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DRAFT REPORT

**OPPORTUNITIES FOR EXPORTING SPECIALTY CROPS IN LIBERIA:
WOMEN'S CONSTRAINTS AND INCENTIVES**

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EXECUTIVE SUMMARY

I. The Nature of Horticultural Production in Nimba County

Horticultural production in Nimba County is largely unorganized. Smallholders grow vegetables, inter-cropped in their upland rice fields and plant fruit trees haphazardly. Although gardens exist, according to the Nimba County Rural Development Project (NCRDP), they are a "minor agricultural activity." A survey of smallholders conducted by NCRDP (Westphal et al, 1987) revealed that about 50 percent of farm families have a vegetable garden, where women grow their traditional vegetables of chilies, bitter balls, okra, eggplant, and greens. There are only a handful of commercial farmers that use modern farming techniques and grow "kwi" or Western vegetables sold to Europeans in Yekepa, the location of LAMCO (a Swedish-American mining company), or to Monrovia.

Input use is very low for several reasons. NCRDP, which supports the Ministry of Agriculture in providing extension services in Nimba County, does not promote use of inorganic fertilizer or chemicals, since most farmers cannot afford them and the input delivery system is so inefficient that inputs are usually not available when farmers need them.

II. Gender-Differentiated Constraints to and Incentives for Expanding Horticultural Production in Nimba County

A. Labor Constraints

Rice is the dominant crop in Liberia; all other agricultural activity is adjusted to the cropping system of upland rice. Since women have major responsibility for providing food for the family, their time more than their husbands' is adapted to the rice cropping calendar. Women's peak period of labor demand coincides with the planting, weeding, and harvesting of upland rice in May, July, and November. During the rainy season when women's labor demands are greatest, they combine their vegetables with their upland rice. During the dry season, when the roads are finally passable and labor demands for women slacken, some plant vegetable gardens, but more often women focus their attentions on such nonfarm activities as vegetable marketing.

Labor constraints in rural Liberia are significant as a result of severe rural-urban migration. Although there is a greater scarcity of male labor, women's time is limited since they have assumed tasks that have traditionally been men's and in addition

have time-consuming domestic chores. Labor constraints are reflected in the widespread practice of hiring farm labor, even among the smallest farmers. In the interviews conducted for this report, farmers suggested that their biggest constraint was capital to hire labor. Others reported that the supply of hired labor was insufficient to meet the demand during the busiest farming season.

B. Limited Access to Credit

PfP/Liberia, the major source of credit in Nimba County, provides credit to farmers both individually and collectively through Agricultural Working Groups (AWGs) and Farmer Development Associations (FDAs). Individual loans tend to be given to larger farmers (both male and female), while the larger number of small farmers more often obtain group loans through their membership in an AWG. Most AWGs are made up of a mix of males and females, with women being in the minority and having little decision-making power. Women farmers are more apt to obtain a loan for their own use if a member of a W-AWG (all women). So far, there are only five W-AWGs, and they have received few loans, most of which have been for swamp rice production. Thus, the majority of women farmers appear to have limited access to institutional credit. Rather they rely on informal savings and loan societies, *susus*, to meet their financial needs.

C. Limited Access to Extension Services

Extension services, provided by the Ministry of Agriculture and NCRDP, have been effective in making available higher yielding seeds and knowledge on plant spacing, soil fertility, and maintenance methods. However, these services have been sporadic and, for the most part, targeted to men. There are no female extension agents. Moreover, little if any advice or support is given for horticultural production, and the advice that is given for women's crops, i.e. swamp rice, is generally directed to men.

D. Constraints to Marketing

Marketing is the most often cited constraint of farmers and marketers, who have limited access to markets due to inadequate roads that can become impassable during the rainy season. Government road blocks can also delay trucks for hours. During the dry season, when roads are easiest to maneuver, transport costs are high due to the high demand for trucks in relation to the supply. Truckers know that after harvest when the supply of produce exceeds local demand, women marketers are forced to sell to the Monrovia market. Thus truckers charge very high and some say unfair prices. During the rainy season transport costs are even higher.

E. Incentives for Expanding Horticultural Production

Despite women's greater availability of time and labor during the dry season and the income they generate from horticulture, women appear to have little interest in dry season gardening. Rather they prefer to engage in marketing. This lack of interest in increasing horticultural production may relate to constraints to marketing. The limited ability of the local market to absorb surpluses, the costs of transporting to Monrovia, as well as the severe post-harvest losses likely dampen production. Until these constraints are mitigated, there may be little incentive for increasing horticultural production in the County.

III. Opportunities for Export Activities in Nimba County

Key informants in Nimba County suggested possible commodities that might be exportable. These included chili peppers and a variety of fruit. Chili peppers are grown in abundance and could be dried or otherwise processed for export, thus alleviating the problem of transporting perishables on such poor roads. Fruit is also abundant; pineapples and bananas are of especially good quality. Oranges are almost ubiquitous, however, the size and color are not of export quality.

Nimba County has the advantage of an effectively organized market women's association which receives assistance from PfP/Liberia. With access to the vehicles PfP has purchased at least partly for their use, market women will be able to play an even more significant role in the food distribution system, including more extensive marketing in Monrovia. Their knowledge of farmers, roads, and markets could be very useful to an exporting scheme. Rather than picking up produce from numerous smallholders, an exporter could rely on market women to transport produce to collection points.

IV. Strategies for Increasing Women's Participation in and Contributions to Commercial Agriculture

Recommendations are made below for project activities that could improve women's ability to participate in and contribute to commercial agriculture, in general, and a future export scheme.

- o strengthen present and promote further formation of women's agricultural working groups (W-AWGs);
- o improve W-AWGs' access to credit;
- o encourage savings among W-AWGs;

- o target extension services to women farmers;
- o provide technical advice on horticulture;
- o strengthen the input delivery system and women's access to inputs;
- o strengthen Liberian Market Women Associations through PFP.

Any new activities that are undertaken in Nimba County should be coordinated with those of NCRDP and PFP/Liberia.

V. Opportunities for Export Activities Outside of Nimba County

USAID as well as other key informants suggested that there were more opportunities for export outside of Nimba County, in the area surrounding Monrovia. The advantage of this area is that it has easy access to the airport and numerous commercial farmers that produce export quality crops and use modern farming techniques. A number of these commercial farmers are educated businessmen who understand the requirements of an export venture.

The critical constraint to an export scheme, however, will be the business climate. Unless President Doe readjusts his policies to make investment by foreign firms possible, then there is little chance for being successful. There is hope, however, that Doe will rescind his latest policy changes, as has been his habit before.

Liberia: Opportunities for Exporting Specialty Crops

I. The Nature of Agricultural Production in Nimba County

A. The Nature of Agriculture

Subsistence agriculture, based on a slash and burn or bush fallow system, dominates over commercial agriculture in Nimba County. Slash and burn agriculture requires an abundance of land; thus it is common for farmers, even "smallholders," to have farms of over 100 acres. Except for certain areas around larger towns, land availability is not a constraint, according to the Nimba County Rural Development Project (NCRDP). The cropping system is organized around upland rice, the major food crop, though cassava and swamp rice are also important. Women more than men are responsible for rice production and must adjust their activities to it. The major cash crops in the County, which are controlled by men but depend on female labor are coffee and cocoa; less important are rubber and sugar cane. Vegetables, fruit, and oil palm are a source of income for women.

Horticultural production in Nimba County is, for the most part, unorganized. Smallholders grow traditional vegetables, inter-cropped in their upland rice fields, and plant fruit trees haphazardly. Although gardens exist, according to NCRDP, they are a "minor agricultural activity." A survey of smallholders conducted by NCRDP (Westphal et al, 1987) revealed that over 50 percent of farm families have a vegetable garden, where women grow chilies, bitter balls, okra, eggplant, and greens. These gardens are found on a small-scale mostly at the edge of villages, where they cover an area of 15 to 20 square meters. Gardens are planted during the dry season, and thus require watering.

The major vegetables sold at a major regional market on market day included chili peppers, bitter balls, sweet potatoes, cassava and potato greens, onions, eggplant, and a few cucumbers. Such "kwi" (i.e. Western) produce as cabbage, squash, melons, etc. are sold at the Yekepa market for the European population working at LAMCO, the Swedish-American mining company (at present, it is closed down) or are transported to Monrovia. However, "kwi" vegetables are grown in very limited quantities by larger commercial growers.

Fruit grows in abundance in the County. Oranges, grapefruit, papaya, pineapples, limes, plantain, and bananas are sold by market women almost ubiquitously throughout the County. Oranges are especially plentiful, but they are of uneven color and size. Plantain and bananas provide a fairly good cash return for women and are sold on the local as well as Monrovia market.

There are a relatively few commercial horticultural farms in Nimba County; and those that do exist tend to be limited by a lack of capital and marketing difficulties. According to an official at an agricultural technical school in the County, one should be circumspect when told about a "commercial farm;" many do not employ modern farming techniques.

Inputs use in Nimba County is low. NCRDP, financed by GTZ, promotes low resource agriculture and thus has not encouraged the use of inorganic fertilizers or chemicals, on the theory that farmers, for the most part, cannot afford them. Rather the project has focused most attention on food crops and cocoa and coffee. Horticultural production has largely been ignored by NCRDP, though they point out the potentials of horticulture which serves both as a source of food and income.

Vegetables and fruits are sold both at local markets and, less commonly, in Monrovia. In many instances, marketers purchase produce from the farmgate; however, there is a hierarchy of periodic markets in Nimba County. The smaller markets are held once per week, while the larger markets are held on a daily basis, but are limited except on the weekly "market day." "Larger" regional markets include Yekepa, Gante, Tappita, Sanniquellie, and Saclepea; Bahn is an example of a smaller market (see Map 1).

B. The Organization of Farmers and Marketers

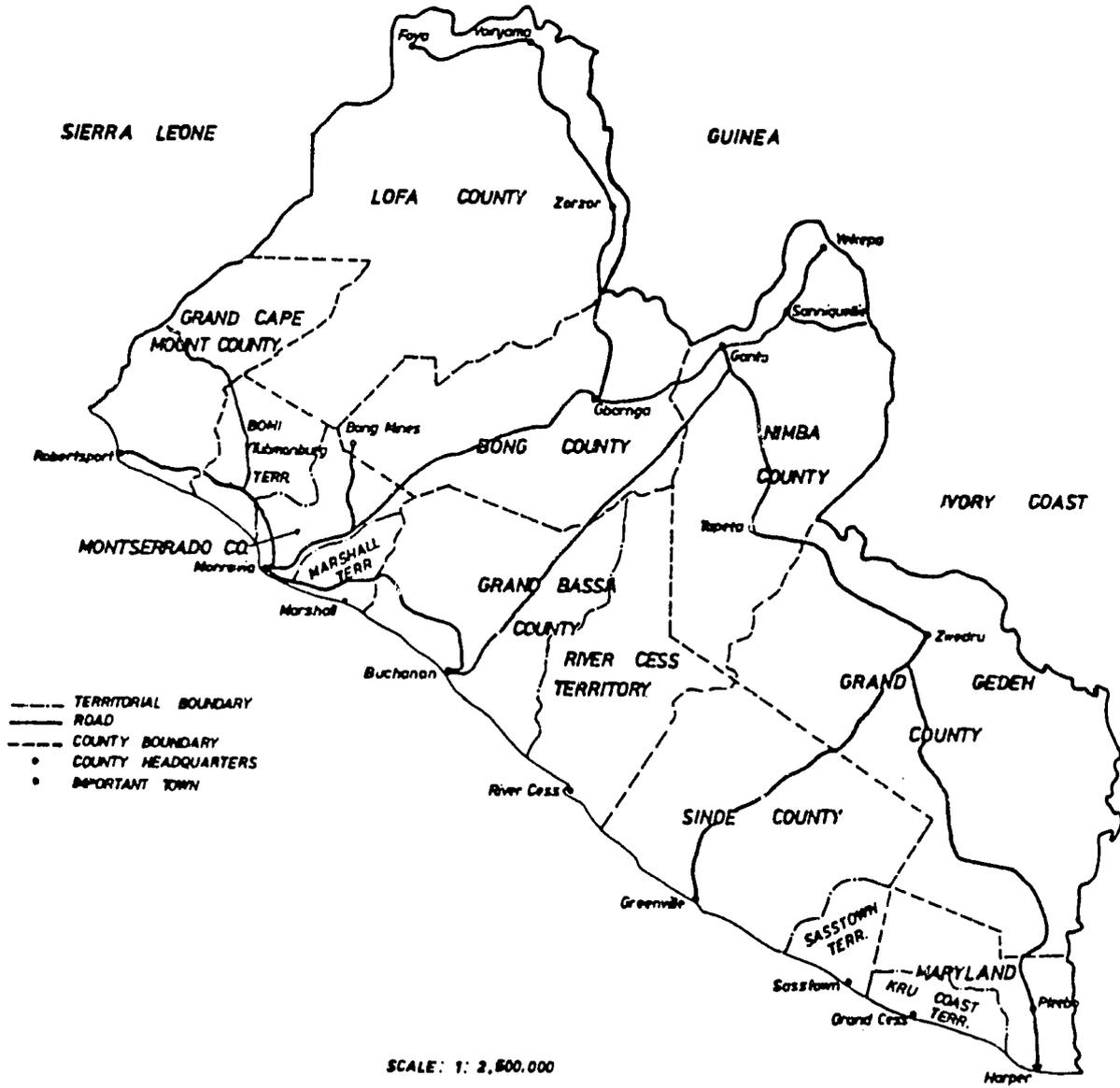
Traditionally, farmers in Liberia have organized themselves into cooperative work groups, called "kuus," although they are more important among some ethnic than others. In Nimba County, NCRDP has built upon these traditional groups, forming a hierarchy of organizations aimed at facilitating "self-sustained development on a self-help basis." These organizations include:

Agricultural Working Groups (AWGs);
Farmer Development Associations (FDAs); and
Clan Marketing Associations (CMAs).

AWGs are the organizations through which NCRDP promotes production and provides technical advice. The main farming activities of AWGs are swamp rice cultivation and preparation of coffee and cocoa nurseries. Although these activities are traditionally women's (except for clearing the swamp rice field), women comprise only 35 percent of AWGs. The vast majority of AWGs are mixed, with both male and female members; in groups of "mixed" membership, women tend to have little decision-making power. NCRDP has not made effective efforts to incorporate women into development activities. A NCRDP researcher concluded that while women have benefitted from NCRDP activities to some extent,

MAP OF LIBERIA SHOWING COUNTY SEATS AND ROADS

FIGURE 3



given their important contribution to agriculture, their particular constraints have been largely ignored.

Recently, however, all women-AWG (W-AWG) have formed and are gaining in importance, though they are still very small in number. The productive basis for W-AWGs (all women) largely centers on swamp rice, an innovation in the area that has been relatively slow to be adopted. This may change since President almost doubled the price of rice as of November, 1989.

Once AWGs have stabilized in terms of membership, they may join together with other AWGs to form a Farmer Development Association (FDA). AWGs are the productive bases of FDAs, which use the income generated for construction works, pre-financing of marketable products, and granting of credit for members and nonmembers. Over time, marketing has become the major activity of FDAs; fifty percent of member subscription monies are invested in the trade of agricultural produce. FDAs elect members to Clan Marketing Associations (CMAs), which assist in the marketing of farmers' cocoa and coffee to the Liberian Producing Marketing Cooperative (LPMC), a parastatal with monopoly control over coffee and cocoa marketing.

Partners for Productivity/Liberia (PfP/Liberia) also works with these groups, providing credit, both to individuals and groups, using the group as a guarantee, and deposit services referred to as "Saveways." In the area of marketing, PfP has a special project with the Liberian Market Women's Association (LMWA), an important and politically powerful organization for women marketers. PfP currently provides credit as well as technical advice and training in numeracy and accounting to Nimba County members of the LMWA. Some of these activities are still nascent, and there are plans for expansion contingent on funding. Most recently, PfP has purchased trucks which will allow market women to expand their collective marketing activities and to bypass middlemen who reportedly charge "exorbitant" prices for transport. There are plans to provide loans to improve market infrastructure, including constructing new market stalls and storage facilities.

C. Women Producers and Marketers

There is significant differentiation between income groups in Nimba County. Women in the higher income strata are often entrepreneurs with diversified investment portfolios that include both farm and nonfarm businesses. A number of wealthier women own commercial farms of hundreds of acres, separate from their husbands', on which they produce rubber, coffee, cocoa, and sugar cane -- crops that are traditionally male. These women manage these farms, hiring laborers to do the farm work. While their

incomes are well above the typical smallholder, they are often illiterate.

The head of the LMWA in Nimba County, for example, while illiterate, has three businesses from which she earns income, separate from her husband. She has a swamp rice farms, a small enterprise in which she sells significant quantities of imported rice, and, in addition, her job as head of the County Market Women's Association. Another market women, who also has a political position within the Association, owns a 350 acre farm, again that is separate from her husband's. Two hundred acres of this farm is devoted to coffee, 100 acres to plantain, and 50 acres to rubber and rice. During the dry season she spends much of her time at the market, and during the rainy season she is more involved with her farm, managing the laborers that she hires.

More commonly women farmers in Nimba County are primarily subsistence farmers, earning small amounts of cash from selling vegetables, and perhaps processing cassava or palm oil. Although women's time more than men's is dictated by the demands of rice production, women have tended to be more receptive than men (according to an agricultural extension agent) to additions to the agricultural cycle -- that is, as long as such additions complement the rice cropping calendar, filling slack periods with new activities (Conteh et al, 1982).

The only source of income for a majority of women in Nimba County is marketing, most frequently of fruits and vegetables. Almost 80 percent of the women surveyed by GTZ's 1987 study of Nimba County smallholders (Westphal et al, 1987) claimed that they marketed their produce. Almost fifty percent stated that they went to the local market at least once per week. The priority women give to marketing was suggested by the frequency with which they go to the weekly market even during the busiest farming season.

Women producers may headload their produce to the nearest market and sell it themselves or market women may buy directly from the farm. The Nimba County Market Women's Association sends out pick-up trucks immediately after harvest and transports produce to one of nine periodic markets. Once a week, on "market day," these periodic markets swell in size. Wholesale women marketers travel a circuit from one periodic market to the next, as the designated "market day" shifts daily from town to town. Marketers may buy in one market and sell in another, or transport what they have purchased locally to Monrovia. After harvest, when the supply of vegetables exceeds local demand, market women must look for transport to Monrovia. The lack of storage facilities and resultant post-harvest losses mean that produce must be sold quickly; this requires selling to the Monrovia market. Market women collectively rent a truck, costing as much as \$800. During the rainy season, they make "no profit" in this

activity because of high transport costs ("no profit" was actually about \$70 per member). During the dry season, each member makes as much as \$150 selling in Monrovia.

II. Gender Differentiated Constraints to Agricultural Production and Marketing

A. Time and Labor Constraints

1. Gender-Based Division of Labor

Although in general women control rice and vegetable production and men coffee, cocoa, rubber trees, and sugar cane, the gender based division of labor in agriculture is not rigid. There is variation from region to region and household to household. Generally, men and women share in the production of all crops, though tasks tend to be gender specific, as is control of the income earned from a given crop. For the most part, men "brush" or clear the land, deciding on the amount of land needed by the family, based on the ability of their wives, daughters, and other women to plant, weed, and harvest the crop. The chart in Table 1, on the following page, describes, in general, the gender-based division of agricultural labor by crop and by task.

2. Labor Constraints

Upland rice production demands heavy labor inputs during certain parts of the year and leaves other periods less busy and open for other activities. According to Theodore Jenne's (1982) labor demand model for Liberia, the periods of critical labor constraints for men are January and February when they are brushing and felling the forest. For women, the months of peak and critical labor demand are May, July, and November when planting, weeding, and harvesting must be done. Farmers can adjust the timing of some labor inputs, but timing and quantity of labor required for such tasks as burning, planting, and harvesting are critical.

Table 1
The Agricultural Time Table

Crops	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
upland rice	brush (M) i-----i											
	fell(M) i-----i											
	burn and clear (M+F) i-----i											
	fencing (M) i-----i											
	plant (F) i-----i											
	bird scaring (M+F) i-----i i-----i											
	weeding (F) i-----i											
	harvest (F+M) i-----i											
	<hr/>											
	swamp rice	(M+F) clear & plant weeding (F) birds (F) i-----i i-----i i-----										
harvest (F) harvest (F) ---i i-												
<hr/>												
coffee & cocoa	harvest (M+F) prepare - plant (M) coffee harvest (M+F) ---i i-----i i-----											
	brush groves (M) i-----i											
	cocoa harvest (M+F) ---i i-----											
<hr/>												
gardens	land (F) (F) prep. plant gardens harvest (F) i-----i-----i i-----i											
	<hr/>											
palms	(M) (F) cutting & processing oil palm -----i i---											

Sources: Gerald E. (1976); Westphal et al (1987); and Jenne (1982).

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When the demand for labor cannot be met, women may take on tasks normally done by men, except for very heavy work, in which case the family may hire labor or make use of some labor saving technology to reduce the labor demands per acre (e.g. chainsaw for felling trees). With increasing rural-urban migration over the last 25 years, labor scarcities in the rural areas have forced more and more women to assume tasks that are traditionally male; in addition, more and more farmers, even the smallest, have taken to hiring labor.

The introduction in recent years of swamp rice has meant that women involved in swamp rice production are engaged in harvesting first upland rice, cassava, then cocoa and coffee, and swamp rice continuously between October and January. Although the swamp rice harvest spans the months of December and January, these are slack times for women. Between the upland rice harvest in November to planting in April and May, the demand for women's labor for agriculture wanes, allowing them time to engage in other activities. In light of the availability of women's time during the dry season and the nutritional and financial benefits of vegetable production, NCRDP has stated plans to promote women's dry season gardens. At present, NCRDP has taken few if any actions and women seem to favor growing their vegetables inter-cropped with their upland rice fields during the rainy season. Rainy season production requires lower labor inputs since watering is unnecessary, and attention to rice and vegetables can be combined. Rather than farming, many women prefer to engage in marketing activities during the dry season when roads are passable.

Jeanette Carter (1982) and Theodore Jenne (1982) argue that labor is the primary constraint to increasing food and cash crop production in most of Liberia. Nimba County, however, has the greatest density of population outside of the Monrovia area. This is explained by the pull of LAMCO in Yekepa, that used to employ as many as 5,000 workers. Thus, there is a question whether Nimba County has the same labor constraints as other areas. None of the interviews conducted revealed a labor shortage. Farmers sometimes relied on the kuu system for activities which were labor intensive; however, kuus do not significantly reduce labor demands since the obligation is reciprocal. At periods of peak labor demand, as many as 70 percent of farm families in Nimba County rely on hired labor for at least one operation on one of their crops (Westphal, 1987). Students are often hired to work for a few days at a time during peak labor periods (for brushing and clearing rice and cocoa and coffee fields and harvesting rice). Migrant laborers from Guinea are also commonly hired. During certain seasons, however, NCRDP reports that the demand exceeds the supply.

3. The Demands of Women's Domestic Responsibilities

The combination of women's productive and reproductive responsibilities in the rural areas are said to be so great that farms are unviable without more than one wife. According to Carter's 1982 study, rural women prefer polygamy because of their need for extra household labor. Interviews, however, suggested that attitudes toward polygamy are changing, and that there is dwindling acceptance of it (though perhaps more so in urban areas). Statistics reveal that 30 percent of married women in urban areas are polygamous, while the figure is over 40 percent for women in rural areas.

Women's most time consuming domestic activity -- and one they share with other wives -- is the preparation of daily meals. Pounding and fanning rice takes approximately one hour and a half, two or three times per week. Cooking takes almost two hours for lunch and one hour and a half for the second meal every day. Rice mills have been introduced fairly successfully. Nevertheless, cooking remains a very time consuming task, and one in which women rely on the help of other wives and daughters.

B. Limited Access to Improved Inputs

Nimba County smallholders, for the most part, do not use inorganic fertilizer or pesticides. Although President Doe within the last several years instated a "Green Revolution Policy," promoting the use of improved seeds and modern farm inputs, the government has not had sufficient funds, including foreign exchange, to implement this policy effectively. Moreover, the government has mostly supported large cooperative farms; these projects have suffered as a result of mismanagement, poor planning, and untimely delivery of inputs. In Nimba County, fertilizer and chemicals are both costly and their availability undependable. Thus, NCRDP has concentrated on increasing productivity through improved agricultural practices and using the resources to which farmers have easy access.

Agricultural production in Nimba County is labor intensive. Farmers rely on their family, on kuus, and on hired labor to increase production. The significant out-migration of males, however, generally means that male labor is more scarce than female labor; thus women have less access to male labor than men have to female labor. Women can and do hire labor for their fields; there do not seem to be any barriers to women hiring labor beyond being able to afford it.

C. Limited Access to Credit

PfP/Liberia is the major source of credit in Nimba County. This NGO disburses credit to farmers both individually and collectively through AWGs and FDAs. Individual loans tend to be given to larger farmers (both male and female), while the larger number of small farmers more often obtain group loans through their membership in an AWG. Most AWGs are made up of mix of males and females, with women being in the minority. Women farmers are more apt to obtain a loan for their own use if a member of an W-AWG (all women). So far, W-AWGs are few in number and have received few loans, most of which have been for swamp rice production. Thus, the majority of women farmers appear to have limited access to institutional credit. Rather they rely on informal savings and loan societies, susus, to meet their financial needs.

GTZ's survey of smallholders revealed that susu money is primarily used for consumption purposes, that is for food, school fees, medicine, and clothing. The most important use of borrowed money is for purchasing rice during the hungry season; the second most frequent use is for hiring labor, and the third is for medical treatment.

D. Limited Access to Extension Services

NCRDP supports the Ministry of Agriculture in providing extension services to AWGs. While some extension services have been effective by making available higher yielding seeds and knowledge on plant spacing, soil fertility, and maintenance methods, most extension efforts have been sporadic and often advice has been contradictory. Most of this advice, both bad and good, is targeted to men. There are no female extension agents. According to some reports, the promotion of swamp rice production by NCRDP and the Ministry has been targeted to men, despite the recognition that it is largely a woman's activity.

E. Constraints to Marketing

Marketing is the most often cited constraint of commercial growers, smallholder, and marketers in Nimba County. Farmers and marketers alike have limited access to markets due to inadequate roads that can become impassable during the rainy season. Moreover, government road blocks can delay trucks for hours unless attractive bribes are offered. During the dry season, when roads are easiest to maneuver, transport costs are high due to the high demand for trucks in relation to the supply. Truckers know that after harvest when supplies of produce exceed local demand that marketers are dependent on selling their surpluses to the Monrovia market, or they will rot. Thus

truckers are able to charge very high prices for transport. During the rainy season transport costs are even higher since roads can disappear into impassable mud, and trucks can get stuck for hours or days. The most difficult roads to negotiate during the rainy season are those off the main road to Monrovia, connecting internal villages and market towns. The road to Monrovia to Yekepa is paved three-quarters of the way; the section that is not paved is time-consuming to maneuver and hard on perishable loads.

Part of the *raison d'être* of FDAs and CMAs has been to promote collective marketing and thereby circumvent existing middlemen. PfP/Liberia is providing trucks to market women to allow them greater control over their marketing activities. They will have access to pick-ups, on a credit basis for transporting produce from the farmgate to market towns, and larger trucks for transporting produce from the market towns of Nimba County to Monrovia. This access to transport should allow women marketers to expand their activities. Access to the Monrovia market at a reasonable cost may spur production of vegetables by expanding the market and providing increased incomes to women.

However, the lack of cold storage in Nimba County markets is also a constraint to expanded marketing. Without storage or refrigeration, produce rots quickly both before and in transport. The Ministry of Agriculture estimates that only 30 to 40 percent of the horticulture produced is actually sold, as a result of post-harvest losses.

III. Women's Incentives for Expanding Agricultural Production and Marketing Activities

A. Women's and Men's Income and Expenditures

According to GTZ's survey of smallholders, income from agriculturally-related activities makes up, on the average, 50 percent of total household income; and women consistently earned more income from "agriculturally-related activities" than men. "Subsistence income" (generated largely by women) ranges from between 20 to 40 percent of total household income. Together, these findings highlight the importance of women's income to the household and especially income earned from vegetable marketing, women's major source of "agriculturally-related income." Other sources of income for women include processing palm oil, cassava, and groundnuts, selling prepared food, manufacturing of handicrafts, and soap production. Men's income is derived primarily from cash crop production and wage labor jobs. The most common wage labor employment in Nimba County is for

agriculture, followed by businessman or shopkeeper, palmwine tapper, diamond digger, and craftsman.

Although women and men pursue different activities to earn income, expenditures are not strictly divided by gender. For the most part, women pay for daily necessities like food and household articles, and men for house construction and more irregular expenses such as food during the "hungry season." School fees can be shared or paid by husband or wife. Interviews with key informants suggested that men often do not reveal their income to their wives. Women, on the other, hand claimed in interviews that it was their duty to show their husbands their earnings. Key informants (who were male) attested that women more than men pay for food, school fees, and medical expenses.

B. Income Control

Existing data suggest that husbands and wives, to some extent, pool income for household expenditures; and yet most reports claimed that women control the income they earned. Jeanette Carter (1982) states that the women entrepreneurs she interviewed for her book on women in Liberia can be typified as:

"approximately 40 years or older. Those without education or wage employment (the majority), have been mostly unmarried, either divorced or widowed. Those who are wage earners may be married but are receiving a salary over which they have considerable, if not exclusive control. All of the women described have control over their own labor or have access to the labor of children."

Nevertheless, women who are part of a male-headed household are under pressure to produce food and generate income for their family. They are often so busy with subsistence-oriented rice production that they have little time or access to labor or cash with which to undertake a business enterprise. Rather their only income-generating activity consists of selling vegetables at the weekly market. In addition, men's tendency in some households to conceal their income in essence forces women to spend a large proportion of their income on supporting the family.

While women may be unfairly burdened with family responsibilities, they are also quick to respond to incentives to earn cash. Unlike men who have greater access to wage employment and are less attracted to entrepreneurship than women, the majority of illiterate women are forced to find creative ways to earn income in an environment of many constraints.

Women from wealthier households appear to contribute, with their husbands, money to support the family. Although they too claim to reveal their earnings to their husbands, they have very

separate sources of income, which include their own businesses and their own farms. These women engage in a diversity of businesses, parlaying their profits into an even larger and more diversified portfolio of investments. Although these women are largely illiterate, they are clearly skilled entrepreneurs.

C. Opportunity Costs

In other areas of Liberia and West Africa, women grow vegetables in swamp rice fields during the dry season. The availability of water lowers the labor demands of this type of gardening. Evidence suggests, however, that in Nimba County women prefer to grow their vegetables during the rainy season and devote their energies to marketing during the dry season. Their keen interest in marketing is understandable when seen in light of their options for earning income -- which are very few, especially for women consumed with subsistence farming. For these women, marketing is their only source of income given their time and capital constraints.

Smallholders lack of interest in dry season gardening may also relate to the other agricultural activities they are responsible for at this time. Many are busy with cassava and with the coffee and cocoa harvest. If they produce swamp rice, they are also involved in harvesting it during December and January. However, the high transaction costs associated with marketing vegetables, the high rate of post-harvest loss, and resultant low producer prices are most likely responsible for depressing vegetable production. If marketing constraints were mitigated as they will be with the new supply of trucks recently purchased by PFP, there may be improved incentives for vegetable production. Nevertheless, the lack of extension advice for horticulture and the difficulty of obtaining inputs on a timely basis would still constrain production.

IV. Opportunities for Export Activities in Nimba County

A. Chili Peppers

Chili peppers may be a potential commodity for export. They are grown in abundance in Nimba County, are considered good quality, and have potential for processing. If dried or processed in some other way the difficulty of timely transport would not be such a binding constraint.

B. Fruit

Nimba County as well as many of the surrounding counties grow an abundance of fruit: oranges, bananas, papayas, pineapples, plantain, limes, grapefruits, etc. According to the Ministry of Agriculture, citrus has much potential for export and is produced by over 22 percent of agricultural households in Liberia. In Nimba County, twenty-three percent of agricultural households produce citrus, 23.2 percent grow bananas, and 24.5 percent grow plantain. Although oranges are particularly plentiful, their size and color are uneven -- not of export quality. They are sold mostly as juice oranges.

C. Organization of Market Women

Nimba County has the advantage of an effectively organized market women's association which receives assistance from PFP/Liberia. With access to the vehicles PFP has purchased at least partly for their use, market women will be able to play an even more significant role in the food distribution system, including more extensive marketing to Monrovia. Their knowledge of farmers, roads, and markets could be very useful to an exporting scheme. Rather than picking up produce from numerous smallholders, an exporter could rely on market women to transport produce to collection points.

D. Potentials for Increasing Horticultural Production

Evidence suggests that there is potential for increased horticultural production in Nimba County. Women already place a great deal of importance on producing and marketing their vegetables; thus if improved incentives were offered, surely they would respond accordingly. While labor constraints are significant within the County, there is the possibility of hiring migrant laborers from Guinea or Sierra Leone. Women have also proven their willingness to adopt innovations as long as they do not conflict with their upland rice production. Thus, women would most likely be willing to learn more modern techniques with the proper extension advice.

There are nonetheless critical constraints to a horticultural export scheme. These include the current lack of organization of the horticultural sector, inadequate roads, the lack of storage facilities, the transaction costs associated with government road blocks, and the difficulty of obtaining inputs on a timely basis.

V. Strategies for Increasing Women's Participation in and Contributions to Commercial Agriculture in Nimba County

If the decision is made that an export activity with women producers and marketers is not yet possible, but may be in the longer-term, efforts might be initiated now to improve their ability to participate in and contribute to a future export scheme. The following represent recommendations for strengthening women's role in commercial agriculture.

- o strengthen present and promote further formation of W-AWGs.

Within the majority of AWGs which are assisted by NCRDP and Pfp, women do not have decision making power. NCRDP and Pfp have noted that W-AWGs are a more effective organization through which to assist women farmers. At present, there are only five W-AWGs. Promoting women's participation and contribution to commercial agriculture should entail the strengthening and expansion of W-AWGs.

- o target extension services to women farmers.

There are no female agricultural agents in Nimba County. Evidence suggests that extension services and those of NCRDP, which support the government's extension services, do not adequately target women. A female researcher associated with NCRDP researched the impact of NCRDP on women and found that the number of women that benefitted from the project were far less than men, and that any benefit that was felt was as a result of services targeted to men, but with some, though insufficient, spillover effect. Given the significant role women play in agriculture, extension agents should target women's needs and their crops.

- o provide credit to W-AWGs.

Pfp has made special efforts to address the needs of market women, providing credit for vehicles, improved market stalls, and individual entrepreneurs. Pfp has also made credit available to AWGs; however, W-AWGs have received few loans. This is a clientele that may need special attention.

- o support women's horticultural production.

In their survey of smallholders in Nimba County, NCRDP noted the importance of horticulture as both a source of nutrition for the family and a source of income for women. But while NCRDP, in 1987, proposed efforts to promote women's vegetable gardens, no action has been taken. This needs to be done. The high degree of unmet domestic demand as well as the possibility of export suggest the wisdom of investing in horticulture.

- o strengthen the input delivery system.

A constraint to improved production of horticulture in Nimba County is the unavailability of inputs when they are needed. Efforts are needed to improve the timeliness of the input delivery system.

- o help strengthen Liberian Market Women Associations through PfP.

PfP has applied for further monies to support market women in Nimba County; they have not received the necessary funds. Market women need training in literacy, numeracy, and accounting. They need office space and staff; the lack of funds for staff and office operations hampers the effectiveness of the associations.

Any new activities that are undertaken in Nimba County should be coordinated with those of NCRDP and PfP/Liberia.

VI. Opportunities for Export Activities Outside of Nimba County

Beyond Nimba County, in the vicinity of Monrovia, there are opportunities for horticultural exports. There are several dozen commercial farmers using modern farming techniques and growing exportable produce. Furthermore, farms located in Monrovia within relatively easy access of the airport. There are many more paved roads in Montserrado County, in which Monrovia is located.

Commercial horticultural growers in Montserrado County include a sizeable Taiwanese estate, and perhaps twenty other farms of different sizes. A number of these farms are owned by educated Liberian businessmen, with plans for exporting. Their motivation for this investment is a need for foreign exchange. There is such a scarcity of foreign exchange in the country, that businessmen feel there only chance for educating their children (abroad) or building their other businesses, and thus affording inputs, is to export.

A Columbia University educated banker and his wife, an educated biologist, have been developing a flower and tropical plant enterprise in the surrounding area of Monrovia. They have purchased land, installed sprinkler systems powered by solar energy, and researched the possibilities of exporting to Amsterdam. They have contacts in the Ivory Coast, with whom they could collaborate and who are currently exporting to Europe. There are other examples of creative entrepreneurship in the Monrovia area which could provide a basis for export activity. Moreover, the air transport capacity from Monrovia to Europe and

to other African countries is very good; there are at least four airlines that travel regularly between Monrovia and Europe, and as many that fly within the region. While the potential participants in the Monrovia area are not of the same socio-economic status nor of the same number as smallholders in Nimba County, they may represent a realistic starting point for an export venture that could eventually incorporate smallholders.

The most critical constraint, however, to any export venture is the business climate. President Doe's current policies regarding expatriate businesses are untenable (see Brautigam's report for details). According to local businessmen, if President Doe implements these policies, exporting profitably will be impossible. However, they also add that while Liberia has many regulations, most of them are not enforced. Thus the business community is waiting to see if Doe will rescind on his first proclamations; the likelihood is that he will. He too is desperate for foreign exchange. According to reports from other potential American investors, this gives businessmen substantial leverage with which to bargain for an attractive arrangement.

APPENDIX A: PEOPLE INTERVIEWED

GOVERNMENT ORGANIZATIONS

James W. Mehn, Deputy Minister of Planning, Ministry of Agriculture

USAID/MONROVIA

Maria Beebe, PVO/NGO Officer, USAID

James Beebe, ADO, USAID

John Hicks, Mission Director, USAID

Robert Bouncy, USAID

MacArthur Pay-Bayee, Agricultural Economist, USAID

NON-GOVERNMENTAL ORGANIZATIONS

Alfred Kulah, General Manager of PFP/L

Mohamed Waritay, Extension Coordinator, PFP/L

Martha Saye, General Superintendent of Nimba County Market Women Association

Mary Biddle, Adviser to General Superintendent of Saclepea Market Women Association

Zayglay's W-AWG, Nimba County (group interview)

Brother Joseph, St. Mary's Agricultural Training Institute

Richard Slaccum, Project Development, VITA Venture Services, Volunteers in Technical Assistance (VITA)

Jan Auman, Country Director, Peace Corps

Stephanie Campbell, Desk Officer, Peace Corps

DONOR ORGANIZATIONS

Basil Longy, Marketing Specialist, FAO/Monrovia

PRIVATE ENTERPRISES

Katouri Cooper, owner of flower shop.

**James Cooper, General Manager, The Liberian Bank for Development
and Investment**

APPENDIX B: DOCUMENTS REVIEWED

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