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in Malawi**

Azusa HARASHIMA*
October 2008

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Keywords: smallholder, tobacco, Malawi, agricultural income, liberalization

JEL classification: D10, Q12, R20

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The Impact of Tobacco Production Liberalization on Smallholders in Malawi

Azusa HARASHIMA*

Abstract

Burley tobacco production in Malawi was liberalized to permit production by smallholders in the early 1990s. The purpose of this paper is to show which smallholders began producing burley tobacco after liberalization and which smallholders still continue to produce it. The profitability of burley tobacco production is very high, but not all smallholders started to produce it after liberalization. According to household survey data conducted in 1997, 22 percent of households were producing it, but according to household survey data conducted in 2004, only 13 percent were producing it. So, this paper attempts to analyze the reason why most smallholders did not begin producing burley tobacco despite its high profitability.

Analysis of the characteristics of burley tobacco producers shows that only smallholders who had adequate farm size and adequate funds could start to produce it. With regard to the farm size requirements, only smallholders who had enough acreage to sell tobacco on the auction floors and who had enough acreage to rotate crops could start to produce burley tobacco. With regard to the financial requirements, only smallholders who could procure funds through informal institutions or who possessed their own capital to meet the necessary agricultural expenditures could start to produce burley tobacco. So, it was only the wealthy households which could start to produce tobacco after liberalization and continue to produce it.

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Introduction

Burley tobacco production in Malawi was liberalized to permit production by smallholders¹ in the early 1990s. Prior to liberalization, only estate owners could produce burley tobacco, and production by smallholders was banned by law. This liberalization had a heavy impact on smallholders because burley tobacco is much more profitable than any other crop, such as groundnuts or vegetables, etc. So, the purpose of this paper is to show which smallholders could begin producing burley tobacco after liberalization and which smallholders still continue to produce it.

It was in the early 1990s that the production of burley tobacco was liberalized to permit production by smallholders in Malawi. Although burley tobacco is a very profitable crop, the household survey data conducted in 1997² states that only 22 percent of households were producing it, leaving 78 percent that did not. Moreover, the household survey data conducted in 2004³ states that only 13 percent were producing it. Thus, this paper attempts to elucidate the reasons why many households did not begin producing burley tobacco despite the high profitability, and this paper also attempts to show which smallholders still continue to produce burley tobacco despite the collapse of the tobacco price after 1997.

There are several previous works concerning liberalization of burley tobacco production in Malawi. Orr [2000], using household survey data on 818 households collected from 1993 to 1994, shows that the households which could begin to produce it were the smallholders who had adequate acreage. Orr [2000] states that liberalization did not have any impact on poor households

¹ Land in Malawi can be classified into three categories: public, private, and customary land. Public land is owned or held in trust by the government or the Traditional Authority. Private land is held or owned under freehold title, leasehold title, or Certificate of Claim granted by early colonial governors to European settlers. Customary land is held under the customary law and makes up 69 percent of the total land in Malawi. Most of the land cultivated by smallholders falls under this category (Takane [2005a]).

² The survey, which covered 7,676 households, was conducted in 1997 by the Statistical Office of Malawi and the World Bank.

³ The survey, which covered 11,280 households, was conducted in 2004 by the Statistical Office of Malawi and the World Bank.

and did not lead to poverty reduction. Orr and Mwale [2001], using household survey data from 50 burley tobacco producers in southern Malawi collected from 1996 to 1999, explains that the only households that could start to produce tobacco were those that possessed adequate land and labor. Takane ([2005b]) also mentions that the labor- and capital-intensive nature of burley tobacco production prevents households with little labor power and capital from engaging in production; thus, burley tobacco production cannot be treated as a panacea for the poorest layer of the rural population of Malawi.

There are three new features in this paper which were lacking in previous studies. The first is examination of the reason why burley tobacco producers require adequate acreage and capital. Previous studies indicate the characteristics of the burley tobacco producers, but they do not explain why these characteristics are required for tobacco production. The second feature is the difference in the size of the household survey data used for analysis. Previous studies used household survey data that included only 50 to 150 households; thus, it is difficult to say that this household survey data reflected the real trends in Malawi. In contrast, this paper uses household survey data covering 7,676 to 11,280 households; hence, the results of analysis using this data will be closer to the actual trends in Malawi. The third feature is that this paper discusses how tobacco producers behaved after the decrease in the burley tobacco price. The price of burley tobacco fell rapidly after 1997, causing some households to halt production of burley tobacco. Whereas previous studies mainly discussed the entry of smallholders into burley tobacco production, this paper discusses not only the entry into but also the exit from burley tobacco production.

This paper consists of six sections. Section one presents an overview of Malawian burley tobacco, including policies regarding burley tobacco and changes in tobacco production volume and price. The second section presents a brief overview of the household survey data used in this paper. The third section explains the profit performance of burley tobacco production and the number of households which produce burley tobacco, and the fourth section examines the characteristics of burley tobacco producers and non-producers using the household survey data. The fifth section discusses the reasons why many households could not begin producing burley

tobacco due to acreage limitations and financial limitations. The final section discusses the price slump and smallholders' exit from burley tobacco production.

1. Overview of Malawian Burley Tobacco

1.1 Policy Background

1.1.1 Liberalization of Burley Tobacco Production

In 1972, the government enforced the Special Crops Act. Under the act, the production of tobacco,⁴ tea, and sugarcane by smallholders was legally prohibited, and only estate owners could grow them (Place and Otsuka [2001]). The ban on burley tobacco production continued until 1990.

In the late 1980s, the World Bank presented a suggestion to the Malawian government concerning the Agricultural Sector Adjustment Credit. The World Bank stated that liberalization of tobacco production by smallholders was one of the conditions for receiving the credit, and so the Malawian government reformed the act and issued productivity quotas of burley tobacco to smallholders (Nthara [2002]). Both before and after liberalization, an allowance system was used for tobacco production, so estate owners and smallholders were limited to production of tobacco within their productivity quotas.

In 1990,⁵ the total allowance of burley tobacco for smallholders was only 2.3 million kilograms, and this amount was distributed among 7,600 smallholders. In the next year, the allowance was raised to 2.6 million kilograms and was distributed among 8700 households. In 1993, the allowance was increased to 15 million kilograms and was distributed among 30,000

⁴ Even after 1972, smallholders could produce only two kinds of tobacco, dark fired tobacco and oriental tobacco.

⁵ Planting of burley tobacco is done from October through November, and harvesting is done from January through March of the following year. Figure 1 show the planting year.

smallholders (Orr [2000], Tobin and Knausenberger [1998]). In 1996, this allowance system was abolished so that producers could produce burley tobacco freely (Minot et al. [2000]).

Before 1996, the allowances of smallholders were given to the “tobacco club” of each village, and the club divided the allowances among its members. These clubs were established just before the liberalization of tobacco, but they continue to function, with shipping and borrowing of money, and so on⁶ (Jafee [2003]).

1.1.2 Change in the System of Tobacco Selling

Before 1992, all burley tobacco had to be sold to the Agricultural Development and Marketing Corporation (ADMARC), but after 1992, it became possible to sell tobacco on the auction floors directly through the tobacco clubs (Takane [2007]).

In addition, in 1993 the Mediate Buyer Program was instituted, and shipment of tobacco for not only to auction floors but also to buyers started. However, all buyers had to be authorized by the government. The number of tobacco buyers increased rapidly; in 1997, the number of the buyers reached 4,012, and 14 percent of all production of burley tobacco in Malawi passed through these buyers. In 2000, however, the Mediate Buyer Program was suspended by the government because the crowded field of buyers caused the quality of the burley tobacco to deteriorate (Takane [2007]).

Since the suspension of the Mediate Buyer Program, the only legal tobacco transactions have been selling on auction floors through tobacco clubs or selling to ADMARC. Still, there are illegal mediate buyers, and thus some producers sell burley tobacco to mediate buyers illegally.

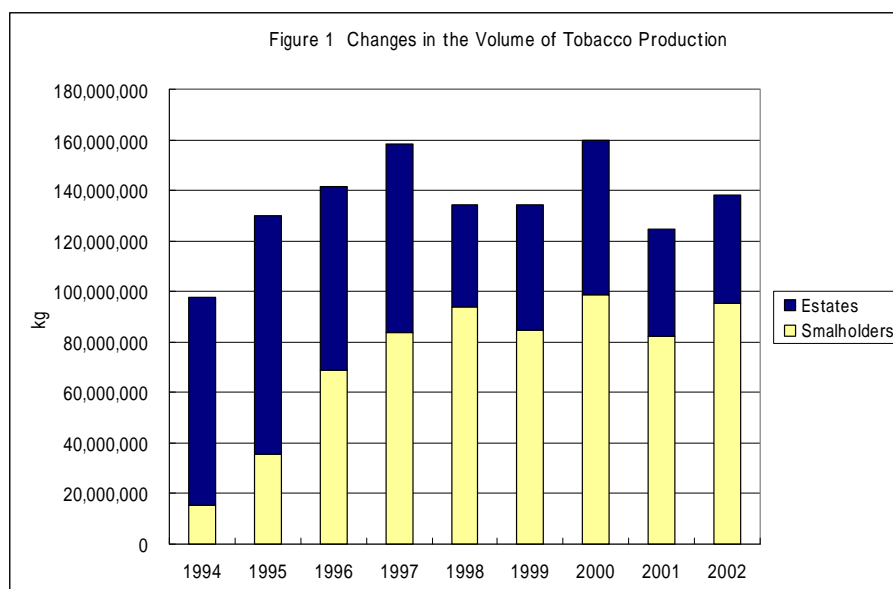
1.2 Changes in Tobacco Production Volume and Tobacco Price

Figure 1 shows the changes in tobacco production (not only for burley tobacco but for all

⁶ There were 23,918 clubs in Malawi in 2004 (Tsonga [2004]).

kinds of tobacco⁷) in Malawi, and the share of production of estates and smallholders. From 1994 to 2002, production increased 1.4 times. The share of estate production is decreasing, but on the other hand, the share of smallholder production is increasing.

Malawi's total tobacco production amounts to about one percent of total world tobacco production.⁸ The largest tobacco producer in the world is China, which accounts for 41 percent of world production, and Brazil, with 13 percent of world production, is second. Looking at the types of tobacco produced worldwide, 60 percent of world tobacco production is flue-cured tobacco, and burley tobacco accounts for only 15 percent (Jafee [2003]).



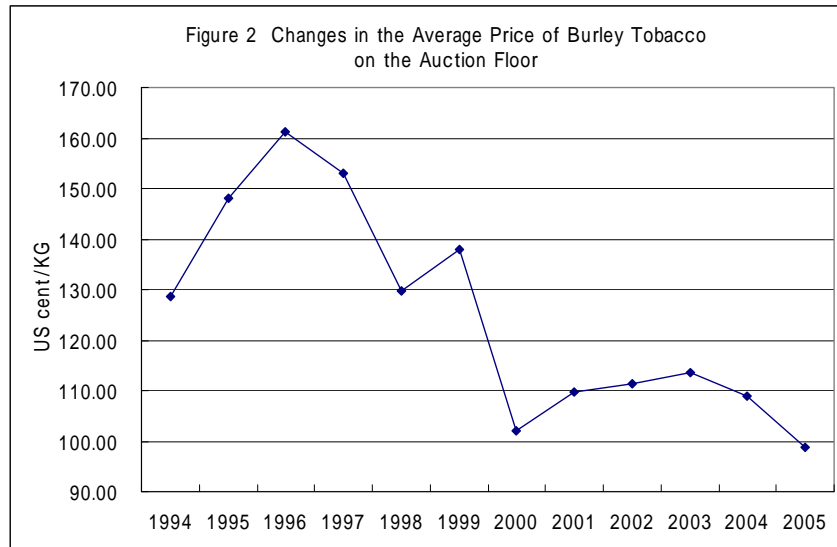
Source: Malawi Tobacco Control Commission and Takane ([2005b]).

Figure 2 shows the changes in the average price of burley tobacco on auction floors in Malawi from 1994 to 2005. The average price was 161 cents per kilogram in 1996, but it dropped suddenly to 102 cents per kilogram. This trend is visible not only in Malawi but worldwide also. The reasons for this trend are the decreasing demand for tobacco due to higher taxes and the

⁷ According to the 2002 statistics of the Malawi Tobacco Control Commission, the percentage of burley tobacco production out of all tobacco production in Malawi is 90 percent, so the vast majority of tobacco production in Malawi is burley tobacco.

⁸ Source: FAOSTAT.

increasing of supply of tobacco, and so on. The production of tobacco in China, India, and Turkey in particular is increasing rapidly (Jafee [2003]).



Source: Malawi Tobacco Control Commission.

2. Overview of Data Used for Analysis

Before starting the analysis, this section presents the details of the household survey data used in this paper. In the introduction, the data of two surveys, i.e., the household survey data of 1997 and 2004, were already explained; hence, this section explains the data of the household survey conducted in 2006.

The author conducted a field survey in 2006, as a supplementary survey, in the Dedza District and the Mchinji District in Malawi. In the Dedza District, the author implemented a field survey of 30 households in 10 villages around Lobi Village. In the Mchinji district, the author implemented a field survey of 11 households in Kachamba Village. The choice of households in each village was entrusted to the village headman and the agricultural extension workers, so a bias in the sampling cannot be denied. However, the sampled households included a large variety of

household, so it is assumed that there is no large problem in using this 2006 household survey data as a supplementary survey.

3. The Profit Performance of Tobacco Production and the Number of Producers

3.1 The Profit Performance

Table 1 shows the agricultural income per acre produced by each crop. These figures were calculated from the 2006 household survey.⁹ As shown in Table 1, the agricultural income per acre produced by burley tobacco is 45,475 Malawian kwacha (MK) (US\$1= MK144 as of August 5, 2008), which is 1.7 times that of cabbage, 3.8 times that of hybrid maize, 4.7 times that of groundnuts, and 6 times that of local maize. As can be seen from the table, the profit produced by burley tobacco is very high.

Table 1 Agricultural Gross Income, Expenditures, and Income per Acre

	(Unit: MK)				
	Tobacco	Hybrid Maize	Local Maize	Groundnut	Cabbage
Agricultural Gross Income	58,181	16,308	9,096	10,934	29,744
Price(per KG)	143	17	14	13	14
Production (KG)	408	949	630	859	991
Agricultural Expenditures	12,706	4,430	1,633	1,209	3,047
Seed	29	103	81	58	2,400
Fertilizer, Pesticide	4,415	2,817	469	443	370
Labor Cost	2,428	1,000	895	597	0
Other Tobacco Cost	5,003				
Others	831	510	188	110	277
Agricultural Income	45,475	11,878	7,463	9,725	26,697

Notes:

1) "Other tobacco cost" includes shipping supplies for tobacco, shipping cost, tobacco club membership fees, etc.

2) "Others" includes cost depreciation of agricultural implements, ox wagons, etc.

Source : 2006 Household Survey Data.

Can this trend be seen everywhere in Malawi? According to Takane ([2007]), the agricultural income of tobacco is 3.7 times that of maize. Place and Otsuka [2001] shows the profit

⁹ Table 1 was calculated using data from the rainy season.

of burley tobacco is 10 times that of hybrid maize. These two studies also indicate that the profit from tobacco is very high, so it may be said that burley tobacco is a very attractive crop for farmers in Malawi.

3.2 The Share of Burley Tobacco Producers

This section attempts to clarify the percentage of smallholders that produce burley tobacco. In Malawi, there are no statistics that show the number of burley tobacco producers which could be used to determine the percentages, so this paper utilizes the household survey data from 1997, 2004, and 2006.

According to the 1997 household survey data, 22 percent of smallholders produced burley tobacco, and according to the 2004 household survey data, only 13 percent produced it. Thus from these data, we can say that the number of households which produce burley tobacco is small. Incidentally, the question arises as to why there is a 9 percent difference in the results of these two surveys. Naturally the surveyed households are different, so some error may be observed; however, another reason may be that a certain number of households halted production of burley tobacco between 1997 and 2004. In the 2004 household survey questionnaire, respondents were asked, "Have you grown burley tobacco in the past five years?", and 18 percent of all households answered "Yes" to this question. However, only 13 percent of households produced burley tobacco in 2004, and so it is possible to say that five percent of households stopped tobacco production between 1999 and 2004.

According to the 2006 household survey, 18 out of 41 households, or 44 percent, produced burley tobacco, so the result of the 2006 household survey shows production to be significantly higher than in the 2004 household survey. However, even in the 2006 household survey, more than half of the households did not produce burley tobacco, so it may be said that the number of households which produced tobacco is very small.

4. Characteristics of Burley Tobacco Producers

As mentioned in the previous section, burley tobacco is very profitable, but not every household produces it. The reasons for this will be clarified below. This section discusses the characteristics of burley tobacco producers and non-producers, and reveals the characteristics peculiar to burley tobacco producers.

4.1 Analysis Using 2004 Household Survey Data

To analyze the characteristics of producers, this sub-section employs the 2004 household survey data. Smallholders are divided into three categories: (1) households which produced burley tobacco in 2004 (called tobacco producers), (2) households which have produced tobacco in the past 5 years but did not produce in 2004 (called stopped producers), and (3) households which have not produced tobacco in 5 years (called non-producers).

As shown in Table 2, tobacco producers have the largest farm size of the three categories, and the non-producers have the smallest. Previous studies, such as Tobin and Knausenberger [1998], Orr [2000] and Orr and Mwale [2001], mention the same characteristics regarding the farm size. In the case of maize cultivated acreage, there is no significant difference in the size. Looking at average family size, the tobacco producers have the largest, and non-producers have the smallest.

The next category examines the attributes of the heads of households. Looking at the age of the heads of households, tobacco producers have the lowest ages and non-producers have the highest ages. The percentage of female-headed households is the highest for non-producers and the lowest for tobacco producers. The education level is the highest for tobacco producers and lowest for non-producers.

The average agricultural income¹⁰ is the highest for tobacco producers and the lowest for

¹⁰ The average agricultural income of tobacco producers includes agricultural income from burley tobacco.

non-producers. The percentage of households which have off-farm income is the highest for non-producers and the lowest for tobacco producers, but the average off-farm income is the highest for tobacco producers and the lowest for non-producers.

Drawing conclusions from Table 2, the tobacco producers have the largest farm size and earn the highest agricultural income and off-farm income, thus tobacco producers are wealthier than other household types.

Table 2 The Characteristics of Burley Tobacco Producers and Non-Producers (2004 Household Survey Data)

	Tobacco Producers n=1437	Stopped Producers n=422	t-test	Non-Producers n=7763	t-test	t-test
Average Farm Size (acre)	4.5	3.3	***	2.8	***	**
Average Maize Cultivated Acreage (acre)	2.1	2.2		2.0		
Average Family Size	5.3	5.0	***	4.5	***	***
Age of Head of Household	40.8	43.2	***	43.9	***	
Percentage of Female-Headed Households (man=0, female=1)	0.1	0.2	***	0.3	***	***
Average Education Level of Head of Household (no education=0)	5.4	4.6	***	5.0	***	***
Average Agricultural Income (MK)	24,038	6,615	***	4,762	***	*
Percentage of Households which have Off-farm Income	31	33		34	***	
Average Off-Farm Income (MK)	36,750	22,196	*	31,829		**

Notes:

- 1) *** indicates significant level at 1%, ** indicates significant level at 5%, * indicates significant level at 10%.
 - 2) The t-test indicates the result of the comparison of tobacco producers and stopped producers.
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The t-test indicates the result of the comparison of stopped producers and non-producers.
 - 3) The average off-farm income was calculated by taking the total off-farm income and dividing it by the number of households which have off-farm income.
- Source : 2004 Household Survey Data..

4.2 Analysis Using 2006 Household Survey

Table 3 shows the characteristics of tobacco producers and non-producers using 2006 household survey data. Tobacco producers have larger farm sizes than non-producers, not only prior to starting tobacco production but now as well.

The family size of tobacco producers is larger than that of non-producers, and the age of heads of households is younger than that of non-producers. Look at the sex of the heads of households, heads of tobacco-producing households are all men, but for non-producer households, there are some female-headed households. The average education level of heads of households is higher for tobacco producers than that for non-producers.

The average agricultural income of tobacco producers is higher than that of

non-producers. The percentage of households which have off-farm income is higher for non-producers.

The result of the 2006 household survey is the same as that of the 2004 household survey. According to these data, tobacco producers have a larger farm size and a higher agricultural income. So, it is possible to say there is a trend in which wealthy farmers produce tobacco and poor farmers do not.

Table 3 The Characteristics of Burley Tobacco Producers and Non-Producers (2006 Household Survey Data)

	Tobacco Producers n=18	Non-Producers n=23
Average Farm Size before Starting of Tobacco Production (acre)	4.1	2.9
Average Farm Size (acre)	5.1	2.9
Average Family Size	5.3	4.9
Age of Head of Household	43.8	45.6
Percentage of Female-Headed Household (man=0, female=1)	0.0	0.3
Average Education Level of Head of Household (no education=0)	6.0	5.4
Average Agricultural Income (MK)	85,491	25,652
Percentage of Households which have Off-farm Income	5.6%	17.4%

Notes:

1) In Lobi, there were only 3 households with off-farm income.

There is only one household that is a tobacco producer (MK120,000), not three (MK60,000, MK50,000, MK25,000).

In Kachamba, only one household had off-farm income, and it was not a tobacco producer (MK6,000).

Source : 2006 Household Survey Data.

5. Reasons Why Many Households Do Not Produce Tobacco

In the previous section, the conclusion was reached that tobacco-producing households are comparatively wealthy, while non-producing households are comparatively poor. This section analyzes the reasons why only wealthy households produce tobacco and others do not.

5.1 Constraints of Farm Size

5.1.1 Acreage under Tobacco Cultivation

This sub-section examines the acreage under cultivation. Figure 3 shows agricultural

income per acre produced by burley tobacco and the possibility of rotation cropping, based on the 2006 household survey data. The figure includes 17 households, and one household was eliminated because it was exceptionally large. The possibility of rotation cropping is derived by calculating the acreage under tobacco cultivation and the farm size of each household.

The first point examined is the relationship between the agricultural income per acre and the acreage under tobacco cultivation. As shown in Figure 3, the agricultural income of households which have less than one acre in tobacco cultivation is lower than that of households which have more than one acre in tobacco cultivation. The agricultural income of four out of five households which have less than one acre in tobacco cultivation is negative, and the agricultural income of the other household is only MK3,000.

Why does the agricultural income of households which have less than one acre in tobacco cultivation hover at a low level? One of the reasons is the difference in the unit sales price of burley tobacco¹¹. As already mentioned in Section 1, there are three ways for smallholders to sell burley tobacco. The first is to sell tobacco on the auction floors through tobacco clubs, the second is to sell to ADMARC, and the third is to sell tobacco illegally to the mediate buyers. There are only a few households which sell burley tobacco to ADMARC, so this sub-section focuses attention on the other two ways. The unit price of burley tobacco is higher when smallholders sell it on auction floors through tobacco clubs; however, to sell their tobacco on auction floors, smallholders are required to have a minimum production of more than one bag (one bag is equal to about 100 kilograms¹²). Hence, only households which can produce more than 100 kilograms can sell on auction floors (Takane [2007]).

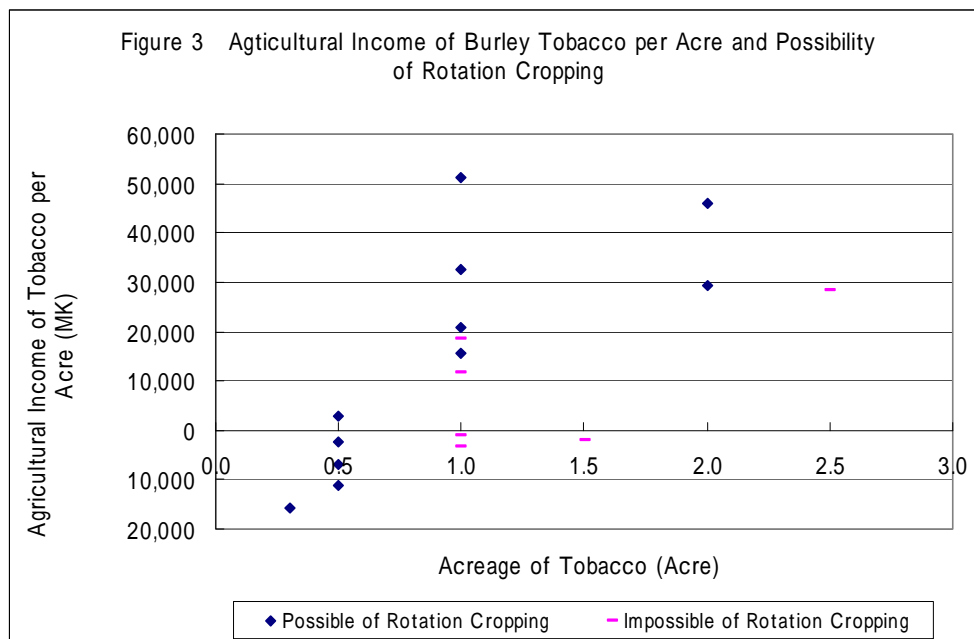
According to the 2006 household survey, 15 out of 17 households which have more than one acre in tobacco cultivation sell tobacco on auction floors. On the other hand, only one out of five households which has less than one acre in tobacco cultivation sells tobacco on the auction

¹¹ When smallholders start to produce tobacco, a certain size of farm is needed. However, there is no little sign of economy of tobacco field scale (Hazarika and Alwang [2003]).

¹² According to the 2004 household survey, more than 0.6 acres is needed to produce 100 kilograms of burley tobacco.

floor, and the other four households sell to mediate buyers. In fact, households with low-volume tobacco cultivation cannot sell tobacco on auction floors due to the minimum production requirements, so they have no alternative but to sell it to mediate buyers despite the low price.

According to the 2004 household survey, 90 percent of households which had more than one acre in tobacco cultivation sold tobacco to auction floors, and the other 10 percent sold to mediate buyers. On the other hand, 55 percent of households which had less than one acre in tobacco cultivation sold tobacco to auction floors,¹³ and 45 percent sold to mediate buyers. The average unit sales price on auction floors was MK122 per kilogram, and the unit price paid by mediate buyers was only MK62 per kilogram,¹⁴ so the unit price on auction floors is much higher than that paid by mediate buyers. This major difference in the unit sales price is one of reasons for the gap in the income levels between households with a small amount of acreage in tobacco cultivation and those with a large amount of acreage in tobacco cultivation.



Source : 2006 Household Survey Data.

¹³ These households would sell tobacco through relatives or friends who are members of tobacco clubs.

¹⁴ These prices are for reference purposes only. The unit price of burley tobacco depends on the quality, so it is difficult to make simple comparisons.

5.1.2 Rotation Cropping and Profit

Production of burley tobacco requires crop rotation, and a field is used for tobacco cultivation only once every four years (Orr [2000]). So, the possibility of crop rotation has a big impact on the profitability of burley tobacco.

As shown in Figure 3, six out of 12 households which have more than one acre in tobacco cultivation are capable of rotation cropping and the other six households are not. The agricultural income of households which can do rotation cropping is higher than that of households which cannot.

According to the 2004 household survey, 50 percent of households are capable of rotation cropping. The average income of households which are capable of rotation cropping is MK20,406, and that of households which are not capable of rotation cropping is MK18,074. According to the 2006 household survey as well, the agricultural income of households which are capable of rotation cropping is much higher than that of households which cannot.

In sum, when considering the acreage necessary for tobacco cultivation and rotation cropping, the only households which can earn high income from burley tobacco production are those possessing more than approximately four acres. Because about one acre is required to produce the 100 kilograms of burley tobacco to sell on auction floors, and crop rotation needs to be practiced so that a field is used for tobacco cultivation only once every four years.

5.2. Financial Constraints

Table 1 in Section 3 already displayed the high agricultural income produced by burley tobacco. This section focuses on the agricultural expenditure required by burley tobacco, with reference to Table 1. According to Table 1, the agricultural expenditure required by burley tobacco is 2.9 times that of hybrid maize, 4.2 times that of cabbage, 7.8 times that of local maize and 10.5 times that of groundnuts. How do smallholders prepare for such a huge agricultural expenditure?

One of ways of raising funds is to receive a bank loan. There are no formal statistics

concerning the banking situation of smallholders in Malawi, so in this sub-section, we estimate the situation by using the 2004 and 2006 household survey data. According to the 2004 household survey, only six percent of households had loans from formal or informal institutions. Two percent out of the six percent had received loans from formal institutions, and four percent had received loans from informal institutions such as relatives, moneylenders, or NGOs. According to the 2006 household survey, there were no households which had loans from formal institutions, and 22 percent had received loans from informal institutions.

These two surveys indicate that only a few households can borrow money from formal institutions in Malawi, and the other households must meet agricultural expenditures by using their own funds or receiving loans from informal institutions. Hence in Malawi, financial constraints are one of the barriers to entry into tobacco production, meaning that only wealthy households can produce tobacco.

6. Exit from Burley Tobacco Production

Section 1 through Section 4 dealt with smallholders' entry into burley tobacco production; this section deals with exit from burley tobacco production.

Burley tobacco production by smallholders started in 1990, and the amount of production increased gradually until 1998. There are no formal statistics which show the change in the number of households which produce burley tobacco, but we can assume from the amount of production that the number of households increased from 1990 to 1998 and then stagnated or decreased after 1998. This assumption is reinforced by the household survey data. According to the 1997 household survey, 22 percent of households produced burley tobacco, and according to the 2004 household survey, 13 percent produced it. Thus, about 20 percent of households produced burley tobacco around 1998, but after 1998, as the price of tobacco declined, about half of the households stopped producing tobacco, and about 10 percent of the total number of households produced it in

2004.

The main reason for the decrease in the number of burley tobacco producers was the decline in the profit of tobacco production accompanying the decline in the tobacco price. The price of burley tobacco on the tobacco auction floors in Malawi fell after 1997, and the price in 2000 was only 60 percent of the price in 1996.

As shown in Figure 3, the agricultural income of 7 out of 18 tobacco-producing households was negative. These households state that they began growing burley tobacco because it was a very profitable crop, but nowadays the price is so low that they are thinking about exiting from tobacco production.

The deciding factor in whether or not to continue tobacco production may be the size of the acreage under tobacco cultivation. As shown in Table 3, the average farm size of tobacco producers is 4.5 acres, and the average farm size of stopped producers is 3.3 acres; hence, the farm size of stopped producers is smaller than that of tobacco producers. As discussed in the previous section, only households which can sell tobacco on auction floors and do rotation cropping can make a profit. Thus, those households with a relatively small farm size had to stop producing burley tobacco.

Conclusion

The purpose of this paper is to show which smallholders began producing burley tobacco after liberalization and which smallholders still continue to produce it. The profitability of burley tobacco production is very high, but not all smallholders started to produce it after liberalization. According to the 1997 household survey, 22 percent of households produced it, and according to the 2004 survey, only 13 percent produced it. Thus, this paper attempted to analyze the reason why most smallholders did not start to produce burley tobacco despite its high profitability.

By analyzing the characteristics of burley tobacco producers, it was found that only

smallholders who had adequate acreage and adequate funds could begin tobacco production. With regard to the farm size requirements, only smallholders who had enough acreage to sell tobacco on the auction floors through the tobacco clubs and who had enough acreage to rotate crops could start to produce burley tobacco. With regard to the financial requirements, only smallholders who could procure funds through informal institutions or who had their own capital to meet the necessary agricultural expenditures could start to produce burley tobacco.

After 1997, the price of tobacco decreased, so many households stopped producing tobacco. Only about 10 percent of smallholders continued to produce burley tobacco in 2004, and they were the wealthy households. In sum, the liberalization of burley tobacco production for smallholders had a significant impact only on wealthy smallholders.

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