

## Determinants of Exit of Barn Owners from Flue Cured Tobacco Farming in Sri Lanka

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### Introduction

Tobacco is a well known cash crop cultivated in different areas and it contributes more to the Sri Lankan agriculture. Ceylon Tobacco Company (CTC) is the monopoly holder of the cigarette tobacco business in Sri Lanka. There are two types of cigarette tobacco termed as air cured tobacco and flue cured tobacco. Flue cured tobacco is cured through heat stream while air cured tobacco is cured from air. The success of the business depends on the relationship between the CTC and the barn owners. Barn owners are the people who have direct contact with the CTC and they have barns to cure tobacco leaf. When consider the barn owners, their state of functionality (weather they continuously function-CF, Random Function -RF or Exit -EX) towards the business is a considerable factor to be studied. When analyzing the data base of barn owners' involvement to the business, it can be revealed that, even though there is a better accountability for cigarette tobacco production in the existing business context, considerable percentage of registered barn owners are exit from the business. The objective of the study is to find out the determinants of the exit of the barn owners from flue cured tobacco farming.

### Materials and Methods

The questionnaire based survey was conducted with the sample of 300 barn owners based from Galewela, Mahiyanganaya and Polonnaruwa areas. Stratified random sampling technique was employed to select the sample. Primary data were collected from sample survey and secondary data were gathered from the data base system maintained by CTC called as BAT leaf system. Fourteen explanatory variables have been evaluated with state of functionality of barn owners. Descriptive and econometric analyses have been brought in to practice to analyze the data. In econometric analysis, ordered logistic regression was accomplished to achieve the research objective.

Table 1: Variable description

Variable	Variable Description
	Dependent variable
SOF	Barn owner's state of functionality (Categorical)
	Independent Variables
Age	Age of the barn owner (Years)
ND	Number of dependents
EDU	Education level of the barn owner( years of schooling)
YOE	Years of experience in the tobacco farming (Years)
TL	Total land for tobacco ( Hectares)
NTI	Non tobacco income (Rupees)
YPH	Target yield per hectare (Kilograms)
PFOFC	Famer preference on other field crops (Likert scale)

FST	Family support for tobacco (Likert scale)
Ss	Social support for tobacco (Likert Scale)
AFL	Ability to find lands for tobacco ( Likert Scale)
HCF	Health condition of the barn owner (Likert scale)
A Suc	Availability of successor (Dummy) Available-1,Not available -0
Hired L	Hired Labour days per season

**Results and Discussion**

Distribution of experience in tobacco farming, land availability and availability of successor with state of functionality (CF- Continuous Function barn owners, RF- Random Function barn owners, EX- Exit barn owners) of tobacco barn owners have shown below.

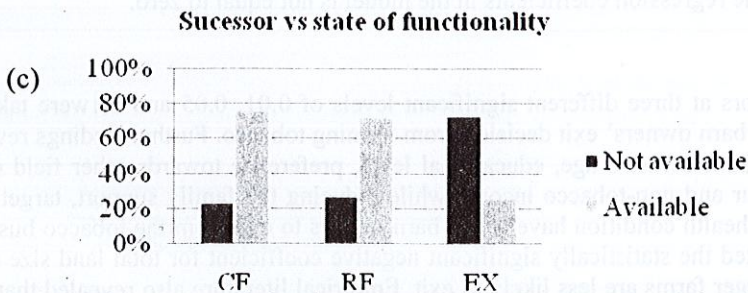
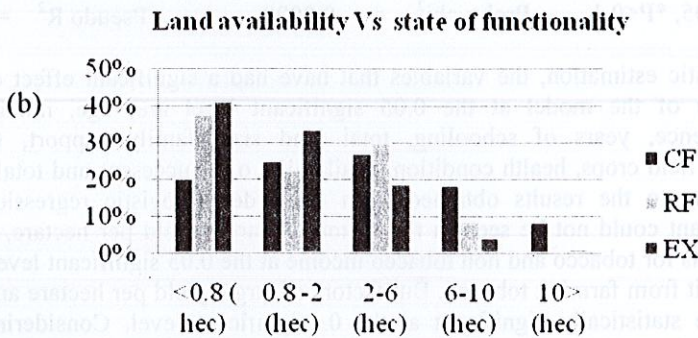
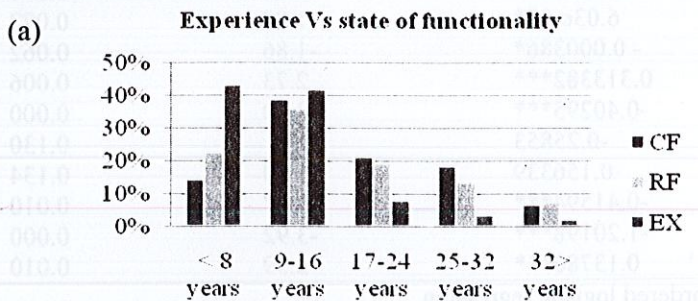


Figure 1: (a) Distribution of farming experience with the state of functionality in the business, (b) the distribution of land availability with the state of functionality in the business, (c) the distribution of successor availability with the state of functionality in the business

Figure 1(a), depicts when the barn owners' experience is increasing, the percentage of exit barn owners tends to be decreased. According to Figure 1(b), with the increase of area of land used for cultivation, the tendency of being exit from tobacco farming is getting decreased. Figure 1(c), revealed that major portion of exit barn owners doesn't have a successor to continue the business.

Variable	Coef.	Z	P
Age	0.342463**	2.46	0.014
ND	-0.18933**	-2.03	0.042
EDU	0.10684**	2.25	0.025
YOE	-0.05970***	-3.16	0.002
TL	-0.13938**	-2.55	0.011
NTI	6.03e-07*	1.80	0.072
YPH	-0.000386*	-1.86	0.062
FPOFC	0.313382***	2.73	0.006
FST	-0.40295***	-3.50	0.000
Ss	-0.25853	-1.51	0.130
AFL	-0.156339	-1.50	0.134
HCF	-0.41594***	-3.47	0.010
A Suc	-1.20198***	-3.92	0.000
Hired L	0.13780***	2.59	0.010

Table 2: Results of ordered logistic regression

\*\*\*P<0.01, \*\*P<0.05, \*P<0.1      Prob> chi<sup>2</sup> = 0.0000      Pseudo R<sup>2</sup> = 0.3043

In the ordered logistic estimation, the variables that have had a significant effect on the overall significance of the model at the 0.05 significant level are; age, number of dependents, experience, years of schooling, total land size, family support, farmer preference on other field crops, health condition, availability of a successor and total hired labourers. According to the results obtained from the ordered logistic regression, an outstanding significant could not be seen in the factors of target yield per hectare, social support, finding lands for tobacco and non tobacco income at the 0.05 significant level with the barn owners' exit from farming tobacco. But factors of target yield per hectare and non tobacco income are statistically significant at the 0.1 significant level. Considering the overall suitability of the model, probability values are recorded as 0.0000. It concludes that at least one of the regression coefficients in the model is not equal to zero.

### Conclusion

Significant factors at three different significant levels of 0.01, 0.05 and 0.1 were taken as determinants of barn owners' exit decision from farming tobacco. Further findings revealed, increasing the barn owner's age, educational level, preference towards other field crops, total hired labour and non-tobacco income while reducing the family support, target yield per hectare and health condition have led to barn owners to exit from the tobacco business. Results also stated the statistically significant negative coefficient for total land size and it suggests that larger farms are less likely to exit. Empirical literature also revealed that farm size is widely accepted as a factor that has a positive effect on farm viability and a negative effect on the probability of farm exit (Glauben *et al.*, 2004). Findings further interprets that the increasing number of dependents have influenced on surviving in the business and barn owners with the higher experience in the farming tobacco are reluctant to exit from the

tobacco business. In most cases, unavailability of successor has led to barn owners to exit the business.

## References

Glauben, T., Tietje, H., and Weiss, C. R. 2004. Intergenerational succession in farm households: Evidence from upper Austria. *Review of Economics of the Household*, 2 (4).