Factors affecting incomes of ethnic minority households: a case study in Khanh Vinh district, Khanh Hoa province

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Abstract
This study aims to determine factors affecting the incomes of poor ethnic minority households (EMH) in the Khanh Vinh district, Khanh Hoa province. Through survey data of EMH in Khanh Vinh district, this study used an econometric model to analyze the influence of factors on the incomes of EMH in the area. The research results found that the factors having an impact on the incomes of EMH in this area include: ethnic characteristics, household size, number of livelihood activities, leisure time during the year, and time to access productive land. The results of this study provide more empirical evidence on factors affecting the income of EMH in Vietnam in general and in Khanh Hoa province in particular. By detailed analysis of the factors affecting the income of EMH in Khanh Vinh district, Khanh Hoa province, the study enriches the literature on poverty and livelihoods in EMH community and provides useful information for policymakers and practitioners in designing effective programs to improve household incomes and develop sustainable livelihoods for EMH in this area.

Keywords: Income, Households, Ethnicity, Khanh Vinh, Vietnam

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1. Introduction
The Party and State have placed a significant emphasis on the socio-economic progress of mountainous regions. As a result, numerous guidelines, policies, programs, and projects dedicated to the development of these areas were introduced. Over the years, extensive efforts have been made to execute these initiatives, leading to substantial improvements in the infrastructure and the transformation of rural and mountainous landscapes. Consequently, a solid foundation for further development has been established. The state budget investment is relatively large for mountainous areas. However, the socio-economic situation in the mountainous areas of Vietnam is facing many difficulties.

Khanh Vinh district of Khanh Hoa province is an area where many ethnic minority communities live and is one of the areas that are considered to have many difficulties. In recent years, amidst development and economic restructuring, the province and government have consistently shown deep concern for addressing social security issues, particularly poverty reduction issues. Comprehensive and effective policies and projects aimed at reducing poverty have been implemented. From 2016 to 2018, the government of Khanh Hoa province successfully lifted 12,357 households out of poverty, resulting in a decrease of 4.37% in the poverty rate and an average annual reduction of nearly 1.58%. However, despite these efforts, the poverty rate in Khanh Vinh district remains persistently high, especially in areas inhabited by ethnic minorities. As of the present time, the poverty rate in Khanh Vinh district stands at 32.88%. (Pham et al., 2020).

Therefore, finding practical, fundamental, and long-term solutions for ethnic minority communities in general and, especially, for those in Khanh Vinh district, Khanh Hoa province, becomes a significant challenge. The aim is to enhance their livelihoods, escape poverty, address poverty-related issues, access new opportunities, and benefit from international economic integration in this region. This article, thus, seeks to analyze the influence of livelihood activities as one of the main factors on incomes for EMH in Khanh Vinh district, Khanh Hoa province.

There have been some relevant studies on the factors affecting the income of EMH in Vietnam from different regions, such as those of Van de Walle et al (2001); MOLISA (2015); Nguyen et al. (2019), Hoang and Nguyen (2020), Tran et al. (2020). However, a study examining the determinants of ethnic household income in Khanh Vinh district is still missing, therefore, this research is planned to fill this gap. The study uses quantitative research methods with the multivariate regression model to assess the influence of certain factors on the income of EMH
in Khanh Vinh district, Khanh Hoa province. This study hopes to provide evidence for management agencies and local authorities in forming practical solutions to improve their regions’ incomes, increase efficiency, and ensure the attainment of the developmental goals.

The article is structured as follows. Section 1 is the introduction, which assesses key research related to the research topic as a background for building a research model in Section 2. Section 3 presents the research method in detail. The results and discussion are shown in Section 4. Finally, the conclusion and policy recommendations are drawn and proposed from the research results in Section 5.

2. Literature review

Numerous studies have focused on examining how socioeconomic factors influence household incomes and poverty reduction, particularly within EMH in various countries. (Van de Walle et al., 2001; Shahidur, 2009; MOLISA, 2015; Hoang and Nguyen, 2020).

In Vietnam, despite experiencing significant economic growth and substantial poverty reduction since the implementation of Doi Moi in 1986, both qualitative and quantitative evidence indicates that these achievements are not distributed equitably among all ethnic groups. (Van de Walle et al., 2001; World Bank, 2012; Tran, 2015; Vu, 2020). EMH not only consistently earns lower incomes than Kinh households but also face significantly more limited opportunities for livelihood activities to uplift them from poverty compared to the Kinh group (MOLISA, 2015). There are many reasons given to explain the slow development of EMH in Vietnam. EMH have less access to land, education, credit, etc.) and are also less efficient in using resources (World Bank, 2012). In terms of income sources, it shows that EMH have more income diversification into off-farm activities, but when they do diversify, they are often more dependent on common resources, while Kinh households are mainly engaged in paid work or self-employment. However, some studies have not discovered the relationship between credit and productive land with the incomes of EMH (MOLISA, 2015; Tran, 2015).

Nguyen et al. (2019) conducted research that revealed several factors influencing the poverty of disadvantaged households, including inadequate production capital, insufficient means of production, poor health and limited labor opportunities, large family sizes, lack of job prospects or unemployment, and a lack of motivation and education to escape poverty. Consequently, they emphasize the necessity of implementing poverty reduction policies for these households in the future. Based on their analysis and regression results, the authors propose several recommendations: (1) Concentrate on implementing preferential loan policies specifically targeted at impoverished individuals. (2) Introduce vocational
training programs aimed to enhance the income-generating capabilities of Khmer ethnic households. (3) Develop specialized infrastructure in regions inhabited by the Khmer ethnic group. (4) Place emphasis on promoting cultural and religious institutions within areas inhabited by the Khmer ethnic community. (5) Enhance and expand healthcare clinics services and facilities in these regions.

Tran et al. (2021) conducted a study in Son La province, which is among the most impoverished provinces in Vietnam, to assess the vulnerability of various smallholder farmers. They utilized the livelihood vulnerability index (LVI) method and qualitative data analysis, surveying 240 households belonging to four minority ethnic groups. The findings highlighted that household vulnerability is influenced by multiple factors, including income diversity, debt levels, organizational membership, local authorities' support and awareness, access to health services and water resources, and geographical location. The results showed that, on average, two of the ethnic groups' households exhibited higher vulnerability, particularly concerning aspects like livelihood strategies, health, access to water, housing, productive land, and social networks when compared to the other two ethnic groups. This study underscores the necessity for targeted interventions to reduce vulnerability within these specific small ethnic communities and others facing similar circumstances.

In Vietnam, ethnic minority communities continue to experience disadvantages, resulting in inferior livelihood outcomes in comparison to the majority population (World Bank, 2009). These disadvantages encompass limited access to education, credit facilities, and productive land (MOLISA, 2015).

Numerous studies consistently establish that household characteristics, such as ethnicity, gender, education of the household head, and household size, significantly impact their incomes (Haughton et al., 1999; Tran, 2015; Vu, 2020). Furthermore, previous research affirms the positive role of livelihood diversification, particularly through off-farm employment, in augmenting household incomes and contributing to poverty reduction. Most of these studies conclude that diversifying livelihood activities assists households in enhancing their economic well-being. (Rigg, 2006; MOLISA, 2015; Tran, 2015; Vu, 2020).

In terms of methodology, various scholars have employed different methods based on the nature of their research data to analyze factors influencing household incomes (Haughton et al., 1999; World Bank, 2009; Nguyen and Nguyen, 2019; Vu, 2020). In this study, we adopt the method used by Haughton et al. (1999) and World Bank (2009) to explore the factors impacting the incomes of EMH in Khanh Vinh district, Khanh Hoa province, Vietnam. The findings from this research hold
significant importance for guiding local government policies to improve the well-being of EMH in the study area.

3. Research method

3.1. Research location

Khanh Vinh district, situated in the westernmost region of Khanh Hoa province, is characterized by its mountainous and semi-mountainous terrain. It is located approximately 32.4 km away from Nha Trang City, with geographical coordinates of 12°16′53″N and 108°54′27″E. The district shares its borders with Ninh Hoa town and Dak Lak Province to the North, Lam Dong Province to the West, Khanh Son District and Ninh Thuan Province to the South, and Dien Khanh District to the East.

The district covers an area of 1,165 km² and has a population of 37,648. Among them, the Raglai people constitute the largest ethnic group with 17,464 individuals, accounting for 48.5% of the population. The Kinh people have around 9,512 individuals, representing 26.4% of the population. The Muong people (T’Ring) comprise about 5,078 individuals, making up 14.01% of the population. Additionally, there are 1,655 Ede people, accounting for 4.6%; 1,286 Tay people, making up 3.6%; 720 Nung people, and 209 Muong people, along with other smaller ethnic groups.

Khanh Vinh district is divided into 14 administrative units at the commune level. These include Khanh Vinh town, which serves as the district capital, and 13 communes, which are Cau Ba, Giang Ly, Khanh Binh, Khanh Dong, Khanh Hiep, Khanh Nam, Khanh Phu, Khanh Thanh, Khanh Thuong, Khanh Trung, Lien Sang, Son Thai, and Song Cau.

Khanh Vinh district possesses the distinct traits of a mountainous region, with approximately 90% of its natural area covered by forests. The livelihood of the population primarily revolves around agriculture and forestry activities. The majority of residents in Khanh Vinh are ethnic minorities, and within the district, 15 different ethnic groups coexist harmoniously. Raglai people inhabit most of the communes and towns, except for Giang Ly commune. Meanwhile, the T’Ring people are concentrated in the southern communes of the district and constitute the majority in Cau Ba, Son Thai, and Giang Ly communes. The Ede people predominantly reside in the northwestern part of the district, close to the border with Dak Lak province.

In recent years, the Tay, Nung, Muong, and other ethnic groups have migrated mainly from the northern regions of Vietnam and settled in the northern communes of Khanh Vinh district. These ethnic minorities have adopted a settled lifestyle and engaged in relatively stable wet-rice production practices.
Additionally, they have been focusing on cultivating sugarcane, and aiming to establish a concentrated material crop area following the provincial plan.

3.2. Research methods

Study sample and sampling method
According to Yamane (1967) the following formula is applied to collect the desired sample size for the whole survey:

\[ n = \frac{N}{1 + N(e)^2} \]

where \( n \) is the sample size; \( N \) is the size of the population; \( e \) is the desired level of expectation (variation level of 0.05 or confidence level of 95%). Therefore, the study investigated 150 EMH in Khanh Vinh district.

Sampling method
The study uses systematic random sampling to collect data. The sample size is determined proportional to the number of households in each locality (commune). The household survey was conducted between September and December 2020.

Econometric models and analytical methods
In this study, we use multivariate regression analysis method to identify factors and their influence on the incomes of EMH in mountainous areas of Khanh Hoa province.

According to Haughton et al. (1999), World Bank (2009) econometric model analyzes the factors affecting household incomes in the form of a semi-logarithmic function:

\[ \ln(Y_i) = \beta_0 + \beta_1 X_i + \varepsilon \]

where \( Y_i \) is the dependent variable, showing the household's incomes in the year; \( \beta_0, \beta_i \) are the regression coefficient of the model; \( X_i \) is the independent variable, with \( i = 1.9 \); \( \varepsilon \) is the error of the model.

Table 1. Measurement of variables in the research model

<table>
<thead>
<tr>
<th>Variable symbol</th>
<th>Variable name</th>
<th>Description of variables</th>
<th>Expectation s (sign)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Household incomes for the year</td>
<td>Dependent variable</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>Ethnic group</td>
<td>As dummy variable, taking value 1 if Household is ethnic Raglay; equal to 0 if households of other ethnicities</td>
<td>-</td>
</tr>
<tr>
<td>(X_2)</td>
<td>Sex</td>
<td>As a dummy variable, taking the value 1 if the head of household is male; equals 0 if the households are female.</td>
<td>+</td>
</tr>
<tr>
<td>(X_3)</td>
<td>Age of household head</td>
<td>Age of household head is determined from year of birth to the time of survey (year)</td>
<td>+</td>
</tr>
<tr>
<td>(X_4)</td>
<td>Schooling</td>
<td>As a dummy variable, taking the value of 1 if the household head has a lower secondary education level or higher; equal to 0 if the head of household has a primary education level or less</td>
<td>+</td>
</tr>
<tr>
<td>(X_5)</td>
<td>Size of household</td>
<td>Number of family members (person)</td>
<td>+</td>
</tr>
<tr>
<td>(X_6)</td>
<td>Number of livelihood activities</td>
<td>Is the variable that represents the number of livelihood activities - income-generating activities of the household during the year (operation number).</td>
<td>+</td>
</tr>
<tr>
<td>(X_7)</td>
<td>Idle time of the year</td>
<td>Leisure time and no job in the year (month)</td>
<td>-</td>
</tr>
<tr>
<td>(X_8)</td>
<td>Access to productive land</td>
<td>Is a variable reflecting the household’s productive land area in (m^2).</td>
<td>+</td>
</tr>
<tr>
<td>(X_9)</td>
<td>Access to credit</td>
<td>Is a variable reflecting the amount of money borrowed by households from local credit institutions in millions of Vietnamese Dong (VND).</td>
<td>+</td>
</tr>
</tbody>
</table>

**Source:** Authors’ compilation

**4. Research results and discussion**

**4.1 Characteristics of the survey sample**

The study investigated 150 EMH (except for the Kinh ethnic group, which is common in Vietnam) in Khanh Son district. However, due to insufficient information on some questionnaires, the final number of eligible responses for analysis amounted to 139, representing 92.67% of the total. Among the surveyed households, the Raglai ethnic group constituted 68%, followed by T'Ring ethnic
households at 21%. The Ede ethnic group accounted for 0.6%, while the Tay ethnic group made up 0.5% of the participants.

**Figure 1.** Ethnic structure in the sample
Source: Calculation from survey data

In the survey sample, there are 73 female heads of households, accounting for 52.5%; 66 heads of households are male, accounting for 47.55%. The lowest age of household heads is 18, while the highest is 75. The average age of the household head in the sample is 57.78 years old. The smallest household size is 2 and the largest is 13, the average household size is 5. The smallest number of dependents is 0 and the largest is 6. The education level of the household head is rather low. In general, the percentage of household heads who do not attend school at all and attend primary school or below is quite high, at 48.2%; those with lower secondary school and above accounted for 51.8%.

**Table 2.** Education level of household head in the sample

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No schooling</td>
<td>4</td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Primary level</td>
<td>63</td>
<td>45.3</td>
<td>45.3</td>
</tr>
<tr>
<td>Lower Secondary</td>
<td>49</td>
<td>35.3</td>
<td>35.3</td>
</tr>
<tr>
<td>Upper Secondary</td>
<td>23</td>
<td>16.5</td>
<td>16.5</td>
</tr>
<tr>
<td>Total</td>
<td>139</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Source: Calculation from survey data

4.2. Characteristics of livelihood activities and incomes of ethnic minority households

Most of the households have diversified livelihood activities. The smallest number of household livelihood activities is 1 and the largest is 5. On average, each household has 3 livelihood activities. However, the livelihood activities of households are mainly small-scale agricultural (cultivation, livestock) activities, forestry (such as afforestation and forest-related activities), small business, trading, sale and other activities (staff, employees). Their jobs are not stable and often create a lot of idle time without income for the household. The analysis results show that the average idle time in the year of the household is 0.5 months at the lowest and 4 months at the highest. On average, each household in the year has a period of no income generating of 2.12 months.

Among 139 surveyed households, there are 130 households engaged in farming, accounting for the highest percentage with 25.3%; 116 households did hired labor (mainly peeling acacia skin), accounting for 29.1% of households in the sample. Other economic activities such as rice cultivation, afforestation, animal husbandry, trading, etc. are insignificant.

Table 3. Livelihood activities of poor ethnic minority households in Khanh Vinh district, Khanh Hoa province

<table>
<thead>
<tr>
<th>Livelihood activities</th>
<th>Responses</th>
<th>Percent</th>
<th>Percent of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (Rice cultivation, farming, animal husbandry)</td>
<td>136</td>
<td>28.8%</td>
<td>97.8%</td>
</tr>
<tr>
<td>Forestry (forest planting, tree care)</td>
<td>131</td>
<td>27.8%</td>
<td>94.2%</td>
</tr>
<tr>
<td>Business, small trades</td>
<td>82</td>
<td>17.4%</td>
<td>59.0%</td>
</tr>
<tr>
<td>Other activities (employees, workers, hired workers)</td>
<td>123</td>
<td>26.1%</td>
<td>88.5%</td>
</tr>
<tr>
<td>Total</td>
<td>472</td>
<td>100.0%</td>
<td>339.6%</td>
</tr>
</tbody>
</table>

Source: Calculation from survey data

Statistical results show that, the smallest household income from agricultural activities is 2.700 million VND, the largest is 121.500 million VND and the average is 28.661 million VND. Meanwhile, the minimum income from forestry activities is 1.980 million VND, the largest is 90.000 million VND and the average is 25.277 million VND.
Table 4. Descriptive statistics of income sources from livelihood

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income from agriculture</td>
<td>136</td>
<td>2.700</td>
<td>12.1500</td>
<td>28.661</td>
<td>18.153</td>
</tr>
<tr>
<td>Income from forestry</td>
<td>73</td>
<td>1.980</td>
<td>90.000</td>
<td>15.277</td>
<td>14.761</td>
</tr>
<tr>
<td>Income from business, trading</td>
<td>20</td>
<td>3.600</td>
<td>47.700</td>
<td>16.839</td>
<td>13.188</td>
</tr>
<tr>
<td>Income from other activities</td>
<td>80</td>
<td>2.340</td>
<td>46.800</td>
<td>18.627</td>
<td>10.666</td>
</tr>
</tbody>
</table>

Source: Authors’ calculation

Consequently, the primary source of income for most households is derived from agricultural livelihood activities, with additional earnings coming from occupations like employment, labor, and hired work. The income generated from forestry-based livelihoods comes next in line. On the other hand, the income contribution from business and trade activities remains relatively minor in comparison to the overall household income.

Figure 2. Structure of incomes from livelihood activities of ethnic households

Source: Authors’ calculation

4.3. Determinants on the income of ethnic minority households

The study estimated the model by the OLS method and the hypothesis tests that have been performed satisfy the following requirements including linearity and additivity of the relationship between dependent and independent variables, statistical independence of the errors, homoscedasticity of the errors, normality of the error distribution. The results of the regression model fit tests are guaranteed
and meet the requirements. The model estimation results show that the regression coefficients of the variables all have signs as expected. Among the factors influencing incomes from livelihood activities of EMH in Khanh Vinh district, five main factors have been identified. The number of livelihood activities pursued by the household exerts the most significant impact on their incomes, followed by the area of productive land, which holds the second most substantial influence. The size of the household ranks as the third most influential factor, while other factors fall subsequently in terms of their effects on household incomes. Lastly, the leisure time available to the household throughout the year has the smallest effect on their overall income.

**Table 5. Model estimation results**

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Symbol</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Block coefficient</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td>5.977</td>
<td>0.939</td>
<td>6.365</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td>X₁</td>
<td>-0.308</td>
<td>0.097</td>
<td>-0.287</td>
<td>-3.191</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>X₂</td>
<td>0.055</td>
<td>0.076</td>
<td>0.064</td>
<td>0.724</td>
</tr>
<tr>
<td><strong>Age of household head</strong></td>
<td>X₃</td>
<td>-0.141</td>
<td>0.132</td>
<td>-0.117</td>
<td>-1.067</td>
</tr>
<tr>
<td><strong>Schooling</strong></td>
<td>X₄</td>
<td>0.004</td>
<td>0.078</td>
<td>0.005</td>
<td>0.057</td>
</tr>
<tr>
<td><strong>Size of household</strong></td>
<td>X₅</td>
<td>0.348</td>
<td>0.125</td>
<td>0.298</td>
<td>2.786</td>
</tr>
<tr>
<td><strong>Number of livelihood activities</strong></td>
<td>X₆</td>
<td>0.746</td>
<td>0.250</td>
<td>0.283</td>
<td>2.980</td>
</tr>
<tr>
<td><strong>Idle time of the year</strong></td>
<td>X₇</td>
<td>-0.061</td>
<td>0.030</td>
<td>-0.192</td>
<td>-2.063</td>
</tr>
<tr>
<td><strong>Access to productive land</strong></td>
<td>X₈</td>
<td>0.385</td>
<td>0.096</td>
<td>0.406</td>
<td>4.014</td>
</tr>
<tr>
<td><strong>Access to credit</strong></td>
<td>X₉</td>
<td>0.144</td>
<td>0.092</td>
<td>0.143</td>
<td>1.566</td>
</tr>
<tr>
<td><strong>F (Sig.)</strong></td>
<td></td>
<td></td>
<td></td>
<td>8.306</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>
The ethnicity variable has a negative sign, which matches with the researchers’ expectation and is statistically significant at 1% level of significance. Thus, households of Raglay ethnicity earned less than households of other ethnicities in that year. In reality, a large number of Raglayan households despite working hard are oblivious to the reason why this was the case. The results can be explained through local practices and are similar to that of previous studies World Bank (2012), MOLISA (2015), Vu (2020), Pham et al. (2020). Furthermore, households with male as household heads earn more from livelihood activities, while households with female heads earn less. The leaders of the former type of households often decide on major issues such as income diversification. However, the relationship between gender and household income has not been identified.

The age of the household head has a negative sign, not as expected. This may mean that older household heads are often reluctant to expand or transform their family's livelihood activities. However, there was not enough evidence to confirm the relationship between the age of the household head and the household income. This finding is consistent with Vu (2020). The education factor in the regression model has the expected sign. This shows that the heads of EMH with higher education will have conditions to access new knowledge and livelihood methods, which will positively affect the income generation of households. However, this study did not find a correlation between education level and household incomes. This finding is consistent with that of Pham et al. (2020). For the household size factor in the regression model, there is a positive effect on household incomes, which implies that if a household has one more member of working age, it can increase incomes of the household. However, adding more members will reduce per capita incomes. This finding is consistent with Haughton et al. (1999), Tuyen (2015) and Vu (2020).

Idle time in the year in the regression model has a negative sign, matching with the researchers’ expectation and is statistically significant at 5%. This implies that ethnic minority households with a lot of leisure time during the year will have less conditions to participate in income-generating livelihood activities. This is the new finding of the study. The livelihood diversity factor is reflected by the income-generating livelihood activities count, which bears a positive sign in the regression result and is statistically significant at 5%. Ethnic households are more open to opportunities to improve their income if they can diversify their means of earning
income. In general, this finding is also consistent with the results of World Bank (2009), Tuyen (2015), MOLISA (2015), Ho and Pham (2020).

The variable related to access to productive land also exhibits a positive regression coefficient, as initially predicted, and it holds statistical significance at the 1% level. Consequently, the empirical evidence from this study indicates that households with access to land possess the necessary conditions to effectively organize production, which leads to increased incomes. This finding corresponds with similar results from previous studies conducted by the World Bank (2009), MOLISA (2015), and Ho and Pham (2020).

Furthermore, the factor of credit access exhibits a positive regression coefficient, as anticipated. This implies that when households have access to credit, they gain numerous opportunities to invest in and expand their livelihood activities, ultimately leading to improved incomes. However, despite the expected positive impact, the study did not find concrete evidence of a direct relationship between credit access and household incomes. This finding aligns with similar conclusions drawn in some prior research conducted by Tran (2015).

5. Conclusion and policy implications
In this research, the impact of various factors on the incomes of EMH in Khanh Vinh district, Khanh Hoa province, Vietnam, was thoroughly analyzed. The results of the tests have demonstrated that ethnic characteristics, household size, the number of livelihood activities pursued, leisure time in the year, and household access to productive land significantly influence the income levels of EMH, all at the 5% significance level.

Based on these research findings, several policy recommendations are proposed for local authorities to enhance income levels through the diversification of livelihood activities for ethnic households in this region.

First, the local government should implement a policy for equitable allocation of land resources in the area, with special attention given to reviewing arable land, production of forest land, and other relevant resources. This allocation strategy aims to provide productive land to households that currently lack access to it, particularly Raglai ethnic households and larger-scale households. Along with that, it is necessary to have a policy to discourage the sale or transfer of productive land in any form to ensure that EMH always has land for cultivation.

Second, there is a need to enhance local agro-forestry extension efforts, providing ethnic minority households with access to modern knowledge and techniques in agricultural activities. This transformation aims to move away from traditional farming practices, such as clearing fields for farming. Moreover, it is essential to diversify the structure of crops and livestock, focusing on higher value
per unit area. Additionally, building communal villages and groups of ethnic minority households will foster improved economic conditions and facilitate the exchange of experiences related to successful production models. This sharing of knowledge will act as a driving force for other households to progress and develop together effectively.

Third, it is crucial to prioritize education and vocational training for young households, ensuring they have the opportunity to access modern science, technology, and new knowledge. The current situation indicates that households with limited education face difficulties in accessing the benefits of science and technology, leading to lower productivity levels. Therefore, by promoting education and vocational training, these young households can equip themselves with the necessary skills and knowledge to enhance their productivity and overall well-being.

Fourth, policies are necessary to create jobs and encourage off-farm livelihood activities. The research results show that the number of free months in the year for EMH is quite large and there are few income-generating activities during this period. Therefore, the policy of supporting off-farm employment for EMH through the activities of local socio-political organizations, such as farmers' unions, women's unions, and youth unions is very necessary, etc. It is also necessary to pay attention to identifying the professions and labor areas that ethnic households can access and demand for both ends meet.

References


