

Chapter 4

Tobacco and Smallholders in Malawi:

Village Case Studies in the Mchinji and Mangochi Districts^a

Tsutomu Takane

Institute of Developing Economies, Chiba, Japan

1. INTRODUCTION

The economy of Malawi is heavily dependent on tobacco. Tobacco makes up the single-largest portion of Malawi's merchandise exports, generating about 45 billion kwacha (MK) of export revenue in 2003. From 2000 to 2003, tobacco accounted for 55% of exports in Malawi (National Statistical Office 2004). The tobacco sector accounts for as much as 13% of Malawi's GDP and 23% of its tax base (Jaffee 2003). The sector is also the second-largest employer of formal employees, after the government (Mwasikakata 2003), and it is estimated that some 20% of Malawian households rely substantially on income from tobacco production (Jaffee 2003).

In addition, tobacco has contributed to the dynamic development of the smallholder sector in Malawi in the past 15 years. This development has been associated with the liberalization of burley tobacco production for smallholders after 1990. The smallholders, who had previously been banned from burley production, responded massively to the new opportunity, and the number of growers increased. It is estimated that more than 300,000 smallholders are currently producing tobacco, mainly burley (Jaffee 2003, 15). The introduction of smallholder burley production and the resultant development of a dynamic smallholder sector in Malawi have been seen by policymakers and donors as a key opportunity leading to structural transformation in rural areas characterized by severe poverty and income inequality.

Despite the importance of smallholder tobacco production in poverty reduction and rural development in Malawi, there have been few household or community studies in recent years on the role of tobacco production in smallholder households (Jaffee 2003; Harrigan 2003).¹ This information gap had led one scholar to argue that "much of the policy debate has taken

^a Tsutomu Takane, ed., *Agricultural and Rural Development in Malawi: Macro and Micro Perspectives* (Chiba, Japan: Institute of Developing Economies, 2005).

place in a vacuum with little reference to what is happening to poverty” (Harrigan 2003, 858). This paper is a moderate contribution to the filling of this gap. It provides village case studies of smallholder tobacco production in central and southern Malawi.

The present study is based on a framework of “sustainable rural livelihood” (Carney 1998; Scoones 1998; Ellis 2000) in which people’s survival strategies, based on their access to a range of resources, are analyzed in a wider historical, institutional, and policy context. An important component of the framework is the study of institutions that mediate access to assets and activities. Institutions may be formal (such as state law and regulations) or informal (such as indigenous land-tenure systems). They may be fluid and dynamic. Often, they are embedded into the existing power relations between the various actors involved. Another component of the framework is the understanding of a wider context of policy environment in which people’s livelihood strategies are shaped. Of particular importance to the present study are the long-term policy changes in the tobacco sector. Setting such contexts of state policies in historical perspective into the rural livelihood analysis is central to our approach.

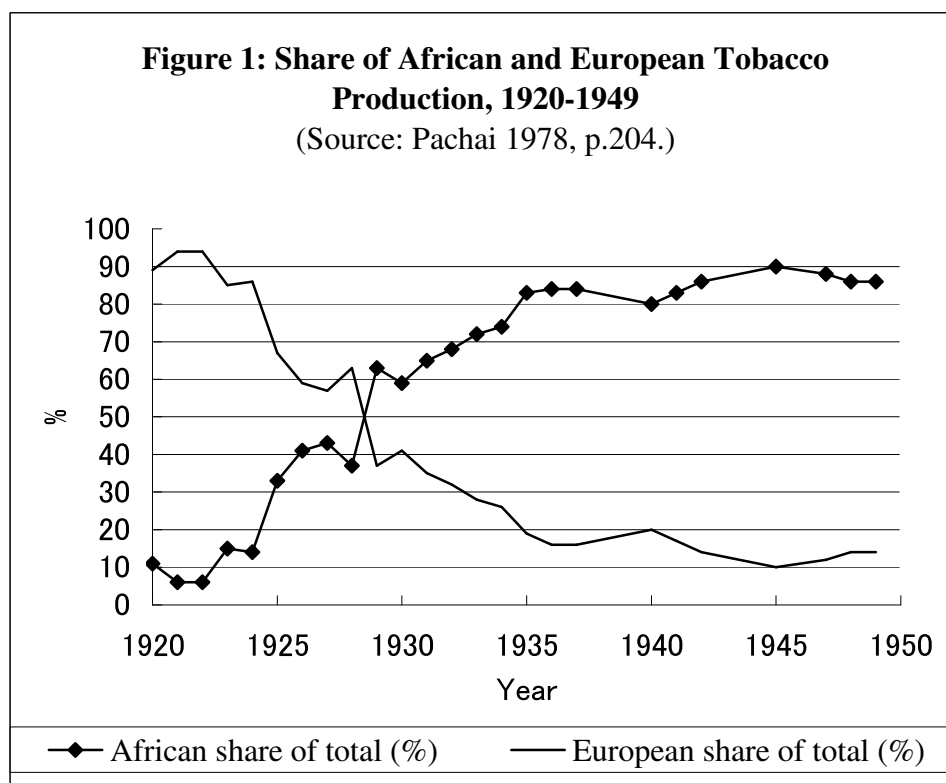
The chapter is organized as follows. The next section traces the history of tobacco production in Malawi, with particular focus on government policies on smallholders. Section 3 describes the study method and the characteristics of two villages studied. This is followed by a detailed analysis of land and labor use (section 4), of tobacco production (section 5), and of household income (section 6) in the villages studied. The last section is the conclusion.

2. HISTORICAL OVERVIEW OF TOBACCO PRODUCTION IN MALAWI

Tobacco was first exported from Malawi in 1893, when 40 pounds of tobacco was carried by barge down the Shire and Zambezi rivers to the coast (Wilshaw 1994). Until 1920, tobacco was grown mostly on large estates in southern Malawi (then the Southern Province of Nyasaland) by European farmers. The production area expanded into the Central Province in the 1920s when settler A. F. Barron launched his tenant schemes of fire-cured tobacco (later known as northern division dark-fired tobacco, or NDDF) with African tenants on the Lilongwe plain (McCracken 1983; Woods 1993). Barron distributed seedlings and gave instruction to tenants on the condition that they sell tobacco to him at a price determined by him. As other settlers followed Barron’s example, the number of African growers in the Central Province rapidly increased, and by 1935 70% of all tobacco in Malawi was produced in this area (McCracken 1985, 38). The share of production by African growers steadily increased after the 1920s (Figure 1).

Against this background of rapid expansion of African growers, the colonial government founded the Native Tobacco Board (NTB) in 1926 to take responsibility for the production and marketing of tobacco. The spread of tobacco production by African growers was associated with the increasing number of independent smallholder producers. This came into conflict with the interests of estate owners, because smallholders were able to produce tobacco at lower costs than the estates. The NTB played an important role in restricting smallholder tobacco

production. It registered African growers and limited their size of holdings in order to discourage tobacco production by independent Africans on their own land, forcing them to become tenants or to provide labor on estates. It also limited the number of buyers and markets to prevent smallholders from selling their tobacco, and to reduce the opportunities of tenants to sell tobacco to somebody other than the estate owners. In 1938, the NTB became the monopoly buyer of tobacco grown by Africans and transported it to the newly constructed auction floors in Limbe. The difference between the price paid to the African growers and the world market was absorbed by the NTB for the use of price stabilization of tobacco and administration of the NTB. Smallholders responded to the low price paid by the NTB by abandoning tobacco production and in some cases by rioting, forcing the colonial administration to reconsider the role of the NTB (McCracken 1983).



The types of tobacco grown in the early years included flue-cured (produced mainly on large estates), dark-fired, and sun-cured.² Most Africans produced dark-fired and sun-cured varieties, because the curing processes of the two types were less capital-intensive than the process for flue-cured tobacco. In addition to these types, the production of burley tobacco, the major type grown in Malawi today, started in the late 1940s and steadily increased over the years. As burley is air-cured and requires little capital in the curing process, it was suitable for both African smallholders and the tenant arrangement on the estates. In 1952, however, smallholders were excluded from the burley production when both burley and flue-cured

tobacco production was legally restricted to estates by Tobacco Ordinance No. 39. Again, government intervention had discouraged independent smallholder tobacco production.

After Malawi's independence in 1964, many of the expatriate-owned estates became the property of Malawians. In 1955, the Native Tobacco Board and other boards merged to form the Agricultural Production and Marketing Board (APMB), renamed the Farmers Marketing Board (FMB) in 1962. The FMB bought farms (mainly in the Southern Region) that some Europeans were selling as they left the country, reselling them to individual Malawians through an arrangement by which the FMB insured loans to buyers (Calinga and Crosby 2001). In the Central Region, several large, European-owned estates were purchased by Press (Holdings) Ltd., owned by Malawi's "Life President," Dr. Banda. Estates were also purchased by loyal members of the ruling Malawi Congress Party (MCP) and by the Malawi Young Pioneers, the youth wing of the MCP (Orr 2000; Van Donge 2002).

In contrast to the dramatic transformation in the estate sector, political independence did not result in changes in the government's discriminatory policies against smallholders. In 1971, the FMB changed its name to the Agricultural Development and Marketing Corporation (ADMARC). ADMARC exclusively purchased crops from smallholders at predetermined prices, while the estate sector was allowed to deal directly with international buyers. The Special Crops (Amendment) Act of 1972 further limited smallholder cash cropping by specifying the types of crops that could be grown and where the crops could be sold (Ng'ong'ola 1986). The act also introduced a licensing system of tobacco, under which the estates, but not smallholders, gained access to the auction floors. Instead, smallholders were required to sell their dark-fired tobacco (the type smallholders were allowed to produce) only to ADMARC. The price paid to smallholders was held far below than that received by ADMARC on auction floors. In addition, ADMARC failed to transfer to smallholders the surplus realized by the increasing world price of tobacco in the 1970s. The bulk of ADMARC surplus was instead used for investment in estate production (Kydd and Christiansen 1982). These governmental policies resulted, on the one hand, in the expansion of large-scale commercial agriculture, and on the other, in a stagnant and underdeveloped smallholder sector that provided a large supply of cheap labor to the estate sector.

After Malawi adopted structural adjustment programs in 1981, a series of policy reforms were implemented in the agricultural sector. These included deregulation of marketing activities, reconstruction of input and output price regimes, and restructuring of state marketing agencies, such as ADMARC (Chilowa 1998). In the tobacco sector, major reform occurred in the early 1990s, when the Special Crops Act of 1972 was amended so as to allow smallholders to grow burley tobacco under a quota system.³ In 1990/1991, 7,600 smallholders were registered to grow burley tobacco on a pilot basis (Zeller et al. 1998). Initially, farmers were required to sell their tobacco to ADMARC, but later they were organized into clubs and given direct access to auction floors. As of 1993/1994, more than 30,000 smallholders were organized in 1,318 clubs (Van Donge 2002). Since that time, the number of smallholder tobacco producers has increased. According to a recent estimate (Jaffee 2003, 14-15) some 315,000 to 330,000 smallholders are producing tobacco. As a consequence, production of

smallholder tobacco increased dramatically in the 1990s. From 1992 through 1994, smallholders produced, on average, only 16.5% of the total tobacco crop in Malawi. The share reached 70% in 1998. The average share in the years 2000–2002 was 64.2% (Table 1).

Table 1: Smallholder Tobacco Production in Malawi, 1992-2002 (thousand tons)

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total											
Tobacco Production	136.1	133.4	97.6	130.2	141.7	158.1	134.4	134.4	159.8	124.7	136.6
Smallholder											
Tobacco Production	16.5	28.5	15.5	35.5	69.0	83.6	94.1	84.6	98.6	82.5	94.3
Share of Smallholder Production (%)											
	12.1	21.4	15.9	27.3	48.7	52.9	70.0	62.9	61.7	66.2	69.0

Source: National Statistical Office (various issues), *Statistical Yearbook*, and Government of Malawi (various issues), *Economic Report*.

Table 2: Average Auction Price of Tobacco (US cent/kg)

Year	Flue-cured	Burley	NDDF	SDF	Sun/Air cured
1994	153.30	128.62	204.99	168.45	174.24
1995	183.08	148.18	170.14	154.15	150.88
1996	227.09	161.30	166.33	137.65	109.72
1997	190.89	152.95	183.65	125.76	119.10
1998	140.97	129.65	184.62	130.11	149.51
1999	147.23	138.06	145.43	151.24	140.23
2000	135.18	101.93	79.18	55.79	29.21
2001	189.98	109.77	143.00	140.88	151.20
2002	183.99	111.40	183.10	183.90	
2003	158.50	113.68	150.23	138.94	
2004	159.03	109.02	65.72	61.39	

Source: Tobacco Control Commission.

Another major reform in the smallholder tobacco sector was the introduction of the intermediate buyer (IB) system in 1993.⁴ Licensed IBs were to buy tobacco from smallholders and transport it to auction floors for selling. The rationale for introducing the IB system was to ease the logistical problems smallholders faced. The number of licensed IBs was initially restricted, but later was liberalized, peaking in 1997 at about 4,000, though the overall share of purchase was insignificant (Jaffee 2003). The government later abolished the IB system after accusations that it had weakened the overall quality of tobacco. The poor quality of tobacco was considered a factor leading to low tobacco prices in 2000–2001 (Table 2), and the intermediate buyers, who had little experience in the industry, were blamed for the deterioration in the situation. Despite their abolishment, some IBs continued buying tobacco from smallholders.

3. METHOD AND STUDY LOCATION

The fieldwork for this study was undertaken between August and October 2004 in two tobacco-growing villages in central and southern Malawi. Before the selection of study locations, various tobacco-producing districts and villages were visited and information sought from officers in Rural Development Projects (RDP) and Extension Planning Areas (EPA). The aim of the research was to provide a location- and context-specific understanding of smallholder production. No claims, therefore, are made that the case studies are in any sense statistically representative.⁵

The first study location, Kachamba, is a Chewa village under the Mavwere Traditional Authority in the Mchinji District in the Central Region. Kachamba occupies an area of about 6 kilometers from the Lilongwe-Mchinji road. The distance from the village to the auction floor in Lilongwe is 82 kilometers. A dirt road links the study village to the main road and to the Nathyola Railway Station, a collection point for tobacco bales. Because no regular transport was operating between the village and the station, villagers used ox carts to transport tobacco bales to the collection point. Although small-scale weekly markets were open along the main road, farmers had to travel to Namitete (about 38 kilometers from the village) to purchase fertilizer, using bicycles or renting cars to transport them. About 3 kilometers from the village lay an estate producing flue-cured tobacco. Some villagers worked there as laborers.

There were 31 households in Kachamba at the time of survey,⁶ and the population was 109. (Table 3 shows characteristics of the villages studied, and Table 4 presents asset and income status of the households sampled.) Nine households were headed by a woman, and the ratio of female-headed households (FHH) in the study village, 29%, was lower than that of the Mchinji District (38%) (Government of Malawi 2002, 36). Population density in Mchinji in 1998 was 97 persons per square kilometer, slightly lower than the national average of 105 (National Statistical Office 2000). The main crops cultivated in Kachamba were maize, groundnuts, and tobacco. Maize was a staple food and by far the most important crop; every household cultivated it. Both hybrid and local varieties were grown, but the degree of fertilizer application and the yield per hectare varied considerably among households. Most farmers

cultivated groundnuts both for sale and consumption. Tobacco was cultivated by 23 households (74%), among which only one was female-headed. Due to land scarcity in the area, land was not allowed to lie fallow but was used every year. A typical crop rotation practiced by farmers was maize after tobacco (if grown), followed by groundnuts. Among the livestock kept by villagers were chickens, goats, and cattle. Cattle were kept by five households (16%); these households also owned ox carts. Ownership of cattle and of ox carts generated multiple advantages, such as income from ox-cart rental, production of good manure, income from cattle sales, and production-cost reduction in input and produce transport.

Table 3: Characteristics of Study Villages

	Kachamba	Belo	
General	Population	109	513
	Number of Households	31	115
	Number of Female Headed Households	9 (29%)	21 (18%)
	Number of Households Growing Tobacco	23 (74%)	39 (34%)
Demography and Education (Average per Household)	Household Size	3.5	4.5
	Number of Household Members 15 Years Old or Over	2.0	2.2
	Age of Household Head	41.5	38.5
	Schooling Years of Household Head	3.8	3.4

Source: Survey conducted in August - October 2004.

Table 4: Assets and Income of Sample Households (Average per Household)

		Kachamba		Belo		
		N	Average	N	Average	
Farm Size (average of growers)	Total Farm Size (ha.)*	31	1.099	30	1.762	
	Area under Tobacco (ha.)*	23	0.289	15	0.506	
	Area under Maize (ha.)*	31	0.599	30	1.114	
	Area under Other Crops (ha.)*	20	0.233	23	0.515	
Assets (average of all samples)	Livestock owned (numbers)	Cattle	31	0.84	30	0.00
		Goats	31	0.61	30	2.03
		Chickens	31	2.71	30	8.60
	Equipment owned (numbers)	Ox carts	31	0.16	30	0.00
		Bicycles	31	0.61	30	1.00
		Farming tools	31	6.29	30	8.93
Income	Household Income (MK)	31	19,048	30	23,955	

* Including farms on rent-in lands.

Source: Survey conducted in August - October 2004.

The second village studied, Belo, is located in the Mponda Traditional Area in the Mangochi District in the Southern Region. The distance from the village to the auction floor in Limbe is 235 kilometers. Tobacco bales were transported to the depot in the district capital, Mangochi (42 kilometers from Belo), and sent to the auction. The depot in Mangochi was managed by the Tobacco Association of Malawi (TAMA), and the cost of storage and transport of bales to the auction floor was deducted when payments were made to tobacco clubs. Fertilizers were available in Mangochi. Farmers used bicycles to carry them or walked on a dirt road to Katema, a trading center 14 kilometers from Belo, to obtain transport.

There were 115 households and a population of 513 in Belo. The ratio of FHH was 18% (21 households). Among the main crops produced in Belo were maize, tobacco, chilies, groundnuts, and cassava. Tobacco was cultivated by 39 households (34%). The community was made up of indigenous Yao residents and migrants from various parts of southern Malawi. Most of the migrants settled in the area after the 1980s, opening new farms on previously uncultivated land. Upon their arrival in Belo, migrants had been given lands for farming by the village headman. At the time of survey, many of the allocated lands had not yet been opened. The relative abundance of land in Belo was in sharp contrast to the situation in Kachamba.

In Kachamba, all 31 households were interviewed. In Belo, households were divided into two categories: those that grew tobacco in the 2003/2004 season and those that did not. Fifteen households were randomly selected from each category,⁷ resulting in a sample size of 30 households (26% of households). In both study locations, interviews with farmers were conducted with the assistance of a graduate research assistant and a village resident. A structured questionnaire was used during the interviews, and free discussion was encouraged. This writer attended, recorded, and reviewed all interviews. In addition, farms operated by sample households were measured using global positioning systems to obtain data on plot size.⁸

Market conditions for tobacco in 2004 were not favorable to smallholder producers. The price of burley tobacco remained low, with an average price of \$1.09 (Table 2). The continuing low prices of tobacco after 2000 have been associated with the high price of fertilizer, resulting in a disincentive to smallholder tobacco production. The condition was worsened in 2004 by the slow process of purchase on the auction floors and the resultant late payments to farmers. The delays were said to have been caused by the existence of materials unrelated to tobacco, such as strands of polypropylene in tobacco bales.⁹ As a result of the delays, some farmers in the villages studied had to wait until October or November (two to five months after sending their tobacco bales) to receive their payments.

Table 5: Size Distribution of Farm by Crop

Area range	Tobacco farm		Maize farm		Other crop farms		All farms	
	Kachamba	Belo	Kachamba	Belo	Kachamba	Belo	Kachamba	Belo
< 0.5 ha.	19(83%)	10(67%)	16(52%)	6(20%)	17(85%)	15(65%)	9(29%)	2(7%)
0.5 - 1ha.	4(17%)	2(13%)	11(35%)	11(37%)	3(15%)	5(22%)	11(35%)	5(17%)
1 - 1.5 ha.	0	1(7%)	3(10%)	6(20%)	0	0	6(19%)	8(27%)
1.5 - 2 ha.	0	2(13%)	1(3%)	5(17%)	0	3(13%)	3(10%)	8(27%)
More than 2 ha.	0	0	0	2(7%)	0	0	2(6%)	7(23%)
Total	23(100%)	15(100%)	31(100%)	30(100%)	20(100%)	23(100%)	31(100%)	30(100%)

Source: Survey conducted in August - October 2004.

4. LAND AND LABOR

The Kachamba area was first inhabited in 1953 by a group of matrilineal kin members who migrated from a village in the adjacent Mlonyeni Traditional Area. The group was led by a senior brother who had obtained vacant land in the present Kachamba area from a local chief. The senior brother divided the land and distributed it among his kin.¹⁰ Most residents of Kachamba are descendants of the original settlers and obtained their land as a gift or by inheritance.¹¹ In the past, when land was abundant, villagers sought permission from the village headman and opened farms on uncultivated areas. Nowadays, however, no extra land is available, and acquisition through gift and inheritance is the most important means of obtaining access to land.

In Kachamba, 30 households (97%) had their own land to cultivate. The average farm size operated by households was 0.975 hectares. As Table 5 shows, 29% of households operated a very small farm of less than 0.5 hectares. Only one female-headed household did not have its own land (it was renting land). Among the landholding households, there were 15 cases in which lands belonged to male household members, and 11 in which lands belonged to female members. In the remaining four cases, both male and female household members (husband and wife) had separate plots of land.

Traditionally, the Chewa people follow matrilineal rules of descent and inheritance in which land is passed down through matriline, most commonly from female owners to female heirs (Mkandawire 1992; Kishindo 2004). In Kachamba, however, both men and women obtained their land matrilineally *and* patrilineally. As is shown in Table 6 and Appendix 1, there were several cases in which daughters received land from fathers, and sons received land from mothers or fathers.¹² The rule of matrilineal inheritance in Kachamba, therefore, was not rigid, but flexible.

A similar flexibility was observed in the residence rule of marriage. Among matrilineal societies in Malawi, marriages are usually uxorilocal; husbands live in their wives' villages and cultivate their wives' land (Kishindo 1995; Peters 1999, 2002; Mkandawire 1984).¹³ In the case of Kachamba, however, virilocal marriage, in which wives move to husbands' villages, is more common (16 cases) than uxorilocal marriage (five cases). Generally, those who had obtained land before marriage or who could be given land upon marriage tended to remain in Kachamba after marriage.

The flexible practice of inheritance and marriage rules in Kachamba may be an adaptive strategy employed by villagers in response to the increasing scarcity of land. As acquisition of land became more difficult, villagers sought land from any sources, whether matrilineally or patrilineally. Once they obtained land, men continued to stay in the village after marriage (contrary to the rule of uxorilocal marriage) to secure their land right. While staying in Kachamba after marriage and using their own land, some male villagers cultivated additional land belonging to wives who came from nearby villages. Four such cases were found, and their average landholding (husbands' land plus wives' land) was 39% larger than the average landholding of husbands.¹⁴ Because landholdings became smaller as the land was divided

among descendants upon transfer, obtaining land from sources other than one's own village appeared to be an important means of increasing farm size. By altering local institutions, villagers coped with the increased land pressure and difficulties in land acquisition.

Table 6: Source of Land Acquisition in Study Villages

Kachamba

Method	Matri/patriline	Source	Male	Female	Total
Gift	Matriline	Mother	10	5	15
		Maternal Grandmother	0	3	3
		Brother	0	1	1
	Patriline	Father	8	2	10
Inherit	Matriline	Maternal Aunt	0	1	1
		Maternal Grandmother's Sister	0	1	1
		Maternal Grandmother's Sister's Daughter	1	0	1
Purchase			3	0	3
Rent			5	1	6
Free use			4	0	4
Total			31	14	45

Belo

Method	Matri/patriline	Source	Male	Female	Total
Gift	Matriline	Mother	1	1	2
		Maternal Uncle	1	0	1
		Brother	1	0	1
	Patriline	Father	3	4	7
	Other	Husband	0	1	1
		Maternal Grandfather	0	1	1
Inherit		Husband	0	2	2
		Brother	1	0	1
Allocation by Village Headman			14	4	18
Free use			5	1	6
Total			26	14	40

Source: Survey conducted in August - October 2004.

In addition to land transfers by gift and through inheritance, three cases of transfer through purchase (all of which occurred in the late 1990s) were found in Kachamba. Upon transferring the land right, both buyers and sellers obtained permission from the group village headman by giving a gift of goats or cash. In one case, a written agreement of land sale was prepared.

Still another means of obtaining a land right was through rental. There were six cases of land rental, among which five were fixed rent in cash and one was fixed rent in kind. The contract was for one farming season, and the rent varied from MK100 to MK700.¹⁵ In addition to these land rentals, lands were borrowed free of charge from relatives in four cases.

In contrast to the land scarcity in Kachamba, land was still readily available in Belo at the time of survey. The size distribution of farms in Kachamba and Belo (Table 5) clearly shows the relative abundance of land in Belo. Remoteness of the location of the village may be a reason for the availability of land in the Belo area.¹⁶ The majority of Belo residents were migrants who had settled in the village after the 1980s (Table 7). As can be seen in Table 8, 36% of the heads of households in Belo came from other villages within the Mangochi District or from the adjacent Ntcheu, Balaka, and Machinga Districts. It is noteworthy that many of the migrants (41%) came from the land-scarce areas of the Southern Region such as the Zomba, Mulanje and Thyolo Districts.

Table 7: Year of Migration to Belo (Household Heads)

Year	Case	Percentage
-1985	10	9%
1986-1990	27	23%
1991-1995	15	13%
1996-2000	22	19%
2001-	26	23%
Not known	5	4%
Total migrants	105	91%
Born in Belo	10	9%
Total Belo	115	100%

Source: Survey conducted in August - October 2004.

Table 8: Home Districts of Household Heads in Belo

District	Case	Percentage
Mangochi	22	19%
Zomba	21	18%
Mulanje	17	15%
Ntcheu	12	10%
Thyolo	9	8%
Phalombe	6	5%
Machinga	6	5%
Balaka	2	2%
Other	5	4%
Not known	5	4%
Total migrants	105	91%
Born in Belo	10	9%
Total Belo	115	100%

Source: Survey conducted in August - October 2004.

In fact, the main reason for migration to Belo appeared to be the availability of land in the area. During the interviews, most migrants made clear that they had come to Belo in order to obtain land. Upon arrival at Belo, migrants were given portions of land by the village headman. No payment was made when land was allocated to the migrants, although some expressed their appreciation to the headman by giving gifts such as chickens, maize, or cash. After receiving the land, migrants were free to transfer land rights to relatives. However, transfer of land to strangers was not permitted. When migrants (and their relatives) leave Belo, their lands must be surrendered to the village headman.

The abundance of uncultivated land in Belo often caused border disputes. Many Belo residents still had unopened parts on their land and were in the process of expanding their farms. As the borders of the allocated land were not always clearly defined, some farmers claimed “invasion” of their land by others. This was most likely to happen when an unused part of one’s land was bordering others’ farms. To avoid such an invasion, some farmers opened additional farms, separate from their main farms, along the border of their land. Their strategy was to avoid impingement of their land rights by demonstrating the clear results of their labor inputs on the land.

Table 9: Source of Labor in Agricultural Production by Crop (Man Days per Hectare)

	Tobacco		Maize		Groundnut	
	Kachamba	Belo	Kachamba	Belo	Kachamba	Belo
Family Labor	742 (79%)	337(41%)	181 (92%)	125(81%)	372 (86%)	175(63%)
Hired Labor	202 (21%)	494(59%)	16 (8%)	30(19%)	63 (14%)	101(37%)
Total	944 (100%)	831(100%)	197(100%)	155(100%)	435 (100%)	276(100%)

Source: Survey conducted in August - October 2004.

Table 10: *Ganyu* and Maize Production

	Gross value of maize produced (MK/ha.)		Labor input on maize farm (man days/ha.)		Fertilizer input on maize farm (MK/ha.)	
	Kachamba	Belo	Kachamba	Belo	Kachamba	Belo
Household not engaged in <i>Ganyu</i> Kachamba : N=17, Belo : N=16	14,866	4,894	198	124	2,857	623
Household engaged in <i>Ganyu</i> Kachamba : N=14, Belo : N=14	10,465	4,828	209	194	1,119	350

Source: Survey conducted in August - October 2004.

Family labor is the main source of labor for all crop production in the villages studied (Table 9). Apart from family labor, task-contracted casual labor (*ganyu*) was widely used for various farm tasks. *Ganyu* refers to all kinds of piecework, including nonagricultural work. The laborers are paid in cash or in kind (usually maize), and the rewards vary, depending on the types of work and the ages of the laborers. Some maize-surplus households used *ganyu* extensively for farm work and paid laborers with maize. A wealthy farmer with two hectares of farms in Kachamba, for example, used *ganyu* laborers for his maize and groundnut farms for 65 man-days and paid them 37 pails (about 740 kilograms) of maize.¹⁷ As the season of high demand for *ganyu* laborers (October to March) coincides with the time when poorer households exhaust maize stocks in granaries, the *ganyu* arrangement provides an important opportunity for households lacking maize to survive during the lean period.

On the other hand, Whiteside (2000) pointed out that the need to do *ganyu* to obtain an immediate supply of food may mean less labor input on one's own-farms in this critical farming period, which may result later in a smaller harvest and can lock some households into a vicious cycle of food insecurity. This was not supported by the data obtained in the two villages studied. The labor input on one's own maize farms among households providing *ganyu* labor was not less than that of other households (Table 10). The difference in maize productivity between the two types of households, observed in Kachamba, seemed to be the result of the levels of fertilizer application. Poorer households who engaged in *ganyu* to obtain immediate supply of food had no working capital to purchase fertilizer and thus had less harvest. This was probably the case in Kachamba. In Belo, the levels of fertilizer application were low in both types of households and thus did not have much effect on productivity (Table 10).

5. TOBACCO

Tobacco is a labor-intensive crop. In addition to the farm tasks common to other crops (such as land preparation, weeding, and harvesting), tobacco production involves the additional tasks of nursery preparation, transplanting, barn construction, topping, post-harvest curing and grading. As a result, it required 4.8 times more labor than maize production and 2.2 times more labor than groundnut production in Kachamba. In Belo, the figures were even higher (5.4 times more than maize and 3.0 times more than groundnuts) (Table 9). The labor-intensive nature of tobacco production may explain why most female-headed households (which usually have fewer laborers available than male-headed households) did not cultivate tobacco in the villages studied. In Kachamba, the eight households that did not grow tobacco were female-headed. Among nine female-headed households, only one was growing tobacco, and on a very small scale: just 0.09 hectares. Among the 21 female-headed households in Belo, only two (10%) cultivated tobacco, whereas 39% of male-headed households raised the crop.

Tobacco production also requires more working capital than other crops. The high demand for labor often forces farmers to employ hired labor to complement family labor. As is shown in Table 11, farmers spent MK13,890 in Kachamba and MK18,423 in Belo for hired

labor per hectare of tobacco farm, an amount that far exceeded that used for the hired labor on maize farms (MK1,855 and MK772, respectively). In addition, tobacco production involves purchasing current inputs such as seeds, fertilizer, manure, and materials for barns and bales. All these increase the cost of production. Farmers needed 6.9 times more working capital for tobacco production than for maize production in Kachamba and 21.6 times more in Belo. Only farmers who can afford the high production costs can engage in tobacco production.

Production-cost structures of tobacco show similar patterns in the two villages studied (Table 11). Hired labor and fertilizer or manure are the highest components of total cost, accounting for 72% and 79% in Kachamba and Belo, respectively. The proportion of the cost of hired labor is higher in Belo than in Kachamba, probably reflecting the fact that more labor is necessary in Belo to open farms on previously uncultivated forest land. In contrast, the cost of constructing barns is lower in Belo, because wooden poles are easily made from wood from the forest, while in Kachamba there is no forestland, and many farmers have to purchase poles.

It is worth examining how the two tobacco-growing, female-headed households in Belo coped with the labor- and capital-intensive nature of tobacco production. One of the female heads of household was ST, who was 43 years old, divorced, and had no children. She had parents and six brothers in Belo, most of whom cultivated tobacco on land her father had obtained in 1989 from the village headman. In addition to maize and bean farms (0.94 hectares), she raised tobacco on 0.17 hectares in the 2003/2004 season and harvested about 200 kilograms. Before the farming season, her brother lent her MK12,000, which she paid back with no interest after the tobacco sales. She used the money to buy two bags of fertilizer and to employ ganyu for farm tasks and barn construction. Her brother (who was a member of the tobacco club) sold her tobacco with his own on the auction floor. In this case, the sibling network enabled her to engage in tobacco production.

Another female tobacco farmer was 44-year-old AB. She had obtained a large tract of land in 1984 from her father, who was then the village headman. Although her husband usually lived with another wife and made no contribution to farm tasks, she lived with nine children, among whom three sons and a daughter were between the ages of 15 and 25. With this abundant family labor, she was able to operate exceptionally large farms of 5.42 hectares (among which 0.46 hectares was for tobacco farming) without employing ganyu. In this case, abundant family labor was the key to her success in farming. In the two villages studied, not most female-headed households were able to amass such fortunes.

In a land-scarce situation such as that of Kachamba, tobacco production directly competes with maize, the staple food, in the use of land. As villagers give first priority to maize production, farmers with relatively small landholdings tended not to grow tobacco. In Kachamba, the average landholding of tobacco-growing households was 0.972, while that of non-tobacco-growing households was 0.512. As can be seen in Table 12, the percentages of tobacco-growing households decrease in proportion to farm size.

Table 11: Production Cost Structure and Profitability of Tobacco and Maize (MK per hectare)

	Tobacco				Maize			
	Kachamba		Belo		Kachamba		Belo	
	Share of total paid cost	Value	Share of total paid cost	Value	Share of total paid cost	Value	Share of total paid cost	Value
Gross revenue from crop		72,001		48,015		13,220		4,865
Current input and paid factor costs	100%	38,697	100%	41,319	100%	5,575	100%	1,921
Seed	1%	554	2%	663	17%	968	25%	485
Fertilizer	23%	9,086	32%	13,367	41%	2,276	26%	503
Manure	13%	4,982	3%	1,054	2%	136	4%	78
Cost of nursery, barns and bales	15%	5,848	7%	2,921	0%	0	0%	0
Other paid cost	5%	1,869	4%	1,813	0%	0	0%	7
Hired labor	36%	13,890	44%	18,423	33%	1,855	40%	772
Transport	6%	2,212	7%	2,815	5%	283	4%	77
Land rental	0%	5	0%	0	1%	58	0%	0
Interest payment	1%	252	1%	264	0%	0	0%	0
Crop income (gross revenue minus costs)		33,304		6,696		7,645		2,944
Number of observation		23		15		31		30
Area under crop (average per household, ha.)		0.295		0.506		0.595		1.114

Notes: The value of home-consumed maize is calculated using the market price of each village.

Source: Survey conducted in August - October 2004.

Table 12: Tobacco-Growing Households by Total Farm Size

Total Farm Size*	Kachamba			Belo		
	Number of Sample Households	Number of Tobacco-Growing Households	Percentage of Tobacco-Growing Household Within Farm Size Range	Number of Sample Households	Number of Tobacco-Growing Households	Percentage of Tobacco-Growing Household Within Farm Size Range
< 0.5 ha.	8	3	38%	2	0	0%
0.5 - 1ha.	11	8	88%	5	0	0%
1 - 1.5 ha.	6	6	100%	8	5	63%
1.5 - 2 ha.	3	3	100%	8	5	63%
More than 2 ha.	3	3	100%	7	5	71%
Total	31	23	74%	30	15	50%

* Including farms on rent-in land.

Source: Survey conducted in August - October 2004.

Table 13: Average Household Income by Income Type

Kachamba

Household type		Total income	Income from own production				Income from agricultural labor	Non-farm income	
			Tobacco	Maize	Other crop	Livestock		Non-agricultural activities	Non-labor income (transfer & remittance)
Tobacco-growing households (N=23)	Amount (MK)	23,328	9,536	4,556	691	3,564	1,788	3,154	39
	Percentage	100%	41%	20%	3%	15%	8%	14%	0%
Non-tobacco-growing households (N=8)	Amount (MK)	6,742	0	2,626	345	-242	2,651	250	1,113
	Percentage	100%	0%	39%	5%	-4%	39%	4%	17%
All households (N=31)	Amount (MK)	19,048	7,075	4,058	601	2,582	2,011	2,405	316
	Percentage	100%	37%	21%	3%	14%	11%	13%	2%

Belo

Household type		Total income	Income from own production				Income from agricultural labor	Non-farm income	
			Tobacco	Maize	Other crop	Livestock		Non-agricultural activities	Non-labor income (transfer & remittance)
Tobacco-growing households (N=15)	Amount (MK)	37,354	3,389	3,328	9,833	2,623	312	17,603	267
	Percentage	100%	9%	9%	26%	7%	1%	47%	1%
Tobacco-growing households except those of teachers (N=12)	Amount (MK)	31,966	4,418	4,422	12,672	2,541	390	7,191	333
	Percentage	100%	14%	14%	40%	8%	1%	22%	1%
Non-tobacco-growing households (N=15)	Amount (MK)	10,555	0	2,731	2,228	1,138	2,562	1,409	487
	Percentage	100%	0%	26%	21%	11%	24%	13%	5%
All households (N=30)	Amount (MK)	23,955	1,695	3,030	6,030	1,881	1,437	9,506	377
	Percentage	100%	7%	13%	25%	8%	6%	40%	2%
All households except those of teachers (N=27)	Amount (MK)	20,071	1,963	3,482	6,870	1,762	1,596	3,979	419
	Percentage	100%	10%	17%	34%	9%	8%	20%	2%

Source: Survey conducted in August - October 2004.

6. HOUSEHOLD INCOME

Household income is defined here as the sum of the net value of income earned by household members. We classify sources of income into three categories: incomes derived from one's own production of crops and livestock (gross value minus costs actually paid); income from agricultural labor, such as ganyu on somebody's farm (including the imputed value of in-kind payments); and income from non-agricultural activities and remittances (hereafter "non-farm income") (McKay 2000; Ellis 2000). Table 13 presents the income portfolios of surveyed households according to this classification.

In both villages studied, a large portion of household incomes was derived from the production of farmers' own crops and livestock (75% in Kachamba and 53% in Belo). The lower percentage in Belo is because three households whose members included teachers earning regular salaries were included in the sample.¹⁸ This resulted in a substantial increase of average non-farm income of sampled households in Belo. When these three households are excluded, the average share of own agricultural production in total income is 70%. These percentages (75% and 70%) are higher than those reported by other studies conducted elsewhere in Malawi (Ellis et al. 2003; Orr and Mwale 2001).

A comparison of the income portfolios of tobacco- and non-tobacco-growing households reveals that the average incomes of tobacco-growing households are substantially higher than those of their non-tobacco-growing counterparts in both villages (Table 13). Income from tobacco alone does not explain this: In both Kachamba and Belo, tobacco-growing households earn more income from other crops, livestock, and non-farm activities than do non-tobacco-growing households. In contrast, the share of income from agricultural labor sales (such as ganyu) and of non-labor income (such as transfer and remittance) is higher in non-tobacco-growing households.

The income portfolios of the two categories show the interrelations among income sources that cause disparities between the better-off and poorer households. Households with higher income are able to invest in multiple economic activities (tobacco, other crops, livestock, and non-farm self-employment) that result in more income. In addition, the higher income enables them to use cash inputs such as fertilizer and hired labor on their farm, contributing to better productivity. This is clearly shown in Table 14. In both villages, the gross output value of maize per hectare was considerably higher among tobacco-growing households than among non-tobacco-growing households. This was probably caused by the greater use of fertilizer among higher-income households (also shown in Table 14). On the other hand, poorer households tend to supplement their low income with off-farm agricultural labor sales (ganyu) and with remittances and transfers from relatives. Insufficient working capital of poorer households results in their inability to purchase necessary inputs such as fertilizer, reducing farm productivity and crop income.

Table 14: Gross Output Value of Maize per Hectare and Use of Fertilizer

	Kachamba		Belo	
	Maize output value (MK/ha)	Percentage of households using fertilizers on maize farm	Maize output value (MK/ha)	Percentage of households using fertilizers on maize farm
Tobacco growing households Kachamba: N=23, Belo: N=15	14,548	91%	5,819	40%
Non-tobacco growing households Kachamba: N=9, Belo: N=15	7,043	13%	3,750	7%

Source: Survey conducted in August - October 2004.

7. CONCLUSION

The above evidence suggests that tobacco production cannot be treated as a panacea for the poorest section of the rural population of Malawi. The labor- and capital-intensive nature of tobacco production prevents households with little labor and capital from engaging in production. In addition, strong food-security concerns force land-scarce households to allocate their land to maize. Expansion of tobacco production by better-off households may generate more demand for casual labor and thus more income for the poorer households, especially in the lean season of October to March. However, the income disparity between tobacco-growing and non-tobacco growing households remains large. Households with higher income invest in multiple economic activities and enjoy high crop productivity that result in more income. Poorer households, on the other hand, rely on income from agricultural labor, remittances and transfers to obtain an immediate supply of food, leaving no capital to invest in productive activities. This study seems to indicate that the benefits generated by the expansion of tobacco production have been enjoyed mainly by the better-off households and may not be accruing on a sizable scale to the poorer smallholders.

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ENDNOTES

¹ Zeller et al. (1998), Peters (1999) and Orr (2000) are exceptions, though their analyses are based on data obtained in the mid-1990s. A more recent survey conducted by Ellis et al. (2003) does not focus on tobacco-producing villages.

² Flue-cured tobacco is cured in brick barns where pipes transmit the heat, while dark-fired tobacco is cured by open fires. Sun-cured tobacco (also called oriental) dries uncovered in the sun, and burley tobacco is cured in the open air under the cover of sheds.

³ The quota system was later abandoned in favor of full liberalization in 1996/1997.

⁴ The IB system has been operational on a sizable scale only since 1994 (Zeller et al. 1998).

⁵ The research was continuing at the time of writing, and more villages with different geographical and socioeconomic characteristics were to be selected to reflect the different conditions affecting tobacco production in Malawi.

⁶ A household is defined here as a unit of co-residence and agricultural production. In most cases, it is also a unit of consumption. However, members of poor households that exhausted their maize stocks in the hungry season ate at relatives' households.

⁷ Two tobacco-growing, female-headed households were deliberately included in the sample.

⁸ Most farmers expressed difficulties in estimating their plot sizes. When estimates were made, we found large gaps between farmers' estimates and actual plot sizes. This suggests that the plot-size data based on farmers' estimates need to be treated with care.

⁹ The strands of polypropylene remaining in the tobacco bales were used for tying tobacco leaves during the curing process. The contaminated tobacco bales were rejected on the auction floors and sent for polypropylene removal and regrading.

¹⁰ Some of the original settlers, including the senior brother who later became village headman, were still alive at the time of survey.

¹¹ In this paper, *gift* refers to a case in which one obtains land from a relative while the relative is still alive. *Inheritance* refers to a case in which one obtains land after the death of the original owner.

¹² Mkandawire (1984) reports a similar case in the Lilongwe Rural Development Project.

¹³ Kishindo (1995) and Place and Otsuka (2001) argue that under uxorilocal marriage, men have weak land-right security in the early period of the marriage, and they thus lack incentives to make long-term investments in the land.

¹⁴ In the four cases, the average landholding size of husbands was 0.897 hectares, while that of wives was 0.354 hectares.

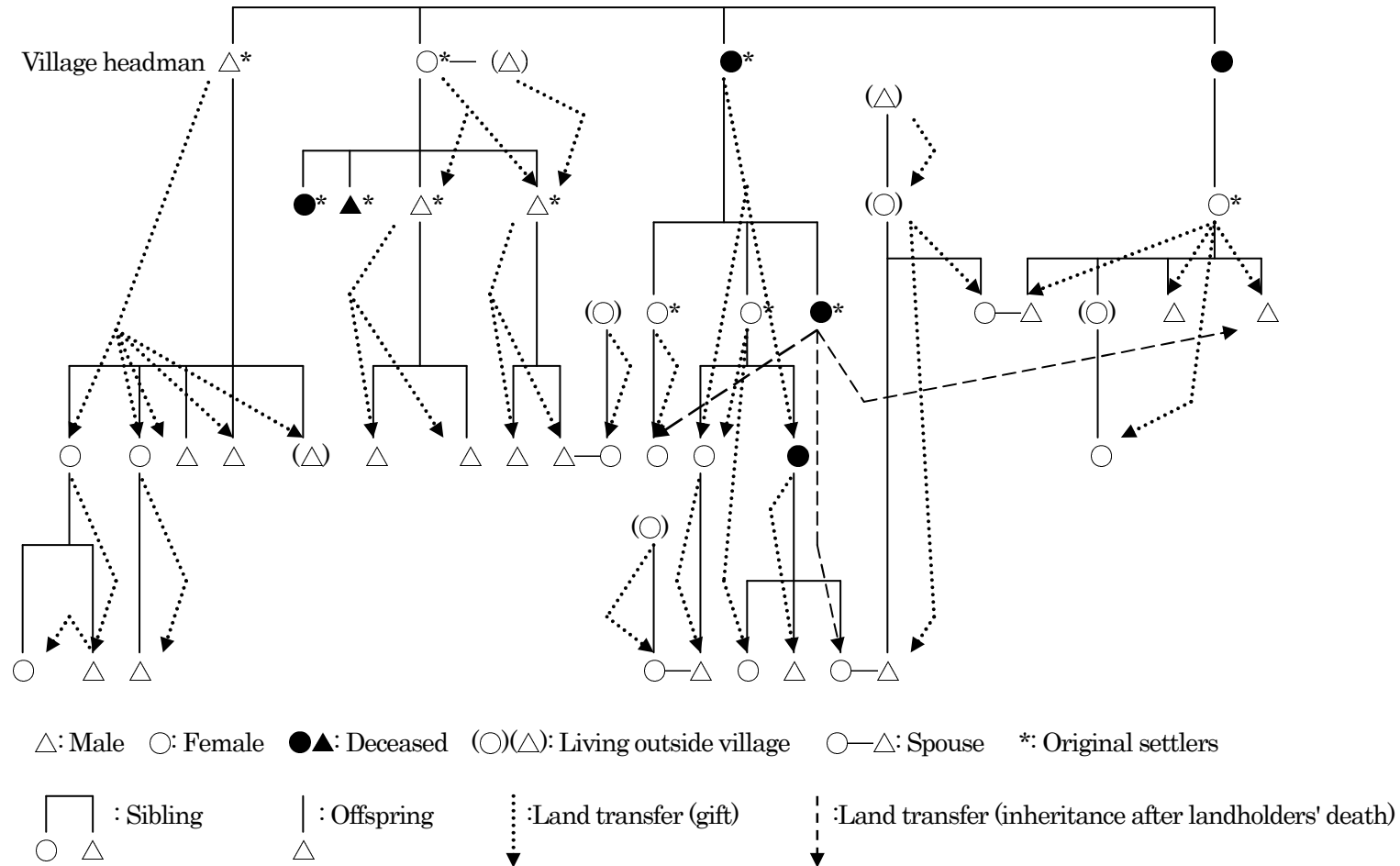
¹⁵ The exchange rate at the time of survey was between MK107 and MK110 per U.S. dollar.

¹⁶ The 1/50,000 scale map, based on an air photography from 1970 and produced by the Department of Surveys, showed no settlement but "orchard bush" in the area today covered by Belo.

¹⁷ As Englund (1999) and Devereux (1999) rightly argue, ganyu is neither an arrangement of wealth-sharing nor an informal transfer between the rich and the poor. Rewards are paid as returns on the labor provided on the basis of commercial exchange.

¹⁸ They earned between MK44,000 and MK56,000 a year.

Appendix 1: Transfer of Land in Kachamba



Note: The village headman obtained land from a local authority and distributed it to original settlers.

Source: Survey conducted in August - October 2004.