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# The Impact of Poverty Alleviation Policies on Inequality in Income Distribution: A Case Study of the Ethnic Minority Group in Lam-Dong Province, Vietnam

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Abstract- This study aims at valuing the impact of poverty alleviation policies on inequality in the income distribution of ethnic minority groups in Duc-Trong, Lam-Dong province. Welfare economics was employed in this study. In particular, The lorenz curve and Gini coefficient were used to measure reductions in the poverty rate and changes in inequality of income distribution for a local ethnic minority groups. A sample of 258 households in N'thol Ha and Tan Thanh commune was used. Key results showed that the poverty reduction policies had not influenced income inequality for ethnic minority groups as reflected by the Lorenz curve of receiving support groups near 45° groups unsupported. This means that the Gini coefficient of the supported group (0.39) is lower than the Gini coefficient of the unsupported group is

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#### **INTRODUCTION**

ietnam has enacted and implemented policy comprehensive system for reduction targets. Poverty reduction is a great policy that has been consistently implemented by the Vietnamese Government for many years. Poverty reduction results achieved during the past time is impressive, the poverty rate has decreased from 22% in 2005 to 9.45% in 2010and from 14.2% in 2010 to 9.6% in 2012 (Government, 2014). However, there are many concerns related to the living standard of the poor and the near-poor, which are not significantly different, and therefore, the risk of re-poverty is high, and the gap between rich and poor people tends to increase (from 8.1% to 9.4% in 2012). The poverty rate in the ethnic minority, remote, and mountainous areas remains high, ethnic minorities make up nearly 50% of the data on poor people of the whole country (Thu D.M, 2017). It may be due to a lack of synchronous poverty reduction programs and policies which are given in the short run. The mechanism of management, operation, and decentralization is not still reasonable, as well as the implementation of poverty reduction targets in some areas is not deep (Government, 2014).

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Additionally, the ethnic minority community participating in poverty reduction programs mainly stops in the role of "beneficiaries" and does not jump out of poverty actively (Tho T.L. 2013). As a result, the poverty reduction program in Vietnam would be increasingly difficult, and this program was identified as a focus of development policy (Cuong N.V, 2010). This study was conducted to assess the impact of poverty reduction programs on income inequality of ethnic minority households focusing on ethnic groups, and suggestion of solutions related to poverty reduction policy for ethnic minorities.

#### Conceptual Framework II.

Poverty reduction policies are the decisions and regulations of the Vietnamese government to concretize programs and projects together with the resources, modalities, processes for implementing specific targets the poor, the poor households, or the poor commune with the ultimate goal of poverty reduction (Son N. N, 2012). Social inequalities are inequalities in opportunities or benefits for different individuals in a group or groups in society. Inequality is mentioned here as the inequality of income and enjoyment of services and common interests in society (Cuong N. A, 2014). Poverty reduction support is a process of using policy mechanisms, government resources, and economic organizations at home country and abroad to support the process of poverty reduction through the implementation mechanisms of policy, investment solutions. The focus of public support and public investment in poverty reduction in each country is focused on several different focus areas: such as China government focuses on public investment in priority education, irrigation, energy, and transport; The Indian government has inverted on education, irrigation, rural development. Thailand's government has concentrated on education and transport (Chung D.K, 2010). The Vietnamese government has been allocating resources in supporting and increasing public investment for poverty reduction, including the National Target Program for Poverty Reduction 2006-2010, the Poverty Reduction Program 135 in the extremely difficult communes, Program 134 supports residential land for ethnic minority households. Since December 2007, the government implemented Resolution 30a on fast and sustainable poverty reduction support for poor districts (Ministry of Labour, War Invalids and Social Affairs, 2009). Income inequality and poverty alleviation, however, are dependent on five sources: human capital, natural capital, physical capital, financial capital, social capital. It also depends on increasing influences of institutional capital as a component of social capital, which is one of the three breakthroughs in the spirit of the documents of the XI Congress. Poverty alleviation and reduced inequality can yield two benefits and three characteristics. The two benefits are increasing labor productivity and developing the domestic market; The three characteristics are social policies focusing on the poor, social policies to support, philanthropy and increased privatization, decentralized, participatory social policies (Cuong N.A, 2014).

#### STUDY AREA III.

Lamdong is a province in the South of Central highland with an average elevation of 800 - 1,500 m above sea level and an area of 9,764 km2. It covers three highlands and it is also the head of seven big rivers. Lamdong has a tropical monsoon climate with two seasons: the rainy season and the dry one. The climate is mild and cool all year, with the average temperature is from 18°C to 25°C. Lamdong's population to 2019 is 1,296,906 people, of which 508,755 (39,20%) urban residents and 788,151 (60,80%) rural residents. It is the homeland of several ethnic minority groups, such as Churu, Ma, K'ho, M'nong, etc.

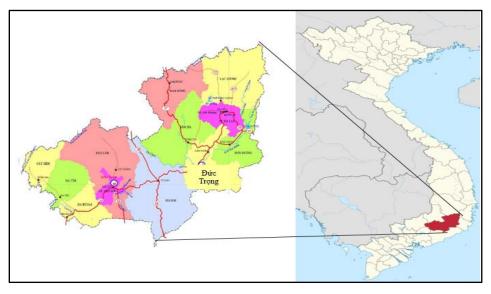


Figure 1: Study area

#### IV. Materials and Methods

#### a) Data sources

The data used in this study was selected by interviewing 258 households in the N'thol Ha and Tan Thanh commune, Duc Trong district. Poverty is widespread in an ethnic minority group, and the poverty reduction policies were implemented at N'thol Ha and Tan Thanh commune.

#### b) Methodology

Income inequality is measured by the following two indexes: The Gini coefficient and the Generalized Entropy (GE) index. The Gini coefficient, which is based on the Lorenz curve, is the most widely indexes used to measure inequality due to its straightforward calculation, flexibility across different population groups, and independence from sample size and economic scale. The Gini coefficient is estimated by the area between the Lorenz curve and the line of equality.

$$G = \frac{n+1}{n-1} - \frac{2}{n(n-1)\overline{Y}} \sum_{i=1}^{n} \rho_i Y_i$$

Where  $\rho_i$  is the rank of individual *i*by income;  $\rho_i$  is equal to 1 for the richest and increases for individuals with lower incomes; *n* is the total number of individuals in the sample. The Gini coefficient ranges from 0 to 1. As income inequality increases, the Gini coefficient increases (Brian Slack & Jean-Puan Rodrigue, 2003).

This study also measures household inequality by the GE index, which is calculated by a general formula as follows:

$$GE_{(\alpha)} = \frac{1}{\alpha(\alpha - 1)} \left[ \frac{1}{N} \sum_{i=1}^{n} \left( \frac{y_i}{\overline{y}} \right)^{\alpha} - 1 \right]$$

where  $y_i$  denotes a welfare indicator for the person i(measured by per capita income);  $\overline{y}$  is the mean income per capita; ais the weight given to distances between incomes at different parts of the income distribution. For lower values of  $\alpha$ , GE is more sensitive to changes in the lower tail of the income distribution. In contrast, for higher values of  $\alpha$ , GE is more sensitive to changes in the upper tail of the income distribution. The three most common values of  $\alpha$  are 0, 1, and 2. GE ( $\alpha$ =2), which is equal to half the squared coefficient of variation, gives more weight to gaps in the upper tail of the distribution.  $GE(\alpha = 1)$ , known as the Theil's L, assigns equal weights to the dispersion of income across the distribution, while  $GE(\alpha = 0)$ , also known as Theil's T, gives more weight to distances between incomes in the lower tail. The values of GE measures vary between 0 and ∞, where a GE of zero indicates a

perfectly equal distribution and higher values of GE represent higher levels of inequality (Platt, 2011).

# RESULTS AND DISCUSSION

## The poverty reduction situation of the households

The results shown in Table 1 indicate that average income of unsupported households is 1.9 times higher of supported households, **VND** 28,486,440/year and VND 15,089,450/ year respectively. The income-generating ability of households is reflected in the production activities of agriculture and non-agriculture. However, 70% of the total income of the households comes from agricultural production activity and farming (coffee, mulberry) as well as livestock (dairy, silkworm, pig) is the key sources creating income. At the same time, the household income shifted from agricultural activities to non-agricultural activities remains relatively low.

Table 1: Average income per person in 2018

Unit: VND

|                  | Supported group       |          | Unsupported group     |           |
|------------------|-----------------------|----------|-----------------------|-----------|
| Income source    | Total income<br>(VND) | Ratio(%) | Total income<br>(VND) | Ratio (%) |
| Average          | 15,089,450            |          | 28,486,440            |           |
| Agriculture      | 10,125,200            | 67.1     | 22,458,900            | 78.8      |
| Farming          | 9,365,800             | 92.5     | 14,876,000            | 66.2      |
| Livestock        | 759,400               | 7.5      | 7,582,900             | 33.8      |
| Non- agriculture | 4,964,250             | 32.9     | 6,127,540             | 21.2      |
| Wage             | 1,245,000             | 25.1     | 2,406,000             | 39.9      |
| Hired labour     | 2,630,000             | 53.0     | 3,491,540             | 57.9      |
| Forest           | 641,000               | 12.9     | 0                     | 0         |
| Subsidy          | 448,250               | 9.0      | 130,000               | 2.2       |

Source: Survey data, 2019

Of the 258 households surveyed (Table 2), the number of poor households has decreased overtime, but the level of disparity between the ethnic minority groups and the number of poor inhabitants is still concentrated in N'thol Ha commune, where the majority of indigenous minorities are living. This result implies that where ethnic minority people live, the problem of poverty always requires the attention of the authorities by social welfare such as subsidies, health insurance, and policy, which is also the reason for the inequality of income distribution between poor and non-poor households.

Table 2: Situation of poverty reduction over time

Unit: household

| Year | N'thol Ha Commune |            | Tan Thanh Commune |            |
|------|-------------------|------------|-------------------|------------|
| _    | Poor              | Non - poor | Poor              | Non - poor |
| 2010 | 45                | 84         | 15                | 114        |
| 2015 | 40                | 89         | 9                 | 120        |
| 2018 | 13                | 116        | 2                 | 127        |

Source: Survey data, 2019

- b) Impact of poverty reduction program on income inequality of ethnic minority households
- i. Support policy in the period from 2010 to 2018 Local poverty reduction policies shown in Table 3 partly focused on ethnic minority groups with specific support policies such as housing assistance, job creation, medical, capital, education, clean water supply, and contribution of productive land, and it has contributed to

improving income, infrastructure in extremely difficult areas. These policies made people and poor households have access to basic social services for their basic living standards.

Table 3: Poverty reduction policies between 2010 and 2018

| Support policy     | Total (household) | Ratio (%) |
|--------------------|-------------------|-----------|
| Housing assistance | 29                | 14.1      |
| Job creation       | 9                 | 4.4       |
| Medical            | 83                | 40.5      |
| Capital            | 31                | 15.1      |
| Clean water supply | 3                 | 1.5       |
| Education          | 47                | 22.9      |
| Productive land    | 3                 | 14.5      |

Source: Survey data, 2019

ii. Satisfaction evaluation of household poverty reduction policies

The level of household satisfaction for poverty reduction policy shown in Table 4, the level of household satisfaction on the support policies indicates that the

majority of people have satisfied with the poverty reduction programs. However, the figure for households is not satisfied in the housing assistance policy at 51.73 %, and this can be seen as a failure of the local housing assistance program.

Table 4: The level of household satisfaction for poverty reduction policy

Unit: %

| Support policy             | Satisfied | Normal | Dissatisfied |
|----------------------------|-----------|--------|--------------|
| Housing assistance (n=29)  | 31.03     | 17.24  | 51.73        |
| Job creation (n=9)         | 55.56     | 44.45  | 0            |
| Medical (n=83)             | 75.90     | 18.07  | 6.03         |
| Capital (n=31)             | 58.06     | 29.03  | 12.91        |
| Clean water supply $(n=3)$ | 0         | 66.67  | 33.33        |
| Education (n=47)           | 74.47     | 21.28  | 4.25         |
| Productive land (n=3)      | 0         | 100.00 | 0            |

Source: Survey data, 2019

iii. Evaluation of the impact of poverty reduction policies on income distribution inequality

### a. Lorenz curve

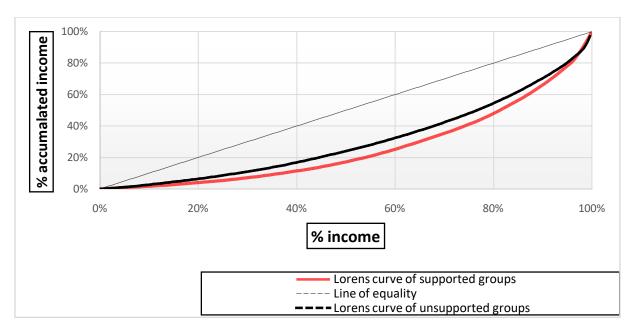
Inequality is one of the consequences of poverty, and the level of inequality is reflected in the income distribution of the household groups. Table 5 shows that the annual income of the 20% richest households for supported groups is 7 times higher than the annual income of the 20% poorest ones, at 45.95% and 6.23%, respectively. Meanwhile, income inequality has also significantly risen in the number of unsupported groups, and the proportion of the average income of the 20% poorest people is only 3.49%, which is 14 times lower in comparison with the proportion of income of the 20% richest group, accounting for 51.14%.

Table 5: Income distribution between supported groups and unsupported groups

| % accumulated population | % supported group income | % supported group<br>accumulation<br>income | % unsupported group income | % unsupported group accumulation income |
|--------------------------|--------------------------|---|----------------------------|---|
| 20                       | 6.23                     | 6.23  | 3.49                       | 3.49                                    |
| 40                       | 10.02                    | 16.25                                       | 7.66                       | 11.15                                   |
| 60                       | 15.58                    | 31.83                                       | 14.37                      | 25.52                                   |
| 80                       | 22.22                    | 54.05                                       | 23.34                      | 48.86                                   |
| 100                      | 45.95                    | 100.00                                      | 51.14                      | 100.00                                  |

Source: Survey data, 2019

The Lorenz curve shown in Figure 2 reveals that the distance from the Lorenz curve to the 45degreescurve (absolute equality) in the unsupported groups is relatively far greater than that of the supported groups and this figure portrays a high-income inequality between the unsupported groups and the supported groups, or the poverty reduction policies do not affect the income inequality of ethnic minority households received support in the local.



Source: Survey data, 2019

Figure 2: Lorenz curve of income distribution between supported groups and unsupported groups

#### b. Gini coefficient

The Gini coefficient of 258 households surveyed is 0.49. While the Gini coefficient of the supported groups is 0.39 (slow inequality), and the Gini coefficient of the unsupported groups is 0.48 (moderate inequality). Besides the successes from the poverty reduction policies such as production support policies, support policies for poor inhabitants accessed social services, and the training courses of staff support for the poverty reduction program have contributed greatly to poverty reduction. Thus, the poverty reduction policy is considered to be a success for the locals, especially for ethnic minority households.

The GE index in a given value corresponding to the three values of alpha (0; 1; 2) increase for each group, confirming the hypothesis that income inequality ofinsidetheunsupported group is higher than inside the supported group.

c) Proposing some solutions to improve poverty reduction policies on income distribution inequality

It is necessary to investigate and to classify the poverty levels of the households in order to grand the proper support solutions. Possible implications are as follows:

Farm and non-farm economic activities should be encouraged poor households to accelerate income improvement.

The Vietnamese government should invest more in education and training in rural areas to equip young people with the knowledge and skills to improve livelihoods and alleviate poverty. In addition, the government should provide physical support such as land production areas for rent and modern tools in production because it would increase

employment in the farm sector and this could lead to income growth of poor households.

#### VI. Conclusion

Poverty reduction is the process of using policy mechanisms, government resources, and socioeconomic organizations at home and abroad to support the process of poverty reduction. The poverty reduction programs for ethnic minorities have created conditions for them to develop their economy and sustainability lives. Key results showed that poverty alleviation policies applied to the two communes have not significantly reduced inequality in the income distribution of local people. Policy implications were also suggested to help policymakers in planning and driving poverty alleviation policies in Vietnam.

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