTAE represents an improvement in quality of life in contrast with work in domestic service.

Choices among the other options are scattered and seem to reflect the availability of socially acceptable alternatives locally, including relying on skills such as embroidery and weaving in Guatemala, and work in coffee in Honduras. Perhaps more surprising are the options that are not chosen, or chosen by few. For example, a very small percentage of women said that they would work on the household's land, or in maquila, and no woman in Guatemala said that she would work in coffee. It is virtually impossible to assess the comparable impact on quality of life of these alternatives, except to conclude that they are not perceived to have as positive an impact because they are chosen by so few.

To summarize, for the women currently working in NTAE, all indications are that employment in NTAE is the preferred alternative and that employment does indeed have a positive impact on their quality of life.

Migration

There is little doubt that an increase in employment opportunities in rural areas is needed to stem the tide of urban migration prevalent in Central America at this point in time. NTAE employment seems to contribute to lessening that outflow. Approximately 75% of the women (77% in Guatemala, 81% in Honduras, and 71% in Costa Rica) indicate that they are from the area where they work. For single women without children who still reside with their parents, nearly 90% indicate that they are from the area, whereas an average of 60% of the unpartnered female household heads with children say they are local residents. Nearly an equal percentage (average 10% across countries) of the latter group migrated to the area with their parents as have arrived on their own in search of employment.

At the same time, much of the NTAE employment generated is temporary, lasting from several weeks to several months. For households that rely on cash income to meet immediate basic needs, short-term migration may still be an unavoidable necessity during the months when work is not available locally. At the household level, the issue may focus more on who migrates rather than whether migration of a family member occurs or not.

WORK CONDITIONS

The conditions people work in on a day-to-day basis have much to do with their "quality of life" and can affect their general well-being and their health. Since a surprisingly large percentage of women, 54% in Guatemala, 64% in Honduras, and 63% in Costa Rica to be precise, have never worked outside their homes before, however, they lack a basis for comparison. Another 11% in Guatemala, 23% in Honduras, and 16% in Costa Rica moved into their current jobs because their last jobs ended, rather than because they actively sought to change their jobs. And for those who are truly in need of work, to comment on work conditions, especially if inadequate, is a luxury they can ill afford.

Despite these factors, both female and male workers informally comment on work conditions. Most commentaries contrast past with current experiences. Some newcomers to the workplace venture opinions as well, oftentimes contrasting their experience with the experience of others, both family and friends, that they have heard about.

As we might expect given the circumstances of the interviews -- held on work premises during work hours -- nearly all comments made were favorable. At the same time, even favorable comments give clues about what workers identify as important concerns. Regular hours, not overly long workdays (nine and ten hours at the worksite were most common) and payment of overtime for extra hours were most frequently mentioned. Jobs offering absolutely higher salaries were not necessarily considered the best options. Women tended to weigh the anticipated weekly salary against certain work conditions. For example, some women commented that they could earn more at another job but that the hours were too long or too irregular or that they could not get home safely from a shift that ended late at night and did not provide them with transportation, as some of the NTAE enterprises do. When contrasting their current versus an alternate job, however, women tended to focus on the average weekly salary rather than the hourly rate (which in many cases would be the same, the difference in weekly salary accounted for by extra hours, not a higher per hour rate).

Issues relating to physical safety or health including possible exposure to pesticides or other toxins were never raised by workers. The less favorable comments made or conditions referred to have more to do with factors that are beyond anyone's ability to control, such as the constant exposure to the elements, especially the sun, by those who work in the field. In fact, it is conditions associated with field work that were more likely described with less than positive comments. The heat, having to walk long distances, particularly with a crop such as melons, and the lack of facilities were the more commonly observed shortcomings. Nevertheless, both women and men expressed interest in continuing in their current employment, some expressing hopes that they would be employed in their current positions in NTAE the following year as well.

Summarizing from the observations and comments available, it would be difficult to conclude that NTAE necessarily provides better working conditions than traditional export enterprises at field and non-field sites of work. A more accurate overall observation would be that NTAE enterprises appear to regularly provide acceptable physical work conditions, including basic sanitary facilities, at multinationally owned or managed non-field sites.

SUMMARY OF THE IMPACT OF NTAE ON THE QUALITY OF LIFE OF WOMEN

NTAE employment affects the quality of life of women, in this study considered primarily from an economic perspective. In addition to assuring better hours and recognized payment of overtime than is ordinarily available to hired labor, employment in NTAE appears to be the preferred alternative, with work in domestic services and staying home as the only main competitors. NTAE enterprises seem to provide adequate physical working conditions, including basic sanitary facilities, to their workers in central facilities for packing and greenhouse cultivation.

Economic benefits via income are distributed almost equally between women with family responsibilities (children and/or partner) and unpartnered women without children who live at home, with differing implications for immediate versus longer term impacts on the quality of life. Benefits are also distributed among women located at various points along the socioeconomic scale encompassing the NTAE female workforce workpool. For the women most in need, NTAE provides an accessible, reliable source of income, for however short a period of time, to directly meet those needs. For the women who can afford not to work but do, NTAE employment may well result in a qualitative change in their own, or a child's, or a household's lifestyle. In either case, much depends on the length of employment and the skills of the individual in managing the income.

PART IV

CONCLUSIONS

NTAE workforce composition -- the ratio of women to men -- varies by product and by type of work performed. Workforce characteristics -- percentages of persons who are household heads, who are younger (or older), have children, have received a primary school education, or are from households with access to land -- vary more by type of work than by product.

Findings suggest that the female workforce in NTAE can be divided into two groups: those who must work to meet basic needs, and those who choose to work to earn income that is discretionary. Women from households of limited resources and women who are female household heads are concentrated in the former, whereas women from partnered households with adequate resources and single women without children who still reside at home are concentrated in the latter.

People who work in the non-field activities, whether in packing or in greenhouses, are more closely associated with what is unique to NTAE products, the highly-valued labor-intensive post-harvest processing. Because the non-field activities associated with NTAE generally occur indoors or at least in shade, these jobs carry a higher social status as well. Women and men frequently are required to meet certain qualifications such as a minimum level of education -- that has no relationship to the task or anticipated performance -- to apply for non-field work in NTAE. Women whose income is discretionary are disproportionately represented among those employed in packing and greenhouses.

In contrast, the unique aspects of NTAE are largely bypassed in the cultivation and harvesting tasks performed by field workers. As a result women and men from more marginal households -- as measured by access to land and access to education -- are overly represented among field-workers. They benefit less from the improved status associated with NTAE employment: their work is still field work.

NTAE does indeed create employment opportunities for both women and men. In some cases it replaces traditional with non-traditional export crops, as in areas currently planted with melons that had formerly been planted with cotton and tobacco. In other cases it creates workplaces where they did not previously exist. Greenhouses are the particular case in point. NTAE not only increases the number, but also the "quality" -- the physical work conditions -- of jobs, specifically those associated with post-harvest handling and greenhouse cultivation. Moreover, because of the latter, NTAE expands the potential pool from which it draws workers, attracting to the workplace women who, because of social constraints, would not ordinarily find work associated with agriculture acceptable.

The overall assessment of the impact of NTAE on the income of women is positive. In Guatemala and Honduras women are more likely than men to find permanent employment for the crops considered. In the third country, Costa Rica, the percentages of men and women with permanent employment for the products selected is remarkably high (66% for women, and 77% for men). Permanent employment in the high profile NTAE sector is probably one of the best assurances of a good and steady income a person working in agriculture in these countries can have. In addition to generating employment options for women, the evidence available indicates that the central facilities of multinational enterprises generally pay at or above the government-

established daily minimum wage. At the same time, a surprising number of people interviewed were uncertain about how much they earn per hour or per day, whether they earn overtime and whether the overtime rate differs from the regular rate, or why their earnings vary from one week to another. They are much more attuned to the amount they generally receive per week or pay period and trust that they are being paid fairly.

All indications are that NTAE employment is at worst neutral, but more likely positive in its effects on the quality of life of women, in this study considered primarily from an economic perspective. In addition to assuring better hours and recognized payment of overtime than is ordinarily available to hired labor, employment in NTAE appears to be the preferred employment alternative available, with approximately two-thirds of the women identifying their only other options as domestic services or staying home. NTAE multinational enterprises generally provide satisfactory physical working conditions, including basic sanitary facilities, to their workers at central facilities for packing and greenhouse cultivation.

Economic benefits via income are distributed almost equally between women with family responsibilities (children and/or partner) and unpartnered women without children who live at home, with differing implications for immediate versus longer term impacts on the quality of life. Benefits are also distributed among women located at various points along the socioeconomic scale encompassing the NTAE female workforce workpool. For the women most in need, NTAE provides an accessible, reliable source of income, for however short a period of time, to directly meet those needs. For the women who can afford not to work but do, NTAE employment may well result in a qualitative change in their own, or a child's, or a household's lifestyle. In either case, much depends on the length of employment and the skills of the individual in managing the income.

To conclude, what must be kept in mind is that NTAE's impact on quality of life and its impact on employment and on income interact: the longer the duration of work and the higher the wage, the more pronounced the quality of life impact is likely to be. For NTAE positions filled by women, single female workers without children still living at home are more likely to hold the short-term, part-time jobs. Unpartnered female household heads and partnered women predominate in the longer-term and full time employment available through NTAE. Thus, in comparison with single women without children still living at home, women with responsibilities for others earn a larger share of the total NTAE income generated by women thereby enhancing their ability to improve the quality of life of themselves and those around them.

It is a sad but true commentary that because of the overabundant labor supply in these and many other countries, multinational, national, and regional enterprises need make no special efforts and will still be assured an uninterrupted labor supply to meet their labor demands. At the same time, to the extent that it is possible to foster "development" at the individual and household level without diminishing profitability or the procurement of foreign exchange, every means to do so ought be exhausted. This argument is based on morality.

On the economic side, increased worker benefits may more than pay for themselves in the long run through increased worker loyalty and productivity. Labor costs, including benefits, represent a comparatively small fraction of the total production and transportation costs of any given NTAE product so that it may be in these enterprises' best longer term interests to do so. Costa Rica may already illustrate that point. At the least, this can be tested by introducing benefits on a trial basis.

NTAE is not a panacea to development problems in Central America, but it is certainly a giant step in the right direction to providing gainful employment to women and men who lack the opportunity or the resources or the mobility or the incentive to otherwise enter the workforce. What is needed now is more full-time, long-term, permanent employment that will foster qualitative improvements in people's lives.

RECOMMENDATIONS

Institutions, agencies, enterprises and individuals concerned with the impact on women of NTAE activity may wonder what could be done, based on this research, to enhance the positive impact or mitigate negative impacts. The recommendations that follow represent this author's ideas of what could be done, without taking into account issues of incremental costs of operation, nor of self-determination at the enterprise level.

DEVELOP A SERIES OF INTERVENTIONS AND MATCH THE INTERVENTION TO THE TYPE OF WORK PERFORMED. Workforce composition and the demographic characteristics of the workforce vary markedly according to the product and the type of work performed. By considering select worker traits as well as characteristics of the workplace associated with different types of work, interventions can be tailored to best meet the needs of targeted audiences. The NTAE workplace provides an excellent opportunity to channel public sector service delivery to private sector target audiences. Examples of targeted audiences and tailored interventions include:

Field workers: female field workers in NTAE generally have less access to education and land, less likelihood of permanent employment, and a greater number of children.

Interventions to improve field workers' quality of life: Establish contact with basic health and social services facilities. Provide information regarding resources, for example, facilitators to establish independent solidarity groups for savings and credit (such as the Grameen Bank model promoted by CARE). If the work location permits, provide child care and pre-school readiness activities, otherwise setup in-town facility.

Interventions to improve working conditions: provision of tarps for shade and water to drink during the midday break.

Interventions to improve workers' skills: basic record keeping including a weekly time sheet and how to calculate wages due.

Packing and Greenhouse workers: female packers are comparatively young, often have a sixth grade education, and are frequently single. Female greenhouse workers are more often partnered or female household heads with children, and from households with access to resources.

Interventions to improve packing and greenhouse workers' quality of life: information on family planning; provision of child-care and pre-school readiness activities; information on crops and cultivation practices for crops that could be grown in women's household gardens.

Interventions to improve workers' skills: budgeting and household resource management.

Permanent employees (mostly greenhouse workers): permanent female employees are most frequently either partnered or unpartnered female household heads who have had access to education and may have access to land.

Interventions to improve workers' quality of life: family planning information establishment of an enterprise-affiliated credit/savings facility to promote savings and encourage cash purchases of larger items; information on crops and cultivation practices for women's household gardens.

ENCOURAGE INTRODUCTION OR EXPANDED CULTIVATION OF NTAE PRODUCTS WITH A HIGHER RATIO OF POST HARVEST (VALUE-ADDED) PROCESSING TO FIELD ACTIVITIES. Not only does the post-harvest processing greatly enhance the value of the NTAE product in question, but it is also the site of the qualitatively better job.

ENCOURAGE EXPANDED CULTIVATION OF NTAE PRODUCTS THAT USE GREENHOUSE CULTIVATION. It is not the greenhouse itself as much as the fact that a greenhouse represents an investment that management must capitalize on to insure a profit that makes it such a positive source of employment. Once the structure is in place, management needs reliable, responsible, permanent workers to insure the profitability of the business. It bypasses the constraints associated with other facilities such as freezing plants in that it produces the product it processes and is not heavily reliant on electricity to operate. On the other hand, greenhouse cultivation tends to require a much higher investment per job created.

PROMOTE BENEFITS FOR ALL WORKERS IN NTAE, AND WOMEN WILL AUTOMATICALLY BENEFIT. Women are preferred for many of the tasks associated with NTAE because of the qualities they bring to the workplace. Singling out women for special treatment can initiate a negative backlash effect. Women are clearly and deliberately part of the NTAE workforce and will automatically benefit as all workers benefit.

HIGHLIGHT ACCOMPLISHMENTS OF SPECIFIC ENTERPRISES UNDERTAKEN TO BENEFIT OR ENRICH THEIR WORKERS, ESPECIALLY FEMALE WORKERS. Because NTAE is such a high profile industry, a little praise of the efforts of one enterprise can go a long way in prompting similar efforts on the part of others.

PROMOTE BETTER ACCESS TO BENEFITS FOR PART-TIME AND SEASONAL EMPLOYEES. Since NTAE products are agricultural, it is inevitable that there be seasonal workers. The NTAE workplace can serve as a conduit for public sector delivery services that can be drawn upon throughout the year.

PROMOTE AND PUBLICIZE INNOVATIVE APPROACHES TO ALLEVIATE WORKFORCE CONSTRAINTS. As an example, depending on the profits generated, a number of firms give all their workers, seasonal and permanent, a bonus. Payment of bonuses – with appropriate accrued interest – to seasonal workers might be timed to coincide with the onset of the school year when so many additional expenses must be incurred.

IMPLICATIONS FOR POLICY

ALL NTAE PRODUCTS ARE NOT EQUAL IN THEIR IMPACT

To the extent that one of the goals in promoting NTAE is to increase job opportunities for women, then care needs to be given as to which products in particular are promoted. The greater the proportional requirements for field labor, the less, and less attractive, the number of opportunities for women are likely to be created. Conversely, the greater the value-added activities associated with a product such as sizing, sorting, special packaging, freezing, and /or canning, the higher the opportunities for female labor.

Even the same product can generate different labor demands and labor cycles, however, according to the specialization or quality involved. Flower cultivation is a good example. Long-stemmed roses are costly. They are targeted to florists for special occasions, especially Valentine's Day, Mother's Day, All Saints' Day, and the Christmas holidays. Rose bushes are pruned to channel nearly all production to those dates. Consequently, labor demands for rose cutters and packers follow very precise patterns with relatively short periods of high demand followed by longer periods marked by an absence of demand.

Other flower producers target a less exclusive audience. Many of the flowers they produce are sold in supermarkets and by street vendors as well as by flower shops. Roses may be included, but they are not of the very expensive long-stem variety. Hence, there is a much more constant demand for the product spread over the entire year, but greater in the winter months. This results in a much more continuous, constant demand for workers in cutting and packing even as it is punctuated by periods of peak demand to coincide with the special occasions already mentioned. It is not characterized by the cycle of extreme highs and lows associated with more exotic and exclusive products.

WATER FOR DOMESTIC USE PIGGYBACKED TO IRRIGATION SCHEMES

Many NTAE crops require careful water control. When extraordinary efforts must be made to bring water to the field, it would be of great social benefit to provide or improve the water supply for domestic use at the same time.

HIGHER EDUCATIONAL ATTAINMENT DOES NOT NECESSARILY TRANSLATE INTO A BETTER JOB

As long as the number of higher quality, better paying employment opportunities lag behind or increase at the same pace as increased educational attainment among individuals, higher educational attainment does not necessarily lead to a better job. Nevertheless, the realization that this is so must come as a shock to every new primary school graduate as she/he enters the job market for the first time.

NTAE products with a proportionately higher ratio of field to post-harvest handling may actually reduce the quality -- as well as the corresponding status and income -- of employment options available over time. In turn, this could lead to increasing unrest among a would-be middle class who have been instilled with the notion that their children will have better opportunities than

they have had once they, as parents, make the sacrifices necessary to provide their children with additional education. With this in mind, every effort should be made to promote products and follow-on activities that lead to jobs of quality and not just quantity.

SUGGESTIONS FOR ADDITIONAL STUDY

Although beyond the scope of the present work, a number of issues touched upon in this work warrant additional study to better understand the dynamics at work at the individual and household level that result in some of the findings noted. The following suggestions are presented for consideration.

1. Although it is known that the ratio of field to post-harvest processing employment opportunities varies markedly from one product to another, precise data on these ratios is sorely wanting. A systematic study by crop, allowing for regional variation where appropriate, using consistent measures and counting crop-cycle, person-days of labor (rather than the number of persons employed) per activity would prove invaluable. It would facilitate current and future projections of employment possibilities for all workers, as well as provide a basis to estimate the likely proportion of opportunities available to women in relation to men.

2. Initial findings suggest that women who engage in field work have less access to resources than women who work in packing. At the same time, when the opportunity costs are considered, many of the women who do field work say they would stay home if they were not working in NTAE. This is even true of women who are unpartnered female household heads who must presumably provide for themselves and their dependents.

Various other studies have suggested that households of marginal resources rely on a variety of complex strategies to meet basic needs. They further suggest that under varying circumstances these strategies may include substituting one person for another as wage earner to optimize overall benefit to the household. This is the assumed explanation for some of the findings noted in this study. A study focused on this question could identify the strategies that are used and provide valuable insights into the impact of NTAE on such strategies.

COUNTRY-SPECIFIC STUDIES:

3. In this study, people were interviewed as a result of their connection with an NTAE commercial enterprise in the capacity of either labor or management. Nevertheless there are indications that a number of persons interviewed in Guatemala work not only as hired labor but also as independent producers, possibly as members of cooperatives. The question suggested is what the relationship is between the two. Do people work in packing and then use the cash income for the inputs for the NTAE crops they will cultivate as producers? Do different household members take on different roles, for example, one sister working in wage labor in a large enterprise, and the other working on the household plot, and do they both receive comparable wages? Do they take turns working for wages?

In short, is there a dynamic at work at the household level between hired labor in whatever capacity in NTAE and independent producer for NTAE, and, if so, how does it work?

4. The minimum daily wage in equivalent dollar value for workers in NTAE in Costa Rica is approximately 3 to 4 times as great as the daily wage in equivalent dollar value in Guatemala or Honduras. Yet Costa Rica excels in NTAE production and exportation suggesting that these additional labor costs do not necessarily adversely affect profitability or the procurement of foreign exchange.

The question suggested is how the Costa Rican NTAE sector can absorb these additional labor costs and still come out ahead. Does the NTAE sector gain anything in comparison with its neighbors to compensate for the higher wages? What, if anything, would induce a firm interested in entering the NTAE market in Central America to select Costa Rica? What, if any, importance would the female workforce play in influencing the decision?

5. The data from Honduras reveals a number of unusual findings. It includes young female field workers who have completed primary school and women who work in packing who spend 40% or more of their daily wage on food and transportation. It indicates that older men with families are filling even the more marginal positions, and it shows markedly fewer permanent positions available overall than in either Costa Rica or Guatemala. Taken together, these findings suggest an over-abundant, under-employed labor supply. Is this, in fact, an underlying explanation for all the different findings noted, or are there other more important factors at work? What are the implications specifically for the female workforce?

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ANNEX I

COUNTRY BY COUNTRY PROFILES OF WOMEN AND MEN IN NTAE

Based on the select variables and characteristics presented in Part I of this study, country-specific profiles are presented of the men and women who comprise the workforce in non-traditional agricultural export production.

GUATEMALA

For the NTAE products selected in Guatemala, two out of every five workers are women, and, alternately, three out of every five are men. Among twenty women, for every eight who work in the field, nine work in packing, and three in greenhouse flower production. Among twenty men, thirteen work in the field, five in packing, and two in flower cultivation.

WOMEN IN NTAE IN GUATEMALA

Among women employed in fieldwork in Guatemala, less than one in four is from a partnered household; one in fifteen is a single female household head. More than half of the women have no children at all. Women from partnered households have an average of four to five children and women from single female-headed households have an average of one child each. Two in five female field workers are under twenty years of age, and four in five are thirty or less. Two out of five have had no schooling, and four out of five have a maximum of a third grade education.

Three out of ten of these women are from households with access to land. That ratio drops to less than one in five among partnered and female headed households, and rises to one in three when the worker is a single woman still living with her family. Less than one in one hundred women in partnered households or a single female household head holds a permanent position; one in five single women holds a permanent position.

Among women employed in non-field activities in Guatemala, for each who works in greenhouse flower production, two to three work in packing. One in four is from a partnered household; one in six is a single female household head. More than half the women have no children. Women of partnered households and women from single female-headed households have an average of two children each. One in three women is under twenty, and three in four are under thirty. One in five has a third grade or less level of education, and more than half have completed the sixth grade.

One of four women is from a household with access to land. That ratio falls to one in six among women from partnered and female headed households, and rises to one in three when the woman is single and still lives with her family. Whether single or with a partner, well over half the women who work in packing have permanent positions, and every women who works in flower production has a permanent job. Women in Guatemala who engage in fieldwork differ markedly from women who engage in non-field activities along several indicators. These include:

1. numbers of children for women with partners
2. prevalence of female headed households
3. temporary versus permanent employment
4. levels of education

In juxtaposition, women from partnered and female headed households markedly differ from single women who are not household heads on the variable of household's access to land.

MEN IN NTAE IN GUATEMALA

Three of every five workers in non-traditional agricultural export production in Guatemala for the products chosen are male, and approximately two thirds of those men engage in field labor.

More than three quarters of male field workers in Guatemala are over twenty, half are over thirty, and one third are forty years or more of age. One in four holds a permanent position. Six in ten are from partnered households and one in ten is a single male household head. Men from partnered households have an average of four children each. Approximately one in every five men, and one of every four from partnered households, has access to land. The overwhelming majority have a third grade or less level of education; one in four has at least completed the sixth grade.

Male field workers with a sixth grade or more education are more likely to be single, almost exclusively in their twenties, have minimal access to land, and to hold positions comparable to their older but less well educated male colleagues.

The remaining one third of the men who work in NTAE production in Guatemala work in non-field activities. For every two who work in flower production, five work in packing. Two thirds of the non-field workers are under twenty years of age. Every man employed in greenhouse flower production, and three-fourths who work in packing, have a permanent job. All men from partnered households and two thirds of single male workers hold permanent positions. One in four is a male household head from a partnered household with an average of two children. More than nine in ten have at least a sixth grade education. Two out of every five men, whether with partners or not, are from households with access to land.

Male field workers in NTAE production differ most dramatically from their counterparts in non-field production on the variables:

1. age of workers
2. levels of education
3. temporary versus permanent employment
4. access to land

Men from partnered households differ markedly from single males along those variables already identified.

HONDURAS

For the NTAE products selected in Honduras, three of every ten workers are women, and, alternately, seven of every ten are men.

Among twenty women, seven work in the field, seven work in packing, and six work in greenhouse flower production. Among twenty men, thirteen work in the field, six in packing, and one in flower cultivation.

WOMEN IN NTAE IN HONDURAS

Among women employed in fieldwork in Honduras, three in ten are from a partnered households and three in ten are single female household heads. Approximately one-third of the women have no children. Women from partnered households and women from single female-headed households who are field workers have an average of three children each. Two in five are under twenty years of age, and nearly four in five are thirty or less. One in five has had no schooling, half have a maximum of a third grade education, and three in ten have at least completed sixth grade.

One in four women who engage in fieldwork in Honduras is a from household with access to land. That ratio drops to approximately one in ten among partnered and female headed households, and rises to one in two when the worker is a single woman still living with her family. Less than one in one hundred women holds a permanent position regardless of civil status.

Among women employed in non-field activities in Honduras, for each woman working in greenhouse flower production, one works in packing. Three in ten are from partnered households and one in four is a single female household head. Nearly half the women who work in packing and one-fourth who work in greenhouse flower production have no children. Women of partnered households and women from single female-headed households have between two and, more likely three, children each. One in three women working in non-field activities is under twenty, and two out of three are under thirty. One in ten has had no formal schooling, half have a third grade or less level of education, and more than one-third have completed the sixth grade.

Nearly one of two women employed in non-field activities is from a household with access to land. That ratio falls to one in three among women from partnered and female headed households, and rises to three in four when the woman is single and still lives with her family. Whether single or with a partner, none of the women who work in packing has a permanent position, and less than one in three who works in greenhouse production has a permanent job.

Women in Honduras who engage in fieldwork differ markedly from women who engage in non-field activities only for the variable:

1. household access to land

Women from partnered and female headed households also most markedly differ from single women who are not household heads on the variable of household's access to land. Apart from this variable, despite variation on several other variables including numbers of children and age ranges, the differences among field and non-field workers and partnered and single women are so minimal as to be insignificant.

MEN IN NTAE IN HONDURAS

Nearly seven of every ten workers in non-traditional agricultural export production in Honduras for the products chosen are male, and approximately two thirds of those men engage in field labor.

More than nine-tenths of male field workers in Honduras are over twenty, nearly three quarters are over thirty, and nearly one quarter are forty years or more of age. None holds a permanent position. Six in ten are from partnered households and one in ten is a single male household head. Men from partnered households have an average of two children each. Approximately one in every four men is from a household with access to land. That ratio drops to one of every five men from partnered households and increases to nearly one of every two single men who are not household heads. More than three quarters of the men have a third grade or less level of education; the barest minimum have at least completed the sixth grade.

The remaining one third of the men work in non-field activities in Honduras. For every one who works in ornamental plant greenhouse production, five work in packing. One in three is a male household head from a partnered household with an average of nearly three children. Every man from a partnered household and one in five single men employed in greenhouse production has a permanent job. One in five partnered men and one in twenty single men who work in packing do. One third of the non-field workers are under twenty years of age and eight in ten are thirty or less. Nearly nine in ten have at least a sixth grade education. More than half the men are from households with access to land. That ratio drops to one in ten among the men from partnered households, and rises to eight in ten among the single men.

Male field workers in NTAE production in Honduras differ most dramatically from their counterparts in non-field production on the variables:

1. age of workers
2. levels of education
3. temporary versus permanent employment
4. access to land

Men from partnered households do not differ markedly from single males on any variables apart from those already identified. They do however differ dramatically in degree for the variables:

1. access to land
2. temporary versus permanent employment

COSTA RICA

For the NTAE products selected in Costa Rica, slightly over five of every ten workers are women, and, alternately, slightly under five of every ten are men.

Among twenty women, two work in the field, five to six work in packing, and twelve to thirteen in greenhouse flower production. Among twenty men, five work in the field, four in packing, and eleven in flower and/or ornamental plant cultivation.

WOMEN IN NTAE IN COSTA RICA

Among women employed in fieldwork in Costa Rica, one in fifteen is from a partnered household; seven in fifteen are single female household heads. More than half of the women have no children. Women from partnered households and women from single female-headed households have an average of three children each. One in three female field workers is under twenty years of age, two in three are thirty or less, and one in seven is over forty years of age.

One in three has a maximum of a third grade education, two-thirds have at least completed 6th grade, and four in ten indicate that they have been educated past the sixth grade.

No data are available for access to land for women who engage in fieldwork in Costa Rica. Approximately one in seven women holds a permanent position regardless of civil status.

Among women employed in Costa Rica in non-field activities, for each two women working in greenhouse plant or flower production, one works in packing. Three in ten are from partnered households and one in ten is a single female household head. One in four of the women who work in packing and two-thirds who work in plant or flower production have no children. Women of partnered households and women from single female-headed households have just under two children each. One in three women working in non-field activities is under twenty, and four of five are under thirty. One in twenty has a third grade or less level of education, four in five have completed the sixth grade, and four in ten have formal schooling beyond the sixth grade.

Three of ten women is from a household with access to land. That ratio falls to one in four among women from partnered and female headed households, and rises to nearly one in two when the woman is single and still lives with her family. One third of the women who work in packing has a permanent position, but nearly nine in ten who work in greenhouse production have permanent jobs.

Summarizing to this point, the variables that differentiate most markedly between women in Costa Rica who engage in field work and women who engage in non-field activities are:

1. civil status
2. permanent versus temporary employment

Variation on the variables age and education is noted, but is not pronounced.

Keeping in mind that no data on access to land is available for women who work in the field, women who are partnered and female headed households most markedly differ from single women who are not household heads on the variable of household's access to land.

MEN IN NTAE IN COSTA RICA

Less than five of every ten workers in non-traditional agricultural export production in CR for the products chosen are male, and approximately one-fourth of those men engage in field labor.

Of the men who engage in field work in Costa Rica, slightly more than two in five are from partnered households. Men from partnered households have an average of two children each. Two in five hold permanent positions. One in five male field workers in CR is under twenty, and two in five are over thirty years of age. No data are available for access to land for men who engage in fieldwork in Costa Rica. Approximately one in six has a third grade or less level of education; nearly three-quarters of the men have at least completed the sixth grade.

The remaining three-fourths of the men who work in NTAE production in Costa Rica work in non-field activities. For every two who work in packing, five work in greenhouse plant or flower production. One in two is a male household head from a partnered household with an average of two children. Every man from a partnered household, whether employed in packing

or greenhouse production, has a permanent job. Among the single men, all who work in greenhouses and one in three who work in packing have permanent positions. Less than one in ten of the non-field workers are under twenty years of age, but three-quarters are between twenty and thirty. More than four in five have at least a sixth grade education. Five men in six are from households with access to land. All men who work in greenhouse production are from households with access to land, as are one in two partnered men and one in four single men who work in packing.

Male field workers in NTAE production in Costa Rica do not differ markedly from their counterparts in non-field production on any of the variables considered. Men from partnered households do differ from single males to a limited extent on permanent versus temporary work and access to land.

ANNEX II

INTERVIEW GUIDE FOR MANAGEMENT

		Codigo	
Pais _____	Region _____	Empresa _____	
	Puesto _____	1	PUESTO
	Sexo H(1) ___ H(2) ___	2	SEXO
<p>Estudio del impacto de la producción de productos agrícolas no tradicionales en patrones de trabajo tanto del hombre como de la mujer... Quisiera hacerle unas preguntas en cuanto a la política de la empresa en contratar empleados profesionales y mano de obra.</p>			
Cuales productos/cultivos distintos tiene la empresa? _____			
_____		3	PRODUCTO
Cuanto tiempo tiene la empresa de fundada? _____ años			
		4	TIEMPOA
Cuanto tiempo tiene la empresa de trabajar con este producto?			
	_____ años	5	TIEMPROD
Cuanto tiempo tiene Ud. de trabajar con la empresa? _____ años			
		6	TIEMPEMB
Cuales trabajos distintos se realizan en esta empresa? _____			
_____		7	TRABDIST
Son distintos los criterios que se buscan para reclutar el personal segun el trabajo? SI (1) ___ No (2) ___			
		8	DISCRIT
Cuales son las características y los criterios que buscan en sus empleados a nivel administrativo? _____			
_____		9	CRITADM
Cuales son las características y los criterios que buscan en sus empleados a nivel obrero? _____			
_____		10	CRITORN
Cuantas personas son empleados permanentes? _____			
		11	PERMTO
Cuantos de ellos son hombres? _____			
		12	PERMHOM
Cuantas de ellas son mujeres? _____			
		13	PERHMUJ

	Codigo	
Cuántas personas son empleados temporales? _____	14	TEMP10T
Cuántas de ellos son hombres? _____	15	TEMP10M
Cuántas de ellas son mujeres? _____	16	TEMP10J
Al nivel de obrero, cuántos sueldos distintos existen? (Por sexo, experiencia, trabajo permanente y temporal?) _____	17	SUELDIS
Cuales son? _____ _____	18	SUELEJ
La empresa ha aumentado los sueldos en el último año? Si(1) __ No(2) __	19	SUELAUM
Porque? _____	20	MOTIVAUM
Que tipo de beneficios o incentivos brinda la empresa? _____ _____	21	BENEFIC
La empresa ha aumentado o cambiado los beneficios en el último año? Si(1) __ No(2) __	22	BENEAUM
Porque? _____	23	MOTIVBEN
La empresa ha aumentado los pagos a personas que trabajan temporalmente en el último año? Si(1) __ No(2) __	24	TEMPAUM
Porque? _____	25	MOTIVIEN
De donde vienen las personas que trabajan aquí a nivel profesional? _____	26	LUGARPRO
De donde vienen los que trabajan a nivel obrero? _____ _____	27	LUGAROBR
Cuales otros fuentes de trabajo existen en esta area? _____ _____	28	FUENTRAB

Gracias por su participacion.

WORKER INTERVIEW SCHEDULE

Pais _____	Codigo _____	
Región _____		
Empresa _____		
Actividades principales de la empresa _____		
Persona entrevistada es: (1) Hombre _____ (2) Mujer _____		
	1	SEXO
Cuánto tiempo tiene usted de estar trabajando fuera de la casa?		
menos de un año (1)	Uno a dos años (2)	2+ a cinco años(3)
5+ a 10 años(4)	10+ a 15 años(5)	15+ a 20 años(6)
20+ a 30 años(7)	30+ años(8)	
	2	TRABFUER
Cuánto tiempo tiene ud. trabajando con esta empresa? (Rangos iguales a la pregunta anterior)		
	3	TIAMUESTA
Cuáles labores realiza ud. en su trabajo?		
	4	LABORES
Ha realizado Ud. otros trabajos con la misma empresa? si(1) _____ No(2) _____		
(si contesta que si) Cuáles han sido? _____		
	5	MISMAMIS
Trabaja ud. la semana completa (6 días)? si(1) _____ No(2) _____		
(si contesta que no) Cuántos días de la semana trabaja?		
	6	TRABO130
	7	SEMCOMPL
Trabaja Ud. todo el año? si(1) _____ No(2) _____		
(si contesta que no) Cuántos meses del año trabaja?		
	8	SEMPAR
	9	AÑOCOMP
Qué hace ud. durante los otros meses?		
	10	AÑO'PAR
	11	MESOTRO
Ha trabajado Ud. con otras empresas? si(1) _____ No(2) _____		
(si contesta que si) Por qué dejó de trabajar con estas empresa(s) ? _____		
	12	EMPLOTRO
Qué tipo de empresa?		
	13	EMP'LUEDA
	14	EMP'OTRO
Ha realizado otros trabajos anteriormente? si(1) _____ No(2) _____		
(si contesta que si) Qué tipo de trabajo? _____		
	15	TIAMANT
	16	TIAMTIPO

Página 2

Código

Ha recibido alguna capacitación en sus trabajos? si(1)___ No(2)___	17__	CAPACI
(si contesta que si) En cuántas empresas? _____	18__	CAPACUAN
Qué tipo de capacitación? _____	19__	CAPTPO
Piensa ud. continuar trabajando con esta empresa? si(1)___ No(2)___	20__	CONTINUA
Porqué le gusta/ le conviene su presente trabajo? _____	21__	GUSTATPIE
Porqué no le gusta su presente trabajo? _____	22__	NOGUSTPIE
Si ud. no estuviera trabajando con esta empresa, qué trabajo estaría realizando para sustentarse? _____	23__	ALTERNAT
Cuales otras fuentes de trabajo existen en esta área? _____	24__	FUENTOTR
DATOS PERSONALES		
Cuántos años tiene ud? _____	101__	EDAD
Cual es su estado civil? _____	102__	ESTCIVIL
Ha ido ud. a la escuela y/o colegio? si(1)___ No(2)___	103__	ESCUELA
Hasta qué grado o año? _____	104__	ESCNIVEL
Cuántos años estudió ud.? _____	105__	ESCAÑOS
Porqué dejó de estudiar? _____	106__	ESCDEJAR
Es ud. jefe de familia? si(1)___ No(2)___	107__	FAMJEFE
Vive Ud. con su familia? si(1)___ No(2)___	108__	FAMVIVE
(si contesta que no) vive ud. con familiares? _____	109__	FAMFAMIL
(si contesta que no) vive ud. solo o con personas ajenas? _____	110__	FAMOTROS
Cuántos viven en su casa? _____	111__	NUMCASA
Cuántos de ellos trabajan? _____	112__	NUMTRA
Cuántos hijos tiene ud.? _____	113__	NUMHIJOS
Cuánto gana ud.? _____ por _____ (día, semana, quincena, mes)	114__	PAGO
Le pagan las horas extras a tiempo y medio? si(1)___ No(2)___ Nunca hay horas extra(9)___	115__	HORASXTR

Le pagan los domingos y días feriados que trabaje a tiempo doble?			
si(1)	No(2)	Nunca hay trabajo esos días(9) ...	116__ HONASUBL
Cómo dispone ud. del dinero que gana? Entrega ud. alguna porción			
A sus papás?	si(1)	No(2)	117__ DINPAPAS
	qué porcentaje?		118__ DINPAPOR
A su marido/ esposa?	si(1)	No(2)	119__ DINMARI
	qué porcentaje?		120__ DINMARI
A sus hijos?	si(1)	No(2)	121__ DINHIJOS
	qué porcentaje?		122__ DINHIJOS
Para ahorros?	si(1)	No(2)	123__ DINAHORR
	qué porcentaje?		124__ DINAHORR
A otras persona(s) ?	si(1)	No(2)	125__ DINOTROS
	qué porcentaje?		126__ DINOTROS
	qué para?		127__ DINOTROS
Es Ud. o algún miembro de su familia dueño de un terreno?		si(1)	No(2)
(si contesta que si) Quién es el dueño? (parentesco)			128__ DUEÑICO
Cuánto terreno es? (manzanas, Has)			129__ DUEÑICO
Ud. o algún miembro de su familia alquila un terreno?		si(1)	No(2)
(si contesta que si) Quién alquila? (parentesco)			130__ TAMANOTR
Cuánto terreno es? (manzanas, Has)			131__ ALQUIL
Dispone Ud. alguna porción de sus ingresos para los gastos de terreno?		si(1)	No(2)
			132__ ALQUIQUI
			133__ TAMANUAL
Es ud. de esta area o localidad?		si(1)	No(2)
(si contesta que no) cuándo llegó ud. a esta comunidad?			134__ DINTER
Hace (meses, años)			135__ DEDONDE
Por qué vino aquí?			136__ DEDONDE
Cuánto tiempo le toma llegar al trabajo?			137__ MOTIVACA
Cuánto le cuesta el transporte diariamente?			138__ TRÉMITLE
Tiene que comer su comida en el trabajo?		si(1)	No(2)
(si contesta que si) cuánto le cuesta su comida diario?			139__ TRANSCAS
al día			140__ COMITCOM
A ud. le he hecho muchas preguntas. ¿Quéva hacerme a ud alguna pregunta?			141__ COMCUEST
Gracias por su participación.			

ANNEX III

ADDITIONAL NOTES ON METHODOLOGY

DATA CODING AND ANALYSIS

The focus of this research is on workers in NTAE, particularly female workers. Several clusters of variables are considered including worker characteristics, worker resources, and variations in the workplace. The overriding methodological research objective is to uncover patterns among the variables associated with those workers and to provide reasonable explanations for those patterns.

Information about the workers was obtained directly from them. All the data thus collected was subsequently coded using either nominal or ordinal measurement scales.

The numerical values assigned to a variable that is nominal, or categorical, make no assumptions about the value. Values assigned to civil status categories or type of work performed are examples of data from this study that are coded nominally.

Values for a variable that is scaled ordinally indicate a position for that value relative to the other values, such as higher or lower, or more or less, but do not indicate by how much according to any fixed or equal unit. It is the ordering that is important. Examples of variables from this study that were scaled ordinally include years of schooling, length of time at present work, and percentage of salary given to parents when wage rates differ.

Years of schooling and length of time at present work could have been scaled by intervals, that is, fixed and equal units, such as months and weeks. However the statistical procedure of choice for this study is contingency tables and contingency tables are most meaningful with a limited number of values for each variable. With that in mind, the range of responses was collapsed for a number of variables in some cases thereby changing data that was ratio-level in the form collected, to data used as ordinal-level data in the analysis.

A dichotomy is a variable with only two possible responses. Questions that can be answered with a "yes" or "no" are a good example of a dichotomy. Dichotomous variables can be treated as interval variables for purposes of analysis (Nie, et al., 1975). The responses to a number of variables that were nominal in the form in which they were collected were recoded to create dichotomous variables for use in the analysis. For example, the civil status category called "partnered" includes women who are married as well as in a "consensual union" whereas women who are "unpartnered" can include women who are single, divorced, separated, or abandoned.

Coded data was then entered into a computer program for analysis. The program initially intended for this purpose, Microstat II, (contrary to promotional claims but confirmed by direct conversations with Microstat's head statistician) is unable to incorporate weights for the variables into the data analysis. It was therefore necessary to use an alternate program that was available. Reflex, a data-management program with excellent crosstab capabilities that allow the weighting of data, was the option chosen.

WEIGHTED DATA

Survey research in disciplines involving human subjects is affected by many considerations that alter the nature of the data that can be collected. This is particularly true regarding the selection of individuals to be interviewed.

Under classical sampling designs, the researcher takes fairly elaborate steps to insure that a representative cross section of the target population is studied. However, under real world circumstances, a researcher may have very little control over who is actually interviewed. In a study such as this, the researcher must win the confidence and cooperation of representatives of management or farm owners to be allowed onto the premises to be able to talk with workers. If the owner refuses, for whatever reason, a sampling bias of unknown proportions results.

It is neither practical or desirable in human terms to try and maintain the integrity of a sampling design at any cost. For instance, it would be unthinkable to subvert an owner's refusal to allow access to workers by trying to interview the workers of a given enterprise anyway. Discovery of such actions could very well result in dismissal of employees, legal action by the owner against the research, and, in more extreme cases where the owner possesses a shotgun, an even more dire response.

The researcher is not, however, helpless. Techniques of post stratification can be used to help iron out the inequities imposed upon the data by the realities of the data collection process. Post stratification is the process of using information from the collected data in concert with information available through secondary sources to make adjustments.

For purposes of illustration, let us suppose a study of voter preferences is conducted where ethnic background is expected to make a difference in voter choice. Assume that census information states that 10 percent of the population of that city is Indian and 90 percent is Oriental. Now suppose that in the interviews for voter preference, of ten people interviewed, half are Indian, and half Oriental. The researcher can use the census data to apply sampling weights to bring the ratio of Indian to Oriental back into line in the study results.

Assuming that the city in question has a population of 1000, the researcher reasons as follows: In the city it is estimated that there are $(1000 \times .10)$ 100 Indians. Since five of them were interviewed, each of those five represents $(100/5)$ 20 other Indians. In the city it is also estimated that there are $(1000 \times .90)$ 900 Orientals. Since five of them were interviewed as well, each of those five represents $(900/5)$ 180 other Orientals. On this basis, in the analysis the researcher counts each response of each Indian 20 times and each response of each Oriental 180 times to bring the survey data into line with secondary information sources regarding the population composition.

This hypothetical example illustrates the post-stratification technique of weighting that was used to adjust for the unrepresentative sample of individuals interviewed. Specifically, approximately three times as many women as men were actually interviewed for this study. At the same time, the federations of NTAE growers and like organizations were approached for information on the approximate numbers of enterprises and the approximate numbers of employees, male and female, permanent and temporary, in each country for each crop. In addition, every enterprise where interviews were conducted provided this information for the enterprise. This information was then used to bring the sample data into line for country, crop, size of enterprise, sex, and work status --full or part-time-- of workers.

Although the method of weighting is imperfect, it enables the researcher to eliminate, as far as possible, the biases forced upon the data by the uncontrollable realities of data collection that include, but are not limited to, constraints of time, expense, and practicality.

As mentioned, the most common data presentation format in this report is the contingency table. The chi-square test is the most frequently used statistic to test for significance in contingency tables. The fact that it was not used here warrants comment. The chi-square test is sensitive to the distribution of elements within the table and the total count of elements. The more aberrant the distribution from the expected, and the larger the count of elements, the greater the likelihood of statistical significance. As already explained, sample weights were used. As a result, most tables are presented in terms of proportions, to avoid dealing with large numbers. This changes the count and its relationship to the distribution so that the chi-square is not a valid test. Rather, tables were examined for gross patterns and meaningful relationships.

There is an interplay between statistical significance and meaning. The appropriate relationship is for the research to see meaning in the data and use the test to determine either that it is statistically different, or the same (depending on ones purpose), as might be expected by chance. Statistical tests can also be used to indicate strength of association and to separate out differences that might be too complex to see in the data without the test. In the case of this study, broad relationships and conspicuous associations were sought. The determination of causality was beyond the scope of the study. The intent of the study was to paint with broad strokes. Should the results be sufficiently tantalizing or provocative to induce another study, this work can be used to formulate the questions and target the data which could then be subjected to more rigorous statistical testing.