5

Risky Business: Tobacco Production

While maize is Malawi's staple food crop, this chapter examines the production and marketing of tobacco, the country's major cash crop. Tobacco has become a major cash crop for many smallholders in Malawi since the liberalization of burley production in the early 1990s. The aim of this chapter is twofold. First is to clarify the characteristics of marketing institutions of smallholder tobacco that are interlinked with credit institutions and farmer organizations. Second is to highlight some distinct features of tobacco production through a comparison of the production cost structures of tobacco and maize, and of the socioeconomic characters of tobacco growers and nongrowers.

5.1 Tobacco Marketing Institutions

Smallholder producers in Malawi sell their tobacco through formal and informal marketing channels. The formal (and officially the only) marketing channel is the selling of tobacco to an auction floor through a producer cooperative called a "club." Each club is registered at one of the three tobacco auction floors in Mzuzu, Lilongwe, and Limbe. Each member of a club sends his/her tobacco to the auction for sale and receives payment through the club. A club usually consists of 10 to 20 farmers. Each farmer packs his/her tobacco into bales with identification labels on them which are then transported

to the auction floor by an umbrella farmer organization such as the National Smallholder Farmers' Association of Malawi (NASFAM) or Tobacco Association of Malawi (TAMA). Usually tobacco bales are sent to the auction floor every few weeks. At the auction floor, each bale (which typically contains about 80–120 kg of tobacco) is auctioned and the price is recorded. This means that the minimum requirement for a farmer to join a club is the production of at least one bale of tobacco. Before the proceeds of auctioned tobacco are sent to the bank account of a club, various deductions such as taxes, fees, and transport costs are taken. At the time of the survey, these deductions were 10 to 20 percent of the total proceeds (Table 5.1). Based on the sales records, the treasurer of the club calculates each member's share according to the weight of and price offered for the bales, and distributes the money to each member. All these procedures take at least three weeks and occasionally several months, delaying the farmers' receipts of payment.

The formal marketing institution is interlinked with the credit institutions for smallholder tobacco producers. Most banks and financial companies in Malawi do not provide credit to individual smallholders, and the farmer clubs are the only channel through which smallholders have access to credit. If a club's application (which should be endorsed by a government extension officer) is accepted by a bank or a financial company, credit is usually made in kind, such as in bags of fertilizer. The repayment of credit (including the interest payment[1]) is deducted from the proceeds realized from the auctions. Deductions can be made several times until all the credit has been repaid. For banks and financial companies, this repayment system considerably reduces the risk of default by farmer clubs. For farmer clubs, on the other hand, the system occasionally resulted in only a little or no money being sent to the club's bank account as payment for the first and second shipments of tobacco sent to the auction floor, causing a further delay of cash payments to farmers. If these payments cannot be completed because an insufficient amount of tobacco has been sent to the auction, the club is not entitled to apply for credit the next year.

These tobacco marketing and credit institutions, and the interlinkage of the two, induces farmers to screen the membership of their club. In order to secure access to credit every year, the club has to send enough tobacco to the auction floor. Therefore, the preferred club member is a farmer who can produce a lot of tobacco, while a farmer who might fail to send tobacco to the auction after receiving credit should be avoided. Those who are likely to be screened out from the club membership included farmers with small tobacco farms, newcomers to a community, farmers who had misbehaved in the past, and elderly and female farmers with less working strength.

TABLE 5.1 Deductions at the Tobacco Auction Floor

A. Deductions

	2004	2005
Auction fees	3.25% of gross proceeds	2.5% of gross proceeds
Tobacco control commission levy	0.45 US cents/kg	0.45 US cents/kg
Hessian levy	30 US cents/bale	30 US cents/bale
ARET (Agricultural Research and Extension Trust) levy	1% of gross proceeds	1% of gross proceeds
NASFAM/TAMA levy	Varied	Varied
Transport cost	Varied according to the distance to auction	Varied according to the distance to auction

B. Examples of Deductions (US cents)

Assumption	Sold at 50 US cents/kg	Sold at the Average Price in 2005 (98.89 US cents/kg)	Sold at 150 US cents/kg
Auction fees	125	247	375
Tobacco control commission levy	45	45	45
Hessian levy	30	30	30
ARET (Agricultural Research and Extension Trust) levy	50	99	150
NASFAM/TAMA levy	70	70	70
Transport cost	636	636	636
Total deduction (1)	956	1,127	1,306
Gross proceeds (2)	5,000	9,889	15,000
Net income, (2) minus (1)	4,044	8,762	13,694
Percentage of deductions to total proceeds	19%	11%	9%

Note: Examples were calculated with the assumption that a farmer in Bongololo sold 100kg of tobacco in 2005.

Besides the official tobacco-marketing channel of auction sales through clubs, unofficial sales of tobacco to individuals are common and tolerated by the authorities in many parts of Malawi. Several types of people buy tobacco from smallholders. One type is small-scale private traders who buy tobacco from smallholders and resell them to others. Another type is "farmers" who buy tobacco from smallholders or traders, grade and bale it themselves, and sell it on auction floors under their own names. In the sample village of Horo, resident traders and farmers rode their bicycles to Mozambique to purchase tobacco and resold it at weekly markets in the village nearby. In Mulawa and Mbila, some farmers sold their tobacco to traders who were said to come

TABLE 5.2 Sales of Tobacco to Traders or Individual Farmers

	Kachamba (n = 23)	Belo (n = 15)	Horo (n = 16)	Bongololo (n = 27)	Mulawa (n = 19)	Mbila (n = 16)	Total (n = 116)
No. of cases	1	4	11	3	1	8	28
%	4%	27%	69%	11%	5%	50%	24%

from Zambia. In most of the sample villages, some smallholders were using these unofficial channels of tobacco marketing (Table 5.2).

In the past these private traders were the target of accusations in policy discussions about tobacco marketing. In fact, private traders (called "intermediate buyers") had been allowed to buy tobacco as of 1994, but were banned from doing so in 2000. The main accusations that led to the ban on intermediate buyers were that they were exploiting smallholders by offering very low prices, and that their actions had caused the quality of tobacco in the country to deteriorate. However, as Koester et al. (2004) point out, these accusations were not always based on evidence. Moreover, the private trading of tobacco has contributed to the improvement of smallholder livelihoods in four important ways.

First, private traders provide a convenient (and often the only) sales channel for those producing a small amount of tobacco. Being required to produce at least one bale of tobacco to become a member of club practically excludes smaller producers from the official marketing channel of auction sales. If private traders, who buy tobacco even in small quantities, were not available, farmers producing less than a bale would have no sales channel for their tobacco.

Second, private traders purchase tobacco with cash, providing liquidity to smallholders (Koester et al. 2004). Official sales channels through the auction floors make farmers wait several weeks or months before receiving payment for their tobacco. Because of this delay, some farmers, including tobacco-club members, opted to sell their tobacco to private traders in order "not to waste time" as one farmer in Mbila explained to this writer.

Third, as discussed earlier, club membership is not always open to everybody because of the screening process practiced by the established members. If one cannot become a member of a club, private traders are the only sales channel available.

Fourth, tobacco trading itself is an important source of income for rural residents. As will be discussed in the next chapter, income from off-farm economic activities such as trading plays a vital role in improving rural livelihoods. This is particularly true in a year of a crop failure. At such a time, most

of a household's income is derived from off-farm income sources. If one owns a simple means of transport such as a bicycle, there is no barrier to entry into tobacco trading. The opportunity for trading becomes even better in villages where tobacco is traded in weekly markets, as the following case in Horo illustrates.

Case: JK, a 22-year-old male farmer in Horo, grew tobacco and maize on his very small 0.32 ha plot of land. He produced 20 kg of tobacco in the 2004/05 season and sold it at the weekly market in the next village. His net tobacco income was MK 600. In addition, he bought tobacco from surrounding villages using his bicycle and sold it to the weekly market. From this petty trading, he earned the much higher amount of MK 3,400 than what he earned from own tobacco production. His income from trading accounted for 56 percent of his total household income.

On the other hand, the official marketing channel also provides farmers with two distinctive incentives. One is the opportunity for access to credits. The other is the higher prices received by farmers. Thus, the coexistence of formal and informal marketing channels provides farmers with different incentives and disincentives.

5.2 Smallholder Tobacco Production

The following section discusses features of smallholder tobacco production in two ways. First, tobacco and maize production are compared in terms of labor use, land allocation, and production cost structure. Second, socioeconomic characteristics of tobacco growers and non-growers are highlighted. The analysis shows that not all smallholder farmers can grow tobacco because some of them face entry barriers to tobacco production.

A comparison of tobacco and maize production reveals five distinctive features of the former. First, tobacco production requires much more labor than maize production. As Table 3.1 in Chapter 3 shows, tobacco production involves more farm work than maize production in terms of both the number of farm tasks and the period of farm work. At the time of this study's survey, total labor input for tobacco farming per hectare was 4.1 times more than for maize farming. The comparison of land and labor allocation patters of tobacco growers and non-growers (Table 5.3) also indicates that tobacco growers allocated more labor for tobacco than for maize farming despite allocating less land for tobacco than for maize. This shows a very different pattern from

TABLE 5.3 Land and Labor Allocation among Crops by Type of Household

A. Tobacco-Growing Households (n = 116)

	Tobacco	Maize	Other Crops	Total
Average area (ha/household)	0.350	0.672	0.180	1.201
Share of land allocation among crops	29%	56%	15%	100%
Labor input (man days/household)	254	127	59	439
Share of labor allocation among crops	58%	29%	13%	100%

B. Non-tobacco-Growing Households (n = 70)

	Maize	Other Crops	Total
Average area (ha/household)	0.565	0.176	0.741
Share of land allocation among crops	76%	24%	100%
Labor input (man days/household)	89	38	128
Share of labor allocation among crops	70%	30%	100%

Note: Labor of persons under 15 years old was counted as 0.5of adult labor.

that of non-tobacco growers who allocated land and labor in similar proportions between maize and other crop production. These figures clearly demonstrate the labor-demanding nature of tobacco production.

Second, tobacco production requires more working capital than maize production. The high demand for labor often forces farmers to employ hired labor to complement family labor. The production cost structure of tobacco (Table 5.4) shows that the cost of hired labor used on tobacco farms per hectare at the time of the survey far exceeded that used on maize farms (MK 14,954 and MK 1,561, 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. As a result, farmers need 6.1 times more working capital for tobacco production than for maize production. Only farmers who can afford the high production costs can engage in tobacco production.

Third, the net income per hectare from tobacco can be high, but the high income is subject to high risks. Table 5.4 shows that the average net income per hectare from tobacco among the sample households was MK 14,315, which was 3.9 times more than the net income from maize (Table 4.4). Thus the high production cost of tobacco discussed above can be compensated by the high gross revenue and high net income per hectare from the crop. It should be noted, however, that tobacco income is subject to both price risk and production risk. The average tobacco price at the auction floors has been

TABLE 5.4 Production-Cost Structure of Tobacco by Village (MK/ha)

	Kachamba (n = 23)		Belo (n = 15)		Horo (n = 16)		Bongololo (n = 27)	
Avg size of tobacco farm (ha/household)	0.289		0.506		0.189		0.347	
Production per hectare (kg)	864		607		281		1,178	
	%	MK	%	MK	%	MK	%	MK
Gross revenue from tobacco		83,760		54,689		17,596		88,033
Input costs	100%	48,382	100%	48,283	100%	21,853	100%	70,443
Seeds	1%	645	2%	762	4%	978	1%	737
Fertilizer	22%	10,570	32%	15,225	45%	9,863	42%	29,732
Other chemicals	1%	374	2%	797	3%	751	1%	425
Manure	6%	2,904	1%	600	3%	630	0%	0
Materials for barn and sacks	25%	11,964	11%	5,142	8%	1,652	7%	5,074
Annual depreciation and maintenance of tools, oxcarts, and oxen	3%	1,644	1%	359	2%	514	2%	1,675
Club fees	1%	531	0%	0	0%	66	1%	930
Hired transport/machinery	7%	3,294	9%	4,114	3%	700	3%	2,046
Hired labor	34%	16,158	43%	20,983	23%	5,058	33%	23,280
Land rent	0%	5	0%	0	1%	149	1%	374
Interest payment	1%	293	1%	301	7%	1,492	9%	6,169
Net crop income		35,378		6,406		-4,257		17,590

	Mulawa (n = 19)		Mbila (n = 16)		Total (n = 116)	
Avg size of tobacco farm (ha/household)	0.365		0.439		0.350	
Production per hectare (kg)	853		319		748	
	%	MK	%	MK	%	MK
Gross revenue from tobacco		76,430		20,004		62,101
Input costs	100%	45,704	100%	29,685	100%	47,786
Seeds	0%	192	1%	263	1%	569
Fertilizer	58%	26,288	57%	16,857	41%	19,582
Other chemicals	0%	36	0%	0	1%	370
Manure	0%	0	0%	0	1%	635
Materials for barn and sacks	11%	5,015	11%	3,174	12%	5,623
Annual depreciation and maintenance of tools, oxcarts, and oxen	2%	821	2%	592	2%	1,004
Club fees	2%	965	1%	192	1%	505
Hired transport/machinery	3%	1,313	6%	1,750	5%	2,361
Hired labor	19%	8,837	22%	6,485	31%	14,954
Land rent	0%	0	1%	214	0%	135
Interest payment	5%	2,238	1%	157	4%	2,047
Net crop income		30,725		-9,680		14,315

Note: Figures for Kachamba and Belo were converted to 2004/05 prices using the rural CPI. Exchange rate in 2005 fluctuated between 115 and 121 Malawi kwacha (MK) per US dollar.

TABLE 5.5 Production and Average Auction Price of Burley Tobacco

	Production (tons)	Average Price (US cents/kg)
1994	71,342	128.62
1995	101,450	148.18
1996	117,937	161.30
1997	133,887	152.95
1998	113,787	129.65
1999	111,392	138.06
2000	142,235	101.93
2001	115,298	109.77
2002	125,365	111.40
2003	102,797	113.68
2004	151,453	109.02
2005	119,520	98.89

Source: Tobacco Control Commission.

TABLE 5.6 Cases of Tobacco Income Deficit by Village

	Kachamba (n = 23)	Belo (n = 15)	Horo (n = 16)	Bongololo (n = 27)	Mulawa (n = 19)	Mbila (n = 16)	Total (n = 116)
% of households with tobacco income deficit	26	40	44	26	16	69	34
Average tobacco income deficit (MK)	9,504	12,818	4,230	14,491	3,753	7,267	8,904

Note: Figures for Kachamba and Belo were converted to 2004/05 prices using the rural CPI. Exchange rate in 2005 fluctuated between 115 and 121 Malawi kwacha (MK) per US dollar.

declining since 2000 (Table 5.5), resulting in a much lower net income from tobacco in recent years than that in the 1990s. The high production cost also involves the high risk of negative income in a year of production failure caused by unfavorable weather. This was exactly what happened in Horo and Mbila in the 2004/05 season. Prolonged dry spells in the Central and Southern regions led to gross revenues from tobacco production in those villages that were considerably lower than those in the other villages. As a result, the net income from tobacco in Horo and Mbila was negative. In all six villages, 34 percent of sampled tobacco growers experienced negative income from the crop (Table 5.6). This clearly shows that tobacco production is a risky business. High returns are possible, but there is always a high risk of large losses if the crop fails.

Apart from the weather and the price trend of tobacco, two factors influence the profitability of tobacco production. One is the quality of tobacco produced. Depending on the quality of the tobacco, the price offered at the

TABLE 5.7 Production-Cost Structure of Tobacco by Income Quartiles (totals for the six villages, MK/ha)

	Quartile 1 (richest)		Quartile 2		Quartile 3		Quartile 4 (poorest)	
No. of samples	33		29		27		27	
Avg size of tobacco farm (ha/household)	0.437		0.326		0.287		0.332	
Production per ha (kg/ha)	814		702		603		820	
Gross revenue per hectare (MK/ha)	95		79		89		63	
	%	MK	%	MK	%	MK	%	MK
Gross revenue from tobacco		77,294		55,473		53,944		51,726
Input costs	100%	48,834	100%	41,964	100%	38,406	100%	60,356
Seeds	1%	483	1%	552	1%	540	1%	753
Fertilizer	38%	18,564	44%	18,306	51%	19,574	37%	22,569
Other chemicals	1%	523	1%	298	1%	347	0%	222
Manure	2%	1,114	1%	564	0%	0	1%	491
Materials for barn and sacks	15%	7,197	10%	4,335	12%	4,593	9%	5,344
Annual depreciation and maintenance of tools, oxcarts, and oxen	2%	980	3%	1,094	2%	700	2%	1,211
Club fees	1%	521	1%	573	1%	355	1%	536
Hired transport/machinery	6%	2,687	5%	2,224	5%	1,825	4%	2,446
Hired labor	33%	16,121	24%	10,230	21%	8,181	40%	23,918
Land rent	0%	104	1%	418	0%	0	0%	4
Interest payment	1%	541	8%	3,371	6%	2,291	5%	2,863
Net crop income		28,460		13,508		15,538		-8,630

Note: Figures for Kachamba and Belo were converted to 2004/05 prices using the rural CPI. Exchange rate in 2005 fluctuated between 115 and 121 Malawi kwacha (MK) per US dollar. Income quartiles were obtained by ranking all sample households in each study village according to income per adult equivalent unit (AEU), and dividing them into four equal groups.

auction at the time of this study varied widely between US$0.5 to US$1.5 per kilogram. The comparison of production cost structure across income quartiles (Table 5.7) shows that the gross revenue from tobacco per hectare among the households in the highest income quartile was 1.5 times higher than that in the lowest income quartile, due to the difference in the price offered for their tobacco. Another factor influencing profitability is the cost of production. As Table 5.7 shows, the cost of production (especially that of fertilizer and hired labor) in the lowest income quartile was higher than that in the other quartiles. The low gross revenue caused by the low quality of tobacco and the high cost of production resulted in a negative income from tobacco in the lowest income quartile.

Fourth, households whose total farm size is relatively large are more likely to grow tobacco than those with farms of small total size. As discussed earlier, households give priority to maize over other crops in order to secure their food for their own consumption. Therefore, those with insufficient land do

TABLE 5.8 Ratio of Tobacco-growing Households as a Factor of Farm Size

Total Farm Size*	Kachamba		Belo		Horo		Bongololo	
	n	No. of Tobacco-growing Households	*n*	No. of Tobacco-growing Households	*n*	No. of Tobacco-growing Households	*n*	No. of Tobacco-growing Households
< 0.5 ha	8	3 (38%)	2	0 (0%)	16	8 (50%)	9	5 (56%)
0.5–1.0 ha	11	8 (88%)	5	0 (0%)	12	5 (42%)	15	14 (93%)
1.0–1.5 ha	6	6 (100%)	8	5 (63%)	2	1 (50%)	5	4 (80%)
More than 1.5 ha	6	6 (100%)	15	10 (67%)	2	2 (100%)	3	3 (100%)
Total	31	23 (74%)	30	15 (50%)	32	16 (50%)	32	27 (84%)

Total Farm Size*	Mulawa		Mbila		Total	
	n	No. of Tobacco-growing Households	*n*	No. of Tobacco-growing Households	*n*	No. of Tobacco-growing Households
< 0.5 ha	8	1 (13%)	7	0 (0%)	50	17 (34%)
0.5–1.0 ha	4	3 (75%)	13	8 (62%)	60	38 (63%)
1.0–1.5 ha	8	7 (88%)	8	5 (63%)	37	28 (76%)
More than 1.5 ha	8	8 (100%)	4	3 (75%)	38	32 (84%)
Total	28	19 (68%)	32	16 (50%)	185	116 (63%)

* Including rented land.

not venture into tobacco production at the expense of maize production. Moreover, it is difficult for farmers with small tobacco farms to achieve the minimum production level of one bale (about 100 kg) required for sales through the official marketing channel to the auction floors. For these two reasons the percentage of tobacco-growing households rises as the total farm size of a household increases (Table 5.8).

However, there are some exceptions. In Horo, for example, more than half of the households with less than 0.5 ha of farms were tobacco growers. Seventy-three percent of sampled tobacco-growing households in the village operated very small tobacco farms of less than 0.2 ha. Given the average tobacco yield of 281 kg per hectare in the study villages, the production from a 0.2 ha tobacco farm probably would not reach the one bale necessary for sale through the auction. However, the existence of active informal tobacco marketing in the village enabled farmers with small farms to sell their tobacco even in small quantities.

Fifth, scale economies in smallholder tobacco production seem nonexistent. The production cost structure of tobacco at different scales of operation (Table 5.9) shows that neither tobacco yield nor the gross revenue from tobacco per

TABLE 5.9 Production-Cost Structure of Tobacco by Farm Size (MK/ha)

Six-village Totals

	Tobacco Farm Size					
	< 0.25 ha		0.25 – 0.5 ha		More than 0.5 ha	
No. of samples	46		48		22	
Avg area under tobacco (ha/household)	0.141		0.341		0.804	
Production (kg/ha)	754		895		612	
Fertilizer application (kg/ha)	410		410		329	
	%	MK	%	MK	%	MK
Gross revenue from tobacco		63,778		77,230		47,480
Input costs	100%	48,955	100%	52,741	100%	42,770
Seeds	2%	1,143	1%	477	1%	445
Fertilizer	45%	22,213	42%	22,123	38%	16,265
Other chemicals	1%	466	1%	474	1%	239
Manure	2%	960	1%	723	1%	435
Materials for barn and sacks	11%	5,173	13%	6,892	11%	4,614
Annual depreciation and maintenance of tools, oxcarts, and oxen	1%	531	2%	1,189	2%	1,006
Club fees	2%	965	1%	619	1%	230
Hired transport/machinery	6%	2,710	5%	2,482	5%	2,121
Hired labor	24%	11,907	27%	14,326	39%	16,652
Land rent	0%	29	0%	214	0%	102
Interest payment	6%	2,859	6%	3,223	2%	662
Net crop income		14,824		24,489		4,709

Note: MK = Malawi kwacha.

hectare rises as farm size increases. The correlation coefficients between tobacco-farm size and yield per hectare were negative and statistically insignificant in five villages.[2] As was the case with maize production, the lack of mechanization and the divisible nature of productivity-enhancing inputs may explain the absence of economies of scale.

A comparison of tobacco-growing and non-growing households in the sample villages (Table 5.10) reveals four major differences between the two, supporting some of the above findings. First, tobacco-growing households held more land and operated larger farms than non-growing households. Second, more family labor (measured as the number of household members over 15 years old) was available in tobacco-growing households than in non-growing households. Abundant family labor is an advantage for tobacco production because of its labor-demanding nature. Third, the average household income per AEU among the tobacco-growing households was higher than that among the non-growing households. This was because the high net income per hectare of tobacco increased the household income of tobacco growers. Exceptions to this were found in Bongololo and Mbila where abundant nonfarm income opportunities increased the household income of non-tobacco growing households (see next chapter for details). Fourth, tobacco-growing households used more fertilizer on maize and achieved higher

TABLE 5.10 Comparison of Tobacco-growing and Non-growing Households

	Kachamba		Belo		Horo	
	Tobacco-growing	Non-growing	Tobacco-growing	Non-growing	Tobacco-growing	Non-growing
No. of samples	23	8	15	15	16	16
Income:						
Avg. household income per adult equivalent unit (MK)	8,669	4,570	15,341**	6,039**	3,938	2,264
Share of farm income	79%	39%	50%	55%	-39%	-39%
Share of off-farm income	21%	61%	50%	45%	139%	139%
Assets:						
Landholding (ha/household)	0.972***	0.513***	2.013	1.180	0.650	0.421
Value of livestock owned (MK)	5,079	9	8,117*	1,839*	8,117	1,839
No. of household members 15 years old or over	2.0	1.8	2.3*	1.8*	2.1	1.6
Schooling years of household head	4.7***	1.1***	3.6	3.6	4.6	3.8
Agriculture:						
Avg. area farmed (ha)	1.143***	0.513***	2.162	1.361	0.675	0.485
Maize production / ha (kg)	1,086	686	684	491	482***	151***
Maize production /AEU (kg)	439	422	271	174	103*	25*
Fertilizer application on maize farm (kg/ha)	80***	8***	33	9	124	83
Net agricultural income / ha (MK)	10,675	6,216	9,404	6,682	-3,773	-4,979

Note: Figures for Kachamba and Belo were converted to 2004/05 prices using the rural CPI.
* indicates 10% significance level, ** indicates 5% significance level, and *** indicates 1%

productivity (in terms of yield per hectare and yield per AEU in the household) than non-growing households. This probably stems from the fact that the higher income achieved by tobacco production enabled the farmers to purchase productivity-enhancing inputs such as fertilizer.

These findings suggest that the opportunity for high income from tobacco production is open only to households possessing enough capital to cover the high cost of inputs and having access to enough land and labor. Those who lack enough capital, land, or labor have been excluded from the new economic opportunities of burley tobacco production introduced in the early 1990s.[3] Even for those who have managed to venture into it, tobacco production is a risky business. The high production cost may be compensated with a high income if the weather and price trend are favorable; otherwise it can result in a large income loss. For poorer households, tobacco production remains a luxury gamble that is beyond their reach.

Bongololo		Mulawa		Mbila		Total	
Tobacco-growing	Non-growing	Tobacco-growing	Non-growing	Tobacco-growing	Non-growing	Tobacco-growing	Non-growing
27	6	19	9	16	16	116	70
12,775	18,878	9,595	7,445	4,774	6,934	9,449*	6,494*
32%	5%	70%	45%	-19%	14%	44%	19%
68%	95%	30%	55%	119%	86%	56%	81%
0.746	0.514	1.238***	0.431***	1.090	0.974	1.069***	0.730***
34,337	3,642	21,142	30,156	14,083	2,100	15,642*	7,241*
2.8	2.0	2.7*	1.7*	2.9	2.5	2.5***	1.9***
8.0	6.7	5.7	4.3	5.3	4.6	5.6***	4.0***
0.852	0.557	1.522***	0.455***	1.118*	0.760*	1.201***	0.741***
1,604	1,151	1,298	1,072	908	771	1,081***	631***
218	287	264	144	134	124	249**	163**
93	122	126	104	148	89	100**	66**
18,986	-2,512	16,275	14,258	-3,982	2,415	9,348	3,174

Exchange rate in 2005 fluctuated between 115 and 121 Malawi kwacha (MK) per US dollar.
significance level with *t*-test.

If smallholder farmers have access to credit, they may be able to purchase the inputs, rent land, or employ the hired labor that is necessary for tobacco production. In the six study villages, however, formal credit was available only to the members of tobacco clubs. As discussed earlier, club membership is restricted to those who can produce at least one bale of tobacco, while farmers with small farms are screened out. Moreover, credit is given in kind in the form of fertilizers, and farmers cannot use the credit for other purposes. As a result, only 21 percent of the sampled tobacco-growing households had access to formal credit (Table 5.11). Another 10 percent also obtained credit from informal sources, mostly from close relatives, but the amounts they borrowed were usually very small. Also the insurance market that can reduce the risk of crop failure was not available to smallholders. Thus, participation in tobacco production by poorer households was further constrained by the insufficient credit market and the lack of an insurance market.

TABLE 5.11 Use of Credit for Tobacco Production

	Kachamba (n = 23)	Belo (n = 15)	Horo (n = 16)	Bongololo (n = 27)	Mulawa (n = 19)	Mbila (n = 16)	Total (n = 116)
Use of formal credit (%)	0	13	0	56	37	0	21
Use of informal credit (%)	17	7	19	7	0	13	10
Total (%)	17	20	19	63	37	13	31

In Bongololo the rate of credit use by tobacco-growing households was much higher than that in the other villages. This was due to its proximity to a town where a financial company (MRFC), a government extension office, and fertilizer dealers were located, enabling farmers to easily approach them. The availability of fertilizer on credit in the village resulted in a high level of fertilizer use among the farmers with small farms, thus increasing their productivity. Consequently, the average yield of tobacco-growing households with less than 0.25 ha farms in the village was an impressive 227 kg, well beyond the minimum unit of one bale required for sale at the auction. In this case, the availability of credit and the resultant high productivity eliminated the entry barriers of land constraints and high input cost in tobacco production.

Conclusion

This chapter has examined the features of tobacco-marketing institutions and smallholder production. In tobacco production, many smallholders face entry barriers. Those who could take advantage of the new economic opportunities after the liberalization of burley production were mainly the upper stratum of rural households with enough land, labor, and capital. The comparison of tobacco-growing and non-growing households shows a clear disparities between the two in household income, assets held in land and labor, and the use of productivity-enhancing inputs such as fertilizer. At the same time, the high risk of production failure and price changes make tobacco production a risky business. As a result, large disparities exist between those who achieved high income from tobacco production and those who do not. In short, the entry barriers inherent to tobacco production limit its adoption by smallholders, and the high risks associated with its production further reduce the grower's possibility of obtaining high income from the crop.

Notes

1 Interest rates varied depending on the past repayment record of a club and across financial institutions. The interest rate for the MRFC, a major institution for smallholder credit, was around 30 percent per year at the time of the survey.

2 The correlation coefficient in each village was as follows: 0.484 in Kachamba, -0.360 in Belo, -0.421 in Horo, -0.209 in Bongololo, -0.164 in Mulawa, and -0.186 in Mbila. Except for Kachamba, they were statistically insignificant at the 5 percent level.

3 Using the nationwide survey data in 1993 (just after the smallholder burley liberalization), Orr (2000) argued that resource-poor households face land and labor constraints on burley adoption. The present study finds that the situation remains unchanged in the 2000s.