

The Management and Efficiency of Cropland Use in Thai Nguyen Province Part 4 - Economic efficiency analysis of Land Use Type

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ABSTRACT: In this article, we refer to the management and efficiency of arable land in Thai Nguyen province, selected by the author as the object of analysis. The article's objective is to assess the current status of the management and efficiency of cropland use as a basis for orienting the management and use of the arable land fund in the future towards sustainable development. At the same time, determine the causes that change the arable land area. From there, propose solutions to improve the management efficiency and use of rice land in Thai Nguyen province. With the research objectives set out, the author organizes this research into five main parts as follows. Part 1: Some characteristics of land use type in Thai Nguyen province; Part 2: Methods to investigate the status of land use type efficiency; Part 3: Evaluation of Land Use Type efficiency; Part 4: Economic efficiency analysis of Land Use Type; Part 5: Analyze the impact of land use type on social life.

KEYWORDS: Cultivated land, rice land, land, crop

I. INTRODUCTION

The land is a precious national resource, a particular means of production, a great source of internal resources and capital of the country, an essential component of the living environment, and plays a significant role in agricultural production. In any country, the land is the primary means of agroforestry production and the territorial basis for the distribution of national economic sectors. Stabilizing the arable land area ensures food security and preserves the resource system, land value, and soil. If the arable land fund is fully

exploited, there will be no more land for the development needs of future generations.

In recent years, along with the trend of globalization of the world economy, Vietnam's economy is developing more and more. Along with this movement and development, people increasingly use land resources to serve their interests. This leads to land degradation, reducing the sustainability of economic growth in general and in agriculture in particular. Facing the current situation, because the arable land area is decreasing, there is a risk of threatening national food security. The Ministry of Agriculture and Rural Development has proposed to apply the policy of tightening the management of the rice land fund. These policies have been mentioned in the rice development project to ensure national food security.

It minimized the conversion of currently used wet-rice land for non-agricultural purposes; encouraging the reclamation and expansion of rice-growing areas, and improved other rice-land into specialized wet-rice land. When making a plan, it is only allowed to transfer the currently used wet rice cultivation land for national defense, security, and public interest. A competent state agency must approve it. Rice land will be closely protected by the State and supported by many policies.

II. METHOD OF USING ECONOMIC EFFICIENCY ANALYSIS

Economic efficiency is an indispensable criterion in assessing land-use efficiency, which is an important basis for finding technical solutions and choosing an appropriate land use type. To evaluate the economic efficiency, I conducted a

field survey and a household survey using a survey form on the following criteria: Productivity, output, selling price, material and labor costs, etc. economic efficiency of land use types through the following criteria: production value, production costs, net income, the efficiency of capital, the value of labor days. Economic efficiency is assessed based on a comparison of production value and production cost. The higher the difference between production value and production costs, the higher the economic efficiency, which is also a common goal of all material production industries. Plants grown on rice land are plants with a short growing period (usually

1 year, 1 crop...), from which the ability to quickly rotate capital, creating short-term capital to meet the needs In the immediate future, maintain production of perennial crops and livestock.

Economic efficiency of land use types is determined through 3 steps.

Step 1: Determine the economic efficiency of the main crops of each region.

Step 2: Determine the average economic efficiency of the main crops in the study area.

Step 3: Determine the economic efficiency of the land use types

The economic efficiency of the main crops is shown in the table

Table 1. Economic efficiency of different types of land use

Land use type	Production value (thousand VND)	Level	Production cost (Thousand VND)	Level	Net Income (Thousand VND)	Level	Effective use of capital (times)	Level	Value of working day (thousand VND)/work)	Level
1. LX - LM - winter corn	95.959,65	M	51.902,54	H	44.057,10	M	1,85	L	69,33	L
2. LX - LM - winter sweet potato	108.393,14	H	52.275,79	H	56.117,34	H	2,07	M	84,23	H
3. LX- LM- winter vegetables	144.687,21	VH	63.356,14	VH	81.331,06	VH	2,28	H	89,31	H
4. Ngô xuân - LM - winter corn	84.498,45	M	47.477,06	H	37.021,39	L	1,78	VL	61,75	L
5. Spring corn - LM - winter sweet potato	96.931,94	M	47.850,31	H	49.081,63	M	2,03	M	77,86	H
6. Spring Peanut - LM - winter	94.046,64	M	51.801,07	H	42.245,56	L	1,82	VL	58,52	VL

corn										
7. LX-LM	70.494,20	L	36.985,06	M	33.509,13	L	1,91	L	75,06	H
8.Spring Peanut - LM	72.407,21	L	37.086,53	M	35.320,67	L	1,95	L	66,29	M
9.Spring Peanut - LM	60.946,01	L	32.661,05	L	28.284,96	VL	1,87	L	68,90	M
10. LM-vegetables	108.079,80	H	44.354,84	M	63.724,95	H	2,44	VH	92,93	VH
11. LX	36607,41	VL	19001,30	VL	17606,11	VL	1,93	L	78,27	H

Table 2. Economic efficiency hierarchy of LUT (Average/1ha)

Level	Production value (hundred dong)	Production cost (Thousand VND)	Net Income (Thousand VND)	Effective use of capital (times)	Value of working day (thousand VND)/work
KC Level	22.000	9.000	13.000	0,15	9
VH	> 123.000	> 54.000	> 69.000	> 2,29	> 82
H	101.000 - 123.000	45.000 - 54.000	56.000 - 69.000	2,14 - 2,29	73 - 82
M	79.000 - 101.000	36.000 - 45.000	43.000 - 56.000	1,99 - 2,14	64 - 73
L	57.000 - 79.000	27.000 - 36.000	30.000 - 43.000	1,84 - 1,99	55 - 64
VL	< 57.000	< 27.000	< 30.000	< 1,84	< 55

III. CONCLUSION

It can be seen that the land use types are quite diverse, the main annual crops are still rice and maize. From the analysis performed, the author has some comments as follows:

- LUT 2L - M: This LUT has high economic efficiency but the scope of application is not large.
- LUT 2L: Rice is a familiar crop, the main food, and the top priority in farming.
- LUT 2M - 1L: The economic efficiency of this LUT is not high and depends on the crop rotation formula. The crop rotation formula for the highest efficiency is Spring corn - summer rice - winter sweet potato
- LUT 1L - 1M: In this LUT, there is a big difference in economic efficiency between crop rotation formulas. This type of land use is less commonly applied due to low economic efficiency.

- LUT 1L: Net income is 17,333.35 thousand VND, this is the LUT with the lowest economic efficiency.

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