

Impact of Access to Agricultural Extension Services on Tea Households' Income in the Northern Region of Vietnam

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1. Introduction

The Northern Upland of Vietnam is one of the poorest regions of Vietnam where local people are highly dependent on agriculture to earn income. In the region, tea plants play an important role in generating employment and improving income for farmers. Agriculture extension services for tea production such as pest and disease control, fertilizer application, new varieties application are available to support tea farming activities and help farmers to overcome poverty. However, the determinants of access to tea extension services and the impact of these services on improving tea productivity and farmer's income still remain questionable. The results can be of interest because they can provide necessary information for further improvements of the extension programs.

2. Objective

- To analyze the determinants of access to tea extension services;
- To estimate the impact of access to agricultural extension services on tea household's income in the Northern Region of Vietnam.

3. Research method

Data were obtained from a household survey of 120 accessed households and 180 non-accessed households in three provinces namely Thai Nguyen, Phu Tho and Tuyen Quang in the Northern Upland Region of Vietnam.

To control for the problem of selection bias, we used the approach of Propensity Score Matching. This is a robust estimator because it is less sensitive to minor changes in specification of regressions and is adequate for removing the biased associated with the differences in covariates.

4. Results

Table 1: Determinants of accessing to agricultural extension services by tea households

Variables	Coefficients	SE.	Marginal effect
Age of household head (years)	-.01644	.01292	-.00706
Education of household head (years in school)	.00060	.00100	.00010
Family size (persons)	.03716	.02186	.01459
Ownership of land title (1=yes, 0=no)	.11237	.30829	.03001
Member of local mass organizations (1=yes, 0=no)	3.00730***	.64620	.28450
Total tea area (m ²)	.03552**	.01307	.00948
Experienced years of tea production (years)	.14743**	.06627	.03938
Family members or relatives work for local government (1=yes, 0=no)	.45985	.26548	.12282
Access to credit (1=yes, 0=no)	.60970**	.29379	.16285
Pseudo R-squared	42.24		
Correctly classified (%)	82.40		

Note: Dependent variable is access to agricultural extension services (1=yes, 0=no)

*** Significant at the 1% level

Source: own calculations

Table 2: Impact of access to agricultural extension on income of tea households

	Impact of extension on households' income (VND)	SE	t-value
Unmatched	720,000**	506,040	2.01
Matched by PSM	1200,000**	601,953	2.87

Note: ** Significant at the 5% level

Source: own calculations

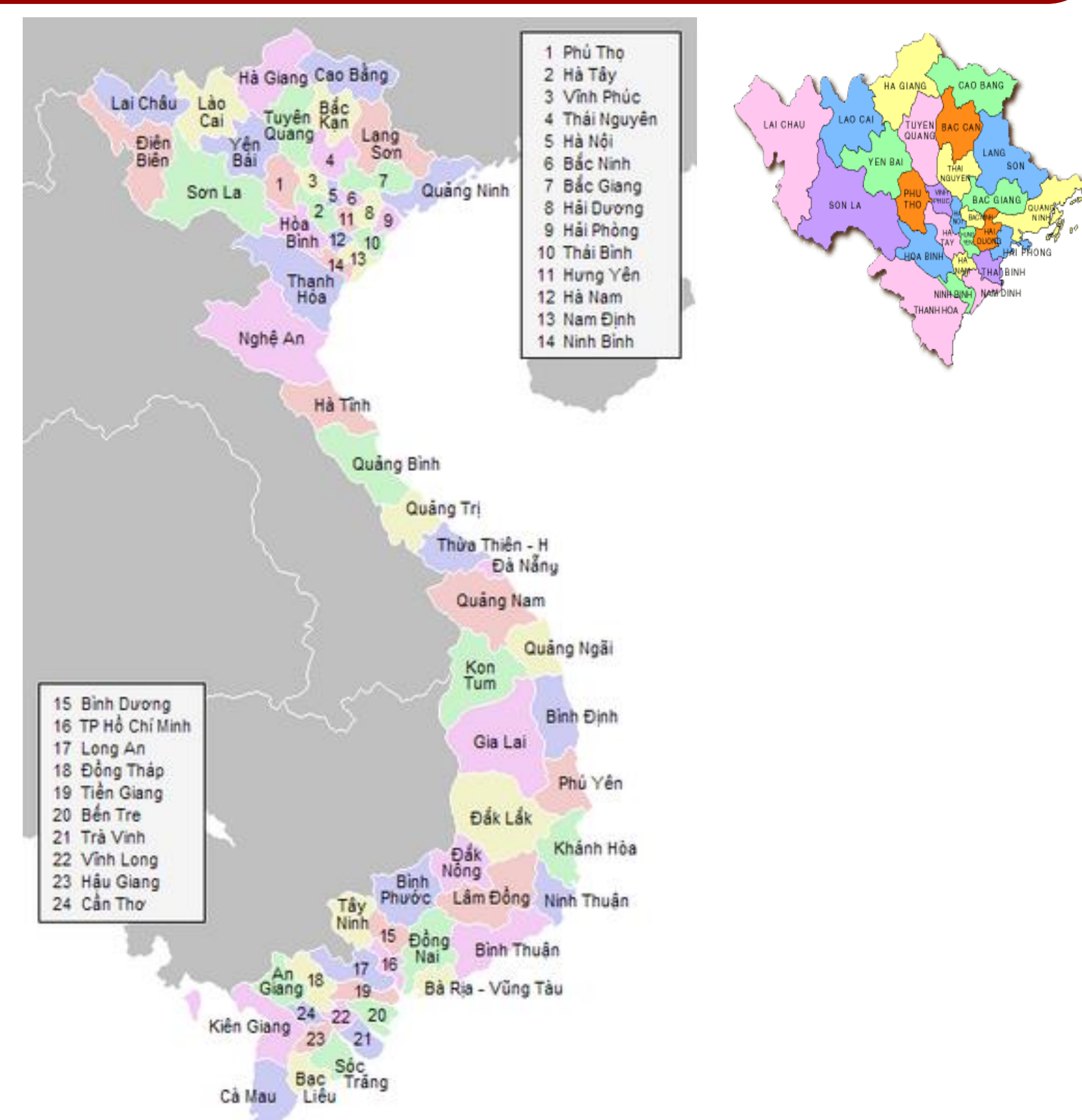
5. Conclusion

Tea area, experienced years of tea production, membership of local mass organizations and credit access are main factors affecting on accessibility of tea farmers to agricultural extension services.

Those extension services, in returns, have a significant impact on tea farmer's income. Accessed households earn an average of 30 percentage points of monthly incomes higher than that of non-accessed households

References

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Location of Northern Region in Vietnam



Tea field conference



Tea terraces and mountain terrain