

PN-ABU-908

JSN 94616

**LAND RIGHTS AND INTRA-HOUSEHOLD EMPLOYMENT AND
RESOURCE USE IN THE PERI-URBAN AREA
OF BANJUL, THE GAMBIA**

by

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March 1994

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CHAPTER 1

INTRODUCTION AND RESEARCH METHODOLOGY

I. Introduction

The peri-urban areas of Banjul and Serekunda in The Gambia share many of the characteristics common to Africa's metropolitan regions. Urban farming and horticulture by commercial units and smallholders are providing important sources of growth in agricultural output and exports. Informal trade, particularly of vegetables, fruits and sundries, is flourishing. Customary mechanisms of land allocation by the *alkalos* in villages are giving way to a robust market of land rentals, purchases and sales, mainly of residential property, in rural and urban areas. The physical urban frontier is expanding rapidly, and through the land market, is rapidly transforming agricultural lands into sprawling compounds, and villages into suburbs.¹ High rents and land scarcity in Banjul and Serekunda are driving urbanites to seek land in more remote peri-urban villages, while migrants from up-river and abroad, especially young males, are seeking land in the peri-urban area for housing, wage employment, and business opportunities, or to escape hardships elsewhere. Rural areas at the peri-urban periphery are being rapidly integrated into the urban marketplace, while the cities are being "ruralized" by those uprooted by drought, war (the Casamance, Liberia, and Mauritania), and the rural economic decline.

With a large tourist industry, a deep water seaport, and the Gambia river stretching through the heart of Senegal, The Gambia would seemingly hold considerable advantages in capturing value-added revenue from trade and services. Yet, if such advantages exist, they are not reflected in aggregate comparisons of production and income between it and its African neighbors. Its population of 875 thousand earned only \$260/capita GNP in 1990 compared with \$340/capita for Sub-Saharan Africa as a whole (World Bank 1992, 218, 285). GNP/capita grew only 0.7 percent (0.2 percent for Sub-Saharan Africa) on average over the period 1965-90 (ibid.). Food production per capita declined at an average annual rate of -13.1 percent over the period 1975-80, but grew modestly (2.8 percent) over the period 1980-85 (World Bank 1989, 154).² Although food production has been outpacing that of Sub-Saharan Africa as a whole (-1.4 percent, 1975-80), its population continues to grow rapidly (3.2

1. Population growth of Banjul was 12.8 percent over the period 1973-83 and -4.0 percent over the period 1983-93. Serekunda's growth rate, as indicated for Kanifing, was 157.6 percent and 125.6 percent, respectively, over the same two periods, indicating an enormous rate of population expansion in the peri-urban areas (1993 Population Census).

2. The World Development Report (aside from basic indicators which are reported for all countries) publishes data only for countries with one or more million population. Recent data on food production, consumption and trade for The Gambia are not reported.

percent/annum) and 15.5 thousand metric tons (3-year average, 1986-88) of food aid imports were still recently required to maintain food security (ibid., 4, 154, 158). Groundnuts exports, once the mainstay of the rural cash economy, declined at an average annual rate of -15.2 percent over the period 1975-80, and -3.0 percent over the period of 1980-85. After a low of 12,787 metric tons exported in 1985, exports spiked to 22,950 tons in 1987, before reportedly plummeting again in recent years (ibid. 61).³ Despite major economic reforms taken by the Gambian government, gains in agricultural productivity have been slow in coming.

Recent government and donor policy has begun to emphasize export diversification, in particular fruit, vegetables and flowers, to enhance economic growth in the agricultural sector. Donor and private investment in irrigation perimeters ("schemes") has helped to expand smallholder horticultural opportunities. With their favorable access to urban and tourist markets, airport facilities for shipment to overseas markets, and access to agricultural inputs through the port, the peri-urban areas should be well positioned to take advantage of the income growth generated by "non-traditional" exports.

Although the expansion of horticultural production and marketing opportunities is very real, important questions remain unanswered about sustainable growth in the sector. Are institutional rigidities, characterized by highly inelastic supply of land, labor and capital constraining horticultural output and employment, or are these institutions satisfying other important needs and goals in the community, including equity and land security? Has the income growth been concentrated among a few households and companies or is it broad-based (both inter- and intra-household)? Has the growth been gender neutral or biased? Does the current administration of land by *alkalos*, or the lending of land to borrowers by founding families, confer inadequate long-term rights for land improving investment (tree crops)? Is the customary land tenure system constraining productivity, incomes, and capital investment? Are high transaction costs in the land market resulting in an unacceptably low rate of people moving into, or exiting agriculture, in response to changing economic conditions and land use? These and other questions provide the focus of this peri-urban land market study.

II. Peri-Urban Project

The peri-urban project, comprises the cooperative agreements of the Institute for Development Anthropology (IDA), the Land Tenure Center (LTC), and Ohio State University (OSU). A research program of five interrelated studies was implemented beginning in January 1993 to examine the operation of factor markets in the Banjul and Serekunda peri-urban areas, and to diagnose and evaluate potential factor-market constraints to agricultural output and employment, particularly in the horticultural sector. These studies include:

3. These official data do not take into account the cross-border trade in groundnuts with Senegal. In recent years, net exports to Senegal have been positive due to the over-valued CFA, and more favorable Senegalese groundnut prices.

- (A) a three village survey of inter- and intra-household production, employment, income, resource use, land transfers, land rights, and horticultural marketing (undertaken jointly by IDA and LTC);
- (B) a survey of commercial land transactions involving land purchasers and sellers (LTC);
- (C) a survey of vegetable traders and institutional consumers (hotels, restaurants) (IDA);
- (D) a financial market survey of informal savings and lending groups (*kafos*, *osusus*) (OSU); and
- (E) a case study of large horticultural export firms (IDA, OSU) and communal smallholder vegetable schemes (IDA).

These studies collectively take a multi-faceted look at the operation of factor markets underpinning production and trade in the horticultural sub-sector, and the vertical and horizontal integration of agents involved in the production and marketing of horticultural goods.

The household production survey (A), the results of which are reported in this study, is aimed at assessing inter- and intra-household issues of market access, and factor market constraints to investment in land improving technologies (trees, irrigation) and production. The survey is highly disaggregated by plot, gender, crop and livestock enterprise, and type of employment. Although the horticultural sector receives some special attention, the study is designed to permit a variety of highly disaggregated, multi-purpose analyses. The purpose of this chapter is to describe the research methodology employed in this study, including research hypotheses, survey design, and survey instruments, along with results of preliminary reconnaissance work.

III. Research Methodology

A. Scheduling

A preliminary reconnaissance trip in June 1992, and a planning trip in November 1992, provided researchers with the opportunity to meet government officials, carry out reconnaissance work in peri-urban villages, visit commercial farms, arrange local collaborators, budget costs, and obtain USAID mission funding (Little and Roth 1992). Upon the basis of these planning trips, studies (A,B,C,E) above were identified by IDA and LTC (OSU's design activity followed at a later date). After extensively visiting potential research sites for the household production survey, the decision was made to focus the field work in three sites and four villages--Sinchu Baliya, Sinchu Alhaji, Pirang, and Sanyang--on the basis of criteria identified shortly.

The organization and scheduling of field work required a careful balancing of two competing activities: (1) the vegetable season, January through April, required that the household production survey, trader and credit studies be implemented immediately to ensure that data collection corresponded as closely as possible to the time of horticultural production and marketing activities

(February-April); and (2) the heavy emphasis on field work and the limited number of enumerators and Gambian researchers available required that the work be staggered to minimize excessive demands on the limited personnel available. Sub-sector studies (C,D,E) by IDA and OSU were thus carried out January to April 1993. LTC took the lead on designing the household production survey (with assistance of IDA) in January and February, followed by survey implementation March through May 1993. The land market survey (B), not being dependent on the agricultural season was postponed until after the first set of studies neared completion; its research design was developed in February, the field instruments in May, followed by field implementation June to mid-August 1993.

B. Research Area

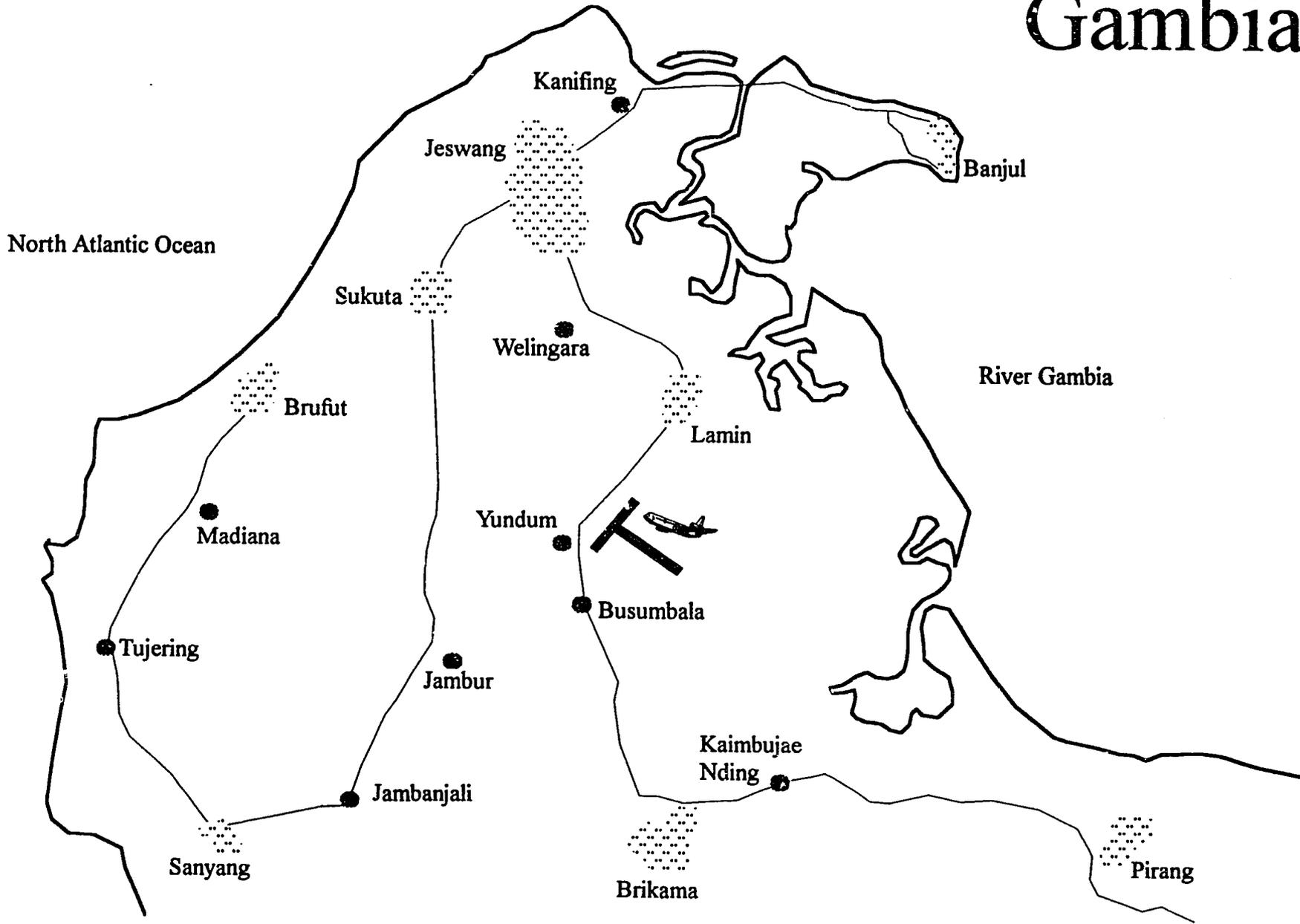
For purposes of the study, the peri-urban area of Banjul was defined as the northern- and western-most section of Western Division as far out as Pirang village in East Kombo District and Sanyang village in Kombo South District, excluding the urban areas of Banjul and Serekunda (Little and Roth 1992) (see figure 1.1). It comprises an area roughly triangular in shape extending from Cape Point (the northern most point and urban center) to Sanyang village in the southwest, and to Pirang village in the south east. The district capital, Brikama, lies about midway on the line between Sanyang and Pirang, and is roughly 26 kms by air from Cape Point. The line running from Cape Point south through Serekunda to Welingara marks an area of dense urban settlement and commerce. The village of Sinchu Baliya, at the border with Welingara (and Sinchu Alhaji several further kilometers onward), marks the beginning of a very dynamic band of rapid population settlement, sprawl of semi-finished cement foundations and newly finished compounds, and intense land competition between housing and farming. About 15 km of rural landscape then separates Sinchu from Sanyang (by air) and 18 kms separates Sinchu from Pirang.

C. Village Selection

Repeated reconnaissance visits over three separate missions were made to the survey villages, and others, before deciding upon final site selection. During each visit (June 1992, October/November 1992 and February/March 1993), villages throughout the peri-urban zone were visited, and interviews were held with women in garden schemes, land holders in fields, government officials in both regional and national offices, managers of large horticultural export firms, and the *alkalos* in each of the study villages. A listing was undertaken in February 1993 to determine the population of households in each survey village with preliminary questions on use of formal credit, possession of leasehold property, agricultural land use, and *kafo* membership. Random sampling techniques were then used to select 40 households in each village cluster for further study.

Interviews were held with the *alkalos* in each of the three villages (two *alkalos* for Sinchu, one for Sinchu Baliya, a second for Sinchu Alhaji) using a structured interview format to help obtain comparable information about settlement history, land tenure arrangements, economic livelihood and change, importance of horticulture, and the role of indigenous institutions (*osusus*, *kafos*, women's groups, and donor schemes) in the village (annex A). All three villages have access to garden plots, but each has different characteristics

Gambia



Map Produced By: ANNAGRAPHICS, Madison, WI, 1994.

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regarding its proximity to the urban fringe, transportation costs, rate of settlement, population density, and land availability (see table 1.1). The selection of villages crudely represents a continuum spanning different degrees of market access and land scarcity. At one end is Sanyang with relatively low resident/land ratios, few land ownership conflicts, and far proximity from urban markets. At the opposite end is Sinchu (Baliya and Alhaji) with relatively high resident/land ratios, rapid population settlement, and close proximity to urban markets.

D. Research Setting⁴

Sinchu Alhaji was settled 28 years ago, Sinchu Baliya 60 years ago, Sanyang 75 years ago, and Pirang in even older times. In each instance, the village was founded by one individual or family in an area of forest or dense brush, followed shortly by a number of other migrant families. These "founding families" continue to maintain long-term ownership claims to the land in all village sites. Later arrivals borrowed land from the *alkalos* or the founding families.

The two Sinchu villages lie at the outskirts of Serekunda. Sanyang and Pirang are of nearly equal distance from Serekunda, but a paved road connects Pirang, and a laterite road connects Sanyang. Newcomers from Banjul and Serekunda, from up-river and abroad, are contacting the *alkalos* in all villages seeking land, very heavily so in Sinchu, and less so in Pirang. Land may be allocated by the *alkalo* or "founding" families, but the *alkalo's* consent must be obtained for any transaction, and his involvement is required in any dispute. A tribute of "kola nuts" is offered to the "owners" of the land, largely as a symbolic gesture, but cash rents have recently emerged in Sinchu and Pirang. Agricultural lands are normally not leased, rented, bought, or sold to any significant extent in any site. Borrowed land must be returned at the season's end, although some families have borrowed the same piece of land for decades. Residential property or land for compound is bought and sold in Sinchu, less so in Pirang, and not at all in Sanyang. However, only the improvements on land are transferred through sale according to the *alkalos*, not the land itself.

A continuous stream of migrants from up river, from Banjul and Serekunda, and from abroad have increased demand for land, particularly in areas closest to the city (i.e. Sinchu). Land in Sinchu is now extremely scarce, and both *alkalos* have been forced to reclaim land from other households to make land available for maturing children in the village, and to newcomers.

Since the droughts of the 1970s and 1980s, and the decline of the groundnut industry, families have placed increasing emphasis on vegetable production. Vegetables (compared with cereals or livestock) are very labor intensive, labor absorbing, and profitable. Stranger farming has since steeply declined due to lack of rain, the decline of the groundnut industry, low farm

4. This section is based on structured interviews with the *alkalos* in Sinchu Alhaji, Sinchu Baliya, Pirang and Sanyang (annex A), and reconnaissance interviews with farmers and officials throughout the research area.

Table 1.1:

Survey Design, Household Production Survey

| | Sinchu | Pirang | Sanyang |
|--|--------|--------|---------|
| No. compounds in village (from listing) | 260 | 123 | 417 |
| No. households in village (from listing) | 267 | 169 | 443 |
| No. households surveyed | 40 | 40 | 40 |
| Characteristics: | | | |
| Access by paved road to Yundum airport | H | H | L |
| Distance or time to Yundum airport | H | M | L |
| Proximity to urban fringe | H | L | L |
| Rate of settlement by urban migrants | H | L | M |
| Land scarcity | H | M | L |
| Increasing prices for residential land | H | M | L |

H=high, M=moderate, L=low

incomes, and the spread of animal traction. Although stranger farming is disappearing, new labor arrangements are taking their place. Casual workers, mainly from up-river and the Casamance are seeking employment for building fencing, digging wells, gardening, and work on commercial farms. Women are primarily responsible for growing and marketing the vegetables. They report labor constraints in water lifting, cultivation and harvesting, but lack of capital for irrigation wells and fencing appears to be the main factor⁵ constraining private expansion of garden schemes in the peri-urban area. Expanding the size of village schemes would require additional land which is held by men, and capital for irrigation which is scarce.

E. Political Structures

The *kabilo* is a ward or sub-division within the village. The core of the *kabilo* is a patrilineal kin group but it often accommodates temporary residents

5. Donor countries and NGO organizations have established village gardens or "schemes" in many villages in the peri-urban area. The nature and performance of these schemes vary widely. The *alkalo* or founding families generally provide the land, usually 1-8 ha. The donors and NGOs provide fencing, wells, irrigation infrastructure, and land improvements, along with some technical and financial assistance, at least initially. Women generally produce and market the vegetables, both on traditional low lying areas, and on the schemes. Large vegetable schemes developed by the EEC lie at the outskirts of Pirang and Sanyang, but not Sinchu. A number of small vegetable schemes developed by NGOs are scattered in the vicinity of Sinchu, but at some distance from the village.

and permanent compounds not related to the patrilineage. The ward of the founding patrilineage has a central position of authority and prestige in the village. The *alkalo*, the most important person in the village, is generally the oldest male member of the oldest patrilineage. He has an assistant headman, either his next youngest brother or, in the absence of brothers, his eldest son, who will be expected to succeed him. The extent to which the succession follows this pattern depends on the personality and strength of the heir apparent and the security of this power base. A weak heir apparent may encourage other candidates from his *kabilo*, or even from another *kabilo*, to contest the position. This event will give rise to an election, the result of which will lead to the appointment of a successor. The various *kabilos* result from the settlement of different founding families within the same village. Their "high" social status within the community confers upon them considerable decision making authority in community affairs, land settlement and allocation.

F. Research Questions/Hypotheses

The survey is designed to provide a broad yet detailed picture of the household production economy in the three villages. Detailed quantitative and qualitative information is collected on household demography, migration patterns, resources, asset accumulation, land holdings, land acquisition and disposition histories, land rights, land and labor use, tradable input use, credit, cost of production, remittances, farm and non-farm income, and employment. Disaggregation of data at the plot and gender levels is designed to facilitate an intra-household analysis of resource access, income and constraints. Beyond the information provided by the study, the research is tailored to test the following null hypotheses (H):

- H1:** Repossession of land by the *alkalos* is resulting in tenure insecurity; such claims have been frequent and in some cases have represented significant welfare losses for the families concerned.
- H2:** The "founding" families, without sufficient capital, lack the means to cultivate or invest in their entire land holdings. "Borrowing" families having only seasonal use rights on the land of "founding" families, lack incentives to invest in long-term land improvements.
- H3:** Because tree planting establishes an individual's long-term ownership rights in the land, husbands are reluctant to let wives, and "founding" families are reluctant to let borrowing families, invest in tree crop technology.
- H4:** The current system of customary tenure, whereby both household head and plot managers claim individual use rights to the same plot, creates tenure insecurity through uncertain definition and enforcement of rights.
- H5:** The land patronage system, whereby the *alkalos* and "founding" families "loan" fields to tenants is beginning to break down under urban influences, rising land value, and a declining land-labor ratio.
- H6:** Real estate collateral is the backbone of mortgage-based lending and long-term corporate financing in developed capital markets. The

customary system, where land rights are divorced from investments on the land and land transfers entail high transaction costs, decreases the collateral value of the land asset and serves as a constraint to long-term credit expansion.

- H7: Land in donor schemes, being constrained by availability of capital for irrigation and fencing, and provided by "founding" families, is foremost allocated to the women of "founding" families in the villages. Other women benefit through employment as hired laborers or traders.
- H8: Founding families are able to mobilize higher levels of hired labor, as reciprocal labor is demanded in exchange for the right to borrow land.
- H9: Plot specific factors (land rights, parcel quality) are more important than household specific factors (age, sex, education, access to non-farm income for capital) in explaining productivity and investment in land improving technology.
- H10: Vegetable cultivation is leading to a substitution of family farm labor for non-farm work in the dry season as the opportunity cost of female labor in vegetable production increases, and to higher demand for seasonal labor in the wet season for fencing and irrigation activities.
- H11: Poverty is partly caused by land market failures that prevent the land price from reflecting its "true" economic value, that hinder individuals from acquiring land to expand the size of farm or place of business, or that discourage less productive farmers from willingly selling land and moving into other lines of employment or retirement.

These hypotheses are indicative and served as useful research questions to guide the research design. However, they are by no means exhaustive. As they were set before actual survey implementation, certain questions were made irrelevant by lack of sufficient observations for statistical analysis. And, as analysis proceeded, new hypotheses were raised that are covered in the course of this study.

G. Questionnaires

The study is comprised of two components: structured interviews with the *alkalos* in each of the study villages to develop village-level case histories of settlement patterns, land allocation and transfers, employment, vegetable production and marketing, and local institutions (annex A); and a statistical survey comprised of five separate questionnaires administered to selected members of each household in the sample (see Roth et al. 1993 for the actual questionnaires): (1) household head questionnaire, (2) economic adult questionnaire, (3) plot characteristics questionnaire, (4) plot manager questionnaire, and (5) vegetable production questionnaire.

- (1) **Household head questionnaire.** A one-round questionnaire administered to each household head or designate, with as many household adults present as possible. As a first round it is designed to precede all other sections, including (2) to (5). The themes covered include household-level productive assets, household demographic profile,

parcel and farm plot inventory, family settlement history, household head's perception of specific land rights on the private plots of household members, acquisition and disposal histories of plots alienated by household members, and general questions on the family's perceptions of tenure security and land scarcity in the village.

- (2) **Economic adult questionnaire.** A one-round questionnaire administered to each adult in the household who has either received remittances, is involved in wage and non-farm employment, has used credit or made withdrawals from local savings groups (*osusus*), or has been involved in one or more land disputes. The questionnaire follows round (1) but can be undertaken simultaneously with any of rounds (2) to (5). Information is elicited on remittances, wage and non-farm employment, non-farm income, credit use, credit sources, and land disputes.
- (3) **Plot follow-up (plots in and out) questionnaire.** For each household member having a plot of land rented-in, borrowed, purchased, received as a gift, claimed spontaneously, rented-out, given, loaned, or otherwise temporarily given to another, a one-round questionnaire is administered to that adult. The questionnaire follows round (1) but can be undertaken simultaneously with any of rounds (2) to (5). The themes covered include (for each plot) land quality, parcel acquisition history, fruit tree sales, terms and conditions of land rentals or sharecropping, plot-level investments in land improvements, and plot size measurements.
- (4) **Plot manager questionnaire.** For each household member farming a plot (excluding plots rented-out, given-out, or pledged), detailed information is elicited (for each plot) on perceived land rights of the manager, input use and expenditures, input prices, production value (aside from tree crops), land use and management practices, and labor utilization. The questionnaire follows round (1) but can be undertaken simultaneously with any of rounds (2) to (5).
- (5) **Vegetable production questionnaire.** Vegetable harvesting occurs nearly continuously from February through April. Because of continuous harvesting, the dearth of information on vegetable marketing, and the study's focus on the horticultural sector, this round was designed to elicit detailed information on amounts harvested, sales, and choice of market for up to 10 vegetables. The questionnaire follows round (1), but is administered repeatedly as needed (usually 2-3 visits) during the harvesting period.

This set of questionnaires was designed with three objectives in mind: (a) the need to group questions by theme or topic to facilitate recall and "flow" of the interview(s); (b) the need to address questions to those household members most knowledgeable about a specific activity; and (c) the need to keep the length of each round to 1.5 hours or less in length to minimize respondent fatigue and data errors. For example, with regard to (a), questions on household demographics and family settlement history can be asked to the household head with a fairly high degree of reliability. However, questions related to remittances, non-farm income, plot management, and land rights are best addressed directly to the individual male and female household members concerned.

A draft questionnaire was developed in the US based on information gained during earlier reconnaissance visits, but underwent at least 10 major revisions and field testing in all three sites before implementation. Ten of the best enumerators with previous experience on a University of Wisconsin project involving agricultural surveys were chosen for the study. A three-day training session (18 to 20 February 1993) provided researchers an opportunity to explain the research design and survey instruments, while providing enumerators the opportunity to provide valuable comments and suggestions. Enumerators, 3-4 in each village, were assigned on the basis of experience and language skills. One experienced chief enumerator was made responsible for overall coordination and management.

While the questionnaire was written in English, interviews were held in either Mandinka or Wolof depending on the first language of the respondent. The enumerators were either fluent in both languages, or were assigned to households on the basis of first language spoken. Field testing took place the week of 1-5 March 1993, and after final revisions, the survey was implemented over the period 8 March to 30 April 1993. Data entry forms were designed in Paradox, and data entry was carried out in The Gambia, after approximately one week designing the data entry routines, and another week spent on providing training in Paradox. Actual data entry began the last week of March and continued throughout the month of May 1993 in The Gambia. However, due to data errors detected in initial statistical runs and spot checks, researchers were forced to reenter the data in Madison during July 1993.

IV. Overview of Report

Attention is given in chapter 2 to the socio-economic profile of households in the three survey villages and by founding family status. Information is provided on demography, settlement history, productive assets, farm structure, land access, labor utilization, and credit transactions. Chapter 3 focuses on non-farm sources of employment and labor activity including wage- and self-employment, non-farm sources of income, and remittances. An analysis is also made of farm and non-farm income across the various strata of households with special emphasis given to the significance of income from horticultural activities within the overall structure of household earnings. Chapter 4 covers land rights and transfers including land quality characteristics, modes of plot acquisition, modes of land alienation, land rights perceptions by the household head and plot managers, and land conflicts. Finally, in chapter 5, detailed information is presented on land use, land improvements, fruit tree investment, and income and expenditure from agricultural operations.

CHAPTER 2

HOUSEHOLD SOCIO-ECONOMIC PROFILE

I. Introduction

The nature of land rights and operation of land markets are influenced by, and inter-connected with, the broader political and economic context of settlement history, urbanization and land scarcity in the peri-urban area. This chapter provides a preliminary overview of the political and household economy in the study sites to set the stage for the land market analysis in subsequent chapters. Specifically, data are presented and analyzed on household population characteristics, wealth, migration and settlement, farm structure, land access, and principal plot use for the three study villages and by founding family status. The data clearly depict a continuum of rising land scarcity and disputes with urbanization. In general, rural households and founding families tend to be better educated, have higher foreign language skills, have larger family sizes, and larger land endowments than households in the immediate peri-urban area. Areas at the urban fringe are experiencing rapid settlement, and households are experiencing considerable tenure insecurity stemming from land holding groups reclaiming land for gift or sale to newcomers.

II. Household Demographic Profile

Family size according to the data in table 2.1 appears to be negatively associated with urbanization and positively associated with social status in the community. The mean number of family members declines from 11.7 persons in Sanyang (the most rural of the three villages) to 8.8 persons in Sinchu (the most urban). Social status, measured by whether a household belongs to one of the original founding families of the area, also appears to be influencing family size (11.6 persons versus 9.7 persons for non-founding families). The younger age of households in Sinchu is an important contributing factor for the smaller family size. While the distribution of the male population is nearly equal among villages, the female population in Sinchu tends to be much younger than their rural counterparts (69.3% females < 25 years vs 62.2% in Pirang and 60.9% in Sanyang).

Theoretically, a male bias in migration to urban areas or in pursuit of non-farm employment would tend to polarize the age-sex profile of the household's population distribution. On average, 34.2% of households in the survey had one or more family members absent. Absentee rates were highest in Pirang (62.5%) and lowest in Sinchu (12.5%), while founding families had a higher rate of absenteeism than non-founding families (41.7% vs 31.0%). Pirang has the highest percentage of males (16.6%) and females (8.8%) residing outside the household at the time of the survey while Sinchu has the smallest

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Table 2.1:
Age and Sex Composition⁶

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|--------------------------------------|--------|--------|---------|--------------------|----------------------------|-------------------|
| No. households in sample | 40 | 40 | 40 | 36 | 84 | 120 |
| No. males in sample | 164 | 205 | 251 | 209 | 411 | 620 |
| No. females in sample | 189 | 204 | 216 | 207 | 402 | 609 |
| Founding family (% yes) | 7.5 | 37.5 | 45.0 | 100.0 | - | 30.0 |
| Sex of household head (% male) | 97.6 | 85.0 | 92.5 | 86.1 | 94.1 | 91.7 |
| Mean family size (no. persons): | 8.82 | 10.23 | 11.68 | 11.56 | 9.68 | 10.24 |
| Mean number of males (persons/hh) | 4.10 | 5.13 | 6.28 | 5.81 | 4.89 | 5.17 |
| Percent males by age category (%): | | | | | | |
| 0-15 years | 44.9 | 47.7 | 49.0 | 48.3 | 47.1 | 47.6 |
| 16-25 years | 18.9 | 15.2 | 15.1 | 15.8 | 16.3 | 16.1 |
| 26-35 years | 15.3 | 16.1 | 11.6 | 13.4 | 14.3 | 14.1 |
| 36-45 years | 9.2 | 6.8 | 10.0 | 9.1 | 8.6 | 8.7 |
| 46-55 years | 6.8 | 6.8 | 5.2 | 5.3 | 6.5 | 6.2 |
| 55+ years | 4.9 | 7.4 | 9.1 | 8.1 | 7.1 | 7.4 |
| Mean number of females (persons/hh) | 4.72 | 5.10 | 5.40 | 5.75 | 4.79 | 5.08 |
| Percent females by age category (%): | | | | | | |
| 0-15 years | 48.6 | 44.0 | 46.1 | 42.4 | 48.3 | 46.4 |
| 16-25 years | 20.7 | 18.2 | 14.8 | 15.0 | 19.2 | 17.8 |
| 26-35 years | 14.8 | 17.6 | 17.2 | 18.4 | 15.7 | 16.6 |
| 36-45 years | 7.4 | 5.9 | 9.8 | 9.2 | 6.9 | 7.7 |
| 46-55 years | 5.3 | 7.8 | 7.9 | 7.7 | 6.7 | 7.1 |
| 55+ years | 3.2 | 6.5 | 4.2 | 7.3 | 3.1 | 4.5 |
| Households with members absent (%) | 12.5 | 62.5 | 27.5 | 41.7 | 31.0 | 34.2 |
| Residents absent (% yes): | | | | | | |
| Males | 3.0 | 16.6 | 8.0 | 10.5 | 9.0 | 9.5 |
| Females | 2.1 | 8.8 | 4.2 | 6.3 | 4.5 | 5.1 |
| Family | 2.5 | 12.7 | 6.2 | 8.4 | 6.8 | 7.3 |

percentage (3.0% and 2.1% respectively). Of the total number of males in the 16-25 and 26-35 age categories, 20% to 24% were living away from the household at the time of the study (table 2.2). Out-migration by females is less than that for males, and is largely confined to the 16-25 year age category.

6. A '-' in this and remaining tables means zero.

Table 2.2:

Residency and Plot Manager Status

| | Household Males | Household Females | Overall Family |
|--|--------------------|----------------------|-------------------|
| Percent of category currently resident in household (% yes): | | | |
| 0-15 | 95.6 | 95.4 | 95.5 |
| 16-25 | 79.0 | 88.0 | 83.7 |
| 26-35 | 75.9 | 98.0 | 87.8 |
| 36-45 | 96.3 | 95.7 | 96.0 |
| 46-55 | 94.7 | 100.0 | 97.5 |
| 56+ | 100.0 | 96.4 | 98.6 |
| Percent of category who are currently agricultural plot managers (% yes): | | | |
| 0-15 | 1.4 | - | .7 |
| 16-25 | 8.0 | 29.6 | 19.2 |
| 26-35 | 17.2 | 57.4 | 38.8 |
| 36-45 | 68.5 | 70.2 | 69.3 |
| 46-55 | 71.1 | 72.1 | 71.6 |
| 56+ | 80.4 | 50.0 | 68.9 |

This gender bias in residency can partially be attributed to the timing of data collection to correspond to the off-season when work on field crop activity (in which men participate) is minimal, while vegetable production and marketing (in which women predominate) is at its peak. However, a number of other factors could potentially be important that influence access to farm and non-farm sources of employment including: human capital differences, language skills, access to resources, and/or gender divisions of labor in the household.

Data on the percentage of individuals who are plot managers are broken down by age group and gender in table 2.2. Land access, measured by whether an individual is a plot manager, is fairly equal among male and female categories for the age groups 0-15 and 36-55. A much higher percentage of females are agricultural plot managers in the 16-25 and 26-35 age groups, partially reflecting the higher percentage of males in these categories that reside away from the household. Conversely, in the 56+ category, women tend to have fewer plots than men (50.0% vs 80.4%) as land borrowing and agricultural field work decline with age, and as males continue to exert their control over communal fields as titular household heads (roughly 85% and above are males among the various strata, table 2.1). Being a plot manager could reflect any number of phenomena: differences in human capital or language skills that limit womens' employment opportunities in the marketplace; non-farm employment and the probability of finding work provide higher expected returns than agricultural employment (and men are more successful in obtaining the work); and/or the land market is sufficiently flexible to accommodate the needs of women who are

Table 2.3:

Human Capital and Education

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---------------------------------------|--------|--------|---------|--------------------|----------------------------|-------------------|
| No. households in sample | 40 | 40 | 40 | 36 | 84 | 120 |
| No. males in sample | 164 | 205 | 251 | 209 | 411 | 620 |
| No. females in sample | 189 | 204 | 216 | 207 | 402 | 609 |
| Native tongue (household head): | | | | | | |
| Wolof | 32.5 | - | - | - | 15.5 | 10.8 |
| Mandinka | 22.5 | 65.0 | 75.0 | 83.3 | 41.7 | 54.2 |
| Fula | 27.5 | 7.5 | - | 8.3 | 13.1 | 11.7 |
| Jola | 5.0 | 17.5 | 12.5 | 8.3 | 13.1 | 11.7 |
| Other | 12.5 | 10.0 | 12.5 | - | 16.7 | 11.7 |
| Male education (level achieved) (%): | | | | | | |
| Partial schooling/Koranic | 50.0 | 45.0 | 40.0 | 30.6 | 51.2 | 45.0 |
| Primary education | 27.5 | 10.0 | 25.0 | 22.2 | 20.2 | 20.8 |
| Secondary/technical education | 20.0 | 45.0 | 35.0 | 47.2 | 27.4 | 33.3 |
| University | 2.5 | - | - | - | 1.2 | .8 |
| Female education (highest level) (%): | | | | | | |
| Partial schooling/Koranic | 60.0 | 72.5 | 57.5 | 41.7 | 72.6 | 63.3 |
| Primary education | 30.0 | 12.5 | 30.0 | 38.9 | 17.9 | 24.2 |
| Secondary/technical education | 10.0 | 15.0 | 12.5 | 19.4 | 9.5 | 12.5 |
| University | - | - | - | - | - | - |
| English language skills (% yes): | | | | | | |
| Males: speaking ability | - | 2.5 | 2.5 | 5.6 | - | 1.7 |
| reading ability | 2.5 | 10.0 | 10.0 | 5.6 | 8.3 | 7.5 |
| both | 30.0 | 52.5 | 65.0 | 63.9 | 42.9 | 49.2 |
| Females: speaking ability | - | - | 7.5 | 8.3 | - | 2.5 |
| reading ability | - | 15.0 | - | 8.3 | 3.6 | 5.0 |
| both | 22.5 | 32.5 | 42.5 | 58.3 | 21.4 | 32.5 |

unable to participate actively in formal wage employment. Attempts are made to sort out these factors in later chapters, but on the surface a high percentage of men in the 16-35 age categories tend to work outside the household while women in the same categories tend to stay at home to do the agricultural work.

Table 2.3 provides a break down of years of education for all males and females in the household. Overall, an almost equal percentage of males and females completed primary education. A significant difference is evident at the level of secondary and technical education; 33.3% of all males versus 12.5% of females studied (but did not necessarily complete education) at this level.

Both males and females in founding families are significantly better educated than their non-founding family counterparts at the level of secondary and technical education (47.2% vs 27.4% for males and 19.4% vs 9.5% for females) although a gender bias is still strongly evident within both categories.

English is the official language for government administration and services in Banjul. Government forms, school books, government pamphlets, and registration records are written in English. All billings, invoices and receipts are handled in English as well. The ability to read and write English is necessary for engaging in commercial and legal activities, particularly those involving wage-employment and official channels. Overall, 49.2% of males reported a capacity to both read and speak in English versus 32.5% for women, although wide variations are evident. The more rural households of Pirang and Sanyang surprisingly exhibit the best command of English (although with a gender bias), while households in Sinchu at the edge of the urban area exhibit the lowest level of proficiency. A comparison of data by founding family status reveals that much of the discrimination bias occurs in the households of non-founding families; the English proficiency of males (females) in founding family households is 63.9% (58.3%) compared with 42.9% (21.4%) in non-founding families.

Land access and non-farm employment opportunities could conceivably be inter-linked with ethnic origin (Lebanese traders, Fula herders) -- a proxy for which is the native tongue of the household head (table 2.3). The vast majority of households are Mandinka, particularly in the villages of Pirang and Sanyang (65.0% and 75.0% respectively), followed by smaller numbers of Jolas. The vast majority of founding families are Mandinka (83.3% versus 41.7%), although the broad ethnic mix of households in the non-founding family strata would seem to imply that no strict divisions are separating ethnic groups in acquiring land. The ethnic mix of the population in Sinchu is best characterized as a "melting pot:" 32.5% Wolof, 27.5% Fula, 22.5% Mandinka, 5.0% Jola, and 12.5% other.

In general, rural households and founding families tend to be better educated, have higher foreign language skills, exhibit tighter ethnic settlement, are older, and have larger family sizes than households in the immediate peri-urban area. Males tend to be better educated and possess better language skills than females.

III. Household Assets and Wealth

Data on various types of physical assets are presented in table 2.4 for various categories--productive assets, livestock holdings, consumer or household durables, and real estate. Land assets are dealt with shortly.

7. A number of factors possibly contribute to the poorer English proficiency in Sinchu village: a high frequency of settlement (roughly an eighth of households in the Sinchu sample) by individuals from the north bank and from up-country; and the greater emphasis on Koranic education in Sinchu Alhaji (seen annex A.2) combine with less emphasis on primary and secondary education where English is taught.

Table 2.4:
Household Physical Assets

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| No. households | 40 | 40 | 40 | 36 | 84 | 120 |
| Household productive assets | | | | | | |
| (% hh with): | | | | | | |
| Seeder | 20.0 | 12.5 | 27.5 | 16.7 | 21.4 | 20.0 |
| Bicycle ^b | 17.5 | 7.5 | 30.0 | 19.4 | 17.9 | 18.3 |
| Cart | 20.0 | 10.0 | 25.0 | 13.9 | 20.2 | 18.3 |
| Plow ^a | - | 15.0 | 10.0 | 11.1 | 7.1 | 8.3 |
| Automobile ^b | 5.0 | - | 2.5 | 2.8 | 2.4 | 2.5 |
| Motorcycle ^b | 5.0 | - | - | - | 2.4 | 1.7 |
| Livestock holdings: | | | | | | |
| Herd owner (% hh with) ^c | - | 10.0 | 17.5 | 25.0 | 2.4 | 9.2 |
| Livestock held (no.): | | | | | | |
| Cattle | - | 3.40 | 3.90 | 5.42 | 1.15 | 2.43 |
| Oxen | - | .28 | .40 | .36 | .17 | .23 |
| Goats | 1.10 | 1.73 | 1.27 | 1.47 | 1.32 | 1.37 |
| Sheep | .98 | 1.18 | .57 | 1.06 | .85 | .91 |
| Donkeys | .28 | .05 | .33 | .08 | .27 | .22 |
| Pigs | .33 | - | .30 | - | .30 | .21 |
| Horses | .10 | - | .05 | .06 | .05 | .05 |
| Household durable assets (% hh having): | | | | | | |
| Stove | 15.4 | 12.5 | 2.5 | 8.3 | 10.8 | 10.1 |
| Television | 10.0 | - | - | - | 4.8 | 3.3 |
| Video | - | - | 2.5 | 2.8 | - | .8 |
| Refrigerator | - | - | - | - | - | - |
| Residential characteristics (hh with): | | | | | | |
| Corrugate roof | 85.0 | 95.0 | 75.0 | 88.9 | 88.3 | 85.0 |
| Concrete or cement block walls | 12.5 | 10.0 | 2.5 | 8.3 | 8.3 | 8.3 |
| Hand pump or tap in compound | - | - | 2.5 | 2.8 | - | .8 |
| Open well in compound | 10.0 | 42.5 | 57.5 | 44.4 | 33.3 | 36.7 |
| Open well in neighbors compound | 12.5 | 22.5 | 25.0 | 19.4 | 20.2 | 20.0 |
| Public stand or well | 77.5 | 35.0 | 15.0 | 33.3 | 46.4 | 42.5 |

a. Single or double mouldboard.

b. Either income earning asset or consumerable depending on principal use.

c. Household member(s) is a major owner of a cattle herd present in the village during the dry season. A major holder of a herd exercises considerable rights concerning the fields upon which the herd is tethered--an important means of gaining access to manure for improving soil fertility.

Information on financial holdings would normally be expected to have an important influence on wealth, particularly for households relying on non-farm employment or being located in near proximity to urban areas. However, no attempt was made to gather this information due to their sensitive nature and concerns expressed by experienced enumerators that any data collected would be highly unreliable.

Compared with other peri-urban areas examined (see Roth et al. for Maputo, 1994), households have relatively few durable assets. Only 10.1% of households had a stove, 3.3% a television, and 0% a refrigerator. Furthermore, 85.0% of households had corrugate roofs, only 8.3% cement walls, and only 37.5% a hand pump or open well in the compound. As would be expected, households in Sinchu with the greatest urban influence (and to a lesser extent Pirang village) possess a greater number of consumer assets, homes made of cement, and access to public water stands.

With regard to productive assets, 20.0% of all households have a seeder, 18.3% a cart, 18.3% a bicycle, 8.3% a plow, and fewer than 2.5% either a motorcycle or car with little variation among strata. Given the heavy reliance of households on farming in Sanyang and to a lesser extent Pirang (chapter 3), these asset holdings are low. Livestock holdings by households in Sinchu are mainly confined to small ruminants and pigs -- animals that are well adapted to confinement rearing. Cattle are more important in Pirang (3.4 animals) and Sanyang (3.9 animals).

Physical assets of founding families stand out in one important regard -- cattle holdings. Around 25.0% of founding family households are major owners of cattle herds in the village during the dry season, and as will be seen in chapter 5 possess considerable rights over where herds are tethered, and on which plots manure is applied. Moreover, compared with non-founding households, founding families on average held a greater number of cattle (5.42 vs 1.15) and oxen (.36 vs .17).

The social status conferred on the households of founding families and their greater holdings of land and livestock, do not appear manifest in other forms of wealth including seeders (16.7% vs 21.4%), carts (13.9% vs 20.2%), plow (11.1% vs 7.1%), automobile (2.8% vs 2.4%), stove (8.3% vs 10.8%), television (0% vs 4.8%), corrugate roof (88.9% vs 88.3%), cement walls (8.3% vs 8.3%), or an open well within the compound (44.4% vs 33.3%). These findings can partially be attributed to the fact that the majority of founding families in the survey were located in Pirang and Sanyang villages, and thus the urban influence of Sinchu on consumer assets is mainly reflected in the households of non-founding families. Nevertheless, any economic power that may be associated with land holdings are not readily apparent in the accumulation of physical assets (excluding livestock and financial assets).

IV. Migration and Settlement

Nineteen or 15.8% of the 120 households in the three villages moved to their current village location sometime in the previous 10 years. Of this number, over 73.7% settled in Sinchu (13 in Sinchu Baliya and 1 in Sinchu Alhaji), 10.5% (2) in Pirang, and 15.8% (3) in Sanyang. These data are depicted in rates of settlement provided in table 2.5 which show that 35.0% of

Table 2.5:
Migration and Settlement

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|---|--------|--------|---------|-----------------|---------------------|----------------|
| No. households | 40 | 40 | 40 | 36 | 84 | 120 |
| Families who have lived elsewhere in previous 10 years (%) | 35.0 | 5.0 | 7.5 | 2.8 | 21.4 | 15.8 |
| Number of motives given for ^a changing residence | 13 | 3 | 5 | 1 | 20 | 21 |
| Motive for changing residence to current address: | | | | | | |
| Occupy own house | 100.0 | | 20.0 | 100.0 | 65.0 | 66.6 |
| Employment related | | 66.6 | | | 10.0 | 9.5 |
| Land for farming | | | 40.0 | | 10.0 | 9.5 |
| Other | | | 40.0 | | 10.0 | 9.5 |
| Better access to utilities | | 33.3 | | | 5.0 | 4.8 |
| Number of motives given for moving ^a to former residence | 9 | 2 | 1 | 1 | 11 | 12 |
| Motives for changing residence to former residence: | | | | | | |
| Employment related | 66.7 | | | | 54.5 | 50.0 |
| Occupy own house | 11.1 | | 50.0 | | 18.2 | 16.7 |
| Land for farming | | 100.0 | 50.0 | | 18.2 | 16.7 |
| Other | 22.2 | | | 100.0 | 9.1 | 16.7 |

a. Some households gave no reason for moving while others gave two or more reasons.

households in Sinchu had migrated there sometime in the previous 10 years, 5.0% in Pirang, and 7.5% in Sanyang. Founding families, as expected, have been relatively stationary, while 21.4% of non-founding households have recently immigrated to their current home villages.

The origin of settlers is nearly equally split between urban households moving out to the peri-urban sites, and the remainder having moved in from outlying or rural areas. Of the 14 migrant families who settled in Sinchu village, 7 originated in Serrekunda, 1 in Bundung, 1 in Busumbala, 1 in Sare Babu, and 1 in Sinchu Sori, all areas within the larger confines of the Banjul/Serrekunda metropolitan area. The remainder were from more remote areas including Kobunay in Lower River division, Fass Njaga Choi in North Bank

division, and Ngeyen Sanyal (location unknown). Of the five migrant families moving into either Pirang or Sanyang, the majority migrated from areas outside the greater Banjul/Serrekunda region: Berending in Kombo South (peri-urban), Marong Kunda Badibu in North Bank division, Banjul, Kwinella Kiang in Lower River division, and Santanto M.I.D. in McCarthy Island division. Twelve of these 19 households moved two or more times within the 10 year time frame.

Wanting to occupy a house was the single most important reason for moving in the sample (66.6%) reflecting largely the urban settlement characteristics of Sinchu village. Housing was followed, in declining order of importance, by employment (changing jobs) (9.5%), land for farming (9.5%), better access to utilities (4.8%), and other reasons (9.5%). However, for twelve of the 19 households which made two moves, employment was the most important reason for the first move (50.0%), followed by housing (16.7%), land for farming (16.7%), and other (16.7%).

Although the limited number of observations does not permit a rigorous statistical analysis of settlement processes, the data suggest a number of patterns. First, households tend to move into the urban areas of Banjul/Serrekunda seeking employment, then later on a second move changed addresses to Sinchu Baliya on the edge of the city in search of land for housing and/or farming. Secondly, households in the immediate peri-urban area -- Sinchu -- were the most dynamic in terms of settlement, while founding families were most stable.

V. Land Assets and Farm Structure

Farm holdings in the peri-urban area exhibit a high degree of fragmentation between uplands, lowlands (rice), and vegetables grown on lowlands and donor schemes; and between the private fields of individual family members in each agroecological regime, and the communal fields worked by all family members. In total, 8,268 different plots of land were managed by different family members in the three villages, 7,758 by women members of the family (mostly many small vegetable plots), 376 by male members of the family, and 134 by borrowers. Measuring the numerous small rice and private vegetable

8. Following the terminology of Place and Roth (1994), a holding or farm is the aggregate of all parcels held by all family members within the household. It is comprised of one or more parcels acquired through inheritance, purchase, gift, marriage, rental, pledge, borrowing, or settled from unclaimed land. A parcel, the primary unit of land acquisition, is normally non-contiguous with other pieces of land held by the household, although it is possible that contiguous but separate parcels have been acquired to form a farm. A plot is distinguished by individual management rights to a piece of land within the parcel. The compound or household head, for example, may allocate one or more plots to household members for their private use while commanding family members to work on a separate plot for communal grain production and consumption. A field refers to distinct areas of land use, either a sole crop, intercrop, pasture, fallow, idle or unused land. A parcel thus contains one or more plots and one or more fields. Two or more plots belonging to the same person cannot be contiguous within a parcel; two or more fields of the same crop cannot be contiguous within a plot.

Table 2.6:

Farm Structure

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Mean number of land holdings (including fallow and residential plots) (no.): | | | | | | |
| Parcels (excluding veg/rice) (A) | 2.23 | 2.64 | 2.98 | 2.86 | 2.51 | 2.61 |
| Plots (excluding veg/rice) (B) | 3.73 | 3.54 | 3.33 | 3.81 | 3.41 | 3.53 |
| Rice plots (C) | - | 2.44 | 1.08 | 2.08 | .76 | 1.16 |
| Vegetable plots (D) | 1.30 | 67.08 | 123.40 | 136.89 | 32.24 | 63.90 |
| Mean number of land holdings (excluding fallow and residential plots) (no.): ^b | | | | | | |
| Parcels (excluding veg/rice) (E) | 2.08 | 1.46 | 1.70 | 1.50 | 1.85 | 1.75 |
| Plots (excluding veg/rice) (F) | 2.77 | 2.08 | 1.85 | 2.14 | 2.27 | 2.23 |
| Rice plots (G) ^a | - | 2.44 | 1.08 | 2.08 | .77 | 1.17 |
| Vegetable plots (H) ^a | 1.33 | 67.08 | 123.40 | 136.89 | 32.63 | 64.44 |
| Mean parcel and plot size (ha): ^b | | | | | | |
| Mean parcel size of (I) | .45 | .91 | 1.07 | 1.14 | .65 | .77 |
| Mean plot size of (J) | .34 | .63 | .98 | .78 | .53 | .60 |
| Farm area (ha): ^b | | | | | | |
| Non veg/rice farming area (K=ExI) | .94 | 1.32 | 1.82 | 1.71 | 1.20 | 1.35 |
| Rice area (L) ^{c,d} | - | .08 | .19 | .14 | .08 | .11 |
| Vegetable area (M) ^{c,d} | .01 | .03 | .14 | .06 | .07 | .07 |
| Total farm area (N=K+L+M) | .95 | 1.43 | 2.15 | 1.91 | 1.35 | 1.53 |
| Land/resident ratio (N/hh residents) | .11 | .14 | .18 | .17 | .14 | .15 |

a. Excluding fallow and residential plots results in a reduction in the number of households upon which statistical means are based thereby changing the mean number of rice and vegetable plots.

b. Excludes residential, fallow and uncultivated parcels and plots for which no area measurements were taken. Households generally hold numerous small plots of vegetables and rice that are non-contiguous and highly dispersed thus the reason for treating them separately from other cropped areas.

c. Measuring the numerous small rice and private vegetable plots held by each household would have involved considerable time and effort. Instead, the area of total rice and private garden plots, respectively, was estimated in either of two ways: measuring the combined area of each (rice or private vegetable plots) if all are contiguous, or measuring a representative size plot for each, if some are non-contiguous, then multiplying the representative area by the total number of respective plots held.

d. Vegetable beds on donor schemes are generally of uniform length and width. Measurements were taken of the length and width of an average bed, and the number of beds held by each manager within the household from which areas were calculated.

plots would have involved considerable time and effort. Instead, the area of total rice and private garden plots was each estimated in either of two ways: measuring the combined area of each (rice or private vegetable plots) if all were contiguous, or measuring a representative size plot for each if some are non-contiguous then multiplying the representative area by the total number of respective plots held.

Data on number of land holdings are reported in table 2.6 for four categories of land: land parcels excluding rice and vegetables, plots excluding rice and vegetables, rice plots, and vegetable plots. Each household in the overall sample held 2.61 parcels on average with the greatest number in Sanyang (2.98) and the fewest number in Sinchu (2.23). Households overall held 3.53 plots of land, with very little variation among village or family status strata. Based on the simple division of parcels by plots, each parcel contains 1.35 plots of land indicating fairly homogenous ownership rights on uplands and compound plots (areas where rice and vegetables are not located). Each household on average also holds 1.16 rice plots, but more variation is evident among strata. No rice is produced in Sinchu, households in Pirang (a major rice growing area) held 2.44 plots, while Sanyang households held 1.08 plots on average. Vegetable plots are highly fragmented and dispersed among lowland areas and donor schemes. Each household on average in the overall sample farmed 63.9 different vegetable plots, with the greatest number in Sanyang (123.4) and the fewest in Sinchu (1.3).

Very little difference is apparent in numbers of parcels and plots (excluding rice and vegetables) between founding and non-founding households. However, marked differences are apparent in holdings of land suitable for vegetables and rice -- crops reflecting higher quality lowlands. Compared with non-founding family households, founding families held a greater number of rice plots (2.08 vs .76), and a greater number of vegetable plots (136.9 vs 32.2). This difference, as will be seen shortly, applies to both private gardens and donor schemes, implying that founding families while giving land to donors for schemes are also ensuring that access is retained by founding family members.

The second set of data on number of holdings in table 2.6 excludes fallow and residential plots, both of which enumerators were instructed not to measure. Fallow land because of bush and trees would have been very difficult to survey. Compounds in villages tend to have fairly uniform dimensions, roughly 30x30 meters to 30x50 meters. Measurement of a compound plot was not carried out if it contained no cultivated area. However, if part of the parcel was used for agricultural production, an area measurement was taken. Data for parcels in table 2.5 show that compounds in Pirang (number of parcels declines from 2.6 to 1.5) and Sanyang (from 3.0 to 1.7) tend to be isolated from cultivation areas. With regard to Sinchu, on the other hand, the number of parcels declines from only 2.2 to 2.1 indicating that plots are being used for both residential and agricultural uses.

Spatial and political effects of land ownership are also revealed in land sizes. Parcels (excluding rice and vegetables) average .77 ha in size for the overall sample. Parcels in Sanyang are largest in size (1.07 ha) and smallest in Sinchu (.45). Parcels held by founding families (1.14 ha) are nearly twice as large as those held by non-founding families (.65 ha).

The effect of both larger number of parcels and larger sizes are evident in the larger sizes of farming units. The average size of farming unit

(including upland areas, rice and vegetables) in Sanyang is 2.15 ha compared with .95 ha in Sinchu. Founding families on average controlled 1.91 ha versus 1.35 ha for non-founding families. Had fallow land been included as well, this difference would have been even greater. Overall, founding families have larger sizes of farming units as well as a greater area of quality land suitable for rice and vegetables. As expected, a decline in both the number and size of parcels tends to occur as one moves along the continuum from land abundance in Sanyang to land scarcity in Sinchu.

VI. Land Access and Tenure Perceptions

As indicated in the previous section, land endowments in the three villages can be positioned along a continuum depicting varying degrees of land scarcity. Sanyang with its relative land abundance is located at one end of the spectrum, and Sinchu with its relatively low endowments at the opposite end. Pirang falls in between. In addition to questions about land holdings, the household head and adults present at the first household level interview were asked a series of questions about land scarcity, tenure security and land conflicts in their village, to further evaluate land tenure perceptions in the study area. Results are tabulated in table 2.7.

Households in Sanyang generally felt (87.5%) that land for cultivation was still relatively easy to acquire in the village. However, 65.0% (12.5%) of respondents in Pirang felt that land was difficult (or very difficult) to acquire, while 80.0% of households in Sinchu felt that land was very difficult to acquire. The majority of households, regardless of village, believe the best mechanism for acquiring additional land is borrowing it from other households with a surplus. Aside from borrowing, a significant number of households felt that commercial transactions (purchase and renting) would be the most effective means: 10.0% in Sinchu and 12.5% in Pirang, but only 2.5% in Sanyang. The traditional role of the *alkalo* in providing (lending) land has waned considerably in Sinchu and Pirang where land scarcity has emerged. Yet in Sanyang, 37.5% of households would still consider a gift of land from the *alkalo* as the most likely way to acquire additional farm land.

Regardless of appearances that land scarcity is emerging in the study area, disputes are relatively infrequent. Only two households (1.7%) of all farms in the sample reported ever having had a dispute over land. However, "land disputes" is a difficult concept to apply in the Banjul/Serrekunda situation where founding families hold control over the land while non-founding families, some of whom have borrowed the land for decades, may be asked to give back a portion to make way for other settlers. As indicated in annex A, the *alkalos* feel compelled to assist outsiders in finding land, and may even profit from it. However, once all the idle family land is occupied, the *alkalo* has no recourse but to ask tenants (generally those with larger compounds or with idle land) to give a portion back. Respondents in each village were asked whether the *alkalo* could repossess part of their land even after improvements had been made. Respondents in Sanyang and Pirang generally felt that the *alkalo* could not or would not repossess the land. However, in Sinchu at the urban fringe where the land market is dynamic and settlement is occurring at a rapid pace, 45.0% of households believe the *alkalo* could take back land even if trees had been planted, and 25.0% believe repossession is possible even if a building has been constructed on the property. Repossession in these cases may not

Table 2.7:

Perceptions on Land Access and Land Conflicts

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Land easy or difficult to acquire: | | | | | | |
| Easy | 7.5 | 22.5 | 87.5 | 58.3 | 31.0 | 39.2 |
| Difficult | 12.5 | 65.0 | 12.5 | 30.6 | 29.8 | 30.0 |
| Very difficult | 80.0 | 12.5 | - | 11.1 | 39.3 | 30.8 |
| Best means of acquiring new land: | | | | | | |
| Borrow | 87.5 | 77.5 | 60.0 | 66.7 | 78.6 | 75.0 |
| Gift from Alkalo/kabilo head | 2.5 | 5.0 | 37.5 | 19.4 | 13.1 | 15.0 |
| Purchase from Alkalo/kabilo head | 7.5 | 2.5 | 2.5 | - | 6.0 | 4.2 |
| Rent-in | 2.5 | 10.0 | - | 13.9 | - | 4.2 |
| Other | - | 5.0 | - | - | 2.4 | 1.7 |
| Land disputes now a serious problem (% yes): | | | | | | |
| Ownership disputes | 5.1 | - | - | 2.8 | 1.2 | 1.7 |
| Boundary disputes | - | - | - | - | - | 0 |
| Repossession of land by Alkalo possible even after having made improvements (% yes):^a | | | | | | |
| Buildings | 25.0 | - | - | - | 11.9 | 8.3 |
| Planted trees | 45.0 | - | 2.5 | - | 22.6 | 15.8 |
| Enough grain produced to feed family throughout year (% yes) | | | | | | |
| | 2.5 | 7.5 | 5.1 | 11.1 | 2.4 | 5.0 |
| Risk of losing land if rented-out for <u>one</u> cropping season only: | | | | | | |
| No risk | 95.0 | 92.5 | 97.5 | 97.2 | 94.0 | 95.0 |
| Some risk | 2.5 | - | - | - | 1.2 | .8 |
| No opinion | 2.5 | 7.5 | 2.5 | 2.8 | 4.8 | 4.2 |
| Risk of losing land if rented-out for <u>five</u> or more cropping seasons: | | | | | | |
| No risk | 92.5 | 57.5 | 97.5 | 77.8 | 84.5 | 82.5 |
| Some risk | 5.0 | 27.5 | - | 13.9 | 9.5 | 10.8 |
| Much risk | - | 7.5 | - | 5.6 | 1.2 | 2.5 |
| No opinion | 2.5 | 7.5 | 2.5 | 2.8 | 4.8 | 4.2 |

a. Respondent was asked whether the Alkalo of the village could take back land given to the family even after investments in buildings and trees had been made since acquisition.

constitute a "dispute" in the legal sense, but the practical effect is that tenure insecurity is widespread along the urban fringes.

The larger philosophical question remains -- what constitutes rights of ownership or transfer. Should the heritage of founding family status and lending-out land to borrowing families on concessionary terms confer upon founding families the right of repossession? Conversely, for borrowing families who with exception of the traditional kola nut tribute (see annex A) have not paid rents over the years, to what property rights should they in fact be entitled? The current system whereby the *alkalo* perceives the right to reallocate customary lands places current borrowers in a precarious situation. A significant number of current tenants in Sinchu, who after receiving past allocations and perhaps feeling that land access had been assured, one day find a portion of their land repossessed by the *alkalo*. These same processes are at play in Pirang and Sanyang, but problems are not yet perceived on a wide scale due to the relative abundance of land in these villages. Unfortunately, borrowing families who have been successful in acquiring access to land through customary mechanisms operate in trust that traditions will prevail. With the emergence of land scarcity, borrowing families are forced to witness a period where the *alkalo* alienates land to villagers to accommodate population growth and to outsiders with money. As land scarcity tightens, they may be approached to give up "unused" land. The reserve of village land upon which they may have been depending for future inheritances experiences rapid decline. Finally, borrowers must inevitably pay a higher price through purchase or rental to secure land in the village, or relocate elsewhere to sustain a living (see chapter 4).

It is in periods of uncertainty, where the beginnings of a commercial market may act to permanently alienate land from the founding families through purchase, that current tenants experience the greatest tenure insecurity. Alternatively, families may turn to renting-in land to preserve their land endowments, or to renting-out land to those who find their allocations reduced. Respondents in all villages were asked to rank the risk of renting out land on a scale from "no risk" to "much risk" for two different rental periods -- one cropping season and five cropping seasons -- to evaluate whether expected loss is related to rental period. Regardless of the village, households generally perceive no risk to renting-out land for periods of one cropping season or less. However, in Pirang, 27.5% of respondents felt that some risk was involved in renting-out land for 5 consecutive cropping seasons, and 7.5% felt that considerable risk was involved.

With regard to founding families, land appears to be relatively easier to acquire (58.3% vs 31.0%), and most would either borrow (66.7% vs 78.6%), seek a gift from the *alkalo* or *kabilo* head (19.4% vs 13.1%), or rent-in additional land (13.9% vs 0%). Repossession of land does not appear to be a genuine concern, but a slightly higher risk is perceived (some risk 13.9% vs 9.5%, and

9. It is not clear why higher rates of security were not apparent in Sinchu. It is possible that the greater authority of the *alkalo* in monitoring land claims, and enforcing land rentals, also conferred a greater a sense of tenure security against claims by renters/borrowers.

Table 2.8:

Principal Land Problems

| | Sinchu | Pirang | Sanyang |
|--|--------|--------|---------|
| Land shortage: | | | |
| - People evicted from farmlands by Alkalo and given to new settlers | 9 | | |
| - Farmland being converted to dwellings, or household members are not farmers | 2 | | |
| - Difficult to get farm land (apart from residence) because of growth in village | 2 | 1 | |
| - Not enough land | 5 | | |
| - Shortage of land for farming/or have no permanent farm land | 5 | 2 | 1 |
| - Land must be obtained from neighboring village due to land shortage | 2 | | |
| - Fear eviction if rent not paid or plot not used | 1 | | |
| Land disputes: | | | |
| - between respondent and neighbor | | | 1 |
| - women tried to claim land occupied by respondent | | | 1 |
| - Two people were lent the same plot | | | 1 |
| - Two people claim buying the same plot | 1 | | |
| Lack of farm inputs: | | | |
| - Lack of implements | 3 | | |
| - Lack of draft power | 4 | | |
| - Farm inputs are not available | 2 | | 1 |

much risk 5.6% vs 1.2%) from renting-out land. Land tenure insecurity is exacerbated by, or perhaps driven by, the fact that very few strata are self-sufficient in food production. Even for founding families who possess higher land endowments and the ability to command outside labor in exchange for land (seen shortly), only 11.1% of households produce enough grain to feed the entire family through the entire year.

In addition to the above structured questions about land access, adults attending the household-level interview were asked to rank the most serious problems faced by farmers in the village with respect to plot ownership. Their responses are tabulated in table 2.8. Of the 120 households in the sample, 42 responded (2 with multiple responses), and the vast majority of these (36) were in Sinchu village. Problems related to land shortages were the most frequently cited, including: the *alkalo* evicting people from farmlands and giving or selling it to newcomers (9 responses), farm land being converted for dwellings

(2), not enough land (5), shortage of land for farming or need to seek land outside the village (13), and fear of eviction (1). Another four households mentioned disputes, while seven households mentioned difficulties in acquiring implements, draft power, and farm inputs. These general perceptions are consistent with earlier data showing high rates of eviction, residential settlement, and land scarcity in Sinchu, and the general lack thereof in Pirang and Sanyang villages.

VII. Tenure Status and Principal Land Use

A. Tenure Status

Principal tenure status and land use based on major plot holdings are reported in table 2.9 for the survey villages and by founding family status, and in table 2.10 by household groupings (plots of the household head versus individual family members, male versus female managed plots, and private versus communal holdings). Major plots in the context of upland crops and the compound assume the conventional plot definition. However, in the context of rice and vegetable areas, a major plot for rice or vegetables include the numerous "minor" plots of each crop respectively held by a plot manager. Hence a household may hold multiple major plots of rice and vegetables depending on the number of managers within the household.

Over one-third (34.6%) of all plots under management in the overall sample are borrowed-in by family members. A much lower percentage is reported as borrowed-out (4.2%). If lenders and borrowers were located in the same village, one would expect these two percentages to be roughly identical. The divergence can be attributed to a number of possible explanations: land holding groups reside outside the village boundaries surveyed, the land holding groups are absentee, and/or the most likely explanation -- much of the borrowed land has been lent out for so long that the founding families simply neglected to report their number (see chapter 4 for more details on mode and date of acquisition).

Another 2.1% of land was "entrusted," meaning that land is entrusted to the current land holder. The distinction between entrusting and lending-out centers on who initiates the transfer (entrusting originates with the lender while borrowing originates with the borrower). The remainder of the plots (59.0%) in the overall sample are held and managed by the family (details on mode of acquisition for these plots held are elaborated on in chapter 4). Entrusting is more common in Sinchu where individuals have acquired land, have normally started construction on a compound, but may entrust the land to a relative to guard the property in his or her absence. Borrowing-out is more common in Pirang. No borrowing is reported in Sanyang for the reasons stated above, although it is possible that enumerators simply neglected to include these plots in the survey.

Most of the plots held by the household head (80.6%) are household lands acquired through various modes of acquisition excluding borrowing or renting, and the majority (86.2%) are communal land on which the compound is located, or the household's supply of grain is produced. Only 13.8% are the household head's private plots which he uses for personal profit, including all the orchards in the sample. Private plots of individual family members tend to be

Table 2.9:

Tenure Status and Principal Land Use by Village and Founding Family Category

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of major plots | 153 | 313 | 246 | 289 | 423 | 712 |
| Current status of family land holdings (% plots): | | | | | | |
| Held and managed by family | 52.9 | 56.2 | 66.3 | 62.6 | 56.5 | 59.0 |
| Borrowed-in | 36.6 | 34.2 | 33.7 | 28.4 | 38.8 | 34.6 |
| Lent-out ^a | .7 | 9.3 | - | 7.6 | 1.9 | 4.2 |
| Entrusted ^b | 9.8 | - | - | 1.4 | 2.6 | 2.1 |
| Rented-in | - | .3 | - | - | .2 | .1 |
| Principal Land Use (% of plots): | | | | | | |
| Private garden (vegetables) | .7 | 24.0 | 22.8 | 21.5 | 16.5 | 18.5 |
| Rice | - | 25.9 | 18.3 | 22.8 | 14.2 | 17.7 |
| Buildings or residence | 25.5 | 9.9 | 17.1 | 12.5 | 18.0 | 15.7 |
| Groundnut | 32.0 | 9.9 | 5.7 | 8.0 | 16.8 | 13.2 |
| Millet | 7.8 | 9.9 | 10.6 | 10.0 | 9.5 | 9.7 |
| Fallow | 1.3 | 8.3 | 6.9 | 8.3 | 5.0 | 6.3 |
| Maize | 21.6 | 1.3 | 2.0 | 1.7 | 8.7 | 5.9 |
| Donor garden (vegetables) | 2.0 | 6.1 | 4.9 | 8.3 | 2.4 | 4.8 |
| Cassava | 7.2 | 1.3 | 6.9 | 3.1 | 5.4 | 4.5 |
| Fruit orchards | .7 | 2.2 | 2.8 | 2.4 | 1.9 | 2.1 |
| Uncultivated | - | 1.0 | 1.6 | 1.0 | .9 | 1.0 |
| Sorghum | 1.3 | .3 | .4 | .3 | .7 | .6 |
| Communal or individual tenure (%): | | | | | | |
| Communal | 71.2 | 55.6 | 75.6 | 63.3 | 67.6 | 65.9 |
| Individual | 27.5 | 44.1 | 23.2 | 36.3 | 31.2 | 33.3 |
| Uncertain | 1.3 | .3 | 1.2 | .3 | 1.1 | .8 |

a. "Borrowed-out" in local languages.

b. "Entrusted" means that the land is entrusted to the current land holder but the land belongs to that person who is entrusting the land and who has the right to take back the land at any time. The distinction between entrusting and lending-out land centers on who initiates the transfer (entrusting by the "giver" and lending by the borrower).

c. Communal fields are worked collectively by all household members under the supervision of the household head and produce is shared by all (generally grain fields). Individual field are privately managed by individual household members.

Table 2.10

Tenure Status and Principal Land Use by Gender and Land Holding Category

| | Household Head | Other Household Members | Household Females | Household Males | Communal Plots | Indi- vidual Plots |
|---|-------------------|-------------------------------|----------------------|--------------------|-------------------|--------------------------|
| Number of major plots | 345 | 367 | 338 | 345 | 469 | 237 |
| Current status of family land holdings (% plots): | | | | | | |
| Held and managed by family | 80.6 | 38.7 | 47.0 | 75.7 | 67.0 | 42.6 |
| Lent-out ^a | .3 | 7.9 | .3 | .3 | 4.7 | 3.4 |
| Borrowed-in | 15.9 | 52.0 | 51.5 | 20.6 | 26.9 | 50.2 |
| Rented-in | .3 | - | - | .3 | .2 | - |
| Entrusted ^b | 2.9 | 1.4 | 1.2 | 3.2 | 1.3 | 3.8 |
| Principal Land Use (% of plots): | | | | | | |
| Maize | 11.0 | 1.1 | .6 | 11.3 | 8.1 | 1.7 |
| Millet | 12.8 | 6.8 | 1.2 | 15.7 | 13.4 | 2.5 |
| Sorghum | .6 | .5 | - | 1.2 | .6 | .4 |
| Rice | 4.3 | 30.2 | 37.0 | - | 23.0 | 6.2 |
| Groundnut | 13.9 | 12.5 | 6.8 | 17.1 | 10.9 | 18.1 |
| Cassava | 8.1 | 1.1 | .6 | 8.7 | 6.2 | 1.3 |
| Private garden (vegetables) | 3.8 | 32.4 | 36.1 | 2.3 | 3.6 | 48.5 |
| Donor garden (vegetables) | .9 | 8.4 | 9.5 | .3 | 2.1 | 10.1 |
| Fruit orchards | 4.3 | - | .3 | 4.1 | 2.3 | 1.7 |
| Uncultivated | 1.4 | .5 | - | 2.0 | 1.1 | .4 |
| Fallow | 7.5 | 5.2 | 5.3 | 7.5 | 6.0 | 6.8 |
| Buildings or residence | 31.3 | 1.1 | 2.7 | 29.9 | 22.6 | 1.7 |
| Communal or individual tenure (%): | | | | | | |
| Communal | 86.2 | 47.9 | 44.3 | 87.1 | 100.0 | - |
| Individual | 13.8 | 52.1 | 55.7 | 12.9 | - | 100.0 |

a. "Borrowed-out" in local languages.

b. "Entrusted" means that the land is entrusted to the current land holder but the land belongs to that person who is entrusting the land and who has the right to take back the land at any time. The distinction between entrusting and lending-out land centers on who initiates the transfer (entrusting by the "giver" and lending by the borrower).

c. Communal fields are worked collectively by all household members under the supervision of the household head and produce is shared by all (generally grain fields). Individual field are privately managed by individual household members.

borrowed-in (52.0%) or allocated by the household head (38.7%). Women within the household (mainly non-household heads) rely heavily on borrowing (51.5%) and household allocations (47.0%), while males (including household heads) tend to rely less on borrowing (20.6%) and more on allocations by the household head (75.7%).

B. Principal Land Use

Land use information in tables 2.8 and 2.9 are based on principal land use of the plot. They differ from the area based estimates reported later in chapter 5; the former give greater weight to small and numerous holdings (compound plots and private fields), while the latter give greater weight to land uses (i.e. grains) that occupy an extensive area.

Of the total number of 712 major plots studied, 15.7% are principally used for buildings or place of residence, 1.0% are uncultivated, and 6.3% are in fallow. As expected, the greatest proportion of fallow land is located in Pirang (8.3%) and Sanyang (6.9%) with little reserved in Sinchu.

Rice cultivation constitutes the principal land use in 17.7% of all plots with the greatest representation in Pirang (25.9%) and held by founding families (22.8%). Groundnuts represent 13.2% of all plot holdings, and are mainly concentrated in the sandier soils around Sinchu (32.0%). Maize is grown on 5.9% of all plots, but like groundnuts is a dominant land use in Sinchu (21.6%). Millet is grown on 9.7% of all plots, and sorghum 0.6%, with very little variation among strata. Cassava is grown on 4.5% of all plots, with the highest proportions existing in Sinchu (7.2%) and Sanyang (6.9%).

Plots held by the household head, largely communal fields, tend to be used for the family compound or cultivated in grains: buildings or residence (31.3%), maize (11.0%), millet (12.8%), rice (4.3%), or sorghum (.6%). Likewise communal cropped fields tend to be cultivated in grains and groundnuts, while individual plots tend to be cultivated in groundnuts, rice or vegetables.

With regard to horticultural crops, around 18.5% of all plots in the sample are private gardens; the highest levels are reported in Pirang (24.0%) and Sanyang (22.8%), and the lowest in Sinchu (.7%). Access to donor schemes (compared with private vegetable plots) is less frequent in all survey regions: 4.8% of all plots are located on donor vegetable schemes with a high of 6.1% in Pirang and only 2.0% in Sinchu. Fruit orchards represent less only 2.1% of all plots, but this figure underestimates the importance of tree crops as many trees are located in the family compound, while others are dispersed throughout the cropped area. Access of founding families to lowlands for private gardens is only marginally greater than for non-founding families (21.5% vs 16.5%), however their access to donor schemes is nearly four times greater (8.3% vs 2.4%). Most of the benefits of vegetable production accrue to women; plots of female family members tend to concentrate on production of rice (37.0%) and private garden vegetables (36.1%) or donor schemes (9.5%).

CHAPTER 3

REMITTANCES, NON-FARM EMPLOYMENT AND AGGREGATE INCOME

I. Introduction

Households in the peri-urban economy derive their income from multiple sources including formal wage-employment, self-employment, remittances from family and non-family members outside the household, and farming. This chapter develops a profile of income generating activities for each of the three study villages, by founding family status, and for the overall sample. Detailed information on farm inputs, outputs and income at the plot level are dealt with in chapter 5. The net farm income data in this chapter are summed over plots and plot managers within the household to calculate household level income for five groups of activities--fruit sales (non-orchard), orchard production, upland crops, rice and vegetables--to demonstrate the importance of different land uses to household income, and to draw attention to the significance of horticultural activities within the overall structure of household earnings. Gender disaggregated data on wage- and self-employment are also presented and analyzed including types and numbers of jobs, wage rates, and non-monetary benefits. The analysis will show that the majority of household income is derived from wage- and self-employment activity even in the most rural of villages. Production of horticultural crops generate 2-11% of household income, depending on the village, while vegetable trading provides additional self-employment income, particularly for women.

II. Remittances

Remittances represent an important mechanism for intra-household transferences of income and wealth. While not a social security net, they theoretically provide an important, sometimes essential, source of economic livelihood particularly for poorer households. Exchanges of cash and in-kind gifts for weddings, funerals, festivals and special events act to form and strengthen individual and family bonds within the community, strengthen alliances through inter-marriages, and develop (in the case of newcomers) or reinforce allegiances with political elites within the community.

Each adult in the household¹⁰ was asked for the level of cash and in-kind remittances s/he received during the course of the previous year. Enumerators were specifically instructed to ask about part-year residents or non-family

10. Questions regarding remittances, wage-employment and self-employment in this chapter were asked directly to each adult within the household without the household head or adults being present to ensure anonymity and confidence.

members that might normally escape reporting. Only a remittance in excess of D150/transaction (cash or value of in-kind transaction) was recorded. It was known a priori that excluding smaller transactions would underestimate the level of intra-household income transfers occurring, but conversely inquiring about these small exchanges created the risk of overburdening the respondent resulting in poor respondent recall or reluctance to respond. For each transaction in excess of D150, the respondent was further queried about the sex, residency status, location, and occupation of the sender, and description of the goods if the transaction was in-kind. Results are tabulated in table 3.1.

Of the 120 households in the overall sample, 21.7% received cash and in-kind remittances in the previous year, including 49 total remittances (multiple remittances were reported for certain households). Pirang village reported the highest level of remittances (37.5%) and Sanyang (7.5%) the lowest. Founding family status appears to have no major influence on the frequency of remittances. The vast majority of remittances were remitted by males (91.8% in the overall sample) mostly residing outside The Gambia or Senegal (51.0%). Another 30.6% came from individuals residing in the vicinity of Greater Banjul, and 16.3% from elsewhere in The Gambia. The population of remitters was nearly evenly split regarding family status; only 51.0% were household members, although this percentage would have been much greater if households¹¹ in Sinchu village were eliminated (62.9% in Pirang and 66.7% in Sanyang).

It is curious that 49.0% of remittances in the overall sample were sent by non-household members, although the overly narrow definition of household¹² would exclude close kin or the wife's family in the case of a married spouse. Unfortunately, relation of the remitter to the household member receiving the remittance was not asked. The occupation of some (8) remitters was not known; of the remaining, business (15) tended to predominate, followed by civil service (6), tailoring (4), NTC or GAMTEL (3), mechanic (2), student (2), teaching (2), FAO office (1), farming (1), marabout (1), gardening (1), paymaster (1), security guard (1), or sponsor (1). Of the 49 transactions, 25 were in the form of cash, and the remainder were rice (12), cloth or clothing (8), jewelry (2), electronic goods (1), or sheep (1). As few as 1 bag and as many as 12 bags of rice were remitted, and it is strange that most of the remittances of rice were received in Pirang the principal rice growing area (9 of the 12 transfers of rice were reported for Pirang). One cannot ignore the¹³ possibility that these remittances represent a payment in exchange for land.

11. The lower percentage for non-founding families (39.1% vs 61.5%) is picking up the effect of Sinchu village in which only 7.5% of households are founding families versus 37.5% in Pirang and 45.0% in Sanyang (table 2.1).

12. A household is defined as all members who pool their resources in production, share in the output, and were resident for at least 6 months during the previous year.

13. The principal occupation of these senders was not farming, but this does not preclude the possibility that these remittances are payment for borrowing of land by outsiders in Pirang village, that farming represents a secondary occupation, or that land was being acquired for purposes other than farming.

Table 3.1:
In-Coming and Out-Going Remittances^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|---------|---------|--------------------|----------------------------|-------------------|
| Percent of households receiving remittances (% of hh) | 20.0 | 37.5 | 7.5 | 25.0 | 20.2 | 21.7 |
| Number of remittances received | 11 | 35 | 3 | 26 | 23 | 49 |
| Gender of sender (% of total remittances received): | | | | | | |
| Male | 81.8 | 94.3 | 100.0 | 96.2 | 87.0 | 91.8 |
| Female | 18.2 | 5.7 | - | 3.8 | 13.0 | 8.2 |
| Family status of sender (% of value): | | | | | | |
| Household member | 9.1 | 62.9 | 66.7 | 61.5 | 39.1 | 51.0 |
| Non-household member | 90.9 | 37.1 | 33.3 | 38.5 | 60.9 | 49.0 |
| Current residence of sender (% of value): | | | | | | |
| Greater Banjul | 36.4 | 31.4 | - | 30.8 | 30.4 | 30.6 |
| Elsewhere in Gambia | 9.1 | 14.3 | 66.7 | 7.7 | 26.1 | 16.3 |
| Senegal | 9.1 | - | - | - | 4.3 | 2.0 |
| Elsewhere (further specify) | 45.4 | 54.3 | 33.3 | 61.5 | 39.1 | 51.0 |
| Mean value of cash and in-kind remittances per transaction (D/hh) | 399.1 | 1,095.4 | 266.7 | 1,175.8 | 563.5 | 888.4 |

a. Only remittances in excess of 250 Dalasis (in-cash or in-kind) or \$30 (\$1.00=D8.30 in 1992-93) in the past year were recorded to minimize demands for data recall on the part of household members. Receipt of one bag of rice valued at about D150 would have been excluded, however receipt of multiple bags of rice should have been included. Remittance values thus probably exclude many small transactions taking place among households within the year.

b. Per-transaction remitted.

This conclusion would be consistent with the relatively high percentage of non-family members in Pirang village (37.1%), and the higher value of cash and in-kind transfers in Pirang (D1,095) and by founding families (D1,176 vs D563). Further investigation is warranted to validate this hypothesis.

II. Non-Farm Employment

Despite the rural character of life and the importance of farming in two of the three villages in the sample, the vast majority of households have

members engaged in activities outside primary agricultural production. Some of the attention paid to non-farm employment can be attributed to the ebb in agricultural activity during the dry season when the productivity of labor is low. But as will be seen shortly, many wage- and self-employment activities are held for 6 to 12 months in duration, implying a fairly high degree of non-farm involvement throughout the year.

Various indicators of non-farm employment are presented in table 3.2 for the three survey villages and by founding family status. On average, for the overall sample, 40.8% of survey households have one or more members who hold a wage- or salaried-job, and 57.5% have members who are engaged in one or more self-employed activities. To the extent that each working member in the household holds one and only one wage- or self-employment job respectively, then the number of jobs/household and number of persons employed/household ought to be identical. On average, there are .54 (.49) wage-jobs (persons employed) and .80 (.77) self-employment activities per household, indicating only a modest degree of multiple jobs per adult employed.

These data, however, are marked by wide regional variations. As expected, rates of wage-employment and self-employment are highest on the urban fringe (57.5% and 80.0% respectively in Sinchu vs 25.0% and 37.5% in Sanyang). Moreover Sinchu has the highest number of self-employment jobs (1.2 vs .73 for Pirang and .48 for Sanyang) and number of persons employed (1.15 vs .67 for Pirang and .48 for Sanyang). While Sinchu village has the highest frequency of non-farm employment, households in Pirang exhibit a greater degree of multiple jobs per working adult. Founding families appear to have better access to wage-employment (.61 vs .51 jobs, and .59 vs .45 working persons), while non-founding families seem to be placing greater emphasis on self-employment activities (.87 vs .64 jobs and .82 vs .64 persons).

Individual types of wage- and self-employment activities in table 3.3 are aggregated into six sectors of employment: teaching; construction and trades; services; fishing, livestock husbandry and agriculture; military and civil service; and commerce.¹⁴ Of the 65 (96) wage-employment (self-employment) jobs worked by households in the sample, 9 (-) involve teaching, 14 (31) involve either construction or trades, 26 (15) are associated with services, 9 (12) are related to agriculture, 5 (-) are salaried jobs in the military or civil service, and 2 (38) involve business or commercial activities. Overlap is sometimes apparent as in the case of masons in which 5 jobs involved wage-employment and 8 self-employment. While generalizations are difficult to make, teaching, services and civil service jobs tend to be dominated by salaried employment, while construction, trades and business tend to be dominated by self-employment.

The impact of medium- and large-scale commercial farms on labor absorption and employment is an important policy concern of the government and donors. Horticultural crops, being relatively labor intensive, combined with the

14. Types of individual wage- and self-employment activities were first enumerated in the survey, then the six categories were chosen, and individual activities were grouped, by researchers.

Table 3.2:

Non-Farm Employment Activities

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| No. households in sample | 40 | 40 | 40 | 36 | 84 | 120 |
| Percent of households with (% yes): ^a | | | | | | |
| Wage-employment | 57.5 | 40.0 | 25.0 | 36.1 | 42.9 | 40.8 |
| Self-employment | 80.0 | 55.0 | 37.5 | 52.8 | 59.5 | 57.7 |
| Number of jobs per household (no./hh): | | | | | | |
| Wage-employment activities | .40 | .78 | .45 | .61 | .51 | .54 |
| Self-employment activities | 1.20 | .73 | .48 | .64 | .87 | .80 |
| Number of persons employed (no./hh): | | | | | | |
| Wage-employment | .40 | .65 | .43 | .59 | .45 | .49 |
| Self-employment | 1.15 | .67 | .48 | .64 | .82 | .77 |

a. At least one family member in household is employed in wage- or self-employment activities.

b. Mean total person-months worked on wage- or self-employment activities respectively by all household workers. Because multiple members may work per household, total time worked may exceed 12 months per year.

perceived scale efficiencies of larger firms, in the marketing of vegetables and access to credit, would theoretically represent an ideal combination for increasing labor employment on smaller firms and households in the peri-urban area. Commercial farms are located in the proximity of all three survey villages, albeit they are relatively few in number. As indicated by Little and Dolan (1993), several large farms are located in the vicinity of Pirang, and one of the largest farms in Gambia is located near to Sinchu village. Of the 161 different wage- and self-employment jobs reported in the overall sample, only 11 were carried out in association with activities on large scale commercial farms. This low rate of commercial farm employment is not caused by under-reporting; enumerators were specifically instructed to inquire about field labor, packing and shipping, watering, or other activities that might be worked on such farms. As indicated in annex 1, claims of substantial labor employment by commercial farms in order to gain access to land from the *alkalos* have only rarely been achieved in practice.

This analysis of course begs the question of where are the laborers working on commercial farms coming from. The answer for this is not entirely clear as no survey of commercial farm employees was undertaken. However, as

Table 3.3:

Type of Activities by Industry Group and Type of Employment

| Type of Self- and Wage-Employment | Number of Wage-Employment Jobs (No.) | Number of Self-Employment Jobs (No.) |
|-------------------------------------|--------------------------------------|--------------------------------------|
| 1. Teaching: | 9 | - |
| Arabic teacher | 1 | - |
| Teacher | 8 | - |
| 2. Construction/trades: | 14 | 31 |
| Blacksmith | - | 2 |
| Blockmaker | 1 | 3 |
| Brickmaker | - | 1 |
| Carpenter | - | 5 |
| Fitter | - | 1 |
| Foreman | 1 | 1 |
| Hay seller | - | 1 |
| Iron bending or plating | 2 | - |
| Laborer (general) | 4 | 1 |
| Seamster | - | - |
| Seivemaker | - | 2 |
| Mason | 5 | 8 |
| Motor mechanic | - | 1 |
| Tailor | - | 2 |
| Tyermaker | - | 1 |
| Welder | 1 | 2 |
| 3. Service sectors: | 26 | 15 |
| Badge messenger | 1 | - |
| Board member | 1 | - |
| Donkey/horse operator | - | 4 |
| Driver, driver/foreman, taxi driver | 4 | 2 |
| Duty man | 1 | - |
| Health worker | 1 | - |
| Hotel worker | 1 | - |
| House cleaner | 1 | - |
| Kitchen helper | 2 | - |
| Marabout | - | 9 |
| Orderly | 1 | - |
| Security guard/watchman | 10 | - |
| Time keeper | 1 | - |
| Waiter | 1 | - |
| Weighing clerk | 1 | - |
| 4. Fishing/husbandry/agriculture: | 9 | 12 |
| Animal herder | 1 | 1 |
| Fishing or shrimp fishing | 7 | 11 |
| Watering | 1 | - |

Table 3.3:

Continued

| Type of Self- and Wage-Employment | Number of Wage-Employment Jobs (No.) | Number of Self-Employment Jobs (No.) |
|-----------------------------------|---|---|
| 5. Military/civil service: | 5 | - |
| Forest guard | 1 | - |
| Policeman | 1 | - |
| Serviceman/soldier | 3 | - |
| 6. Commerce: | 2 | 38 |
| Business | - | 2 |
| Buying and selling (general) | - | 2 |
| Buying and selling shrimp | - | 1 |
| Firewood seller | - | 2 |
| Fish monger | - | 2 |
| Palmwine tapper and seller | - | 2 |
| Petty trader | 1 | 18 |
| Retail trader | - | 2 |
| Shopkeeper | - | 2 |
| Small business owner | - | 2 |
| Store clerk | 1 | - |
| Timber seller | - | 1 |
| Wine seller | - | 2 |

a. Activity types are actual job descriptions reported by workers. Employment categories are classifications designed by researchers to summarize data after data collection was completed.

b. Eleven of the 161 total jobs were performed in conjunction with commercial farm employment: arabic teaching (1), fishing (2), hotel worker (1), house cleaner (1), mason (1), military (3), security guard (1), watering (1). Nine were salaried employees and 2 involved self-employment.

Little and Dolan (1993) report based on their reconnaissance work, a sizable number appear to be picked up by trucks in the urban areas. No doubt, the limited number of commercial farms operating in the peri-urban area would constrain labor employment. Nevertheless, the results of the village surveys suggest that the aggregate impacts (given the current extent of commercial farming) of commercial farm employment in the study area are minimal, and substantial expansion of the sector would be required before employment impacts are substantially felt.

A. Wage Employment

Detailed data on type of employment, commercial farm employment, months worked per activity, and monthly wage rates, are reported in table 3.4 for

Table 3.4:

Type of Wage-Employment Activities by Village and Founding Family Status

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|---------|---------|--------------------|----------------------------|-------------------|
| Total number of wage-employment jobs by village and family status (no.): | | | | | | |
| Teaching | 1 | 2 | 6 | 6 | 3 | 9 |
| Construction/trades | 2 | 11 | 1 | 2 | 12 | 14 |
| Service | 10 | 10 | 6 | 9 | 17 | 26 |
| Fishing/livestock husbandry/ag | - | 8 | 1 | 1 | 8 | 9 |
| Military/civil service | 1 | - | 4 | 4 | 1 | 5 |
| Commerce | 2 | - | - | - | 2 | 2 |
| Overall count | 16 | 31 | 18 | 22 | 43 | 65 |
| Percent of wage-employment jobs by village and family status (%): | | | | | | |
| Teaching | 6.3 | 6.5 | 33.3 | 27.3 | 7.0 | 13.8 |
| Construction/trades | 12.5 | 35.5 | 5.6 | 9.1 | 27.9 | 21.5 |
| Service | 62.5 | 32.3 | 33.3 | 40.9 | 39.5 | 40.0 |
| Fishing/livestock husbandry/ag | - | 25.8 | 5.6 | 4.5 | 18.6 | 13.8 |
| Military/civil service | 6.3 | - | 22.2 | 18.2 | 2.3 | 7.7 |
| Commerce | 12.5 | - | - | - | 4.7 | 3.1 |
| Percent of above wage-jobs worked on commercial farms | | | | | | |
| | - | 6.5 | 38.9 | 22.7 | 9.3 | 13.8 |
| Months of wage-employment (mos/annum of activity worked): | | | | | | |
| Teaching | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| Construction/trades | 12.0 | 4.7 | .0 | 7.4 | 5.1 | 5.4 |
| Service | 12.0 | 10.8 | 10.3 | 12.0 | 10.5 | 11.1 |
| Fishing/livestock husbandry/ag | - | 6.1 | 6.0 | 6.0 | 6.1 | 6.1 |
| Military/civil service | 12.0 | - | 8.0 | 8.0 | 12.0 | 8.8 |
| Commerce | 12.0 | - | - | - | 12.0 | 12.0 |
| Overall average | 12.0 | 7.5 | 9.4 | 10.5 | 8.3 | 9.0 |
| Mean monthly wage rates (D/mth of activity worked): | | | | | | |
| Teaching | 450.0 | 715.0 | 750.0 | 717.7 | 691.3 | 708.9 |
| Construction/trades | 475.0 | 854.1 | 6,500.0 | 550.0 | 1,312.1 | 1,203.2 |
| Service | 511.1 | 418.0 | 474.0 | 426.3 | 481.9 | 462.6 |
| Fishing/livestock husbandry/ag | - | 1,309.4 | 80.0 | 2,400.0 | 1,019.4 | 1,172.8 |
| Military/civil service | 450.0 | - | 412.5 | 412.5 | 450.0 | 420.0 |
| Commerce | 753.5 | - | - | - | 753.5 | 753.5 |
| Overall average | 531.9 | 821.9 | 888.2 | 612.7 | 857.6 | 774.6 |

wage-jobs. Around 40.0% of all wage-employment is comprised of jobs in the service sector on average, followed by construction and trades (21.5%), teaching (13.8%), agriculture (13.8%), military and civil service (7.7%), and commerce (3.1%). Membership in a founding family tends to increase the likelihood of employment in teaching (27.3% vs 7.0%) and the civil service (18.2% vs 2.3%). Conversely, membership in a non-founding family is more closely linked with wage-employment in the construction and trades sector (27.9% vs 9.1%). Both have nearly equal rates of participation in services. Of the limited number of wage-jobs on commercial farms, the majority are located in Sanyang (38.9% of all jobs in the village) and are held by founding families (22.7% of all jobs vs 9.3%).

Both the duration of employment and wage rate vary by sector and appear to be inversely related. Teaching, commerce, and service sector jobs tend to provide nearly year-round employment regardless of village or founding family status. Salaried employment in the construction and trades sector averages 5.4 months/year, and agricultural employment 6.1 months. Wage rates average D708.9/mth for teaching, D753.5/mth for commerce, and D462.6/mth for service sector employment, while employment in the construction and trades sector, and the agricultural sector, are higher at D1,203.2/mth and D1,172.8/mth respectively. Military and civil service jobs tend to offer lower pay (D420.0/mth), but also tend to confer greater non-monetary benefits as indicated in table 3.7. The limited number of observations for specific activities within strata preclude a regional wage rate analysis by either village or founding family status. Considering all sectors combined, however, wage rates appear to be higher in Pirang and Sanyang villages, than in Sinchu village, no doubt partially due to the relatively recent settlement of many Sinchu households.

B. Self-Employment

Comparable data on type of employment, commercial farm employment, months worked per activity and monthly wage rates are reported in table 3.5 for self-employed jobs. Of the 96 total jobs reported in the overall sample, 39.6% involve commerce and 32.3% construction and trades. Less than 2% involve work on commercial farms. With the exception of the agricultural and services sector which have very wide ranges in the duration of jobs worked, self-employment jobs tend to have a duration of less than 6 months per year with little variation in means across strata: 3.0 to 4.7 months in construction and trades, and 4.2 to 6.5 months in commerce. Self-employment earnings tend to be higher than wage-jobs (D954.1/mth vs D774.6/mth in table 3.4), and particularly so for the agricultural (D1,507.3/mth vs D1,172.8/mth) and service sectors (D1,020.7/mth vs D462.6). The limited number of observations prevents an analysis of wage rates among sectors and regions. But, as with wage-employment, wages in Pirang and Sanyang again are higher than on the urban fringe (D1,1317.7 in Sanyang and D1,193.3 in Pirang vs D954.1 in Sinchu).

C. Gender Segmented Labor Markets

Wage-employment in the three villages is dominated by males, and while both sexes are employed in self-employment activity, female participation is lower and skewed toward petty trading. Data are presented in table 3.6 on

Table 3.5:

Type of Self-Employment Activities by Village and Founding Family Status

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|---------|---------|--------------------|----------------------------|-------------------|
| Total number of self-employment jobs by village and family status (no.): | | | | | | |
| Construction/trades | 20 | 4 | 7 | 7 | 24 | 31 |
| Service | 6 | 7 | 2 | 5 | 10 | 15 |
| Fishing/livestock husbandry/ag | - | 8 | 4 | 2 | 10 | 12 |
| Commerce | 22 | 10 | 6 | 9 | 29 | 38 |
| Overall total | 48 | 29 | 19 | 23 | 73 | 96 |
| Percent of self-employment jobs by village and family status (%): | | | | | | |
| Construction/trades | 41.7 | 13.8 | 36.8 | 30.4 | 32.9 | 32.3 |
| Service | 12.5 | 24.1 | 10.5 | 21.7 | 13.7 | 15.6 |
| Fishing/livestock husbandry/ag | - | 27.6 | 21.1 | 8.7 | 13.7 | 12.5 |
| Commerce | 45.8 | 34.5 | 31.6 | 39.1 | 39.7 | 39.6 |
| Percent of above self-jobs worked^a on commercial farms | | | | | | |
| | - | - | 10.5 | 8.7 | - | 2.1 |
| Months of self-employment (mos/annum of activity worked): | | | | | | |
| Construction/trades | 4.8 | 3.0 | 4.0 | 4.7 | 4.4 | 4.5 |
| Service | 6.5 | 10.0 | .5 | 4.2 | 10.9 | 8.4 |
| Fishing/livestock husbandry/ag | - | 8.2 | .5 | - | 6.6 | 6.6 |
| Commerce | 5.5 | 6.5 | 4.2 | 5.9 | 5.1 | 5.4 |
| Overall | 5.1 | 7.7 | 3.4 | 5.2 | 5.8 | 5.6 |
| Mean monthly wage rates (D/mth of activity worked): | | | | | | |
| Construction/trades | 927.5 | 558.3 | 1,180.0 | 1,246.4 | 859.1 | 949.5 |
| Service | 411.7 | 438.6 | 8,750.0 | 1,934.0 | 513.3 | 1,020.7 |
| Fishing/livestock husbandry/ag | - | 2,081.3 | 359.4 | 531.3 | 1,702.5 | 1,507.3 |
| Commerce | 535.2 | 1,202.8 | 878.5 | 659.3 | 783.5 | 753.3 |
| Overall | 683.2 | 1,193.3 | 1,317.7 | 1,103.9 | 904.9 | 954.1 |

a. Two of 96 self-employment activities involved commercial farm employment: construction and trades (1); and fishing, husbandry and agriculture (1).

Table 3.6:

Wage- and Self-Employment Activities by Gender

| Type of Activity worked | Total no. Jobs Held by Type (no.) | Months Worked/Annum (hh) | Remuneration | | | Monthly Earnings (D/hh) |
|-------------------------------|-----------------------------------|--------------------------|--------------|-------------|----------|-------------------------|
| | | | In-Cash (%) | In-kind (%) | Both (%) | |
| Male wage-employment | | | | | | |
| Teaching | 9 | 12.0 | 100.0 | - | - | 708.9 |
| Construction/trades | 13 | 4.9 | 100.0 | - | - | 1,269.2 |
| Service | 25 | 11.1 | 96.0 | - | 4.0 | 462.6 |
| Fishing/husbandry/ag | 9 | 6.1 | 77.8 | 11.1 | 11.1 | 1,172.8 |
| Military/civil service | 5 | 8.8 | 80.0 | 20.0 | - | 420.0 |
| Commerce | 1 | 12.0 | 100.0 | - | - | 907.0 |
| Female wage-employment | | | | | | |
| Teaching | - | - | - | - | - | - |
| Construction/trades | 1 | 12.0 | 100.0 | - | - | 345.0 |
| Service | 1 | - | 100.0 | - | - | - |
| Fishing/husbandry/ag | - | - | - | - | - | - |
| Military/civil service | - | - | - | - | - | - |
| Commerce | 1 | 12.0 | 100.0 | - | - | 600.0 |
| Male self-employment | | | | | | |
| Construction/trades | 30 | 4.5 | 96.7 | - | 3.3 | 949.5 |
| Service | 14 | 8.4 | 57.1 | 7.1 | 35.7 | 1,022.3 |
| Fishing/husbandry/ag | 12 | 6.6 | 83.3 | - | 16.7 | 1,507.3 |
| Commerce | 16 | 5.1 | 81.3 | 6.3 | 12.5 | 688.9 |
| Female self-employment | | | | | | |
| Construction/trades | 1 | - | 100.0 | - | - | - |
| Service | 1 | - | 100.0 | - | - | 1,000.0 |
| Fishing/husbandry/ag | - | - | - | - | - | - |
| Commerce | 22 | 5.8 | 100.0 | - | - | 797.2 |

a. Includes kitchen helper (1), laborer (1), and petty seller (1).

b. Includes marketing shrimp (1), cloth stitching (1), taxi driver (1), fish monger (1), petty trading (14), retail trader (1), shopkeeper or small business (3), and wine seller (2). Unfortunately, data are not sufficiently detailed to ascertain whether "petty trading" comprises vegetable trading.

number and type of jobs held by gender group, type of remuneration, number of months worked per annum, and monthly earnings. Of the 65 salaried jobs in the overall sample, only 3 are held by women. Rates of participation are higher in the self-employment market; of the 96 self-employed jobs reported, 24 are held by women. Men tend to work in all major sectors of the economy. The vast majority of women (22 of 24 self employed jobs) involve commercial activity, mainly petty trade.

An analysis of wage rates between males and females is precluded by the limited number of observations for females in wage-employment. An analysis of monthly earnings in commercial activities (the only sector with a reasonable number of jobs held by both sexes) indicates that self-employed earnings of females are quite comparable to that of males (D797.2/mth vs D688.9/mth). However, it is the exclusion of women from other sectors that reveals the most tangible and important effects on women's access to income. Wage-rates in salaried employment, depending on the sector, may or may not exceed earnings in petty trade, but the longer duration of time worked per year and the non-monetary benefits provided by wage-employment relative to self-employment (see table 3.7) confer considerable extra rewards. In the self-employment sector, wage rates in construction and trades, services and agriculture are higher than in the commercial sector (which women dominate), and women's participation in these sectors is very low.

D. Household Income and Non-Monetary Benefits

Monetary and non-monetary sources of earnings and benefits at the household level are summarized in table 3.7. Wage- and self-employment earnings are the mean annualized incomes of all family members employed within the household. Remittance income is the mean of all receipts (>D150/transaction) by all family members. Detailed information on agricultural earnings are presented in chapter 5. Data on income from fruit trees, orchards, upland crops, rice, and vegetables in table 3.7 represent the net income of each respective agricultural activity earned by all plot managers within the household.

The average annual income of households in the overall sample is D11,899.5 or about \$1,433.7 (\$1.00=D8.30 in 1992-93), an amount substantially higher than the figure of \$260/capita GNP reported for the country as a whole in 1990 (World Bank 1992). The majority of income is derived from self- (45.0%) and wage-employment (39.2%) activities. Despite the rural character of life in Pirang and Sanyang villages, net income from farming represents only 12.7% of income in the overall sample. Annual incomes are highest in Pirang (D15,316.6 or \$1,845.4) and lowest in Sinchu (D8,996.3 or \$1,083.9), however once adjustments are made for family size the difference with Sanyang village disappears. It is understandable that agricultural incomes in Sinchu are below those of the more rural villages, and the higher self-employment of Sinchu village is expected. It is surprising that the most remote village--Sanyang--has the highest level of wage-employment. Many people have established residences in Sanyang in recent years and now commute to and from the urban center. No doubt the data is picking up this phenomena. The annual incomes of founding families (D15,517.0 or \$1,869.5) on average are 49.9% higher than those of non-founding families (D10,349.09 or \$1,246.9) due to higher wage income (D9,917.8 vs D2,415.9), higher levels of remittances (D849.2 vs D154.3), and higher earnings from upland crops, rice and vegetables (D1,800.1 vs D694.6).

Horticultural crops are making an important contribution to household income in one survey village, and potentially represent an important source of income growth in the others. Of the total household income in the overall sample (D11,899.5), 2.7% is derived from sales of fruit tree products (non-orchards), 1.4% from orchard production, and 3.2% from vegetable

Table 3.7:
Household Income and Non-Wage Benefits

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|---------|----------|----------|--------------------|----------------------------|-------------------|
| No. households in sample | 40 | 40 | 40 | 36 | 84 | 120 |
| Household income (dalasis/annum): ^a | | | | | | |
| Wage-employment | 2,366.6 | 3,682.1 | 7,950.8 | 9,917.8 | 2,415.9 | 4,666.5 |
| Self-employment | 6,180.8 | 8,183.7 | 1,695.4 | 2,423.8 | 6,608.8 | 5,353.3 |
| Remittances | 109.8 | 958.5 | 20.0 | 849.2 | 154.3 | 362.8 |
| Fruit tree (non-orchards) income | 135.6 | 109.1 | 711.0 | 352.5 | 304.1 | 318.6 |
| Orchard income | - | 501.3 | 15.0 | 173.6 | 171.4 | 172.1 |
| Upland crops | 203.6 | 462.8 | 506.8 | 528.6 | 332.1 | 391.0 |
| Rice | - | 398.3 | 351.9 | 475.9 | 153.3 | 250.1 |
| Vegetables | - | 1,020.9 | 134.7 | 795.6 | 209.3 | 385.2 |
| Total household net income | 8,996.3 | 15,316.7 | 11,385.4 | 15,517.0 | 10,349.1 | 11,899.5 |
| Household income per capita ^b (dalasis/annum): | | | | | | |
| Wage-employment | 268.3 | 359.9 | 680.7 | 857.9 | 249.6 | 455.7 |
| Self-employment | 700.8 | 800.0 | 145.2 | 209.7 | 682.7 | 522.8 |
| Remittances | 12.4 | 93.7 | 1.7 | 73.5 | 15.9 | 35.4 |
| Farming net income | 38.5 | 243.6 | 147.2 | 201.2 | 120.9 | 148.1 |
| Total household net income | 1,020.0 | 1,497.2 | 974.8 | 1,342.3 | 1,069.1 | 1,162.1 |
| Non-monetary benefits associated with wage-employment (% hh with): | | | | | | |
| Subsidized food | - | 5.0 | 5.0 | 5.6 | 2.4 | 3.3 |
| Medical assistance | 7.5 | 22.5 | 15.0 | 19.4 | 13.1 | 15.0 |
| Paid leave | 25.0 | 20.0 | 12.5 | 25.0 | 16.7 | 19.2 |
| Pension benefits | 32.5 | 7.5 | 15.0 | 19.4 | 17.9 | 18.3 |
| Transport to work | 25.0 | 15.0 | 5.0 | 8.3 | 17.9 | 15.0 |
| Non-monetary benefits associated with self-employment (% hh with): | | | | | | |
| Subsidized food | - | - | - | - | - | - |
| Medical assistance | - | - | 17.5 | 16.7 | 1.2 | 5.8 |
| Paid leave | - | - | - | - | - | - |
| Pension benefits | - | - | - | - | - | - |
| Transport to work | - | - | 2.5 | 2.8 | - | .8 |

a. Data on income from livestock activities were not collected, although changes (purchases and sales of livestock numbers) were recorded. These latter data indicate only marginal buying and selling throughout the year although the imputed value for home consumption could still be considerable.

b. Household income divided by mean family size in table 2.1.

production. However, if one examines the same indicators in Pirang village, fruits (orchard and non-orchard) comprise 4.0%, and vegetables 6.7% of household income. The higher income of Pirang village is derived from higher vegetable income and self-employment (including vegetable marketing and processing) without major income cuts in other competing activities (e.g. upland crops or rice). As vegetables tend to be produced in the dry season, gardening and trading thus appear to be decreasing both unemployment and underemployment in the survey village, in the process lowering the labor surplus and increasing incomes.

Comparisons of overall wage rates in tables 3.4 and 3.5 indicate higher earnings in self-employed activities than in wage-employment. Part of this difference can be attributed to greater job security associated with the latter. In addition, wage-jobs confer greater non-monetary benefits. Of the 65 (96) wage-employment (self-employment) jobs in the sample, 3.0% (-) offer subsidized food, 15.0% (6.0%) medical assistance, 19% (-) paid leave, 18.0% (-) pension benefits, and 15.0% (1.0%) transport assistance to work. Placing a monetary value on these benefits would be prohibitively difficult, although it is probably reasonable to assume that factoring in their value would substantially narrow the earnings differential.

IV. Credit and Savings Mobilization

Net income flows within the household are affected by savings (net reduction) and credit (net increase) activity. Each adult member of the household was asked to provide certain data on the three largest loans or *osusu* withdrawals s/he received or took out in the previous year. Data are tabulated in table 3.8 on type of financial activity, source and uses of credit, and security and level of credit or withdrawals. Table 3.9 contains further detailed data on *osusu* and *kafo* financial activities. *Osusu* withdrawals differ from *kafo* and bank loans in two important ways. First, an *osusu* is a savings group whereby a fixed number of members each deposit a set amount at specified intervals during the rotation. The *osusu* pot is offered to one or more members of the same group at specified intervals during the rotation, and the member either has the right to take the money or pass on the pot until a later date. Whereas, *osusu* is a savings mechanisms whereby a member systematically deposits a set amount to develop a pool of funds for withdrawal at a future date, *kafo* loans and bank loans permit a member to borrow services or money in the present with repayment over a specified period in the future.

One in five households in the overall sample reported having an *osusu* head who resides in the household, and 9.2% a *kafo* head. Households in the sample reported a total of 136 separate financial transactions in the previous year. Of this total, 52.2% represent *osusu* withdrawals, 42.6% *kafo* loans, 1.4% private loans from friends and family, 1.5% from traders, 0.7% from an employer, 0.7% from another household member, and 0.7% from a bank. Not all households reported financial transactions. As most *osusu* rotations are a year or less in duration, any household participating in an *osusu* should have reported a withdrawal sometime in the previous year. As indicated in table 3.8, only 35.8% of households had one or more adults who reported receiving a loan or *osusu* withdrawal in the previous year, a relatively low level of financial market activity. *Osusu* activity was most prevalent in Pirang village. Founding families tend to rely to a greater degree on *kafo* loans

Table 3.8:
Credit Use and Osusu Withdrawals^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|--|--------|--------|---------|--------------------|----------------------------|-------------------|
| Osusu withdrawals in cash | 14 | 57 | - | 24 | 47 | 71 |
| Kafo loans in cash | - | 58 | - | 31 | 27 | 58 |
| Other loans in cash | 1 | 5 | 1 | 2 | 5 | 7 |
| Percent households (% hh): | | | | | | |
| Receiving loans or osusus | 20.0 | 85.0 | 2.5 | 36.1 | 35.7 | 35.8 |
| With Osusu head | - | 15.0 | - | 11.1 | 2.4 | 5.0 |
| With Kafo head | 2.5 | 25.0 | - | 13.9 | 7.1 | 9.2 |
| Source of credit (% of loans/withdrawals): | | | | | | |
| Bank | 6.7 | - | - | - | 1.3 | .7 |
| Household member | - | - | 100.0 | - | 1.3 | .7 |
| Traders | - | 1.7 | - | - | 2.5 | 1.5 |
| Employer | - | .8 | - | - | 1.3 | .7 |
| Other families/friends | - | 1.7 | - | 3.5 | - | 1.5 |
| Kafo | - | 48.3 | - | 54.4 | 34.2 | 42.6 |
| Osusu | 93.3 | 47.5 | - | 42.1 | 59.5 | 52.2 |
| Principal purpose/use of credit (% of loans/withdrawals): | | | | | | |
| Home construction | 46.7 | .8 | 100.0 | - | 11.4 | 6.6 |
| Purchase of durable goods | 13.3 | 6.7 | - | 3.5 | 10.1 | 7.4 |
| Education | - | 1.7 | - | 3.5 | - | 1.5 |
| Social obligations | - | 51.7 | - | 45.6 | 45.6 | 45.6 |
| Start business | 40.0 | 1.7 | - | 8.9 | 1.8 | 5.9 |
| Farm inputs and equipment | - | 3.3 | - | 7.0 | - | 2.9 |
| Other | - | 34.2 | - | 38.6 | 24.1 | 30.1 |
| Security (% loans/withdrawals) | | | | | | |
| Reciprocal loan | - | 31.7 | - | 17.5 | 35.4 | 27.9 |
| Guarantor | - | 1.7 | 100.0 | - | 3.8 | 2.2 |
| Other | - | .8 | - | - | 1.3 | .7 |
| None or missing | 100.0 | 65.8 | - | 82.5 | 59.5 | 69.1 |
| Average value of credit (D): | | | | | | |
| Osusu withdrawals | 6.0 | 14.1 | - | 17.0 | 10.2 | 12.5 |
| Kafo loans | - | 9.4 | - | 8.4 | 10.5 | 9.4 |
| Other loans | 150.0 | 160.0 | - | 150.0 | 130.0 | 135.7 |

a. Each adult of household was asked for the 3 largest loans or osusu withdrawals in the past year. Multiple credits may have accrued to one person.

Table 3.9:

Osusu Deposits and Credit Repayment

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|---|--------|--------|---------|-----------------|---------------------|----------------|
| Osusu withdrawals in cash | 14 | 57 | - | 24 | 47 | 71 |
| Kafo loans in cash | - | 58 | - | 31 | 27 | 58 |
| Payin period for osusu (% withdrawals): ^a | | | | | | |
| Day | 50.0 | - | - | - | 14.9 | 9.9 |
| Week | 28.6 | 57.9 | - | 62.5 | 46.8 | 52.1 |
| Month | 14.3 | 1.8 | - | - | 6.4 | 4.2 |
| Other | 7.1 | - | - | - | 2.1 | 1.4 |
| Undetermined or irregular | - | 40.4 | - | 37.5 | 29.8 | 32.4 |
| Number of payin periods for osusu (no.): ^a | | | | | | |
| Day | 21.7 | - | - | - | 21.7 | 21.7 |
| Week | 21.5 | 23.0 | - | 20.7 | 24.3 | 22.8 |
| Month | 9.0 | 14.0 | - | - | 10.7 | 10.7 |
| Other | 14.0 | - | - | - | 14.0 | 14.0 |
| Undetermined or irregular | - | 30.8 | - | 28.6 | 32.2 | 30.8 |
| Amount paid-in per osusu period (D): ^a | | | | | | |
| Day | 4.1 | - | - | - | 4.1 | 4.1 |
| Week | 8.8 | 15.9 | - | 17.7 | 13.4 | 15.1 |
| Month | 5.0 | 50.0 | - | - | 20.0 | 20.0 |
| Other | 10.0 | - | - | - | 10.0 | 10.0 |
| Undetermined or irregular | - | 9.8 | - | 15.8 | 6.0 | 9.8 |
| Pay back period for Kafo loans (%): ^b | | | | | | |
| Week | - | 5.2 | - | 6.5 | 3.7 | 5.2 |
| Month | - | 3.4 | - | 3.2 | 3.7 | 3.4 |
| Undetermined or irregular | - | 91.4 | - | 90.3 | 92.6 | 91.4 |
| Number of payments for Kafo loans (no): ^b | | | | | | |
| Week | - | 45.0 | - | 41.5 | 52.0 | 45.0 |
| Month | - | 29.0 | - | 29.0 | 29.0 | 29.0 |
| Undetermined or irregular | - | 35.2 | - | 32.1 | 38.6 | 35.2 |
| Amount per payment to Kafo (D): ^b | | | | | | |
| Week | - | 15.0 | - | 17.5 | 10.0 | 15.0 |
| Month | - | 55.0 | - | 10.0 | 100.0 | 55.0 |
| Undetermined or irregular | - | 7.3 | - | 7.6 | 7.0 | 7.3 |

a. Percentage of total osusu transactions, number of periods between dates of payout to same contributing member, and amount of payout by type of payin period.

b. Percentage of total kafo transactions, number of payments between receipt of loan and time loan is retired, and amount of repayment by type of repayment period.

(54.4% vs 34.2%) while non-founding families tend to resort to *osusus* (59.5% vs 42.1%).

The majority of loans and withdrawals (based on number not value) were used to fulfill social obligations (45.6%), followed in declining order of importance by other uses (30.1%), durable goods purchases (7.4%), home construction (6.6%), business (5.9%), farm inputs and equipment (2.9%), and education (1.5%). Overall, the average *osusu* withdrawal is D12.5, D9.4 for *kafo* loans, and D135.7 for other types of loans, with very little variation among strata. Most loans were not guaranteed by collateral (69.1%), although a high percentage of loans were guaranteed by the need for reciprocity (27.9%). In the latter case, a loan is granted by individual (A) to another (B) on grounds that in the future the lender may need cash and have to borrow (from B) in return. Lending between individuals (A) and (B) is based on reciprocal exchange that at one level reduces search costs between creditor and borrower in the informal market, and at another level acts as a form of guarantee--the failure to grant credit means the loss of a potential creditor, and failure to repay means loss of goodwill and the loss of future credit in the community.

With regard to *osusus*, the majority of systems required weekly deposits (52.1%), irregular payments (32.4%), or daily deposits (9.9%). Most rotations are roughly 22 days, 23 weeks, or 11 months in duration. The amount paid in per *osusu* interval ranges from D4.1/day to D15.1/week to D20.0/month with considerable variation among villages.¹⁵ A far higher percentage of *kafo* loans are of irregular interval.

V. Labor Utilization

Kafo groups have a long tradition in The Gambia. A number of members will form the *kafo* group, and contract out their labor for a specified task and area based on the promise of later repayment. Theoretically, *kafo* labor would be expected to be higher on the fields of founding families than non-founding families. As major land holding groups, labor can be demanded in exchange for land, with nominal or competitive rates being paid depending on the circumstance. Detailed time flow data was not collected during the course of this study. Rather each plot manager was asked to respond whether each of six types of labor (male wage, female wage, *kafo* wage, male family labor, female family labor, and child labor) were used on each major plot under his or her management. Responses are tabulated as a percentage of all plots in the respective strata.

Kafo labor tends to be more important on land preparation (3.0% of plots) and weeding (4.5%) but results vary by crop (table 3.10). A significant number of rice plots received *kafo* labor during the labor intensive tasks of land preparation (9.8%) and planting (7.4%). And as many as 11.7% and 11.1% of

15. It is not clear why *osusu* deposits (times the number of pay-in intervals) are so much higher than the average value of an *osusu* withdrawal. Either the pot is increasing in value as people decide to pass on their turn in a rotation, people are under-reporting withdrawals, or missing value problems are biasing results.

**Table 3.10:
Farm Labor Utilization by Village and Founding Family Status**

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---------------------------------------|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of plot managers | 143 | 255 | 227 | 237 | 388 | 625 |
| Land preparation (% plots employing): | | | | | | |
| Male wage labor | .7 | 10.2 | 5.7 | 11.0 | 3.6 | 6.4 |
| Female wage labor | - | .4 | .9 | 1.3 | - | .5 |
| Kafo wage labor | 2.1 | 3.9 | 2.6 | 4.6 | 2.1 | 3.0 |
| Male family labor | 69.9 | 28.2 | 29.1 | 26.2 | 45.4 | 38.1 |
| Female family labor | 40.6 | 66.3 | 39.2 | 61.6 | 43.8 | 50.6 |
| Child family labor | 53.8 | 15.3 | 10.6 | 12.2 | 28.6 | 22.4 |
| Planting (% plots employing): | | | | | | |
| Male wage labor | .7 | .4 | 1.3 | .8 | .8 | .8 |
| Female wage labor | .7 | - | .4 | .4 | .3 | .3 |
| Kafo wage labor | - | 2.4 | 1.3 | 3.4 | .3 | 1.4 |
| Male family labor | 69.2 | 22.7 | 26.0 | 24.1 | 41.0 | 34.6 |
| Female family labor | 47.6 | 67.8 | 42.3 | 64.6 | 47.4 | 53.9 |
| Child family labor | 58.0 | 16.1 | 16.3 | 14.3 | 32.7 | 25.8 |
| Weeding (% plots employing): | | | | | | |
| Male wage labor | - | 1.2 | 3.5 | 2.1 | 1.5 | 1.8 |
| Female wage labor | .7 | - | .4 | .4 | .3 | .3 |
| Kafo wage labor | 7.0 | 3.1 | 4.4 | 5.1 | 4.1 | 4.5 |
| Male family labor | 66.4 | 24.7 | 26.9 | 25.7 | 40.7 | 35.0 |
| Female family labor | 64.3 | 62.0 | 41.4 | 59.1 | 52.6 | 55.0 |
| Child family labor | 60.8 | 22.0 | 22.9 | 21.9 | 36.9 | 31.2 |
| Harvesting (% plots employing): | | | | | | |
| Male wage labor | - | .4 | 2.2 | 1.7 | .5 | 1.0 |
| Female wage labor | .7 | - | - | - | .3 | .2 |
| Kafo wage labor | - | 1.6 | 1.3 | 3.0 | - | 1.1 |
| Male family labor | 69.2 | 20.8 | 22.9 | 22.4 | 38.9 | 32.6 |
| Female family labor | 62.9 | 67.8 | 38.8 | 62.4 | 52.3 | 56.2 |
| Child family labor | 61.5 | 22.4 | 14.1 | 15.2 | 36.3 | 28.3 |
| Watering (% plots employing): | | | | | | |
| Male wage labor | - | - | - | - | - | - |
| Female wage labor | - | - | - | - | - | - |
| Kafo wage labor | - | - | - | - | - | - |
| Male family labor | 1.4 | 3.1 | .9 | 2.1 | 1.8 | 1.9 |
| Female family labor | 3.5 | 36.9 | 21.1 | 34.6 | 16.8 | 23.5 |
| Child family labor | 2.8 | 13.3 | 9.3 | 9.7 | 9.3 | 9.4 |
| Labor sufficient (% yes): | | | | | | |
| Land preparation | 4.9 | 7.5 | 41.0 | 21.5 | 17.5 | 19.0 |
| Planting | 14.7 | 2.4 | 23.8 | 9.3 | 15.2 | 13.0 |
| Weeding | 15.4 | 3.9 | 38.8 | 16.0 | 21.1 | 19.2 |
| Harvesting | 12.6 | 2.4 | 23.3 | 9.7 | 13.9 | 12.3 |
| Watering | 2.8 | 1.6 | 17.2 | 5.9 | 8.5 | 7.5 |

**Table 3.11:
Farm Labor Utilization by Crop**

| | Grains ^a | Rice | Groundnuts | Gardens | Orchards |
|---------------------------------------|---------------------|------|------------|---------|----------|
| Number of plot observations | 103 | 122 | 81 | 160 | 14 |
| Land preparation (% plots employing): | | | | | |
| Male wage labor | 4.9 | 2.5 | 2.5 | 13.8 | 21.4 |
| Female wage labor | - | 1.6 | - | .6 | - |
| Kafo wage labor | 2.9 | 9.8 | 1.2 | 1.3 | - |
| Male family labor | 92.2 | 6.6 | 92.6 | 15.6 | 57.1 |
| Female family labor | 28.2 | 95.1 | 29.6 | 85.6 | 14.3 |
| Child family labor | 44.7 | 6.6 | 58.0 | 15.0 | 7.1 |
| Planting (% plots employing): | | | | | |
| Male wage labor | 1.9 | - | 1.2 | .6 | - |
| Female wage labor | - | .8 | - | - | - |
| Kafo wage labor | - | 7.4 | - | - | - |
| Male family labor | 95.1 | 1.6 | 87.7 | 5.6 | 57.1 |
| Female family labor | 32.0 | 95.1 | 43.2 | 86.3 | 28.6 |
| Child family labor | 49.5 | 9.8 | 63.0 | 16.3 | 7.1 |
| Weeding (% plots employing): | | | | | |
| Male wage labor | 4.9 | - | 1.2 | .6 | 7.1 |
| Female wage labor | - | .8 | - | - | - |
| Kafo wage labor | 11.7 | 4.1 | 11.1 | - | - |
| Male family labor | 94.2 | 1.6 | 84.0 | 5.0 | 64.3 |
| Female family labor | 39.8 | 83.6 | 58.0 | 86.3 | 35.7 |
| Child family labor | 59.2 | 16.4 | 67.9 | 21.3 | 21.4 |
| Harvesting (% plots employing): | | | | | |
| Male wage labor | 1.0 | - | 3.7 | .6 | - |
| Female wage labor | - | - | - | - | - |
| Kafo wage labor | - | 5.7 | - | - | - |
| Male family labor | 92.2 | - | 86.4 | 4.4 | 64.3 |
| Female family labor | 39.8 | 95.9 | 59.3 | 81.9 | 28.6 |
| Child family labor | 52.4 | 9.0 | 67.9 | 22.5 | 28.6 |
| Watering (% plots employing): | | | | | |
| Male wage labor | - | - | - | - | - |
| Female wage labor | - | - | - | - | - |
| Kafo wage labor | - | - | - | - | - |
| Male family labor | - | - | - | 2.5 | 50.0 |
| Female family labor | - | 4.1 | - | 85.0 | 28.6 |
| Child family labor | - | 2.5 | - | 33.1 | 14.3 |
| Labor sufficient (% yes): | | | | | |
| Land preparation | 20.4 | 26.2 | 12.3 | 25.6 | 14.3 |
| Planting | 11.7 | 13.1 | 23.5 | 15.6 | - |
| Weeding | 30.1 | 21.3 | 19.8 | 18.8 | 7.1 |
| Harvesting | 14.6 | 15.6 | 19.8 | 11.9 | - |
| Watering | - | 1.6 | - | 25.0 | 14.3 |

a. Maize, millet and sorghum.

grain and groundnut plots respectively had *kafo* labor applied (table 3.11). Wage-labor tends to be more important on land preparation, and tends to be carried out by males (6.4% vs .5% for land preparation, .8% vs .3% for planting, 1.8% vs .3% for weeding, and 1.0% vs .2% for harvesting). However, as indicated in table 3.11, male wage labor is crop specific, being used on 13.8% of garden plots and 21.4% of orchards at the time of land preparation, and 4.9% of grains and 7.1% of orchards at the time of weeding. While not representing a significant usage, founding families tend to hire more wage and *kafo* labor than non-founding families. With regard to land preparation, 11.0% (4.6%) vs 3.6% (2.1%) of the plots of founding families had male wage (*kafo* labor) labor applied. Comparable figures for weeding are 2.1% (5.1%) vs 1.5% (4.1%) respectively.

A number of points stand out from the analysis of family labor. Excluding watering, female labor is used on 50.6% to 56.2% of the plots in the overall sample depending on the task. Rates of male labor on plots is only slightly greater than labor provided by children (32.6% to 38.1% vs 22.4% vs 31.2%). The extent to which male and female labor are involved depends on the crop grown and presumably on whether the manager is a male or female. With respect to grains and groundnuts which tend to be cultivated by male plot managers, over 92% of plots received male labor at land preparation, but only 6.6% and 15.6% of rice and garden plots (normally managed by women) had male labor applied. Similar relationships hold for planting, weeding, and harvesting.

As a result of high out-migration that has reduced the supply of able bodied workers in the villages, and gender segmented markets, constraints on labor supply would be expected. Each plot manager for each plot was asked if sufficient labor was available for each of 5 crop activities. Overall, less than 19.0% of plot managers for all activities reported having sufficient labor. Rates were extremely low for watering. Labor sufficiency rates tend to be highest in Sanyang and lowest in Pirang. While the higher social status of founding families results in some additional leverage in hiring *kafo* labor, it does little to alleviate labor scarcity. Labor constraints appear to be severe for all crops, but are particularly severe for planting of rice and gardens, weeding of orchards, and harvesting of gardens.

These labor constraints are not simply a matter of lack of animal traction or a shortage of wage labor. As will be seen in chapter 5, animal traction is widely used on upland fields, and a sizable amount of wage labor is employed. Financial liquidity problems no doubt cause cash constraints. The fact that a high percentage of young able-bodied males (and to a lesser extent females) are "non-resident" in Pirang and Sanyang is no doubt an important factor as well. But it nonetheless is surprising that labor shortages are reported at the same time that a relatively strict segmentation of labor is observed, particularly the low rates of male labor on vegetable crops during off-agricultural season. Further it is not a matter of profitability, as vegetables are widely perceived to be highly remunerative (see annex A and Little and Dolan 1993). This issue is perplexing and deserving of further investigation.

CHAPTER 4

LAND MARKETS AND LAND RIGHTS

I. Introduction

The land market provides the mechanism through which households are able to adjust the size of their land holdings, plot managers are able to acquire and dispose of plots, and newcomers are able to acquire land for residential use and farming. The extent to which the processes underlying the land market are founded on administrative or market forces, the extent to which the market is open and transparent, and whether the market is ensuring open, secure, and equitable access to land are the focus of this chapter. The data reveal that land markets are heavily linked to administrative allocations by the *alkalo* and founding families, but lending and borrowing of land have evolved rapidly throughout the peri-urban areas in recent years, as have commercial purchases and sales on the urban fringe. Evictions are shown to be a major cause of land dispossessions in Sinchu village, and combined with the political power of the *alkalo* in land allocations, are acting to undermine the security of land rights. An analysis of land rights reveals substantial if not considerable individual rights on behalf of plot managers to use the land and make plot improvements. However, the ability to transfer land to others remains heavily interlinked with the need to acquire authorizations both within the household, and from land holding groups. Given that many plot managers, male and female, have been able to acquire land in the study area, it seems reasonable to assume that the customary system is providing equitable and secure access to land in the more peri-rural areas, although increasing land scarcity is beginning to undermine access and land rights in the areas undergoing rapid conversion to residential land uses.

II. Plot Acquisition Histories

A. All Parcels

Based on discussions with the *alkalo* in each study village (annex A), newcomers from Banjul and Serekunda, from up-river and abroad, are contacting the *alkalos* in all villages seeking land. Land may be allocated by the *alkalo* or *kabilo* head, but the *alkalo's* consent must be obtained for any transaction, and his involvement is required in any dispute. A tribute of "kola nuts" is offered to the "owners" of the land, largely as a symbolic gesture, but cash payments are occurring. Agricultural lands are normally not leased, rented, bought, or sold to any significant extent in any site. Borrowed land must be returned at the season's end, although some families have borrowed the same piece of land for decades. Residential property or land for a compound is bought and sold in Sinchu, less so in Pirang, and not at all in Sanyang. However, only the improvements on land are transferred through sale according to the *alkalos*, not the land itself.

The history of plot acquisitions provides a backward look at the operation of land markets. To the extent that ownership term is lengthy and the land market has been dynamic over time, plot acquisition histories provide a distorted picture of current land access and transfer mechanisms. All plot managers in the household were asked to provide information on year of acquisition, mode of acquisition, and from whom the plot was acquired. For plots purchased, plot managers were further asked to provide information on source of financing and motive of purchase. Asking these questions for the numerous small rice and private vegetable plots would have been prohibitively difficult. In these cases, the respondent was asked to provide acquisition histories for either a representative plot or the principal plot among each. Results of these questions are tabulated in table 4.1. The data provided in table 4.2 further clarify the linkages between type of acquisition, gender and source of transaction.

Based on past history, non-commercial transfers represent the predominant mode of land transfer. Of the 684 major plots for which complete information is available, 34.8% in the overall sample were obtained through inheritance, 32.2% through borrowing, and 23.3% through gift by the *alkalo* or *kabilo* head. As conceptualized in the questionnaire, a gift by the *alkalo* or *kabilo* head, while borrowed land, is still land allocated by a principal authority in the village. Only 1.9% were obtained through spontaneous occupation--i.e. clearing and settling on land without permission of another holder. Another 4.9% of plots were purchased.

As would be expected, households in Sanyang village tend to rely to a greater degree on inheritance for land access, while Sinchu village exhibits the least dependence. Inheritances are nearly equally divided among male (44.5%) and female (44.1%) plot managers. Women in particular are highly protective of their access rights to rice and vegetable plots and take special measures to ensure their passage to daughters. With their long-term residency in the three study villages, inheritance was the principal mode of land acquisition for founding families (59.4% vs 17.6%), while non-founding families tend to rely to a greater degree on borrowings (37.7% vs 24.5%) and allocations by the *alkalo* or *kabilo* head (29.8% vs 14.0%).

The distinction between a borrowed plot and an allocation by the *alkalo* or *kabilo* head is not always clear. As indicated in table 4.2, 13.4% of plots listed as borrowed were in fact obtained from the *alkalo*, while 50.9% of gifts by the *alkalo* or *kabilo* head were in fact reported as coming from the founding family of which the *alkalo* is a member. Borrowing of land, which one might normally expect to decline in importance with urbanization is highest in Sinchu village (41.3% vs 33.5% in Pirang and 25.4% in Sanyang) although the relatively recent settlement of many residents would not have permitted sufficient time for many inheritances to have occurred (table 2.1). Most borrowed land is acquired by females (68.6% vs 30.9%) and acquired mainly from founding families (45.5%), the *alkalo* (13.4%), another household member usually the household head (10.7%), a new settler in the village (9.8%) (usually absentee and needing someone to occupy the land), and non-villagers (9.8%).

The importance of allocations by the *alkalo* and *kabilo* head is relatively constant across all three village sites. Founding families tend to exchange land within and among themselves, while non-founding families tend to rely on

Table 4.1:
Plot Acquisition Histories

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of valid plot observations | 128 | 313 | 243 | 280 | 404 | 684 |
| Mode of parcel acquisition (% of total): | | | | | | |
| Inherited | 2.2 | 39.0 | 48.0 | 59.4 | 17.6 | 34.8 |
| Spontaneous occupation | - | 3.8 | .4 | - | 3.2 | 1.9 |
| Gift by Alkalo/Kabilo head | 24.6 | 20.8 | 25.8 | 14.0 | 29.8 | 23.3 |
| Purchased | 22.5 | .6 | .4 | - | 8.3 | 4.9 |
| Borrowed-in, rented-in, ^a or sharecropped | 41.3 | 33.5 | 25.4 | 24.5 | 37.7 | 32.2 |
| Other | 9.4 | 2.2 | - | 2.1 | 3.4 | 2.9 |
| Acquired from whom (% of total plots): | | | | | | |
| Household member | 2.9 | 31.1 | 19.7 | 32.2 | 14.0 | 21.5 |
| Founding family | 3.7 | 46.8 | 65.6 | 51.0 | 40.6 | 44.9 |
| Compound head | 3.7 | 4.5 | 4.1 | 4.9 | 3.7 | 4.2 |
| Alkalo | 65.4 | 2.9 | 4.9 | 3.5 | 24.6 | 15.9 |
| New settler in village | .7 | - | - | - | 0.2 | .1 |
| Non-family villager | 1.5 | 8.0 | 3.3 | 1.4 | 7.6 | 5.1 |
| Non-villager | 19.9 | 1.3 | .4 | 2.4 | 6.2 | 4.6 |
| Government | - | - | 2.0 | 1.7 | - | .7 |
| Other | 2.2 | 5.4 | - | 2.8 | 3.0 | 2.9 |
| Ownership time (1993-year acquired): | | | | | | |
| All parcels combined | 6.5 | 17.9 | 22.6 | 24.1 | 12.7 | 17.1 |
| Borrowed-in parcels | 2.5 | 6.7 | 15.3 | 18.4 | 5.9 | 9.4 |
| Number of purchases | 28 | 2 | 2 | 1 | 31 | 32 |
| Source of financing for purchases: | | | | | | |
| Savings from outside bank | 79.3 | 100.0 | 100.0 | 100.0 | 81.3 | 81.8 |
| Bank savings | 20.7 | - | - | - | 18.8 | 18.2 |
| Informal loan | - | - | - | - | - | - |
| Formal loan | - | - | - | - | - | - |
| Primary motive of purchase: | | | | | | |
| Land for sons or inheritance | 16.1 | - | 50.0 | - | 17.6 | 17.1 |
| Residence | 74.2 | 100.0 | 50.0 | 100.0 | 73.5 | 74.3 |
| Other | 9.7 | - | - | - | 8.8 | 8.6 |

a. Only 1 instance of a plot being rented-in or sharecropped.

Table 4.2:

Plot Acquisition by Gender and Source

| | Inheritance | Gift by Alkalo or Kabilo head | Purchased | Borrowed |
|---------------------------------|-------------|-------------------------------|-----------|----------|
| Sex of plot manager (%): | | | | |
| Male family | 44.5 | 69.6 | 85.3 | 30.9 |
| Female family | 44.1 | 29.8 | 14.7 | 68.6 |
| Non-family borrower | 11.3 | .6 | - | .4 |
| Acquired from whom (%): | | | | |
| Household member | 41.7 | 9.9 | 12.1 | 10.7 |
| Founding family | 51.7 | 50.9 | - | 45.5 |
| Compound head | 2.5 | 6.2 | - | 4.9 |
| Alkalo | .4 | 29.8 | 66.7 | 13.4 |
| New settler in village | - | - | - | .4 |
| Non-family villager | - | 1.9 | 3.0 | 9.8 |
| Non-villager | - | - | 18.2 | 9.8 |
| Government | .4 | - | - | 1.8 |
| Other | 3.3 | 1.2 | - | 3.6 |

allocations from the *alkalo* or founding families. As indicated in table 4.1, 51.0% of the plots held by founding families were passed down from forefathers through inheritance or acquired from other founding families in the village (see also table 4.2). Another 32.2% were obtained from other family members, and 4.9% were allocated by the compound head. With regard to non-founding families, 40.6% of the plots were obtained from founding families, 24.6% from the *alkalo*, 14.0% from other household members, and 13.8% from either non-family villagers or non-villagers. Urbanization however tends to reduce the reliance on founding families but increases concentration of power in the hands of the *alkalo*. In Pirang and Sanyang villages, 46.8% and 65.6% respectively of all plots were acquired from founding families, and 31.1% and 19.7% from other household members. In Sinchu, by comparison, the *alkalo* remains directly involved in the allocation of 65.4% of the plots, while another 19.9% were obtained from non-villagers. Males appear to have preferential access to land through the *alkalo* or *kabilo* head (69.6% vs 29.8%). While women depend on such allocations for their vegetable plots, men (in particular the household head) acquire the family land through this mechanism.

B. Purchases

Purchases tend to be undertaken mainly by males (85.3% vs 14.7%) and land is mainly purchased from the *alkalo* (66.7%) or someone outside the village (18.2%), but a significant number (12.1%) also purchased land from another family member. Purchases are largely confined to Sinchu village (22.5% vs 0.6% in Pirang and 0.4% in Sanyang) on the urban fringe. Only one of 684 plots with

valid observations in the overall sample was rented-in or sharecropped. Purchases were more common, with 32 plots transacted, 87.5% of which occurred in the urban outskirts of Sinchu village. Most of these plots were purchased for residential use (74.3% in the overall sample), and 17.1% were purchased for sons or inheritance. With Sinchu's near access to the urban market, combined with a high percentage of settlers coming from the urban areas (chapter 1), one might have expected a greater reliance on formal banking institutions for financing purchases. However, 81.8% of the purchases were paid for out of personal savings held outside formal banks, and another 18.2% from bank saving deposits. However, no formal credit was used to help acquire the land.

C. Land Market Trends

The different modes of land transfers in table 4.1 are partitioned by years of acquisition in table 4.3 to analyze changes in the importance of various land transfers over time. Inheritance, which represented 66.9% of all transactions over the period 1912-73 had declined to only 6.3% of all transactions by 1989-93. Gifts by the *alkalo* or *kabilo* head have remained relatively stable over time, representing between 15.1% and 38.4% of all transfers depending on the period, with no clear trend discernible. Both purchases and borrowings, in contrast, have increased in relative shares with time. Purchases over the period 1912 to 1978 were negligible. However since 1979, purchases have represented between 8.1% to 10.5% of all transactions. Likewise, land borrowing remained relatively static over the period 1912 to 1983 ranging between 5.2% to 12.6%. However, borrowings represented 25.3% of all transfers over the period 1984-88 to 63.5% of transfers over the period 1989-93.

The short ownership period of borrowed-in plots (2.5 years) in Sinchu leads to an over-weighting of Sinchu plots in recent years. Nevertheless, the land tightening that has occurred throughout the peri-urban area in recent years appears to be reducing the incidence of outright inheritance and gifts and increasing the importance of land borrowing. Land scarcity also appears to be influencing the duration of land rights held. In Sanyang village, with the highest land/resident ratio, plots have been borrowed-in for 15.3 years on average, followed by 6.7 years in Pirang village, and 2.5 years in Sinchu village. However, the social status of founding families appears to be providing some security against shortened rental periods (18.4 years vs 5.9 years). Hence as land scarcity has tightened, rental periods have declined for the non-land holding groups. Whether and at what pace borrowings will be converted into rentals and share-cropping can only be assessed with time.

III. Alienated Land

As land acquisitions provide a backward overview of land transfer mechanisms resulting in land accumulation, land alienations provide a backward glimpse at land asset disposition within the household. In round one of the survey--i.e. the household questionnaire--the household head and available adult family members were asked to identify plots of land disposed of in the previous 10 years. Plots rented-in, borrowed-in or loaned-in for three years or less were excluded because of the preponderance of such transactions in the system, and their high turnover particularly in Sinchu and Pirang villages. Land holdings that may have existed in other villages but disposed were also

Table 4.3:

Changes in Land Acquisition Over Time

| | 1912- 1973 | 1974- 1978 | 1979- 1983 | 1984- 1988 | 1989- 1993 |
|---|---------------|---------------|---------------|---------------|---------------|
| Number of observations ^a | 175 | 58 | 99 | 95 | 159 |
| Inheritance ^b | 66.9 | 79.3 | 35.4 | 28.4 | 6.3 |
| Spontaneous occupation ^b | - | 1.7 | - | 9.5 | 1.3 |
| Gift by Alkalo/Kabilo head ^b | 20.0 | 13.8 | 38.4 | 24.2 | 15.1 |
| Purchase ^b | .6 | - | 8.1 | 10.5 | 9.4 |
| Borrowed-in, rented-in, or sharecropped ^b | 12.6 | 5.2 | 10.1 | 25.3 | 63.5 |
| Other ^b | - | - | 8.1 | 2.1 | 4.4 |

a. Excludes 109 missing observations for which no year of acquisition was recorded.

b. Percentage of total.

excluded precluding such transactions as a wife giving up land in her home village upon coming to her husband's household to live. Because individual plot managers were not asked separately about land dispositions, it is almost certainly the case that many inheritances between mothers and daughters went unrecorded. Also, "land alienation" or "land disposition" in The Gambian context is terribly imprecise. Land bequeathed to sons or daughters, while perhaps alienated from the parents household, nonetheless is considered as remaining in the family, thus the most likely explanation for the low level of inheritances reported in table 4.4. The recent arrival of many migrants in Sinchu village also acted to reduce the overall number of dispositions.

Only eleven households (with 13 plots alienated) reported having had land 10 years ago (prior to 1981) that was no longer held at the time of the survey. Of the 13 plots disposed of, the majority (10) were located in Sinchu village. Around 30.8% had been acquired from the *alkalo* or *kabilo* head, 15.4% had been spontaneously occupied, 7.7% inherited, 7.7% purchased, and 38.5% through various other mechanisms. The fact that 69.2% of all alienations occurred in the period 1989 to 1993 probably reflects both the evolution of land scarcity in the area, and memory fatigue with time. On average, the parcels alienated had been held 15.6 years, and in the case of Sinchu where most alienations had taken place, 12.2 years. The majority of plots involved evicting or taking back land from the respondent household and reallocating it to new settlers in

Table 4.4:
Alienated Land^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|--|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of plots alienated | 10 | 2 | 1 | 3 | 10 | 13 ^b |
| Mode of acquisition: | | | | | | |
| Spontaneous occupation | 10.0 | 50.0 | - | 33.3 | 10.0 | 15.4 |
| Inherited | - | - | 100.0 | 33.3 | - | 7.7 |
| Purchased | 10.0 | - | - | - | 10.0 | 7.7 |
| Given by Alkalo/Kabilo head | 40.0 | - | - | 33.3 | 30.0 | 30.8 |
| Other | 40.0 | 50.0 | - | - | 50.0 | 38.5 |
| Year plot alienated: | | | | | | |
| 1979-86 | 10.0 | 100.0 | 100.0 | 66.7 | 20.0 | 30.8 |
| 1989-93 | 90.0 | - | - | 33.3 | 80.0 | 69.2 |
| Ownership time (year alienated minus year acquired) (years) | | | | | | |
| | 12.2 | 36.0 | 9.0 | 10.3 | 17.2 | 15.6 |
| Mode of alienation: | | | | | | |
| Sold | 20.0 | - | - | 66.7 | - | 15.4 |
| Given away | - | - | 100.0 | 33.3 | - | 7.7 |
| Evicted/taken back | 70.0 | 100.0 | - | - | 90.0 | 69.2 |
| Other | 10.0 | - | - | - | 10.0 | 7.7 |
| Plot alienated to: | | | | | | |
| Compound head | - | 50.0 | - | - | 10.0 | 7.7 |
| Alkalo | 10.0 | - | - | - | 10.0 | 7.7 |
| New settler in village | 90.0 | 50.0 | 100.0 | 100.0 | 80.0 | 84.6 |

a. Land alienated by family members in past 10 years. It excludes plots rented-in, borrowed-in, and loaned-in for three-years or less.

b. 11 households had alienated land; 2 households had 2 alienated parcels.

the village (84.6%), or to the *alkalo* (7.7%). Nearly all the alienated plots (10) of non-founding families involved evictions. While three founding families reported alienating land, the transactions involved either selling (66.7%) or giving (33.3%) the land to new settlers.

In general these results corroborate the fears of eviction expressed by respondents in chapter one, particularly residents in Sinchu village. Moreover, the lands from which households are "evicted," had generally been held for quite a long period of time, sufficiently long for a household to have

made investments or planned its disposition to children. These data beg the question of why the evicted households were selected for eviction, why they did not offer to pay for the land in order to retain it, whether compensation was paid, or whether the *alkalo* incurred personal gain or operated with the public's best interest in mind. These specific questions were not addressed in the survey, but based on reconnaissance surveys and previous data, those households losing land tend to be compounds with ample and "underutilized" space, poorer households without the ability to compete with cash-flush investors from the city, no compensation was received as they were operating on borrowed land, and the *alkalo* probably received remuneration through sale of the property (table 4.1).

IV. Land Rights

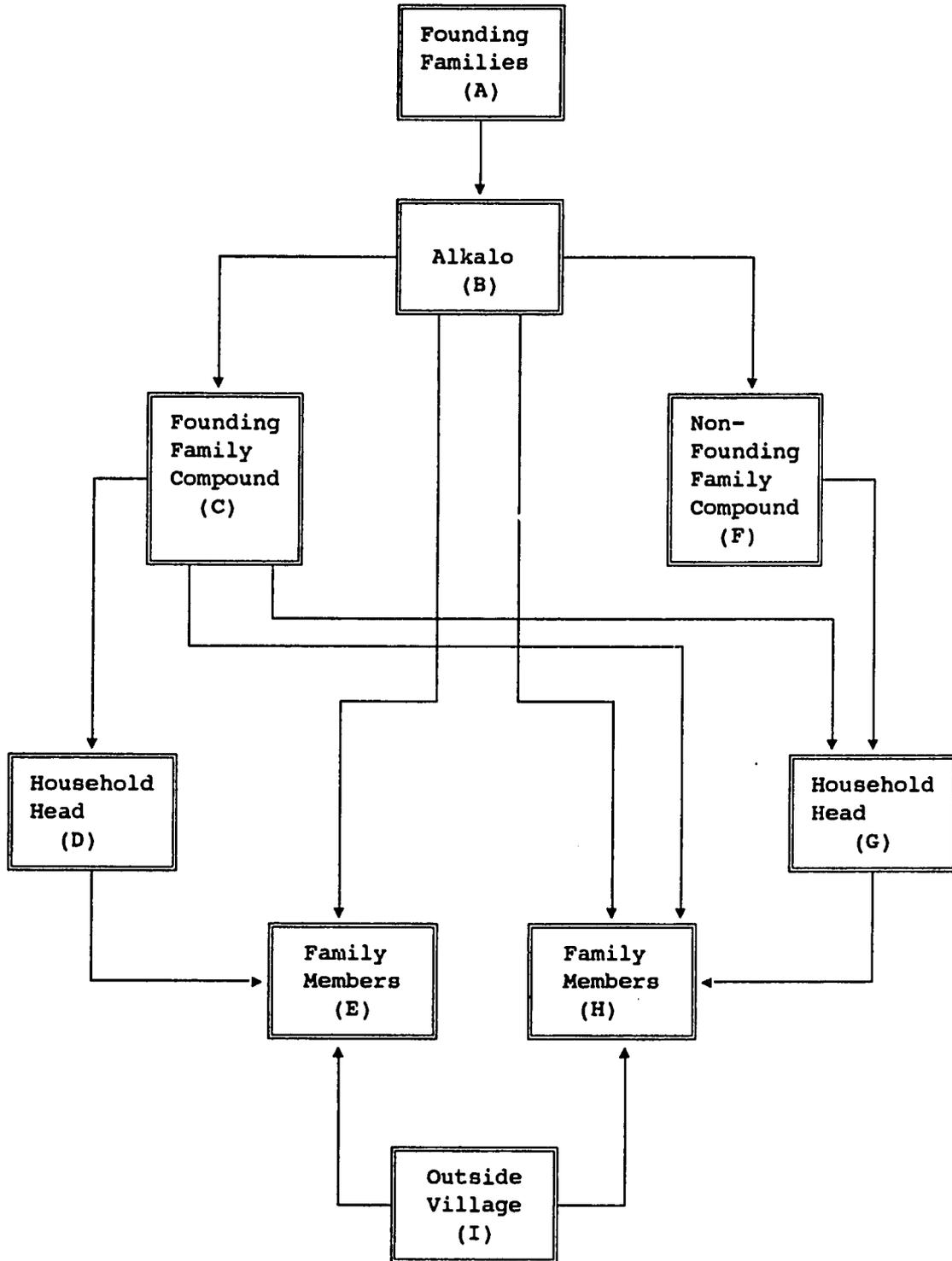
The *alkalo* (B), as depicted in figure 4.1, is a central figure in the system of land allocation within the village. He may allocate portions of his own land to applicants, or if his land is fully occupied, request land from other founding families (A), or take back a portion of a previous allocation from a non-founding family (F). Founding families, of course have the right to transfer their land to another family or family member within the village or to a newcomer, but as a matter of courtesy will inform the *alkalo* in cases of "minor" transactions, or seek his guidance and the protection of his authority in larger transactions where land is at risk of being permanently alienated. A founding family compound (C) and its members (D, E) will normally seek land from the *alkalo* and other founding families, but as indicated in table 4.1 rarely do they seek land from others inside or outside the village. Conversely, a non-founding family compound (F) and its members (G, H) will seek land wherever it can be located regardless of founding family or village status.

A compound (C and F) may comprise one or more households (e.g. a father and his brother's). The head of a founding family compound in C (F in the case on a non-founding family) will be the same as the head of household in D (G) in the case of a nuclear household. But in the case of multiple households in one compound, land may be allocated by the *alkalo* to the compound head (C, F) who in turn allocates family land to the household heads (D, G) or private plots to household members (E, H). These transfers are generally known to the household head within the compound, but in some cases private allocations of family members are sought directly from the *alkalo* (or from other founding families through the *alkalo*) without the knowledge of the household or compound head. While founding family members (E) can generally find land from other founding families (by contacting the compound head C, household head D, founding families A, or the *alkalo* B directly or indirectly), non-founding families must generally seek land from their fathers or other founding families, and again private members may obtain plots with or without the knowledge of the household or compound head.

When acquiring land through this system, customary institutions define the nature and duration of land rights being conferred, and in practice, various approvals or authorization may be needed depending on the nature of the transaction. A household head in any right may theoretically need to clear any use right or transfer with the compound head (D in the case of a founding family, and F and C in the case of a non-founding family), the *Alkalo* (B),

Figure 4.1

Flow Diagram of Land Rights Allocation Within the Village



founding families (A), or even family members (E). Individual family members, by contrast may seek authorization from any of the above figures including the household head. The degree of authorization sought will depend on the degree of individualized land rights within the village. In a situation of highly individualized land rights, few authorizations will be sought, or vice versa.

The household head, separate from other family members, was asked which rights s/he could exercise on the private plots of household members under four domains: upland plots, private plots, rice plots, and donor plots. As household heads tend to have the greatest degree of control over uplands (the household head would be acting as plot manager on many of these), one would expect a priori that their land rights would be greatest there. The household head's perceptions of rights would naturally be lower on the private fields of plot managers as some if not many originated from independent sources outside the household. The rights of the household head would be expected to be lowest on rice plots followed by the donor gardens. In the former case, women exert considerable autonomy over the use and transfer of rice lands in practice. Donor gardens, in contrast, include land allocated to donor projects for vegetable schemes. Once the allocation is made and improvements by the donor made, founding families may or may not appear reluctant to take the land back depending on the schemes' performance.

The respondent (i.e. household head) was asked for his or her possession of several categories of rights--plant annual crops, plant fruit or field trees, build a wall or fence around the plot, build a house or warehouse on the plot, bequeath to family member, rent out the plot, and sell the plot. Possible responses included (1) yes, can exercise the right without authorization, (2) yes, but need prior authorization, (3) no, and (4) don't know or uncertain. Results associated with the household head's responses are tabulated in table 4.5, and the percentage of rights held requiring authorization are reported in table 4.6.

A. Household Head Land Rights

A number of important points can be gleaned from the data.

The perceived rights of the household head are highest on upland plots (96.6% right to plant annual crops and 63.1% right to sell), followed in declining order of importance by rights on private plots (85.5%, 48.4%), rice plots (78.4, 47.5%), and finally donor plots (36.4%, 3.6%), consistent with the aforementioned hypotheses. As land for donor schemes is generally provided by founding families, one would not expect land rights to be high as the majority of the sample (84 of 120 households) is comprised of non-founding families. Nevertheless it remains striking the extent to which foreign intervention has so clearly alienated the rights of household heads in the two study villages.

Planting annual crops is the most common right reported by household heads in the overall sample (96.6% on upland plots), followed by planting of fruit trees (76.9%), bequeathing plot to heirs (76.9%), building a wall (73.8%), renting the plot (67.7%), and selling the plot (63.1%). Clearly household heads on average perceive fewer transfer rights than use rights, a relationship that consistently holds for private plots, rice plots, and donor plots as well. Nevertheless, while rights to rent-out or sell land appear constrained, a

Table 4.5:

Household Head's Perception of Own Land Rights to Members Plots

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Upland plots (% hh heads w/ right): | | | | | | |
| Plant annual crops | 100.0 | 90.5 | 100.0 | 100.0 | 95.0 | 96.6 |
| Plant tree | 37.5 | 90.5 | 89.3 | 95.7 | 66.7 | 76.9 |
| Bequeath plot to heirs | 31.3 | 85.7 | 96.4 | 95.7 | 66.7 | 76.9 |
| Build wall | 37.5 | 81.0 | 89.3 | 91.3 | 64.3 | 73.8 |
| Rent plot | 37.5 | 71.4 | 82.1 | 91.3 | 54.8 | 67.7 |
| Sell plot | 31.3 | 71.4 | 75.0 | 91.3 | 47.6 | 63.1 |
| Private plots of family members^b | | | | | | |
| (% hh heads w/ right): | | | | | | |
| Plant annual crops | - | 79.3 | 92.3 | 95.7 | 78.1 | 85.5 |
| Plant tree | - | 81.3 | 87.5 | 96.6 | 74.3 | 84.4 |
| Bequeath plot to heirs | - | 62.5 | 90.6 | 79.3 | 74.3 | 76.6 |
| Build wall | - | 65.6 | 81.3 | 82.8 | 65.7 | 73.4 |
| Rent plot | - | 40.6 | 75.0 | 72.4 | 45.7 | 57.8 |
| Sell plot | - | 34.4 | 62.5 | 69.0 | 31.4 | 48.4 |
| Rice plots (% hh heads w/ right):^b | | | | | | |
| Plant annual crops | - | 64.0 | 92.3 | 90.9 | 69.0 | 78.4 |
| Plant tree | - | 62.1 | 90.6 | 86.2 | 68.8 | 77.0 |
| Bequeath plot to heirs | - | 62.1 | 90.6 | 82.8 | 71.9 | 77.0 |
| Build wall | - | 55.2 | 84.4 | 75.9 | 65.6 | 70.5 |
| Rent plot | - | 34.5 | 78.1 | 72.4 | 43.8 | 57.4 |
| Sell plot | - | 34.5 | 59.4 | 69.0 | 28.1 | 47.5 |
| Donor plots (% hh heads w/ right):^b | | | | | | |
| Plant annual crops | - | 16.7 | 60.0 | 42.9 | 25.0 | 36.4 |
| Plant tree | - | 14.3 | 57.1 | 42.1 | 22.2 | 35.7 |
| Bequeath plot to heirs | - | 7.1 | 7.1 | 5.3 | 11.1 | 7.1 |
| Build wall | - | 14.3 | 7.1 | 10.5 | 11.1 | 10.7 |
| Rent plot | - | 7.1 | 7.1 | 5.3 | 11.1 | 7.1 |
| Sell plot | - | 7.1 | - | 5.3 | - | 3.6 |

a. Household head was asked which rights s/he can exercise on the private plots of family members.

b. No rice plots and donor vegetable schemes in Sinchu village. Private plots are few in number.

Table 4.6:

Percentage of Household Head's Land Rights Requiring Authorization

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|---|--------|--------|---------|-----------------|---------------------|----------------|
| Upland plots: | | | | | | |
| Plant annual crops | 68.8 | 36.8 | 23.8 | 11.1 | 55.3 | 41.1 |
| Plant tree | 50.0 | 36.8 | 20.0 | 9.1 | 46.4 | 30.0 |
| Bequeath plot to heirs | 40.0 | 38.9 | 18.5 | 9.1 | 42.9 | 28.0 |
| Build wall ^b | 50.0 | 35.3 | 20.0 | 4.8 | 48.1 | 29.2 |
| Rent plot | 50.0 | 26.7 | 21.7 | 4.8 | 47.8 | 27.3 |
| Sell plot | 40.0 | 26.7 | 19.0 | 4.8 | 45.0 | 24.4 |
| Private plots of family members: | | | | | | |
| Plant annual crops | - | 69.6 | 37.5 | 40.9 | 64.0 | 53.2 |
| Plant tree | - | 84.6 | 32.1 | 50.0 | 65.4 | 57.4 |
| Bequeath plot to heirs | - | 90.0 | 34.5 | 43.5 | 69.2 | 57.1 |
| Build wall ^b | - | 90.5 | 26.9 | 45.8 | 65.2 | 55.3 |
| Rent plot | - | 84.6 | 25.0 | 38.1 | 56.3 | 45.9 |
| Sell plot | - | 100.0 | 15.0 | 40.0 | 54.5 | 45.2 |
| Rice plots: | | | | | | |
| Plant annual crops | - | 56.3 | 37.5 | 40.0 | 50.0 | 45.0 |
| Plant tree | - | 72.2 | 27.6 | 36.0 | 54.5 | 44.7 |
| Bequeath plot to heirs | - | 88.9 | 27.6 | 37.5 | 65.2 | 51.1 |
| Build wall ^b | - | 87.5 | 22.2 | 31.8 | 61.9 | 46.5 |
| Rent plot | - | 80.0 | 20.0 | 28.6 | 50.0 | 37.1 |
| Sell plot | - | 80.0 | 5.3 | 25.0 | 44.4 | 31.0 |
| Donor plots (% hh heads w/ right): | | | | | | |
| Plant annual crops | - | 100.0 | 83.3 | 83.3 | 100.0 | 87.5 |
| Plant tree | - | 100.0 | 87.5 | 87.5 | 100.0 | 90.0 |
| Bequeath plot to heirs | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Build wall ^b | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Rent plot | - | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Sell plot | - | 100.0 | - | 100.0 | - | 100.0 |

a. If household head perceives the ability to exercise a right on the private plots of family members, s/he was further asked if exercising the right required authorization of local officials.

b. Similar percentages obtained for right to build house.

surprisingly high percentage of household heads feel confident in their ability to bequeath land to heirs.

Regionally, households in Sinchu on the urban fringe have the fewest rights on upland plots (the only domain where a complete comparison is possible). Household head's in Pirang have fewer rights than in Sanyang for virtually all rights designated and all plot types. The relative land abundance in Sanyang village is obviously playing a pivotal role, but other factors must also be at play. For example, while Pirang has relatively the highest endowment of land suitable for rice production, the rights of household heads are lower than in Sanyang village. Moreover the rights of household heads to donor plots is much lower in Pirang. The relatively poorly organized and utilized nature of the Sanyang donor scheme compared with the well organized nature of production and marketing on the scheme in Pirang is a contributing influence. But one must also conclude that fundamental differences in land tenure institutions between the two villages are affecting land rights and control among the various actors in figure 4.1.

Founding families, regardless of the different plot strata, appear to possess greater land rights, particularly transfer rights, than do non-founding families. On upland plots, the household heads in founding families perceive greater rights to plant annual crops (100.0% vs 95.0%) and sell the plot (91.3% vs 47.6%). Similar trends hold for private plots (95.7% vs 78.1% and 69.0% vs 31.4%) and rice plots (90.9% vs 69.0% and 69.0% vs 28.1%). Only for transfer rights on donor plots is there a reversal in this trend. No doubt, the fact that founding families initially made the land allocation for the purpose of establishing the donor scheme, makes them somewhat reluctant to transfer the land from a foreign community.

B. Authorization of Rights

The corollary of table 4.5 on rights possession is table 4.6 reporting the percentage of those rights held which require prior authorization. No attempt was made in the survey to ask from whom the authorization is required. Household heads could conceivably require consultation with the compound head, *alkalo*, other founding families (particularly a non-founding family), or even plot managers. It is in fact difficult to predict a priori, who would most likely require authorization. The household head is accountable to the compound head, *alkalo* and other households in the village. While, theoretically plot managers are as well, the very intervention of the household head as wedge between plot managers and authorities outside the household, could create a greater sense of autonomy. The data in table 4.6 are revealing in a number of important ways.

Exertion of use rights involves a relatively high degree of consultation. While 96.6% of the household head's in table 4.5 express the right to plant annual crops on upland areas, 41.1% of this number would require prior authorization. Similar trends hold with respect to private plots (85.5% rights, 53.2% authorization) and rice plots (78.4%, 45.0%). Fewer household heads reported the right to transfer upland plots in table 4.5. However, of those perceiving the right, few felt the need to consult others in making the transfer (only 27.3% and 24.4% of those heads perceiving the right to rent-out land or sell uplands required authorization). A different story is apparent

Table 4.7:
Land Rights of Family Members to Individual Plots

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Rights (with and w/o authorization needed) (A): | | | | | | |
| Improve water retention structure | 43.4 | 87.5 | 82.9 | 84.8 | 70.2 | 75.7 |
| Plant fruit or field trees | 41.3 | 80.4 | 81.9 | 83.6 | 64.9 | 72.0 |
| Bequeath of family member | 41.3 | 77.2 | 82.4 | 79.3 | 65.7 | 70.9 |
| Build wall or fence | 41.3 | 76.9 | 76.2 | 80.2 | 61.4 | 68.5 |
| Build house or warehouse | 41.3 | 67.8 | 75.8 | 73.4 | 59.2 | 64.6 |
| Rent out | 41.3 | 54.1 | 74.0 | 68.8 | 52.1 | 58.4 |
| Sell plot | 41.3 | 40.7 | 55.5 | 53.1 | 42.0 | 46.2 |
| Percentage of rights requiring authorization (% of A): | | | | | | |
| Plant fruit or field trees | 1.7 | 38.6 | 34.4 | 43.4 | 23.0 | 31.9 |
| Build wall or fence | 1.7 | 38.2 | 30.1 | 42.1 | 20.2 | 29.9 |
| Build house or warehouse | 1.7 | 41.0 | 30.2 | 43.1 | 21.3 | 30.7 |
| Bequeath of family member | 1.7 | 38.1 | 35.8 | 41.0 | 25.9 | 32.3 |
| Rent out | 1.7 | 44.2 | 32.7 | 39.8 | 25.7 | 32.0 |
| Sell plot | 1.7 | 44.2 | 23.8 | 41.2 | 15.2 | 26.6 |
| Improve water retention structure | 1.6 | 65.5 | 33.5 | 51.8 | 38.9 | 44.4 |

for private plots (45.9% and 45.2%) and rice plots (37.1% and 31.0%) suggesting a fair degree consultation.

Regionally, the need for authorization was highest in Sinchu village and lowest in Sanyang village, and markedly so for private plots and rice plots in Pirang village. The household heads of founding families require virtually no authorization on upland fields which fall under the control of the household head. The use and transfer of private plots and rice plots by the household heads of founding families is much higher than on upland crops, but still lower than that for non-founding families. With respect to donor vegetable gardens, household heads regardless of location or founding family status, would seek authorization before making any land use or transfer decision.

C. Land Rights of Plot Managers

In addition to queries addressed to the household head about his or her land rights on the plots of plot managers within the household, plot managers were individually asked about their rights to the plots they manage. Results are tabulated in table 4.7. The data suggest a high degree of individual

Table 4.8:
Land Rights of Family Members by Type of Crop

| | Grains ^a | Rice | Groundnuts | Gardens | Orchards |
|--|---------------------|------|------------|---------|----------|
| Number of plot observations | 103 | 122 | 81 | 160 | 14 |
| Rights (with and w/o authorization needed) (A): | | | | | |
| Plant fruit or field trees | 67.0 | 86.9 | 44.5 | 72.5 | 100.0 |
| Build wall or fence | 63.2 | 82.7 | 43.2 | 65.0 | 100.0 |
| Build house or warehouse | 62.1 | 77.0 | 41.9 | 55.6 | 100.0 |
| Improve water retention structure | 70.9 | 90.2 | 48.2 | 80.6 | 100.0 |
| Bequeath of family member | 67.0 | 87.7 | 44.5 | 68.1 | 100.0 |
| Rent out | 61.1 | 64.8 | 38.3 | 50.1 | 100.0 |
| Sell plot | 54.3 | 43.5 | 32.1 | 30.6 | 100.0 |
| Percentage of rights requiring authorization (% of A): | | | | | |
| Plant fruit or field trees | 21.8 | 44.3 | 38.9 | 41.4 | 28.6 |
| Build wall or fence | 18.5 | 42.6 | 37.0 | 38.5 | 28.6 |
| Build house or warehouse | 20.3 | 43.6 | 38.2 | 41.5 | 28.6 |
| Improve water retention structure | 30.2 | 67.3 | 51.2 | 56.6 | 28.6 |
| Bequeath of family member | 23.1 | 43.9 | 38.9 | 40.4 | 28.6 |
| Rent out | 20.6 | 49.4 | 38.6 | 42.5 | 28.6 |
| Sell plot | 23.2 | 35.9 | 34.6 | 40.8 | 28.6 |

a. Maize, millet and sorghum.

rights in the overall sample, and particularly so in Pirang and Sanyang villages. Private plot managers in founding families clearly perceive more rights than those in non-founding families. Given the allocations of land from the *alkalo* and compound/household head to plot managers, the high percentage of plot managers who perceive the right to rent-out the land or sell the land is quite remarkable. Also striking is the fact that few plot managers indicating rights possession feel compelled to seek authorization to exercise those rights. Granted, authorization is still needed in 23.8% to 35.8% of the plots depending on the right in Sanyang and more in Pirang (38.1% and 65.5% respectively), but nonetheless the data indicate a surprisingly high degree of individualization and assertion of rights to land. Only in Sinchu village, are right holdings lower, and markedly so.

Table 4.8 relates land rights and authorization to principal land use categories. As indicated in chapter 2 (table 2.1), grains and orchards are mainly cultivated by men, groundnuts by men and to a lesser extent by women,

and rice and vegetables almost entirely by women. The fewest rights to plant trees, build fences, and improve water retention structures are associated with upland plots where cereals and groundnuts are normally cultivated. The greatest rights to undertake these land uses are located on rice, vegetable gardens, and orchards. Most rice plot managers (i.e. women) perceived the right to bequeath land to heirs and to a lesser extent for vegetables. However, the right to rent-out land or sell land declines for all land use categories except orchards [Are these purchased]. Despite the fact, that women generally perceive considerable rights in land use, many feel obliged to consult with others in the decision as opposed to males who perceive fewer rights but tend to act autonomously on their decisions.

CHAPTER 5

FARM INVESTMENT AND PLOT INCOME

I. Introduction

Previous chapters examined land endowments and access to financial resources and employment opportunities. Chapter 3 in particular looked at the contribution of horticultural activities within the overall structure of household income and employment. This chapter focuses in greater detail first on land improvements that affect land quality and productivity, and secondly on farm management practices involved in the production of horticultural crops. Detailed data are presented on plot level characteristics and investments that affect plot quality, land utilization, and tree crop establishment. Detailed farm management data are presented on value of horticultural crop production, marketed surplus, input expenditures, control of income within the household, and marketing arrangements. Land rights do not appear to be a constraint to the establishment of trees on compound plots where households have long-term secure rights. However, significant differences in tree crops between owned and borrowed fields weakly suggest that lack of ownership rights for tenants is constraining investment in trees. The contribution of vegetables to household income is heavily determined by access to land and the capital necessary for deep wells for irrigation. Donor schemes have made an important contribution to expanding the supply of water for irrigated upland cultivation, but a substantial amount of vegetables are still produced on private plots where water control can be problematic. Founding families appear to have land to provide to such schemes, but lack the capital to make complementary improvements.

II. Plot Quality

The indicators of land quality in table 5.1 were carefully chosen in discussions with trained field personnel as factors farmers readily recognize and use to assess land quality: (1) location of plot, whether in the compound, near the compound, or in outer fields; (2) soil type; (3) soil fertility; and (4) water access. In addition, presence of rice cultivation further indicates lowland status. Plot managers were asked to individually assess each plot they controlled within the household. Their responses (based on number of plots not area) are tabulated in table 5.1 along with an assessment of land value.

A priori it would be expected that households with abundant land resources--i.e. founding families and Sanyang village--would have a greater percentage of their land holdings far removed from their compounds in the village, while the opposite would be expected near the urban fringe. On average, 19.3% of plots are comprised of the family's compound, 28.9% are plots lying near the compound, and 51.5% are considered "outlying fields." Sinchu

Table 5.1:
Descriptive Plot Characteristics^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|--|--------|--------|---------|--------------------|----------------------------|-------------------|
| Location of plot (% of total): | | | | | | |
| In the compound | 43.4 | 15.7 | 10.2 | 12.7 | 24.1 | 19.3 |
| Near the compound | 10.1 | 50.5 | 8.8 | 40.4 | 20.7 | 28.9 |
| In the outer fields | 46.5 | 33.9 | 80.9 | 46.9 | 55.2 | 51.8 |
| Soil type: | | | | | | |
| Kenye koyo/wulengo | 50.0 | 25.0 | 21.0 | 24.1 | 31.5 | 28.4 |
| Kenye fingo | 6.5 | 7.1 | 12.8 | 9.9 | 8.1 | 8.9 |
| Banko fingo | 43.5 | 28.5 | 47.5 | 36.1 | 38.8 | 37.7 |
| Datto | - | 38.1 | 18.7 | 28.5 | 21.5 | 24.4 |
| Combination | - | 1.3 | - | 1.5 | - | .6 |
| Soil fertility: | | | | | | |
| Very fertile | 2.5 | 4.2 | 1.8 | 2.6 | 3.5 | 3.1 |
| Fertile | 76.7 | 64.7 | 85.8 | 77.7 | 71.4 | 74.0 |
| Infertile | 20.8 | 31.1 | 12.4 | 19.8 | 25.1 | 22.9 |
| Principal water source: | | | | | | |
| Rainfall | 96.5 | 56.7 | 68.0 | 61.5 | 72.0 | 67.5 |
| Shallow dirt well | - | 20.8 | 24.2 | 21.2 | 16.2 | 18.3 |
| Deep dirt well | - | 9.0 | 2.3 | 5.5 | 4.9 | 5.1 |
| Concrete lined well | - | 6.1 | 4.1 | 7.3 | 2.2 | 4.3 |
| Other | 3.5 | 7.4 | 1.4 | 4.4 | 4.9 | 4.7 |
| Asking price (D000/ha)^b: | | | | | | |
| Upland plots | 227.5 | 39.2 | 62.5 | 56.1 | 121.2 | 94.9 |
| Rice plots | - | 39.7 | 178.3 | 86.5 | 68.1 | 78.3 |
| Garden plots | - | 37.3 | 7,435.1 | 254.4 | 4,033.2 | 1,995.6 |

a. Includes compound and fallow plots.

b. Excludes compound and fallow plots for which no area estimates were taken.

village indeed has the highest concentration of land in the compound (43.4% vs 15.7% in Pirang and 10.2% in Sanyang) reflecting the smaller number of holdings per household in the village. Households in Sanyang have the highest percentage of plots in outlying areas (80.9% vs 33.9% in Pirang) reflecting in part the nucleated settlement of Pirang village and the more dispersed settlement of Sanyang village. The dynamic settlement of Sinchu village, and the dispossession of underutilized lands by the *alkalo* there, has created a unique situation of households having few plots near the compound (10.1%), and

many (46.5%) further away as plot managers have resorted to borrowing or acquiring land from other villages in areas outside the residential belt.

All other things held constant, nearness of land to the family compound is considered preferable to plots in outlying fields due to less threat of theft, losses, and labor costs. Founding families would seem to be better positioned in this regard, although there is almost certainly endogeneity involved between date of settlement and plot location. The *alkalo* would tend to allocate compound plots to latecomers in or near the village perimeter. Should founding families tend to allocate plots based on individual self-interest, agricultural plots to latecomers would tend to be allocated on poorer quality land on the fringes of the village. As indicated in table 5.1, 55.2% of the plot holdings of non-founding families is classified as outlying fields versus 46.9% for founding families.

With respect to soil structure,

- ▶ *Kenye koyo* is a light colored sandy soil with good infiltration and retention characteristics. It is inherently of low soil fertility but responds well to fertilizer. It is preferred for groundnuts because of easy lifting, but a fertility amendment is needed for cereals to achieve good yields.
- ▶ *Kene wulengo* is a red sandy soil that possesses the same characteristics of *kenye koyo*.
- ▶ *Kenye fingo* is a dark, fine-textured sandy soil which tends to dry more quickly than *kenye koyo/wulengo* making it more difficult to lift groundnuts. Higher inherent fertility makes it the preferred soil for cereals but fertilizer response tends to be lower.
- ▶ *Banko fingo* is a dark sandy clay or clay loam that tends to be impermeable with poor moisture retention. It is inherently fertile and therefore suitable for cereals, although it is slightly drought prone. Difficulty may be experienced lifting groundnuts as it dries toward the end of the season.
- ▶ *Datto* is a heavy clay soil that is impermeable and drought prone. It tends to dry hard at the end of the season and is generally considered a problem soil. Farmers prefer not to grow groundnuts since lifting can be extremely arduous and difficult. Sorghum is the preferred crop on this soil type.
- ▶ *Barre messeng* means small rocks and is a gravelly soil that is usually not cultivated.

Sinchu village has the highest fraction of sandy or sandy clay loams. Pirang has the highest fraction of *datto* or problem soils, while Sanyang has the highest proportion of sandy clay or clay loams (*banko fingo*). Founding families appear to have a low proportion of sandy or sandy clay soils. However, since very few founding families reside in Sinchu village, their soil endowments more closely mirror the soil endowments of Pirang and Sanyang villages. Overall in the study area, 37.3% of plots were classified as sandy

soils, 37.7% as fine-textured sandy soils, 24.4% as heavier clay soils, and 0.6% as some combination of the above.

Assessments of soil fertility in table 5.1 tend to be somewhat monotonic and imply that differences in soil quality (evaluated in terms of productivity) are not greatly different among the three sites. Soils around Sanyang tend to be the most fertile (1.8% very fertile and 85.8% fertile) while soils around Pirang tend to be the least fertile (31.1% vs 12.4% infertile in Pirang) due in part to problems of salt intrusion in rice fields in recent years (see annex A). Founding families have slightly better landholdings than non-founding families (80.3% fertile to very fertile soils vs 74.9%) although differences are not great.

Access to water is a key factor in explaining differences in productivity between the three sites. Plot managers were asked to state the principal source of water for the holding (residential/compound plots included). The vast majority of holdings in Sinchu village are dependent on rainfall. Pirang village resting on the edge of The Gambia river has substantial areas under irrigated rice cultivation, thus the main reason for the low percentage of holdings dependent on rainfall (56.7% vs 68.0% in Sanyang). However, it also has the highest percentage of plots with deep dirt wells (9.0% vs 2.3% in Sanyang and 0% in Sinchu) and concrete lined wells (6.1% vs 4.1% and 0% respectively). Donor investment in tube wells in association with donor gardens in Pirang and Sanyang, help explain the difference with Sinchu village, but it does not explain the higher percentage of deep wells in Pirang compared with Sanyang.

As a final indication of plot value, each plot manager was asked the price they would accept in selling each plot under their management if they were to sell it. This question would seem highly hypothetical, but as Roth et al. (1994) have shown in a comparable peri-urban area in Maputo characterized by land market restrictions and legal uncertainty over land rights, such questions about the "reservation" price proved to be remarkably good indicators of price signals in the emerging land market. Asking prices per hectare are reported in table 5.1 for three types of land--upland plots, rice plots, and garden plots. Prices were also asked for compound plots but an analysis of per-hectare land values is not possible due to lack of area measurements.

The differences among strata are striking and curious. Sinchu village has the highest reported land value for upland fields (D227,500/ha or \$27,410/ha vs D39,200/ha) reflecting the urban pressures impinging on the village. Pirang village has the lowest reported land value regardless of land type. Land values in Sanyang, despite its more rural location, are higher than in Pirang village due probably to the area's more fertile soils, relatively abundant land resources, and purchases of residential properties by newcomers from Banjul/Serrekunda in recent years. The prices for garden plots appear outlandish and are no doubt upwardly biased by the division of reported plot values by the very small plot sizes for vegetable plots (.06 ha on average for all numerous small plots combined). Prices of this magnitude would not be observed as the shadow price for vegetable land would tend to decline rapidly with increases in plot size as labor constraints within the household become constraining. Nevertheless, the data strongly suggest that vegetable plots are highly valued relative to either upland plots or rice plots by a substantial margin.

III. Land Use

Tables 2.9 and 2.10 in chapter 2 analyzed principal land use by number of plots. The land use data in table 5.2 examine the average field sizes of fields cultivated, and the principal uses of cultivated crop area. The latter estimates differ from the earlier estimates in two important regards. First, they exclude compound land, fallow land, and uncultivated land for which no area estimates were taken. Second, crops with the largest crop area receive a greater proportional weighting, whereas principal land uses in tables 2.9 and 2.10 implicitly give greater weight to number and dispersal of holdings. Sanyang village and founding families have the greatest area of cultivated land at 5.3 ha/hh each. Sinchu village with 2.0 ha/hh on average has the smallest cultivated area.

The largest field sizes are associated with grains--principally millet--and groundnuts. The area of private gardens, rice, and donor garden (major) plots are much smaller, and donor garden plots in particular, are very small. With respect to the overall sample, field crops--millet (26.1%), groundnuts (22.4%), sorghum (13.0%), and cassava (9.3%)--and fruit orchards (14.8%) comprise the largest share of cultivated area. Rice comprises another 5.3% of crop area, followed by vegetables--private gardens (4.4%) and donor gardens (.5%)--and maize (4.2%). These estimates, however, mask considerable regional variation. Groundnuts predominate in Sanyang village (37.9%) compared with less than 24.0% in Sinchu and Pirang villages. Fruit orchards are nearly entirely concentrated in Pirang village (20.1%), while Sinchu village is heavily dominated by sorghum cultivation (45.0%). Despite the greater number of rice holdings in Pirang village, size of rice holdings by households in Pirang and Sanyang are nearly equal. The area of private gardens in Sanyang (.32 ha/hh) is nearly four times greater than in Pirang (.09 ha/hh). Donor gardens, in area terms, are far smaller than the vegetable area under private holdings and in no village represented more than 0.5% of total household cultivated area.

It is very surprising that Sanyang village with a donor scheme directly at its outskirts showed no land use in the spring of 1993. Pirang, on the other hand, with a scheme comparable in size was utilized, and this was apparent upon visits to both research sites. Women in Pirang village were very actively engaged in lifting water and irrigating crops, while little activity appeared to surround the Sanyang donor scheme.

IV. Fixed Land Improvements

Theoretically, more secure land rights in a plot ought to instill greater incentives to make improvements in the land all else equal. These improvements in turn, depending on the type of investment, affect productivity and resource conservation. However, the phrase "all else equal" masks a great number of factors that influence the investment decision. Orchards tend to be established on larger plots of land to achieve economies of size in marketing and transport. Residential land uses tend to be more closely associated with upland soils and the establishment of fencing or walls. Uplands and the site upon which the compound is located are generally more in need of a deep well than lowlands. Donor interventions, including the site and location of donor schemes influence the construction of cement wells. Market access, which

Table 5.2:
Land Utilization

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Field Sizes (ha/crop):^a | | | | | | |
| Millet | .41 | 1.07 | 1.45 | 1.76 | .77 | 1.11 |
| Groundnut | 1.03 | .84 | 1.95 | 1.15 | 1.14 | 1.14 |
| Fruit orchards | .08 | .75 | .48 | .65 | .49 | .55 |
| Sorghum | .73 | .42 | .35 | .42 | .60 | .56 |
| Cassava | .19 | .26 | .60 | .41 | .41 | .40 |
| Rice (major plots) | - | .19 | .22 | .28 | .14 | .20 |
| Private garden (major plots) | .01 | .08 | .23 | .16 | .13 | .15 |
| Maize | .18 | .09 | .32 | .30 | .18 | .19 |
| Donor garden (major plots) | .00 | .02 | .00 | .02 | .01 | .02 |
| Principal land use (ha/hh):^b | | | | | | |
| Millet | ? | ? | ? | ? | ? | ? |
| Groundnut | ? | ? | ? | ? | ? | ? |
| Fruit orchards | ? | ? | ? | ? | ? | ? |
| Sorghum | ? | ? | ? | ? | ? | ? |
| Cassava | ? | ? | ? | ? | ? | ? |
| Rice | ? | ? | ? | ? | ? | ? |
| Private garden (vegetables) | ? | ? | ? | ? | ? | ? |
| Maize | ? | ? | ? | ? | ? | ? |
| Donor garden (vegetables) | ? | ? | ? | ? | ? | ? |
| Total cultivated area | ? | ? | ? | ? | ? | ? |
| Principal land use (% of total cultivated area):^b | | | | | | |
| Millet | 8.5 | 28.7 | 27.3 | 33.3 | 20.2 | 26.1 |
| Groundnut | 24.0 | 22.8 | 37.9 | 21.3 | 24.5 | 22.4 |
| Fruit orchards | 4.0 | 20.1 | - | 14.5 | 13.6 | 14.8 |
| Sorghum | 45.0 | 11.3 | 6.6 | 7.9 | 16.8 | 13.0 |
| Cassava | 9.5 | 7.0 | 11.3 | 7.7 | 10.6 | 9.3 |
| Rice | - | 5.1 | 5.1 | 6.2 | 3.7 | 5.3 |
| Private garden (vegetables) | .5 | 2.1 | 5.8 | 3.0 | 6.1 | 4.4 |
| Maize | 8.5 | 2.4 | 6.0 | 5.6 | 4.3 | 4.2 |
| Donor garden (vegetables) | - | .5 | - | .4 | .3 | .5 |

a. Average field size for only those fields and plots which contain the respective crop.

b. Average land area devoted to crops based on all households in the sample, but excluding compound, fallowed and uncultivated plots for which no area estimates were taken.

influences the purchase of complementary inputs (labor hiring or purchase of cement or fencing material) is generally enhanced with improvements in wealth and non-farm income. Hence, the presence of plot improvements tends to be highly dependent on plot characteristics and site factors that might be highly correlated with land right perceptions. Hence, until more detailed econometric studies are conducted, any assessment of linkages between land rights and improvements should be interpreted with caution.

Each plot manager was asked to identify the presence or absence of five common investments in the study areas:

- ▶ Fallow: Percent of total plots fallowed in the 1991/92 season;
- ▶ Continuous manuring: Whether or not the plot was manured by a tethered herd for 3 consecutive seasons;
- ▶ Cement wall: Whether or not a cement wall was constructed around the border of the plot.
- ▶ Fencing: Whether or not a barbed wire fence, live fence, or hard wood fence (*xed*, in Wollof, meaning a specific type of hard wood which can be quite expensive) was constructed around the plot's perimeter; and
- ▶ Deep dirt well: A deep well (*teen* in Wollof) which is more costly than the shallow wells found in gardens (*sean* in Wollof).

Each plot manager for each plot managed was asked whether the improvement existed on the plot, by whom the improvement was made, when the improvement was made relative to plot acquisition, and whether authorization was sought from any individual other than the respondent (the plot manager in the vast majority of the cases). The responses to these questions are tabulated in table 5.3.

A. Fallowing

Of the 614 major plots for which complete information are available in the overall sample, 11.4% were fallowed or uncleared in the 1991-92 cropping season.¹⁶ Fallowing as a percentage of plots held tends to be nearly equal in Pirang and Sanyang villages, but length of fallow tends to be nearly five times greater in Pirang village (8.4 years vs 1.8 years) discounting earlier assertions made of relative land abundance in Sanyang village. Founding families, as in table 2.9, appear to have greater percentage of plots under fallow (13.7% vs 9.7%), but the duration of fallow is nearly identical with plots left fallow by non-founding families.

16. The incidence of fallowing reported here differs from earlier figures in table 2.10 in two ways: fallowing rates here are for the 1991-92 season while in those in table 2.10 are for the 1992-93 season; and the sample size here is substantially smaller due to a sizable numbers of plot (for example compounds where fallowing is not practiced) for which fallowing data were not reported.

**Table 5.3:
Fixed-Place Land Improvements^a**

| | Sinchu | Pirang | Sam... | Founding Family | Non- Founding Family | Overall Sample |
|--|--------|--------|--------|--------------------|----------------------------|-------------------|
| 1. Fallow: | | | | | | |
| Plots fallowed/uncleared in 1991/92 season (% of plots) | 3.6 | 12.6 | 13.9 | 13.7 | 9.7 | 11.4 |
| Years fallowed consecutively (no.) | - | 8.4 | 1.8 | 4.4 | 4.4 | 4.4 |
| 2. Continuous manuring: | | | | | | |
| Plot manured by tethered herd for three consecutive years (% yes) | 2.8 | 7.9 | 9.0 | 13.5 | 2.9 | 7.4 |
| 3. Cement wall around plot: | | | | | | |
| Percent plots w/ improvement (%) | 5.1 | 2.7 | 2.9 | 4.0 | 2.6 | 3.2 |
| Improvement made by (%): | | | | | | |
| Household head | 50.0 | 87.5 | 37.5 | 61.5 | 55.6 | 59.1 |
| Plot manager | 50.0 | 12.5 | 37.5 | 30.8 | 33.3 | 31.8 |
| Other family members | - | - | 12.5 | 7.7 | - | 4.5 |
| Other | - | - | 12.5 | - | 11.1 | 4.5 |
| Time improvement made (%): | | | | | | |
| Before plot acquisition | - | - | - | - | - | - |
| After acquisition | 100.0 | 100.0 | 50.0 | 69.2 | 100.0 | 81.8 |
| Both | - | - | 50.0 | 30.8 | - | 18.2 |
| Permission obtained from (%): ^{b,e} | | | | | | |
| Hh head if not respondent | 16.7 | - | 25.0 | 7.1 | 22.2 | 13.0 |
| Compound head if not respondent | 50.0 | - | - | - | 33.3 | 13.0 |
| Plot manager if not respondent | 16.7 | 11.1 | - | 14.3 | - | 8.7 |
| Alkalo | - | - | - | - | - | - |
| Village authority | - | - | 12.5 | - | 11.1 | 4.3 |
| 4. Fence built around plot:^c | | | | | | |
| Percent plots w/ improvement (%) | 9.4 | 31.6 | 19.5 | 24.0 | 22.6 | 23.2 |
| Improvement made by (%): | | | | | | |
| Hh head if not respondent | 81.8 | 41.9 | 60.4 | 31.3 | 65.9 | 50.7 |
| Plot manager if not respondent | 9.1 | 33.3 | 12.5 | 37.3 | 15.3 | 25.0 |
| Other family members | - | 2.2 | 8.3 | - | 7.1 | 3.9 |
| Other | 9.1 | 22.6 | 18.8 | 31.3 | 11.8 | 20.4 |

(continued)

Table 5.3:

Continued

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Time improvement made (%): | | | | | | |
| Before plot acquisition | - | 12.9 | 25.0 | 14.9 | 16.5 | 15.8 |
| After acquisition | 90.9 | 86.0 | 62.5 | 79.1 | 78.8 | 78.9 |
| Both | 9.1 | 1.1 | 12.5 | 6.0 | 4.7 | 5.3 |
| Permission obtained from (%):^{b,e} | | | | | | |
| Hh head if not respondent | 27.3 | 16.3 | 12.5 | 9.2 | 20.9 | 15.9 |
| Compound head if not respondent | 9.1 | 1.1 | - | - | 2.3 | 1.3 |
| Plot manager if not respondent | 9.1 | 5.4 | 2.1 | 9.2 | 1.2 | 4.6 |
| Alkalo or kabilo head | - | 15.2 | 2.1 | 13.8 | 7.0 | 9.9 |
| Village authority | 9.1 | 5.4 | 14.6 | 15.4 | 3.5 | 8.6 |
| 5. Deep dirt well dug on the plot:^d | | | | | | |
| Percent plots w/ improvement (%) | 10.2 | 20.2 | 12.9 | 16.4 | 15.2 | 15.7 |
| Improvement made by (%): | | | | | | |
| Hh head if not respondent | 50.0 | 31.7 | 66.7 | 33.3 | 52.6 | 44.1 |
| Plot manager if not respondent | 25.0 | 45.0 | 10.0 | 40.0 | 26.3 | 32.4 |
| Other family members | 8.3 | 1.7 | 3.3 | - | 5.3 | 2.9 |
| Other | 16.7 | 21.7 | 20.0 | 26.7 | 15.8 | 20.6 |
| Time improvement made (%): | | | | | | |
| Before plot acquisition | 8.3 | 5.0 | 30.0 | 4.4 | 19.3 | 12.7 |
| After acquisition | 91.7 | 90.0 | 63.3 | 86.7 | 78.9 | 82.4 |
| Both | - | 5.0 | 6.7 | 8.9 | 1.8 | 4.9 |
| Permission obtained from (%):^{b,e} | | | | | | |
| Hh head if not respondent | - | 15.3 | 30.0 | 15.6 | 19.6 | 17.8 |
| Compound head if not respondent | 41.7 | - | - | 6.7 | 3.6 | 5.0 |
| Plot manager if not respondent | - | 8.5 | - | 8.9 | 1.8 | 5.0 |
| Alkalo or kabilo head | - | 20.3 | 3.3 | 17.8 | 8.9 | 12.9 |
| Village authority | 16.7 | - | 13.3 | 8.9 | 3.6 | 5.9 |

a. Household head is normally the respondent.

b. Individuals other than the household head or plot manager.

c. Barbed wire fence, live fence, or hard wood fence ("xed" in Wollof--a specific type of hard wood which can be quite expensive).

d. A deep well ("teen" in Wollof) which is more costly than the shallow wells found in gardens ("sean" in Wollof).

e. Columns do not sum to 100% as some household heads or plot managers obtained no permission while others do so from multiple parties.

B. Continuous Manuring

The greater livestock holdings of founding families (table 2.4) are manifest in manuring rates. Around 13.5% of all plots held by founding families had been manured by a tethered herd for three consecutive years compared with only 2.9% of the plots held by non-founding families.¹⁷ Rates of continuous manuring are highest in Sanyang village (9.0%), followed closely by Pirang village (7.9%), and far behind by Sinchu village (2.8%). Fallowing and livestock ownership thus appear to be intimately linked. Fallowing provides an important source of pasture, while paddocked livestock in the dry season provide an important source of manure.¹⁸

C. Cement Wall

Only 3.2% of all plots in the overall sample are encircled by a cement wall with the highest rates being observed in Sinchu (5.1%) and by founding families (4.0%). The vast majority of these improvements were made by the household head (59.1%) or the plot manager (31.8%), although a surprisingly large number were made by other family and non-family members, particularly in Sanyang village (12.5% and 12.5% respectively) and by non-founding families (0% and 11.1% respectively). The improvements by other family and non-family members in Sanyang village can be explained by the fact that some improvements were made by the previous owners prior to acquisition. However, with respect to non-founding families, all improvements were made after acquisition, implying that outside money is being funneled into the community for sake of enclosure or construction of residential properties. Authority for the improvements, when sought, tended to be acquired from the household head, plot manager or compound head with the exception again of Sanyang village and the non-founding families (in 12.5% and 11.1% of these strata respectively, permission was acquired from village authorities, generally meaning the *alkalo* or founding families).

D. Fencing

Over 23.2% of all plots in the overall sample were fenced with durable materials representing a fairly high degree of enclosure in the study area. The highest rates are found in Pirang (31.6%) and Sanyang (19.5%), and rates of fencing are nearly identical among founding and non-founding families (24.0% vs 22.6%). The household head (50.7%) or plot manager (25.0%) made the largest share of improvements, although 20.4% were made by non-family members. The latter figure can largely be attributed to the fact that the improvements were made before acquisition in 15.8% of the cases, the majority of these occurring in Pirang and Sanyang villages. Obtaining permission to build a fence is more of a prerequisite than in the case of earlier improvements. Overall, the authority of the *alkalo* was required in 9.9%¹⁹ of the improvements, and from village authorities in 8.6% of the cases. Obtaining permission of the *alkalo*

17. These data beg the question why a market in manure or paddocking does not emerge where non-founding families hire herds to graze and deposit manure on their plots.

18. Livestock in the wet season are grazed on communal lands.

19. The rate of authorization is even higher as these percentages apply to all improvements, whereas the current holder made only a subset of these.

or *kabilo* head was particularly high in Pirang (15.2%), and among founding families (13.8% *alkalo*, and 15.4% village authorities). One would have expected a priori that non-founding families would have needed a higher rate of authorization, but the fact that a greater percentage of their fields are in outlying areas (table 5.1) may have obviated this needed. Conversely, the fact that a greater percentage of founding family plots are near the compound, combined with the felt needed of founding families to graze and paddock the animals near the village in the dry season, increases the externalities of enclosure through precluding range for grazing. Founding families thus appear to be managing costs associated with these externalities by carefully establishing rules regarding the establishment of fencing.

E. Deep Dirt Well

Around 15.7% of plots in the sample have one or more deep dirt wells located somewhere on the plot. Rates of improvement tend to be highest in Pirang (20.2%) and lowest in Sinchu (10.2%). The difference between founding and non-founding families is negligible. The vast majority of improvements again were made post-acquisition, although a sizable percentage (12.7% before and 4.9% both before and after) involved improvement by another group or individual. Among all the previous improvements mentioned, rates of authorization were highest in association with well establishment. Of all improvements made, 12.9% required the authorization of the *alkalo* or *kabilo* head and 5.9% required the authorization of the Village authority. Again rates of permission by non-founding families is lower than among founding families.

In general, rates of investment in the specific improvements evaluated show that households are investing in the land, and for certain investments--fallowing, manuring, fencing and wells--the incidence is considerable. Aside from manuring which reflects the greater livestock wealth of founding families, rates of investment are not markedly different among founding and non-founding families. Each of these investments would have a short-to intermediate-term life span. Based on the data presented it would not appear that insecurity of land rights by borrowing families are posing a major constraint. Sinchu village is the exception. Whether comparing manuring, fallowing, fencing or wells, the level of improvements in Sinchu village are markedly low compared with the other village sites. The dynamics of Sinchu village are highly complex. Households do not have secure rights. Because of tight land scarcity, households interested in expanding their holdings must seek land in outlying areas, sometimes in adjacent villages. Some residents moving to the area make the necessary improvements to establish a claim--a cement foundation--but continue to reside in the city saving funds to complete the dwelling. Separating the influence of land rights from the multitude of other factors at play would be difficult task.

V. Fruit Tree Investment

Horticultural sector expansion is an important strategy of the government of The Gambia for increasing income growth and improving the sustainability of the natural resource base. Secure land rights are theoretically necessary for establishment of those tree crops whose income stream accrues over a long time horizon. Yet as the recent literature on tree tenure in sub-Saharan Africa points out, tree plantings in themselves can act to assert long-term permanent

claims to land (Raintree 1987). This may lead to situations where land holding groups act decisively to destroy trees in cases of planting by tenants (Schroeder, LTC seminar, 1991). The analysis of land rights in previous sections point out two possible situations where insecure land rights may be constraining horticultural investment.

- ▶ Land rights by land holding groups have greater breadth (chapter 4) and are of longer duration than for tenants. Hence, hypothetically, one would expect greater planting of tree crops by founding families than non-founding families.
- ▶ Founding families as the principal land holding groups would be reluctant to let borrowing families plant trees on plots borrowed-in out of concern that borrowing would lead to eventual appropriation by tenants. Hence, one would expect less tree cultivation in the case of plots borrowed-in or borrowed-out, than plots permanently held and managed by the family.
- ▶ Women within the household could hypothetically have fewer rights than males on plots other than rice (where considerable individual rights are held as indicated in chapter 4). As female access is intricately linked with land borrowing (chapter 4), it is theoretically quite difficult to separate the influence of borrowing status and gender on tree investment.

A. Incidence of Tree Plantings

Each plot manager in the sample was asked to confirm the presence or absence of five categories of trees on each major plot under his or her management. These categories included cashew trees, lime trees, orange trees, mango trees, and other trees. In addition, the respondent was asked the number of each type of tree, and follow up information on fruit income and sales, where and to whom the produce was sold, type of marketing arrangement, and person(s) controlling the income from sales. Data on presence or absence of trees on major plots by village and founding family status are presented in table 5.4 for four categories of plots--compound plots, plots near the compound, plots in outlying areas, and all plots combined, and in table 5.5 on borrowing status and gender. Data on income from, and marketing of, horticultural products are presented shortly.

Around 18.2% of all plots in the overall sample had mango trees present, followed in declining order of importance by orange trees (16.5%), other trees (5.8%), cashew trees (4.0%), and lime trees (3.0%). Tree cultivation tends to be highest in Sinchu village and lowest in Pirang village, exactly opposite theoretical predictions. Also, the plots of founding families exhibit lower rates of tree planting for all tree categories, and particularly so for mangoes. Part of the explanation for incidence of tree plantings across villages rests with location of plots, and differences in location of plot holdings among strata. The vast majority of tree plantings occur on the site of the compound, or near the compound, where families have relatively long-term rights. Around 56.7% of all compound plots in the sample had one or more orange trees established on the plot, and 49.6% had mango trees, a trend that holds for all strata. All villages show a higher rate of tree establishment on compound plots relative to outlying fields. The economics of fruit transport and guarding against theft would improve the financial viability of plantings

Table 5.4:

Fruit Tree and Orchard Investments by Village and Founding Family Status^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|---|--------|--------|---------|-----------------|---------------------|----------------|
| Number of major plots per category ^b | 147 | 313 | 244 | 286 | 418 | 704 |
| Number of major plots with orchard and fruit trees ^b | 42 | 57 | 67 | 51 | 115 | 166 |
| Percentage of all plots with (%): ^c | | | | | | |
| Mango trees | 25.9 | 13.4 | 19.7 | 9.8 | 23.9 | 18.2 |
| Orange trees | 22.5 | 11.2 | 19.7 | 12.9 | 18.9 | 16.5 |
| Cashew trees | 6.1 | 1.9 | 5.3 | 2.1 | 5.3 | 4.0 |
| Lime trees | 4.8 | 1.0 | 4.5 | 2.1 | 3.6 | 3.0 |
| Other trees | 7.5 | 4.8 | 6.2 | 5.6 | 6.0 | 5.8 |
| Percentage of compound plots with (%): ^c | | | | | | |
| Mango trees | 60.7 | 38.8 | 45.5 | 31.4 | 56.5 | 49.6 |
| Orange trees | 57.1 | 57.1 | 54.6 | 57.1 | 56.5 | 56.7 |
| Cashew trees | 16.1 | 6.1 | 13.6 | 5.7 | 14.1 | 11.8 |
| Lime trees | 12.5 | 4.1 | 9.1 | 8.6 | 8.7 | 8.7 |
| Other trees | 19.6 | 14.3 | 9.1 | 20.0 | 14.1 | 15.8 |
| Percentage of plots near compound with (%): ^c | | | | | | |
| Mango trees | - | 11.4 | 57.9 | 9.9 | 22.8 | 15.3 |
| Orange trees | - | 3.2 | 52.6 | 6.3 | 10.1 | 7.9 |
| Cashew trees | - | 1.3 | 26.3 | 3.6 | 3.8 | 3.7 |
| Lime trees | - | - | 21.1 | .9 | 3.8 | 2.1 |
| Other trees | - | 3.8 | 10.5 | 3.6 | 5.1 | 4.2 |
| Percentage of outer field plots with (%): ^c | | | | | | |
| Mango trees | 3.3 | 4.7 | 5.2 | 1.6 | 6.6 | 4.7 |
| Orange trees | - | 1.9 | 2.3 | .8 | 2.4 | 1.8 |
| Cashew trees | - | .9 | 1.7 | - | 1.9 | 1.2 |
| Lime trees | - | .9 | 1.2 | 1.6 | .5 | .9 |
| Other trees | - | 1.9 | 2.3 | 3.1 | 1.0 | 1.8 |

a. Orchard and non-orchard tree crops.

b. Numerous small rice and vegetable plots are counted as one major plot each.

c. Plots with at least one tree present as percentage of all plots in strata.

Table 5.5:
Orchard and Fruit Tree Investment and Income by Tenure Status and Plot Location

| | Plot Held and Managed by Family | Plot Rented or Bor- rowed-in | Male Managed Plots | Female Managed Plots |
|--|--|---------------------------------------|--------------------------|----------------------------|
| Percentage of all plots with (%): | | | | |
| Number of total plots | ? | ? | ? | ? |
| Cashew trees | 6.3 | .8 | ? | ? |
| Lime trees | 4.4 | .8 | ? | ? |
| Mango trees | 29.5 | 1.7 | ? | ? |
| Orange trees | 26.8 | 1.2 | ? | ? |
| Other trees | 8.8 | 1.7 | ? | ? |
| Percentage of compound plots with (%): | | | | |
| Number of compound plots | ? | ? | ? | ? |
| Cashew trees | 12.5 | - | ? | ? |
| Lime trees | 8.3 | - | ? | ? |
| Mango trees | 50.8 | 100.0 | ? | ? |
| Orange trees | 56.7 | 100.0 | ? | ? |
| Other trees | 15.8 | - | ? | ? |
| Percentage of plots near compound with (%): | | | | |
| Number of plots near compound | ? | ? | ? | ? |
| Cashew trees | 6.8 | - | ? | ? |
| Lime trees | 3.9 | - | ? | ? |
| Mango trees | 25.2 | 2.7 | ? | ? |
| Orange trees | 14.6 | - | ? | ? |
| Other trees | 7.8 | - | ? | ? |
| Percentage of outer field plots with (%): | | | | |
| Number of plots--outer fields | ? | ? | ? | ? |
| Cashew trees | 1.4 | 1.2 | ? | ? |
| Lime trees | .7 | 1.2 | ? | ? |
| Mango trees | 9.9 | .6 | ? | ? |
| Orange trees | 2.8 | 1.2 | ? | ? |
| Other trees | 1.4 | 2.4 | ? | ? |

close to the homestead, but the long-term security of land rights associated with the family compound also increases the incentive to do so. Sinchu has the highest frequency of tree plantings on compound land of any village in the sample. While tree planting does not fully provide protection against dispossession, the establishment of productive trees gives the appearance of land utilization and increases ones odds of keeping land relative to those households leaving land vacant.

Beyond the perimeter of the compound, the rate of tree establishment drops off quickly. Sanyang continues to have a high rate of tree establishment on lands near the compound (57.9% vs 11.4% in Pirang for mangoes, 52.6% vs 3.2% for orange trees, etc.) reflecting in large part the large size of compounds and the more dispersed mode of settlement in Sanyang village compared with the other two locations. Tree plantings in outer fields are also higher, but the overall rate of tree establishment is low--in Sanyang, only 5.2% of plots have mango trees, 2.3% orange trees, 1.7% calhew trees, 1.2% lime trees, and 1.9% other trees.

B. Tree Plantings By Tenure Group

Based on the above data alone, it would appear that founding families do not preclude non-founding families from planting trees. However, these data are distorted by three factors. Being earlier settlers and having larger family sizes, it would seem reasonable to assume that space constraints and subdivisions may have constrained tree plantings in the compounds of founding families. Further, founding families have a greater number of plots, and despite their larger family size, may simply lack the labor or resources required to maintain a greater number of trees on their holdings. Finally, only one tree is required to establish the presence of trees on the holding in the statistical tables in tables 5.4 and 5.5. It is quite possible that founding families may permit the establishment of one or several trees on the perimeter, but prohibit the establishment of larger stands. Intensity of tree plantings are examined more closely in the next section. Data on incidence of tree plantings by tenure arrangement--held and managed plots versus borrowed plots--are provided in table 5.5.

Compound plots, whether held by founding or non-founding families tend to be considered as belonging to the respective family concerned. Few plots listed as borrowed-in comprise the household compound. Most borrowed plots are located in outlying areas with a smaller number located near the compound concerned. Hence comparisons of compound land owned and managed with compound land that is borrowed is technically impossible due to too few observations for the latter. Comparisons are possible on inner fields near the compound. The rate of tree plantings for all tree categories are significantly greater on "owned" plots versus borrowed plots, although results are confounded by possible endogeneity problems. A higher incidence of tree crops could either have contributed to higher tree investment through enhanced ownership rights, or rights were enhanced by the planting of trees. Further econometric analyses would be required to sort out this relationship. Tree plantings on outlying fields are higher on "owned and managed" plots compared with borrowed plots, but differences are not large. One can only assume that the higher cost of fruit transport, risk of fruit harvest being damaged or stolen, and capital constraints for tree establishment offset any gains achieved through possible enhancement of long-term rights.

VI. Plot Level Income

Information on inputs applied, and production and sales of primary and secondary crops are reported in table 5.6 for fruit trees, in table 5.7 for orchards, in tables 5.8 and 5.9 for vegetables, in table 5.10 for cereals, and in table 5.11 for rice. Information was presented in chapter 3 on the contribution of these farming activities to total household income. The data in these tables correspond to the flow of income and expenditures for only those plots containing the specific cropping enterprise to compare indicators of inputs, outputs, cost and productivity in per-hectare terms.

A. Fruit Tree (Non-Orchard) Investments

Of the plots in the sample containing one or more trees, regardless of type, plots on average contained 7.1 mango trees, 4.5 citrus trees, and 1.2 and .6 cashew and other trees, respectively. Tree establishment per plot is nearly three times higher in Sanyang than the other villages, and is nearly equal between Sinchu and Pirang, and among founding and non-founding families. These trends are also reflected in the number of trees per household growing trees (i.e. summed over plots with trees in the household). Tree growing households in the overall sample cultivate 11.4 mango trees, 6.8 citrus trees, 1.7 cashew trees, and 1.0 other trees.

Gross returns per plot are highest in Sanyang where tree density is highest. Expenditures for inputs are low for all categories, with the exception of possibly labor. Net income from plots with trees is six to eight times higher in Sanyang (D721.1/plot) than in neighboring villages reflecting mainly tree density per plot. However, dividing net income by total trees per plot indicates that productivity in Sanyang is also higher (D36.8/tree vs D12.2/tree in Pirang and D9.0/tree in Sinchu). The vast majority of produce is sold to Senegalese traders (86.3%). Income from fruit sales is controlled by the household head (87.8%), and to a much lesser extent by the plot manager (5.8%) or another (6.5%).

B. Fruit Orchards

Of the 120 households and 704 major plots in the sample, only 12 plots had orchards established. The majority of orchards are located in Pirang village. These orchards on average contained 175.6 mango trees, 8.6 citrus trees, 2.6 cashew trees, and 203.9 other trees. With the exception of wage-labor and other input costs, orchards received very few commercial inputs, even compared with plots with non-orchard fruit trees. Net income per plot is substantially in excess of that for plots with fruit trees (other than orchards) (D1,509.4/plot vs D330.5/plot), due entirely to larger plot size. However, once income is adjusted for number of trees per plot (D24.6/tree for non-orchards vs D3.9 for orchards), net income from dispersed stands is markedly higher. As with fruit trees dispersed throughout the homestead, net income accrues mainly to the household head (90.9%) or plot manager (9.1%), and all produce is marketed to Senegalese traders.

C. Vegetables

As indicated in table 5.8, 61.7% of the households in the overall sample cultivated vegetables, or 82.5% to 87.5% if Sinchu village is excluded.

Table 5.6:

Fruit Tree Investment and Income by Village and Founding Family Status^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|--|--------|--------|---------|-----------------|---------------------|----------------|
| Number of plots with fruit | 40 | 50 | 63 | 46 | 107 | 153 |
| No. trees per plot w/ trees (no.): ^c | | | | | | |
| Mango trees | 6.8 | 3.5 | 10.3 | 7.0 | 7.2 | 7.1 |
| Orange and lime trees | 4.5 | 2.6 | 6.1 | 3.6 | 4.9 | 4.5 |
| Cashew trees | .6 | .4 | 2.4 | .8 | 1.4 | 1.2 |
| Other trees | .6 | .6 | .8 | .7 | .6 | .6 |
| No. trees per household in strata (no./hh): | | | | | | |
| Mango trees | 7.6 | 5.8 | 19.3 | 12.0 | 11.2 | 11.4 |
| Orange and lime trees | 5.2 | 4.4 | 10.2 | 6.7 | 6.9 | 6.8 |
| Cashew trees | .7 | .4 | 3.6 | .9 | 2.0 | 1.7 |
| Other trees | .6 | .8 | 1.4 | 1.1 | .9 | 1.0 |
| Household income and cost of production (D/hh): | | | | | | |
| Sales from mango trees | 49.8 | 66.6 | 99.0 | 46.6 | 84.4 | 73.1 |
| Sales from citrus trees | 37.3 | 82.2 | 615.4 | 366.9 | 222.0 | 265.3 |
| Other fruit sales | 82.3 | 1.7 | 75.6 | 24.1 | 69.2 | 55.7 |
| Cost of production: | | | | | | |
| Fertilizer | - | 20.2 | 8.3 | 12.5 | 7.7 | 9.1 |
| Pesticide | - | 2.6 | - | 1.7 | .4 | .8 |
| Tractor service cost | - | - | - | - | - | - |
| Seed/transplant costs | 31.5 | 3.1 | 11.1 | 10.6 | 17.5 | 15.4 |
| Animal cost | 6.6 | 8.6 | 16.8 | 9.3 | 11.7 | 11.0 |
| Wage labor costs | 16.9 | 16.4 | 25.7 | 38.6 | 12.1 | 20.0 |
| Other input costs | 2.5 | 12.9 | 6.9 | 13.5 | 4.6 | 7.3 |
| Net cash income ^e | 112.1 | 86.7 | 721.1 | 351.5 | 321.6 | 330.5 |
| Principle destination of sales (%): ^{c,d} | | | | | | |
| Direct to consumers | - | 15.8 | 15.4 | 5.9 | 17.7 | 13.7 |
| Senegalese traders | 100.0 | 84.2 | 84.6 | 94.1 | 82.4 | 86.3 |
| Person controlling income from trees (%): ^c | | | | | | |
| Household head | 82.8 | 83.7 | 93.4 | 81.4 | 90.6 | 87.8 |
| Plot manager (if not head) | - | 12.2 | 3.3 | 14.0 | 2.1 | 5.8 |
| Other | 17.2 | 4.1 | 3.3 | 4.7 | 7.3 | 6.5 |

a. Excludes orchards. b. Numerous small rice and vegetable plots are counted as one major plot each. c. Based on sub-sample of any plots or households with any type of tree present. d. No sales to "hotels", "export firms", or "other traders". e. Income before depreciation, hired labor and family labor costs per cultivated plot; all dispersed rice and vegetable plots counted as one-plot each.

Table 5.7:

Investment and Income in Orchards by Village and Founding Family Status^a

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|--|--------|---------|---------|-----------------|---------------------|----------------|
| Number of plots with orchards ^{a,b} | 1 | 7 | 4 | 5 | 7 | 12 |
| No. trees per plot w/ trees (no./hh): ^c | | | | | | |
| Mango trees | 28.0 | 327.3 | 22.8 | 44.5 | 231.7 | 175.6 |
| Orange and lime trees | 2.0 | 14.8 | 2.5 | 10.0 | 8.0 | 8.6 |
| Cashew trees | 2.0 | 4.5 | .3 | 5.2 | 1.4 | 2.6 |
| Other trees | 10.0 | 405.2 | .8 | 8.7 | 287.6 | 203.9 |
| No. trees per household in category (no./hh): | | | | | | |
| Mango trees | 28.0 | 342.0 | 22.8 | 69.0 | 231.7 | 182.9 |
| Orange and lime trees | 2.0 | 16.2 | 2.5 | 12.3 | 8.0 | 9.3 |
| Cashew trees | 2.0 | 4.6 | .3 | 5.3 | 1.4 | 2.6 |
| Other trees | 10.0 | 410.4 | .8 | 17.3 | 287.6 | 206.5 |
| Household income and cost of production (D/hh): | | | | | | |
| Sales value of mango trees | - | 2,106.0 | 150.0 | 1,650.0 | 882.9 | 1,113.0 |
| Sales value of citrus trees | - | 764.0 | - | 200.0 | 460.0 | 382.0 |
| Sales value of other trees | - | 1,140.0 | - | 233.3 | 714.3 | 570.0 |
| Cost of production: | | | | | | |
| Fertilizer | - | 12.0 | - | 20.0 | - | 6.0 |
| Pesticide | - | - | - | - | - | - |
| Tractor service cost | - | - | - | - | - | - |
| Seed/transplant costs | 40.0 | - | 9.0 | - | 10.9 | 7.6 |
| Animal cost | - | - | - | - | - | - |
| Wage labor costs | - | 770.0 | - | 983.3 | 128.6 | 385.0 |
| Other input costs | - | 314.0 | - | 523.3 | - | 157.0 |
| Net cash income ^e | -40.0 | 2,914.0 | 141.0 | 556.7 | 1,917.7 | 1,509.4 |
| Principle destination of sales (%): ^{c,d} | | | | | | |
| Direct to consumers | - | - | - | - | - | - |
| Senegalese traders | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Person controlling income from trees (%): ^c | | | | | | |
| Household head | - | 100.0 | 75.0 | 100.0 | 83.3 | 90.9 |
| Plot manager (if not head) | - | - | 25.0 | - | 16.7 | 9.1 |

a. Excludes orchards. b. Numerous small rice and vegetable plots are counted as one major plot each. c. Based on sub-sample of any plots or households with any type of tree present. d. No sales to "hotels", "export firms", or "other traders". e. Income before depreciation, hired labor and family labor costs per cultivated plot; all dispersed rice and vegetable plots counted as one plot each.

Households on average have at least one person producing vegetables, who is mainly female. The majority of vegetable plots are private although donor gardens predominate in Sanyang village.²⁰ Producers on average in the sample have cultivated vegetables for 13.3 years with the most experience in Pirang (15.0 years) and the least experience in Sinchu village (2.0 years). Since beginning to produce vegetables, most producers have either increased area (60.6%) or area has remained the same (34.6%). Only in Pirang village has there been a reduction in vegetable area, due partially to the longevity of vegetable producers and retirement.

Land use calculated on an area basis is made prohibitively difficult by multiple cropping, length of growing season, and different sizes of plots, all very small. The land use information in table 5.8 is based on the contribution of each type of vegetable to total income generation. Bitter tomatoes (57.2%) make the largest contribution to total vegetable income in the overall sample, followed by cabbage (21.3%), tomato (10.1%), followed by an assortment of important but minor crops. While these percentages mirror Pirang village reasonably well, gardens in Sinchu village are mainly used to produce greens for autoconsumption and direct sale to consumers, while tomatoes (56.3%) and bulb onions (16.1%) are of greater importance in Sanyang village. Very few differences are apparent in the production patterns of founding vs non-founding families. The vast majority of vegetables are sold to traders (98.2%) using either informal (94.5%) or verbal (5.1%) contracts.

Information on costs and revenues of vegetable holdings (plots) and for households producing vegetables are presented in table 5.9. Compared with tree crops, vegetables receive relatively higher levels of fertilizer and pesticides. Around 23.5% of total value of production is spent on chemicals. Seed transplant costs and wage labor expenses (7.4% and 4.7%) are also significant. No mechanical or draft traction is used because of the extremely small size of holdings involved. Founding families appear to earn higher gross revenues, and make greater use of chemical inputs and wage labor than non-founding families, but on net income per plot is only slightly (9.8%) higher. The fact that input use is higher suggests the possibility of advantaged market access, superior liquidity through off-farm employment or livestock holdings, or preferable access to credit. The more remote distance of Sanyang village is very apparent in the data. The perishability of vegetables, combined with rough road conditions between Sanyang and the main urban areas, substantially increases transport costs that are reflected in the prices that traders are willing to pay. Pirang village despite its longer distance from the capital is connected by a paved road. Pirang village compared with Sanyang village has higher gross revenue (D318.4 vs D188.9) and net income (D191.4 vs D91.2). The poor performance of Sanyang village reflect the poor economics of vegetable production as the relatively poor organization of the scheme. The low level of Sinchu simply reflects the high degree of autoconsumption.²¹

20. While the percentage of plots on donor schemes is high in Sinchu, it is nonetheless based on very few vegetable plots held.

21. Enumerators visited each vegetable producer at multiple times during the harvesting season for vegetables inquiring about total value produced and

Table 5:8

Vegetable Production and Marketing

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|---|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of households (A) | 40 | 40 | 40 | 36 | 84 | 120 |
| Number of vegetable producers (B) | 2 | 73 | 57 | 61 | 71 | 132 |
| Number of vegetable plots (C) | 2 | 91 | 67 | 84 | 76 | 160 |
| Households growing vegetables (% of A) | 15.0 | 87.5 | 82.5 | 86.1 | 51.2 | 61.7 |
| Producers per household (persons/hh) | 1.0 | 1.3 | 1.2 | 1.4 | 1.1 | 1.2 |
| Type of vegetable plot: | | | | | | |
| Donor garden (%) | 61.5 | 21.8 | 76.3 | 38.1 | 29.5 | 34.3 |
| Private garden (%) | 38.5 | 78.2 | 23.7 | 61.9 | 70.5 | 65.7 |
| Time growing vegetables (years per B) | 2.0 | 15.00 | 11.8 | 16.7 | 10.6 | 13.3 |
| Since beginning gardening, area has (% of category B): | | | | | | |
| Increased | 100.0 | 68.5 | 44.9 | 60.7 | 60.6 | 60.6 |
| Decreased | - | 8.2 | - | 8.9 | 1.4 | 4.7 |
| Remained the same | - | 23.3 | 55.1 | 30.4 | 38.0 | 34.6 |
| Land Use (% of total income): | | | | | | |
| Bitter tomato | - | 64.0 | 14.1 | 52.8 | 65.4 | 57.2 |
| Cabbage | - | 24.6 | .4 | 24.4 | 15.6 | 21.3 |
| Tomato | - | 2.8 | 56.3 | 10.8 | 8.9 | 10.1 |
| Eggplant | - | 4.2 | 2.9 | 4.4 | 3.3 | 4.0 |
| Mandinka onion | - | 1.7 | 7.4 | 2.7 | 2.0 | 2.5 |
| Bulb onion | - | .3 | 16.1 | 2.2 | 2.9 | 2.4 |
| Okra | - | 1.6 | 0.3 | 1.9 | 0.5 | 1.4 |
| Hot pepper | - | .7 | 2.1 | .8 | 1.0 | .9 |
| French beans | - | .1 | - | - | 0.1 | .1 |
| Greens | 18.2 | - | .5 | - | .2 | .1 |
| Sorrel (bisap) | 81.8 | - | - | - | .2 | .1 |
| Principal destination of sales (% of total income): | | | | | | |
| Consumers | 100.0 | - | 4.3 | .3 | 1.2 | .7 |
| Traders | - | 98.8 | 95.3 | 99.1 | 96.6 | 98.2 |
| Hotels | - | .8 | - | - | 1.9 | .7 |
| Unknown/missing | - | .4 | .4 | .6 | .3 | .4 |
| Principal marketing arrangement: | | | | | | |
| Verbal contract | - | 5.9 | - | 6.4 | 2.7 | 5.1 |
| Written contract | - | - | - | - | - | - |
| Informal | 100.0 | 93.6 | 99.7 | 93.1 | 97.0 | 94.5 |
| Unknown/missing | - | .5 | .3 | .5 | .3 | .4 |

Table 5.9:

Vegetable Revenue and Costs of Production

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|---|--------|---------|---------|-----------------|---------------------|----------------|
| Herd tethered on plot (% yes) | - | - | 8.3 | 2.5 | 4.1 | 3.3 |
| Chemical fertilizer on plot (% yes) | - | 97.8 | 25.4 | 76.8 | 56.8 | 67.3 |
| Pesticides used on plot (% yes) | - | 48.4 | 7.9 | 40.2 | 21.6 | 31.4 |
| Tractor used (% yes) | - | - | - | - | - | - |
| Animal traction used (% yes) | - | - | 6.6 | 2.5 | 2.9 | 2.7 |
| Vegetable income and costs per plot (dalasis/category C): | | | | | | |
| Value of production | 4.2 | 318.4 | 188.9 | 321.6 | 223.1 | 278.7 |
| Value of sales per plot | 3.9 | 296.8 | 187.7 | 302.3 | 210.0 | 262.2 |
| Total costs of production: | | | | | | |
| Fertilizer | - | 63.6 | 44.5 | 71.3 | 38.6 | 57.0 |
| Pesticide | - | 9.5 | 5.7 | 12.2 | 3.3 | 8.4 |
| Tractor service cost | - | - | - | - | - | - |
| Animal cost | - | - | - | - | - | - |
| Seed/transplant costs | 3.5 | 14.5 | 47.5 | 31.9 | 5.9 | 20.6 |
| Wage labor costs | - | 17.3 | - | 19.5 | 4.7 | 13.0 |
| Other input costs ^a | - | 22.0 | - | 17.1 | 16.1 | 16.7 |
| Net cash income ^a | .8 | 191.4 | 91.2 | 169.6 | 154.5 | 163.0 |
| Vegetable income and costs per household (dalasis/category A): | | | | | | |
| Value of production | - | 2,094.2 | 750.9 | 2,362.7 | 999.9 | 1,602.7 |
| Value of sales per plot | - | 1,948.5 | 745.7 | 2,221.4 | 941.4 | 1,507.6 |
| Total costs of production: | | | | | | |
| Fertilizer | - | 435.8 | 190.7 | 547.3 | 185.6 | 348.0 |
| Pesticide | - | 65.4 | 24.3 | 93.9 | 16.0 | 51.0 |
| Tractor service cost | - | - | - | - | - | - |
| Animal cost | - | - | - | - | - | - |
| Seed/transplant costs | 22.5 | 99.1 | 203.6 | 245.2 | 28.5 | 125.8 |
| Wage labor costs | - | 118.2 | - | 149.6 | 22.6 | 79.6 |
| Other input costs ^a | - | 150.9 | - | 131.2 | 77.5 | 101.6 |
| Net cash income ^a | -22.5 | 1,237.5 | 384.8 | 1,301.8 | 703.3 | 983.5 |
| Person controlling disposition of vegetable income (% of B responding): | | | | | | |
| Household head | 20.0 | - | 6.1 | 3.6 | 2.8 | 3.1 |
| Plot owner (if not manager) | - | - | 34.7 | 12.5 | 14.1 | 13.4 |
| Plot manager | 80.0 | 100.0 | 57.1 | 83.9 | 81.7 | 82.7 |
| Other | - | - | 2.0 | - | 1.4 | .8 |

Striking differences are apparent in income figures once income from all major plots and plot managers are aggregated within the household. On average, household members combined earned D1,602.7 from vegetable production, and D983.5 after cash expenses are met. Incomes are highest in Pirang, and for founding families, due to the greater number of plot holdings and higher plot productivity in these strata.²² Unlike the management of fruit trees, in which the income is controlled primarily by the household head, in the case of vegetables it is the plot managers (mainly women) (82.7%) who control its dispensation.

D. Grains

Indicators of management practices and crop budgets for cereals (including maize, millet and sorghum) and rice are presented in tables 5.10 and 5.11 as contextual background for assessing input use on vegetables.

Of the 103 cereal plots in the sample, around 15.3% (26.9% of those of founding families) were manured versus none for rice. Conversely, little fertilizer was applied to cereal crops, although 43.4% of rice plots received fertilizer. Rates of nutrient supplements for vegetables (table 5.9) are similar to rice; little manure is applied to vegetable plots although rates of fertilization are the highest of any cropping enterprise. The fact that both vegetables and rice are controlled mainly by women, while the manure of livestock herds is controlled by men, is not coincidental. It is possible that manure is applied to communal fields where all members benefit from higher grain consumption. Yet the analysis still begs the question whether manure is being applied in a manner that is achieving the highest marginal value.

Vegetable production also receives the highest levels of pesticide application of any cropping enterprise in the sample suggesting a high degree of commercial activity within households by members who do not appear to be particularly inclined to use chemicals on other cropping enterprises. The small plot sizes used for vegetable production, particularly on private plots, are not individually suited to mechanical or animal traction. However, the entire donor scheme could theoretically be tilled then subdivided into individual plots saving human power. One can only assume from the data that the transaction costs and uncertainty associated with assignments of plot areas among *kabilos* then plot managers precludes this practice. Overall, around 60.2% of cereal fields are tilled with animal traction versus 1.6% for rice and 0% for vegetables.

amount sold. Both the value produced and the value consumed (difference between value produced and sold) are approximate terms gauged by the plot manager relative to vegetable sales during the reporting period. Estimates appear very realistic for Pirang and Sanyang villages. However, in Sinchu village where the vast majority of vegetables are consumed, problems in valuation did arise.

22. Income figures would need to be converted into per-hectare terms to before assessing efficiency differences among the strata.

Table 5.10:

Management Practices for Cereal Crops by Village and Founding Family Status

| | Sinchu | Pirang | Sanyang | Founding Family | Non-Founding Family | Overall Sample |
|-------------------------------------|--------|--------|---------|-----------------|---------------------|----------------|
| Number of plot observations | 46 | 25 | 32 | 27 | 76 | 103 |
| Herd tethered on plot (% yes) | - | 33.3 | 21.9 | 26.9 | 11.1 | 15.3 |
| Chemical fertilizer: | | | | | | |
| Used on plot (% yes) | - | 12.0 | 3.1 | 3.7 | 4.0 | 3.9 |
| Type used | | | | | | |
| Urea (%) | - | 33.3 | - | 100.0 | - | 25.0 |
| Compound (%) | - | 66.7 | 100.0 | - | 100.0 | 75.0 |
| Pesticides: | | | | | | |
| Used on plot (% yes) | 6.7 | - | 6.3 | 3.7 | 5.3 | 4.9 |
| Type used | | | | | | |
| Powder (%) | 60.2 | - | 50.0 | - | 67.1 | 57.4 |
| Liquid (%) | 39.8 | - | 50.0 | 100.0 | 32.9 | 42.6 |
| Tractor used (% yes) | - | - | - | - | - | - |
| Animal traction: | | | | | | |
| Used on plot (% yes) | 50.0 | 84.0 | 53.1 | 51.9 | 63.6 | 60.2 |
| Type used | | | | | | |
| Owned (%) | 61.1 | 38.1 | 52.9 | 57.1 | 47.6 | 50.0 |
| Borrowed (%) | 22.2 | 19.0 | 5.9 | 7.1 | 19.0 | 16.1 |
| Hired (%) | 16.7 | 42.9 | 41.2 | 35.7 | 33.3 | 33.9 |
| Total value of production (dalasis) | 211.65 | 817.84 | 715.47 | 808.89 | 411.01 | 515.31 |
| Total value of sales (dalasis) | 5.43 | 64.00 | 35.00 | 34.07 | 26.97 | 28.84 |
| Value of second intercrop | 6.52 | 52.24 | - | 8.89 | 17.97 | 15.59 |
| Costs of production (dalasis): | | | | | | |
| Fertilizer | - | 11.60 | .70 | 4.44 | 2.53 | 3.03 |
| Pesticide | .87 | - | .55 | - | .76 | .56 |
| Tractor service cost | - | - | - | - | - | - |
| Animal cost | 7.96 | 32.60 | 31.25 | 37.04 | 15.54 | 21.17 |
| Seed/transplant costs | 8.72 | 2.00 | 4.38 | 6.67 | 5.41 | 5.74 |
| Wage labor costs | 10.54 | 31.20 | 38.91 | 51.11 | 14.87 | 24.37 |
| Other input costs ^b | 6.52 | - | 6.25 | 4.81 | 4.87 | 4.85 |
| Net cash income | 183.56 | 792.68 | 633.43 | 713.71 | 385.00 | 471.18 |

a. Maize, millet and sorghum.

b. Total value of production plus value of intercrop less costs. Represents income before depreciation, hired labor and family labor costs per cultivated plot; all dispersed rice and vegetable plots counted as one-plot each.

Table 5.11:

Management Practices for Rice by Village and Founding Family Status

| | Sinchu | Pirang | Sanyang | Founding Family | Non- Founding Family | Overall Sample |
|-------------------------------------|--------|--------|---------|--------------------|----------------------------|-------------------|
| Number of plot observations | - | 78 | 44 | 64 | 58 | 122 |
| Herd tethered on plot (% yes) | - | - | - | - | - | - |
| Chemical fertilizers: | | | | | | |
| Used on plot (% yes) | - | 62.8 | 9.1 | 46.9 | 39.7 | 43.4 |
| Type used | | | | | | |
| Urea (%) | - | 69.4 | - | 76.7 | 47.8 | 64.2 |
| Compound (%) | - | 24.5 | 50.0 | 13.3 | 43.5 | 26.4 |
| Urea+Compound (%) | - | 6.1 | 50.0 | 10.0 | 8.7 | 9.4 |
| Pesticides: | | | | | | |
| Used on plot (% yes) | - | - | 2.3 | - | 1.7 | .8 |
| Type used | | | | | | |
| Liquid (%) | - | - | 100.0 | 100.0 | 100.0 | 100.0 |
| Tractor used (% yes) | - | - | - | - | - | - |
| Animal traction: | | | | | | |
| Used on plot (% yes) | - | - | 4.5 | - | 3.4 | 1.6 |
| Type used | | | | | | |
| Owned (%) | - | 50.0 | - | - | 50.0 | 50.0 |
| Borrowed (%) | - | - | - | - | - | - |
| Hired (%) | - | 50.0 | - | - | 50.0 | 50.0 |
| Total value of production (dalasis) | - | 234.13 | 380.25 | 330.63 | 238.55 | 286.83 |
| Total value of sales | ? | ? | ? | ? | ? | ? |
| Costs of production (dalasis): | | | | | | |
| Fertilizer | - | 21.10 | 12.50 | 24.78 | 10.52 | 18.00 |
| Pesticide | - | - | 2.27 | - | 1.72 | .82 |
| Tractor service cost | - | - | - | - | - | - |
| Traction service cost | - | - | 1.14 | - | .86 | .41 |
| Seed/transplant costs | - | .51 | 3.41 | 2.97 | - | 1.56 |
| Wage labor costs | - | 8.27 | 35.11 | 32.03 | 2.41 | 17.95 |
| Other input costs | - | - | 5.91 | 3.13 | 1.03 | 2.13 |
| Net cash income ^a | - | 204.24 | 319.91 | 267.72 | 221.95 | 245.96 |

a. Income before depreciation, hired labor and family labor costs per cultivated plot; all dispersed rice and vegetable plots counted as one-plot each.

E. Assessment of Profitability

Claims made by interviewees in the course of reconnaissance surveys that vegetable cultivation is highly remunerative compared with other cropping enterprises are borne out by these data. Avoiding for the moment the difficult problem of labor differences, vegetable revenue (for households producing vegetables) is markedly higher than households growing cereals (D983.5/hh vs D471.2/hh), despite a substantially larger land base associated with the former. The income differential is substantially higher for rice (D983.5/hh vs D246.0/hh) based on land areas for each that are roughly identical. Unfortunately, data were not collected on labor flows within the household to enable the calculation of net returns per unit of labor. Nevertheless, based on interviews with respondents and the cursory data presented here, vegetable production is highly competitive with other crop enterprises, and as illustrated in chapter 3, vegetables are making an important contribution to total household income.

This analysis begs the question why more family resources are not moving into vegetable production. Further production function analyses are needed to evaluate the marginal productivity of factor use in various cropping enterprises to assess the economics of present resource allocation. But two important institutional questions are pertinent as well. Why doesn't more male labor flow into vegetable production particularly during the dry season when the opportunity cost of labor is theoretically low? And, why isn't more land opened up for vegetable cultivation?

With regard to labor, the opportunity cost of time determined by wage- and self-employment activity is an important consideration, but cultural barriers whereby men refuse to engage in women's work cannot be precluded as a motivating cause. With regard to land, founding families seem to be willing to make land available when foreign intervention is involved, but comparable levels of land and investment do not appear forthcoming in its absence. Vegetable areas without further investment in irrigation will remain confined to the fixed endowment of lowland soils in the village. There are a number of possible explanations for the fixed supply of irrigated vegetable schemes: irrigated vegetable cultivation is profitable only as long as donors are willing to subsidize the infrastructure; and founding families are reluctant to allocate vegetable land for village use for fear that it might not be returned. Arguments that foreign capital is needed for construction of "deep" wells and irrigation, and that these capital constraints are prohibiting the conversion of land into vegetable schemes does not seem valid. Wage earnings from non-farm employment are by no means insignificant, and theoretically the purchase of pumps and investment in cement wells could be made through a pooling of funds within the village. One can only assume that the skewed distribution of land holdings and income in the village, and concerns over land rights, are not conducive to this outcome. These and other hypotheses justify further follow-up discussions with the study households.

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Annex A

CASE STUDIES INTERVIEWS WITH THE ALKALOS IN THE SURVEY VILLAGES

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Figure A.1
Settlement, Employment and Land Markets, Sinchu Baliya Village

Sinchu Baliya is located on the outskirts of Welingara village, south of Serekunda. The village was founded by the father of present Alkalo, Amadou Bah, some 60 years ago. The father, an important businessman who owned a shop in Bakau, decided to seek land for farming out of fear that business would not last. With farm land in Bakau in short supply, he contacted the Seyfou (chief) in Sukuta, who "gave" him the land where Sinchu Baliya is presently located.

Other families interested in farming were invited (by the father) to settle the land. Some were kin, others were strangers from far and wide. At the time of settlement, the area was covered by thick bush, replete with snakes and hyenas. He cleared the land with the help of Kafo labor groups. Families were then encouraged to settle as neighbors, and to help protect the concession from wildlife and unauthorized claims.

Before the droughts of the 1970s, stranger farmers coming to the area seeking seasonal use of land in exchange for labor was a common occurrence. Settlement by migrants was less common. Stranger farming, has since steeply declined due to lack of rain, the decline of the groundnut industry, low farm incomes, and the spread of animal traction.^a Since the 1970s, many of the people settling in the village have come from elsewhere in The Gambia (principally rural areas affected by low incomes and drought) and from abroad, including, inter alia, Guinea Bissau and Senegal.

Once primarily a farming community, the village now has more and more residents coming to depend upon wage and skilled labor. Nevertheless, while a small number of households depend entirely on non-farm employment, the vast majority have small farms. Nearby Sinchu farm and Radville farm, both large commercial operations, provide sources of employment. Wages, however, are disappointingly small. Tilling one's own land provides superior income, particularly from vegetables. Giving land to commercial operations would nonetheless be preferred if they were viable and provided employment for the community. All too often, however, land is allocated by the Alkalo to a commercial operation on promises of employment that never pan out.

A nearby commercial farm is a case in point. The Alkalo claimed to have given land on condition that people from the village would be provided employment. The farm never followed through with its promises. Senior positions initially given to villagers were later given to expatriates, and the villagers were fired. The Alkalo has since protested, with some positive results, yet he remains irritated. He is reluctant to take the land back in hope that the commercial farm might yet succeed and increase employment in his village, but severe land scarcity is making the temptation difficult to resist.

Demand for land has grown sharply in recent years. The rapid population growth of Serekunda city has reached its outer limits due to the extensive areas of surrounding swamps. High rents there have resulted in many people

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Figure A.1: (Continued)

coming to Sinchu Baliya seeking land upon which to live and farm. Some settle permanently. Others borrow land to farm, while residing in Serekunda. Any affairs regarding land require that the Alkalo be notified and kept informed. Transactions require that he act as a witness.

Arable land for dry land farming and swamp land for rice are rarely sold, leased, or rented although the customary tribute of "kola nuts" to the Alkalo in exchange for a seasonal concession remains a common practice. Land for residences is bought and sold, and sales of residential property are widespread. Serious land scarcity has emerged in recent years. What criteria does the Alkalo use in allocating land? Arable land for farming is allocated on a first come, first serve basis; because of the many people requesting land, the Alkalo must turn some away, usually those coming late in the agricultural season. Land for residential purposes is sold to those able to pay in-cash or in-kind (e.g. a bag of groundnuts). Money from the sale of residential plots is retained by the Alkalo's family, and "rightly so", because the land belonged to his father. Individuals are entitled to sell the buildings on land to another, but only with the approval of the Alkalo because the land belongs to him.

A recent meeting of the Alkalos with the Seyfou addressed the problem of land scarcity in the region. The Seyfou formally set aside an area adjacent to Sinchu Alhaji for agriculture. Whomever is interested in farming can contact the concerned Alkalo(s) for an allocation.

The Alkalo is now being forced to reclaim some of the land formerly given to families by him or his father. Land is needed for the younger generation and newcomers. An attempt is made to seize land that is not fully utilized, but this is not always possible. These repossessions sometimes pose hardships for the families losing land, but the needs of others are greater.

Disputes, particularly boundary disputes, are widespread and demand the constant attention of the Alkalo. People frequently encroach upon another's land to expand their holdings. Ownership disputes are becoming more common. A common dispute is the situation where a father borrows (has been given) a plot for a long time, the Alkalo reallocates a portion of the land to another, and the sons upon reaching age demand the land back to establish their own households. Such problems are increasing in number and are becoming more difficult to resolve as the size of the village increases.

a. While labor arrangements concerning stranger farming can be expected to vary depending on demand for seasonal labor, the supply of stranger farmers seeking land, and land availability, 5 days of labor on the land holder's farm in exchange for 2 free days to work on a "private" plot was a prevailing contract. Animal traction, a labor saving technology, helped to reduce stranger farming by reducing farm labor demands per-unit of area.

b. In response to the question "has the "kola-nut" tribute increased in size with time, the Alkalo responded negatively, followed by the clarification that some farmers presented no tribute at all, yet were still allocated land.

Source: Personal conversation with Alkalo Amadu Bah, Sinchu Baliya.

Figure A.2
Settlement, Employment and Land Markets, Sinchu Alhaji Village

Sinchu Alhaji village, formerly Madena Sekunda, was founded in 1968 by Alhaji Abdoulie Ceesay from Kiang, who at the time was living with his koranic students in Serekunda. As a marabout in his younger years, he one night in a dream received orders from God that he should establish a village for himself and his Islamic students. He visited the Seyfou in Sukuta for land, and there saw in a dream a tree under which the village should be established. However, only some time later, after visiting the "wise" Alkalo of Old Yundum and inquiring about the tree was he able to locate the site of the present village. That tree still stands at the center of Sinchu Alhaji today.

At the time of settlement 28 years ago, the area was covered by heavy bush. The Alkalo promised the Seyfou that he and his followers would supply the labor for clearing and establishing the village in order to promote Islam in the area. The first compound was settled by a family from Saback Sanjal in the North Bank Division in 1968. Others began arriving in 1973/74. The village was sought out by those who wanted to practice Islam, move nearer to the city, and raise a family in a rural environment free from the vices of urban life. Serekunda, the home of the Marabout's students before the move, was rife with adulterating influences--cigarettes, modern dress and bad moral conduct.

A second wave of settlement followed beginning around 1977/78. Families who arrived from inland areas indicated that they had no water due to drought. "Kola nuts" were offered to the Alkalo to stay, and they were accepted into the community. By 1984, the current village contained approximately 35 to 45 compounds. Nearly all settlers to this point practiced traditional life-styles, and acquired land primarily for farming.

A third wave of settlement followed in 1985, with urbanites from Bakau, Serekunda and Banjul seeking land for residences and farming. Currently, as many as 50 people/day are showing up on weekends at the Alkalo's compound to seek land allocations. The size of the village has grown to around 170 compounds at present. The demand for land by wealthier households is high, but a substantial number of poorer households are seeking land as well. People in some cases have no place to stay, or rents in Banjul or Serekunda are too high for their income. The story of a recent migrant provides a case in point. A gentleman with "kola nuts" arrived at the Alkalo's compound one day. He had 6 children to feed, lacked employment, and was staying in his brother's crowded compound.

Plots are now being allocated in sizes of about 25 x 30 meters. Allocations used to be larger, 36m x 36m to some as large as 50m x 50m. However with the tightening supply of land in the village, the Alkalo has had to reclaim land from certain families who received larger allocations in the past. The sub-divisions are carried out by the survey department. Do people with larger holdings complain about losing it? The response was effectively no--"One does not disagree with the Alkalo."

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Figure A.2: (Continued)

The land is given for "free", but some form of "gift" to the Alkalo is considered proper. The wealthier should give more, while the poor may only be able to afford a small tribute of "kola nuts" or D20 to D100. However, the land is never sold, only the improvements thereon.^a Once land is allocated, the individual has a right, and is encouraged by the Alkalo, to seek a 99-year leasehold to protect investments in the land--i.e. mango trees, house and other permanent structures. Only 15 percent of families now hold leaseholds, although the Alkalo keeps well designed sketch maps of individual compounds and the village. Certain areas are reserved for residential use, and other areas for agriculture.

Why encourage registering the land if the Alkalo is looking out for the best interests of the people? First, a lease is required for tenure security. The Alkalo, however decent, will eventually die and there is no guarantee that the next Alkalo will honor the promises made by current or past Alkalos. Second, a lease is good collateral for getting credit from banks. Upon default the bank can reclaim its capital by selling the property to another,^b but only the improvements are sold as the land belongs to the Alkalo.

The people now requesting plots want land for shops, stores and houses. Priority is given to those prepared to live in the area, those willing to develop and invest in the land, and those in need.^c

One large commercial farm has been established in the area. The land (400m x 450m) has been allocated but not yet developed. The owner promised to employ 100 people, and while none have yet been employed, the Alkalo is still hopeful. Why do small farmers not pool their capital for large investments? Earnings of D20 here and D50 there make it difficult to accumulate capital. The Alkalo is able to allocate land, but residents lack the funds to develop the land themselves. No vegetable schemes are present in the immediate vicinity. The majority of people farm, but incomes are low. Large commercial operations are thus preferred; they have a decided advantage in mobilizing capital, and providing cash income and employment.

a. The Alkalo emphasized that the Koran strictly forbids the sale of land.

b. The Alkalo was presented with the following scenario--Suppose the bank makes a loan of D10,000 to an individual who absconds with the money. As no investment is made in the land, there are no improvements to sell, and the land cannot be sold as it belongs to the Alkalo. Whether the bank would agree that the Alkalo owns the land is another matter, particularly for registered property. The important question concerns the suitability of the land as collateral when the Alkalo maintains the right of land ownership. According to the Alkalo, the bank losing money is an unfortunate situation, but is nonetheless inevitable as the land cannot be taken away from the Alkalo.

c. Some farm land has been allocated the village in Yundum and Sukuta by the Seyfou of the district in consultation with the Alkalos.

Source: Personal conversation with the son of Alhaji Abdoulie Ceesay, Sinchu Alhaji.

Figure A.3
Settlement, Employment and Land Markets, Pirang Village

Our forefathers did not record the history of what is presently Pirang village, so the history of its settlement is hazy; some knowledge has been lost. The following history of Pirang is as I learned it from my father, and he from my great grandfather, Biram Kunda, founder of the village.

The founding of Pirang occurred sometime prior to the advent of the Europeans in The Gambia. Two brothers were in line for ascendancy to chiefhood. In the symbolic gesture of slipping a bangle onto his wrist, the Alkalo explained how the "palm bracelet" was slipped onto the wrist of Biram Kunda's brother, indicating his selection as chief. Biram Kunda, angered by the decision, moved away to establish what is now Pirang village.

The area at the time of Biram Kunda's arrival was covered by thick bush, with abundant wildlife--leopards, hyenas and snakes. After clearing the land on his own, marabouts instructed him to plant four trees, one at each corner of the village. The trees, according to the marabouts, if allowed to grow until their flowers were seen, would protect the village against aggression, and evil spirits. These trees are still visible in Pirang today, and since its founding, the village has never fallen to outsiders.^a

Once the trees were planted, other families, mainly warriors from the east, began to arrive asking Biram Kunda for the right to settle. As he wanted neighbors, any family who cared to stay in the area and help clear the land was welcomed, and given land from surrounding areas. As a boy (about 50-60 years ago), the Alkalo recalls 9 families residing in the village--Bojang Kunda (4 families), Turray Kunda, Darboe Kunda, Daffeh Kunda, Jabang Kunda, and Fofona Kunda. These families were the first arrivals in the village and are still recognized as the "founding families" to this day.

Growth of the village since the Alkalo's youth has been gradual. Little by little children grew up and established their own households, while others have continued to migrate to the village from other areas. Three to five families each have sprung from the original 9 families, so that roughly 45 households of the current 178 comprising Pirang today are related in some way to the founding families.

Until recently, newcomers wanting land need only have contacted the Alkalo or one of the "founding" families. No cash payment was required aside from the customary tribute of "kola nuts" to the Alkalo or "founding" family from whom the land was borrowed. However, land scarcity has increased, and beginning 3 years ago the Alkalo began charging D300 for residential plots. Agricultural plots are never rented or sold, but instead are "borrowed-out," and must be returned at the end of the season, although some families have borrowed the same plots for years.^b Land disputes are rare. Any land transfer requires that the Alkalo be notified, and any dispute must be resolved by him, if the parties involved cannot reach a solution themselves.

Land sales, while emerging, are still infrequent. The law requires that the Alkalo be notified of any sale. The founding families can sell land

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Figure A.3: (Continued)

without the Alkalo's permission, although all keep him informed. However, if the borrowers of land from the founding families attempted to sell land, even if borrowed a very long time, a very serious conflict would be created.

People from Banjul or Serekunda seeking land has not been a common occurrence. A brother of an existing family in Pirang moving to the village is commonplace. As the village continues to expand, its outer periphery is beginning to come into contact with the land of other villages. When overlap is eminent from an allocation, the Alkalo is presently willing to offer the neighboring village D300 for the land. One offer has to date been accepted.

Times are changing. Land used to be reserved and demarcated for children, who in turn used to hustle for money. The present generation, however, belittles income from agriculture and farming as a profession. A large number of families in the village depend entirely on non-farm employment. Women, while always traders, have begun to spend more time on gardening. Stranger farmers are disappearing. New labor arrangements are taking their place. Visiting workers mainly from up-river are now-a-days seeking employment for fencing, gardening, and work on commercial farms.

Most of the rice fields are now damaged by salt intrusion. The EEC vegetable scheme is too small for the village, and the vegetables are under constant threat of damage by animals. In times past, farmers always felt certain that farming would remain profitable. Uncertainty now prevails. Presently, the people remaining in dryland farming work hard, but for little remuneration. Those women engaged in vegetable cultivation can earn more money in one season than others earn year around. Why not pool capital to make the necessary investments in wells and fencing? Small farmers are poor and find it difficult to accumulate the capital needed for such investments.

A number of large commercial farms are widely dispersed in the area. As many as 50 workers per day, including men and women, may be hired year round from the village. Trucks arrive daily to pick up anyone willing to work. Wages are terribly low, only D12/day for work from 7 am to 4 pm. The commercial farms were given land by Alkalos from other villages. No commercial farmer has yet asked him for land, but he would be receptive. He has land available, and would be willing to ask others in the village to rent or sell land if a commercial farming operation could be enticed to come.

Given that commercial farm wages are low and arable land is growing scarce, why not allocate more land for individual holdings (a long pause)? It is difficult to know what to say! Wages are indeed low, but employment is needed for people in the village. Labor in the village is abundant; capital is the problem. The EEC scheme has been very beneficial but it is too limiting in size. Employment could be increased by expanding operations there. Large commercial farms are better in the sense that they provide better access to capital and have greater capacity for wage employment.

- a. The village has now outgrown the original boundaries.
- b. "Borrowed-out" means "loaned-out" without any fee being paid.

Source: Personal Conversations with Alkalo Maa Bojang, Pirang.

**Figure A.4:
Settlement, Employment and Land Markets, Sanyang Village**

Sanyang, a very old village, was founded more than 75 years ago by the family of the present Alkalo's grandfather on what was then mostly forest land. Other "founding" families--Kore Kunda, Jabak Kunda, More Kunda and Namba Kunda, later settled in adjacent areas, claiming the large area of land surrounding what is presently Sanyang village. The village is about 5 km from the coast, the mangrove swamps marking its western boundary, and only 20 km from the outskirts of Serekunda, although the trip still takes more than 30 minutes by laterite road.

Sanyang's population continues to grow as a result of families coming home, migrants from the Casamance, and in recent years, people from Serekunda seeking land. Unlike Sinchu Alhaji, Sinchu Baliya, and Pirang villages, land is still not sold in Sanyang. Land is allocated by the Alkalo in much the same way as his father before him. Land for newcomers is still abundant and granted upon request. Agricultural plots are never rented or sold, but are instead "borrowed-out," sometimes for a very long time. In addition to grants by the Alkalo, allocations are also made by the "founding" families who still maintain a sizable presence in the village. These allocations, although made by the families, must be approved by the Alkalo. Unlike his counterparts in Sinchu Alhaji and Sinchu Baliya, the Alkalo has not yet been forced to sub-divide or reclaim any previous grants of land.

The influences of urbanization have nonetheless begun to effect changes on life in the village. In recent years, people from Serekunda and other urban areas have been coming to Sanyang asking for land, mainly to establish residences. As Sanyang has abundant farm land still available, he laments the fact that they are fewer in number than he would like to see. Yet, the ones to whom he has "given" land, by and large, have not developed it. They are not interested in agriculture, and farming does not provide the profitable employment that it once did.

The development of a piece of land, either with a fence or a compound, is sufficient to provide a family with secure property rights. However, if an allocated parcel is not developed within 2-3 years, the Alkalo can and will assert his right to reallocate the parcel to someone else. Land without physical development, according to the Alkalo, is strictly "borrowed." Statutory tenure, administered through leaseholds by the state, has to date had minimal impact on land tenure in the village. Three plots of land in Sanyang have been registered as leaseholds, and one transfer of land title has been recorded at the Brikama Area Council.

Disputes are a very sensitive issue, and have risen for the first time in recent years. While the Alkalo is able to settle most of these disputes himself, he has in a few rare cases had to consult the Seyfou.

The last two years have been extremely bad for groundnut farmers in Sanyang. Many farmers harvested nothing in 1992. Cultivation of cassava and early millet (suno) has been on the rise, reflecting (according to the

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Figure A.4: (Continued)

Alkalo) the decreasing level of rainfall in recent years. Vegetable production has been steadily increasing, and women do most of the work. Most of the vegetable produce is sold in the local and Brikama markets, although some women sell their produce to larger vegetable traders such as Radville farms.

Fruit trees are mainly planted on compound land. Only after the house and compound are built can the trees be planted, and both belong to the family concerned. Vegetable gardens (any land "developed" is considered a garden) are treated differently than other crop fields. The individual or group that makes the investment in the wells or other infrastructure is entitled to freely develop the land in any way s/he or they want. However, garden land is scarce due to the limited endowment of natural lowlands, and other than the EEC vegetable scheme, private capital is too scarce to undertake the necessary investment in wells.

Land for the EEC vegetable scheme was provided by the founding families. Formerly communal land, the EEC project was given land in trust to be developed for the benefit of the village. Traders or large commercial farms used to buy vegetables from the scheme for sale to urban hotels and restaurants. While their number has since dwindled, there is still more income to be made on vegetables in the dry season than groundnuts in the wet season. No large commercial farms currently hire labor from the village.

Stranger or itinerant farmers no longer come to Sanyang in significant numbers. Their numbers were never numerous, but the few that did come have since ceased. Seasonal or casual laborers have followed in their wake. Arriving mostly from up-river and the Casamance, they hire out their labor, for fencing gardens and digging wells on a piecework basis during the rainy season, and for weeding on a wage basis (D20/day). Both Kafo labor and casual labor are very old and important institutions in the area.

Source: Personal conversations with Alkalo Malang Famata Bojang, Sanyang.