The Effect of Education and Environmental Understanding on The Role of Youth in Development of Ecotourism in Coastal Areas (Case Study: Ecotourism Object of Mangrove in Kampung Nipah at Sei Nagalawan Village, Serdang Bedagai)

Satriyadi 1, Miswar Budi Mulya 2, Agus Purwoko 3

1 Postgraduate Student, Universitas Sumatera Utara, Indonesia
2 Faculty of Mathematics and Natural Sciences, Universitas Sumatera Utara, Indonesia
3 Faculty of Forestry, Universitas Sumatera Utara, Indonesia

Abstract. This study aims to analyze the effect of education and environmental understanding on youth in managing Mangrove Ecotourism in Serdang Bedagai Regency and analyze the role of youth in the development of these ecotourism objects. This study sample was 86 youths with an age range of 16-30 years. This research was quantitative explanatory. The results of multiple linear regression analysis obtained a coefficient of determination ($R^2$) 0.9759 where the value describes 97.59% of ecotourism development (Z) can be explained by the environmental education variable ($X_1$) 101.9%, environmental understanding ($X_2$) 0.6% and the role of youth (Y) 97.2%, while the remaining 2.41% is explained by other variables outside the model. The results of the path analysis obtained a direct effect of $X_1$ on Y 99.5%, $X_2$ on Y 0.6%, Y on Z 6.8%, $X_1$ on Z 93.2%, $X_2$ on Z 0.2%, while the effect was not directly $X_1$ to Z through Y 6.7% and $X_2$ to Z through Y 0.04%. In accordance with the results of the research, education and environmental understanding have a significant effect partially or simultaneously on youth in managing Mangrove Ecotourism and the role of youth also has a significant effect on the development of the ecotourism object.

Keyword: Ecotourism, Mangroves, Environmental Education, Environmental Understanding, Youth

Abstrak. Penelitian ini bertujuan untuk menganalisis pengaruh pendidikan dan pemahaman lingkungan terhadap perpemuda dalam mengelola Ekowisata Mangrove di Kabupaten Serdang Bedagai serta menganalisis peran pemuda terhadap pengembangan Objek Ekowisata tersebut. Sampel penelitian ini sebanyak 86 orang pemuda dengan rentang usia 16-30 tahun. Penelitian ini menggunakan metode ekspanatif kuantitatif. Hasil analisis regresi linier berganda diperoleh, nilai koefisien determinan ($R^2$) 0.9759 dimana nilai tersebut menjelaskan 97,59% pengembangan ekowisata (Z) dapat dijelaskan oleh variable pendidikan lingkungan ($X_1$) 101,9%, pemahaman lingkungan ($X_2$) 0,6% dan peran pemuda (Y) 97,2%, sedangkan selebihnya 2,41% dijelaskan oleh faktor variabel lain di luar model. Hasil uji analisis jalur diperoleh pengaruh langsung $X_1$ terhadap Y 99,5%, $X_2$ terhadap Y 0,6%, Y terhadap Z 6,8%, $X_1$ terhadap Z 93,2%, $X_2$ terhadap Z 0,2%, yang menunjukkan pengaruh tidak langsung $X_1$ terhadap Z melalui Y 6,7% dan $X_2$ terhadap Z melalui Y 0,04%. Sesuai dengan hasil penelitian, pendidikan dan pemahaman lingkungan berpengaruh signifikan secara parsial maupun...
simultan terhadap pemuda dalam mengelola Ekowisata Mangrove di desa tersebut dan peran pemuda juga berpengaruh signifikan terhadap pengembangan objek Ekowisata tersebut.

Kata Kunci: Ekowisata, Mangrove, Pendidikan Lingkungan, Pemahaman Lingkungan, Pemuda

Received date month year | Revised date month year | Accepted date month year

1. Introduction

Regional development is an effort to spur socio-economic development, reduce disparities between regions and preserve the environment in an area and aim to spur the welfare of the people living in the area. Regional development is indispensable because of the different socio-economic, cultural and geographic conditions from one region to another. Basically, regional development must be adjusted to the conditions, potentials and problems of the area concerned [1]. Coastal area development planning is part of an integrated regional development study in coastal areas. Management of coastal areas and small islands is a coordinating planning, utilization, supervision and control of coastal resources and small islands carried out by the central government and regional governments, between sectors, between land and sea ecosystems, and between science and management to improve people's welfare [2].

One of the coastal areas in North Sumatra that is experiencing serious degradation is a coastal village with the Mangrove Beach Ecotourism Object of Kampung Nipah in Sei Nagalawan Village. The Area is administratively located in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province, and geographically it is at 3°35'56.4" North Latitude and 99°56'19.03" East Longitude [3]

Environmental education and understanding of the environment are the basis for realizing the management of a coastal environment in a sustainable manner. Based on this, a small number of people are aware, making an ecotourism concept, namely "Mangrove Ecotourism" which aims to conserve the coastal environment, especially Mangrove Forests that have been damaged due to mismanagement in Sei Nagalawan Village. The concept of ecotourism is a tourism development that prioritizes environmental conservation as part of environmental education that understands the public broadly about the importance of the environment for sustainable development. Natural tourism is a form of exploiting natural resources that prioritizes natural services for human needs and satisfaction. Ecotourism itself is a tourism activity that seeks to minimize negative impacts on tourism activities [4].

The development of Mangrove Ecotourism has quite a broad impact on humans and the environment. The concept of ecotourism that is identical to environmental conservation usually provides greater benefits than other tours. The biggest advantage that is obtained is not only in the form of materials but also sustainable use such as always stock of fish, preserved animal habitat, prevention of global warming and also the benefits of inner satisfaction. This form of inner gratification is very expensive when it comes to seeing nature as it should. The potential for the development of Mangrove Ecotourism in Kampung Nipah is very large, seen from the annual income from the ecotourism management. The data for 2018, for example, shows a fantastic income of IDR 44,900,268 / December with the assumption that income in 2018 is IDR 538,803,216 / year [5].
One of the components of the community that really needs to get special attention and be involved in the management of ecotourism in the village is youth. Youth are Indonesian citizens who are entering an important period of growth and development, aged 16 (sixteen) to 30 (thirty) years [6]. The demographic bonus that Indonesia will face in the future could be a challenge or opportunity for the Indonesian nation. One of them is the empowerment of youth in the tourism sector (ecotourism) which can support the sustainability and improvement of community welfare in the ecotourism development area and of course this must be accompanied by an increase in youth human resources.

2. Methodology

This research was conducted at the Mangrove Beach Ecotourism Object, Kampung Nipah, Sei Nagalawan Village, Perbaungan District, Serdang Bedagai Regency and this research was carried out from March to June 2020.

This type of research is a type of quantitative explanatory. The quantitative approach emphasizes objective phenomena and maximizes the objectivity of the research design using numbers, statistical processing and controlled experiments. The data collected consists of primary data and secondary data. The study sample was determined to follow the Slovin formula of 86 youths with an age range of 16-30 years.

Table 1. Youth Based on Age Sei Nagalawan Village

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Man</th>
<th>Women</th>
<th>amount</th>
<th>Part</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>163</td>
<td>105</td>
<td>268</td>
<td>4/5</td>
<td>215</td>
</tr>
<tr>
<td>20-24</td>
<td>129</td>
<td>154</td>
<td>283</td>
<td>5/5</td>
<td>283</td>
</tr>
<tr>
<td>25-29</td>
<td>147</td>
<td>126</td>
<td>273</td>
<td>5/5</td>
<td>273</td>
</tr>
</tbody>
</table>


\[
n = \frac{N \cdot Z^2 \cdot P(1 - P)}{N \cdot d^2 + Z^2 \cdot P(1 - P)} = \frac{814 \cdot (1,96)^2 \cdot 0,5 \cdot (1 - 0,5)}{814 \cdot (0,10)^2 + (1,96)^2 \cdot 0,5 \cdot (1 - 0,5)} = 85,9599143 \approx 86
\]

Information:
The data analysis in this research is descriptive data analysis with a quantitative approach. The sampling technique in this study used a proportional area random sampling technique, where the sample taken from each hamlet is determined to be balanced or proportional to the number of sub-populations in each hamlet. Data collection techniques in this study were questionnaires, interviews and observations. Analyze the hypothesis of the effect of education and environmental understanding on youth in the development of Mangrove Ecotourism in Serdang Bedagai Regency using multiple regression analysis, path analysis and coefficient of determination test ($R^2$). Namely multiple regression analysis:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \mu$$  \hspace{1cm} (1)

Information:
- $Y$ = Cooperative performance
- $X_1$ = Modernization of cooperative institutional pillar
- $X_2$ = Modernization of cooperative business pillar
- $X_3$ = Modernization of cooperative financial pillar
- $\beta_0$ = Constant
- $\mu$ = Error term
- $\beta_1$…$\beta_4$ = Regression coefficient

3. Results and Discussion

**Multiple linear regression test**

Multiple linear regression tests are used to determine the effect of variables simultaneously and to test hypotheses about the effect partially. Hypothesis testing in this study was carried out using 2 multiple linear regression analysis models. The results of multiple linear regression analysis can be seen in the following table:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>0.058</td>
<td>0.073</td>
<td>-</td>
<td>0.078</td>
</tr>
<tr>
<td>Environmental education</td>
<td>1.019</td>
<td>0.012</td>
<td>87.681</td>
<td>0.000</td>
</tr>
<tr>
<td>Environmental understanding</td>
<td>0.006</td>
<td>0.010</td>
<td>2.569</td>
<td>0.031</td>
</tr>
</tbody>
</table>

Dependent Variable: The Role of Youth

*Source: Primary data processed by SPSS in 2020.*
Based on table 2 and table 3 above, a linear regression equation is obtained which explains the relationship between the tested variables as follows:

\[ Y = 0.058 + 1.019 X_1 + 0.006 X_2 \]
\[ Z = 0.505 + 0.972 Y \]

a. The constant value is positive 0.058, meaning that if the value of the environmental education variable and environmental understanding remains, then the role of youth in the management of Mangrove Ecotourism in Sei Nagalawan Village is 0.058.

b. The environmental education regression coefficient (X1) has a positive value of 1.019, which means that for every one-time increase in the environmental education variable and the value of the other variables remains constant, the youth role variable will increase by 1.019 or 101.9%. On the other hand, if the environmental education variable has decreased once, the youth role variable will have decreased by 101.9%.

c. The regression coefficient for environmental understanding (X1) has a positive value of 0.006, which means that for every one-time increase in the environmental understanding variable and the value of the other variables remains constant, the youth role variable will increase by 0.006 or 0.6%. Conversely, if the environmental understanding variable has decreased by one time, then the youth role variable will experience a decrease of 0.6%.

d. The constant value is 0.505, meaning that if the value of the youth role variable remains (constant) or does not change, the development of Mangrove Ecotourism in Sei Nagalawan Village is 0.505.

e. The youth role regression coefficient (Y) has a positive value of 0.972, which means that for every one-time increase in the role of youth and the value of the other variables remains constant, the ecotourism development variable will increase by 0.972 or 97.2%. On the other hand, if the youth role variable has decreased by one time, then the ecotourism development variable will decrease by 97.2%.

Test determinant coefficient (R²)

The coefficient of determination is used to determine how much or how much influence the independent variable has on the dependent variable. The coefficient of determination is determined by the adjusted R square value. The coefficient of determination also means the contribution of the influence given by the independent variable to the dependent variable. Test Results The determinant coefficient (R²) are shown in the table below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T Value</th>
<th>Inference</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>0.505</td>
<td>0.236</td>
<td>-</td>
<td>2.140</td>
<td>0.035</td>
</tr>
<tr>
<td>The role of youth</td>
<td>0.972</td>
<td>0.011</td>
<td>995</td>
<td>91,378</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Source:** Primary data processed by SPSS in 2020.
<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.995</td>
<td>0.989</td>
<td>0.625</td>
<td>1,655</td>
</tr>
<tr>
<td>II</td>
<td>0.995</td>
<td>0.990</td>
<td>0.586</td>
<td>1,711</td>
</tr>
</tbody>
</table>

Source: Primary data processed by SPSS in 2020.

Based on the value of the coefficient of determination in Table 4, the error value for each dependent variable (the role of youth and ecotourism development) is obtained as follows:

\[ \sqrt{1 - R^2} = \sqrt{1 - 0.625} = 0.375 \]

\[ \sqrt{1 - R^2} = \sqrt{1 - 0.586} = 0.414 \]

From the effect of the error, the total coefficient of determination is calculated as follows:

\[ R^2_{\text{total}} = 1 - p^2_e 1 \cdot p^2_e 2 = 1 - (0.375) \cdot (0.414) \cdot \]

\[ = 1 - (0.1406) (0.1714) 0.0241 \]

\[ = 0.9759 \]

From the above results, the total determinant coefficient is 0.9759. This means that 97.59% of ecotourism development can be explained by the variables of environmental education, environmental understanding and the role of youth. Meanwhile, 2.41% was explained by other variables which were not examined in this study.

**Path analysis**

Path Analysis using intervening variable is the research model that explains their indirect influence given environmental education and environmental understanding through youth role against the development of Ecotourism Mangrove.

**Table 5. Path Analysis Test Results (Equation I)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sig.</th>
<th>Beta</th>
<th>Adjusted R Square</th>
<th>Value of e1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental education</td>
<td>0.000</td>
<td>0.995</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental understanding</td>
<td>0.031</td>
<td>0.006</td>
<td>0.989</td>
<td>0.1049</td>
</tr>
</tbody>
</table>

Dependent Variable: The Role of Youth.

Source: Primary data processed by SPSS in 2020.

**Table 6. Path Analysis Test Results Path (Equation II)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sig.</th>
<th>Beta</th>
<th>Adjusted R Square</th>
<th>Value of e2</th>
</tr>
</thead>
<tbody>
<tr>
<td>The role of youth</td>
<td>0.013</td>
<td>0.068</td>
<td>0.999</td>
<td>0.0316</td>
</tr>
</tbody>
</table>

Dependent Variable: Ecotourism Development.

Source: Primary data processed by SPSS in 2020.

The value of \( e1 \) is searched using the formula \( e1 = \) the value of \( e1 \) is 0.1049. Furthermore, e2 searched using the formula \( e2 = \) earned value e2 is 0.0316. This value is used in the following structural model path diagram:
Based on the Path Analysis in image 2, the following formula is obtained:

\[ Y = 0.995X_1 + 0.006X_2 + 0.995e_1 + 0.006e_1 \]
\[ Z = 0.932X_1 + 0.002X_2 + 0.068Y + 0.932e_2 + 0.002e_2 + 0.068e_2 \]

a. The value of the direct effect of environmental education on the role of youth is 0.995, meaning that 99.5% of environmental education has a direct effect on the role of youth in managing Ecotourism of Kampoeng Nipah Mangrove Beach in Sei Nagalawan Village.

b. The value of the direct influence of environmental understanding on the role of youth is 0.006, meaning that 0.6% of the understanding of the environment has a direct effect on the role of youth in the management of Mangrove Ecotourism.

c. The value of the direct influence of the role of youth on the development of ecotourism is 0.068, meaning that 6.8% of the role of youth has a direct effect on the development of Mangrove Ecotourism.

d. The value of the direct effect of environmental education on the development of ecotourism is 0.932, meaning that 93.2% of environmental education has a direct effect on the development of the Mangrove Ecotourism.

e. The value of the direct effect of understanding the environment on the development of ecotourism is 0.002%, meaning that 0.2% of the understanding of the environment has a direct effect on the development of Mangrove Ecotourism.

f. The value of the indirect effect of environmental education on the development of Ecotourism at Kampoeng Nipah Mangrove Beach in Sei Nagalawan Village through the role of youth is 0.995 x 0.068 = 0.0676 and the total effect value is 0.932 + 0.0676 = 0.9996 meaning that 6.7% of environmental education is influential indirectly to the development of Mangrove Ecotourism through the role of youth.
The value of the indirect effect of environmental understanding on the development of Ecotourism at Kampoeng Nipah Mangrove Beach in Sei Nagalawan Village through the role of youth is 0.006 x 0.068 = 0.0004 and the total effect value is 0.002 + 0.0004 = 0.0024. which means that 0.04% understanding of the environment has an indirect effect on the development of Mangrove Ecotourism through the role of youth.

**Partial Test (t test)**

The t test is known as the partial test, which is to test how the influence of each independent variable individually on the dependent variable. The t statistical test shows how far a partially independent variable is able to explain the dependent variable. An independent variable is said to have a positive effect if $t_{count} > t_{table}$ or the significance is less than 0.005. The t test is a test that measures the difference between two or more means between groups. The following are the results of the t statistical test described in the table below:

### Table 7. Hypothesis Test Results (t test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$t_{count}$</th>
<th>$t_{table}$</th>
<th>Significance</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental education</td>
<td>87.681</td>
<td>1.989</td>
<td>0.000</td>
<td>$H_1$ accepted</td>
</tr>
<tr>
<td>Environmental understanding</td>
<td>2.569</td>
<td>1.989</td>
<td>0.031</td>
<td>$H_2$ accepted</td>
</tr>
<tr>
<td>The role of youth</td>
<td>91.378</td>
<td>1.989</td>
<td>0.000</td>
<td>$H_3$ accepted</td>
</tr>
</tbody>
</table>

Source: Primary data processed by SPSS in 2020.

The table above explains that the $t_{count}$ of the environmental education variable is 87.681, the environmental understanding variable is 2.569. The $t$ value of each variable is greater than the $t$ value of the table, namely 1.989 (0.05). In addition, if it is seen from the significance value, the variables of education and environmental understanding are 0.000 and 0.031 which has a significance level less than 0.05. So it is concluded that the hypotheses of $H_1$ and $H_2$ are accepted and it is stated that education and environmental understanding have a positive and significant effect on the role of youth. At $t_{count}$, the role of youth variable 91.378 is greater than the $t$ table value, namely 1.989 (0.05). In addition, if it is seen from the significance value, the role of the youth variable is 0.000 which has a significance level smaller than 0.05. So it is concluded that the hypothesis of $H_3$ is accepted and it is stated that the role of youth has a positive and significant effect on the development of ecotourism.

**The effect of environmental education on the role of youth**

The $F$ test (Anova test) in a research model aims to show whether all the independent (free) variables that are included in the model jointly have a simultaneous effect on the dependent variable (dependent).

### Table 8. F Test Result (Equation I) ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>3005.690</td>
<td>2</td>
<td>1502.845</td>
<td>3849.567</td>
<td>0.000 &gt;</td>
</tr>
<tr>
<td>Residual</td>
<td>32,403</td>
<td>83</td>
<td>0.390</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3038.093</td>
<td>85</td>
<td>3849.567</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: The Role of Youth.
b. Predictors: (Constant), Environmental Understanding, Environmental Education.
In the table above, the F test model I shows an F value of 8349.932 with a significance level of 0.000. When viewed from the significance value, the sig F model I value is smaller than (0.05). So the education variables and environmental understanding have a significant influence on the role of youth. In the table above, the F test for model II obtained an F value of 8349.932 with a significance level of 0.000. When viewed from the significance value, the sig F model II value is smaller than (0.05). So the environmental education variables, environmental understanding and the role of youth have a significant influence on the development of ecotourism.

From the results of the research conducted, the results obtained through hypothesis testing that the hypothesis is accepted (H1 is accepted: H0 is rejected) which means that environmental education either simultaneously (with environmental understanding variables) or partially has a significant positive effect on the role of youth with a t value of 87.681. (> t table) with a significance of 0.000 (<0.05) and the calculated F value of 3849.567 (> F table) with a significance of 0.000.

Of the 50% youth who have received environmental education both formally and informally, 69.77% of these youth are involved in ecotourism development, meaning that even though they have received environmental education, there are still youths who do not want to have a role in developing ecotourism in Sei Nagalawan Village, namely 30.23%. Other factors also affect the involvement of youth in the development of ecotourism in the village, such as the opportunity.

The better the environmental education for the youth in Sei Nagalawan Village, the better their role is in the development of Mangrove Ecotourism. On the other hand, the lower the environmental education level of the youth in Sei Nagalawan Village, the lower their role in the development of Mangrove Ecotourism in the village. Some of the factors that influence participation are as follows: internal factors contained in the individual communities that will participate among other things such as age, education level, number of family members and long-time resident [7].

Education is a fundamental reason for youth to be involved in regional development, especially the development of ecotourism in coastal villages, because it is a provision of ability in the form of knowledge about the environment, especially about mangroves, coastal, marine and others that are obtained from formal and non-formal environmental education. Another factor driving youth involvement in the development of a tourism village is willingness, opportunity and ability [8].

Source: Primary data processed by SPSS in 2020.
Environmental education is very influential on the development of youth thinking which is the basis for their role in managing Mangrove Ecotourism. In a study on ecotourism, it was proven that the role of Prenjak youth in developing Eco Edu Mangrove Tourism has implications for regional environmental resilience in Tapak Hamlet including the availability of ecosystems, control of waste and pollution, the continuation of the local socio-cultural system and increased understanding of environmental concepts [9].

The government through the Ministry of Environment has created programs that are oriented towards environmental sustainability. KLH in collaboration with the Ministry of Education and Culture of the Republic of Indonesia launched the Adiwiyata school program which aims to create school members who are responsible for protecting and maintaining the environment through good school governance in the context of sustainable development. Meanwhile, the benefits of the Adiwiyata program for students are to foster concern for the environment and understand how important it is to protect and maintain the environment [10]. However, in this study as many as 50% of youth who answered that they had received environmental education even though they 100% had received either elementary, junior high, high school or college education. This is due to the realization of the Adiwiyata program from the government, not all schools have implemented the program and it is difficult for some teachers to connect the subjects of the schools in the village with environmental education.

The influence of environmental understanding on the role of youth

From the results of the research conducted, the results obtained through hypothesis testing that the hypothesis is accepted (H2 is accepted, H0 is rejected), which means that the understanding of the environment both simultaneously (with environmental education variables) and partially has a significant positive effect on the role of youth with at value of 2.569. (> t table) with a significance of 0.031 (<0.05) and F calculated value is 3849.567 (> F table) with a significance of 0.000.

Of the 100% youth who have a good environmental understanding, only 34.90% are involved in the development of ecotourism, meaning that even though they have a good understanding of the environment, most of the youth do not play a role in the development of Mangrove Ecotourism in Sei Nagalawan Village, which is as many as 65.10 %. This is because the management pattern of Mangrove Ecotourism is closed and only limited to the structure of the management which in terms of recruitment also only focuses on kinship who also struggled in pioneering the management of Mangrove Ecotourism.

Understanding the environment is a very basic important thing to get involved in ecotourism management. In this study showed a high level of environmental understanding in youth, but low involvement, while the results of statistical tests showed a positive and significant effect. This means that it is impossible for youth to be involved in ecotourism development if they do not have the slightest understanding of the environment. Although the level of environmental understanding is not directly proportional to the level of youth involvement in ecotourism management, environmental understanding remains the basis for community involvement in ecotourism development.

The influence of youth role on ecotourism development
From the research results obtained through hypothesis testing that the hypothesis is accepted (H3 accepted: H0 rejected) which means that the role of youth both simultaneously and partially has a positive and significant influence on the development of ecotourism with a value of t count 91.378 (> t table) with a significance of 0.000 (<0.05) and the calculated F value is 8349.932 (> F table) with a significance of 0.000. This shows that the involvement of youth in ecotourism management is needed to support the progress of ecotourism.

The research hypothesis states that the role of youth has a positive and significant influence on the development of Mangrove Ecotourism in Sei Nagalawan Village. However, there are very few youths involved in the development of ecotourism, namely 34.9%. Youth who are involved and feel the impact in the form of additional income, permanent employment or other impacts are around 25.06% of all youth who live in the village. This is because some youth are apathetic and do not have the will to be involved in work related to the coastal environment. Willingness, opportunity and ability are the three elements in the development of Mangrove Ecotourism in Sei Nagalawan Village which are almost not fulfilled [8].

**Direct effects of education and environmental understanding on ecotourism development and indirect effects through the role of youth**

The direct and indirect effect of environmental education on the development of ecotourism through the role of youth with the result of the direct effect is 93.2% and the indirect effect is 6.7%. The results of the direct and indirect effect of environmental understanding on ecotourism development through the role of youth are 0.2% and 0.04%. Thus, education and understanding of the environment are needed by the community to improve the development of Ecotourism on Kampoeng Nipah Mangrove Beach in Sei Nagalawan Village.

**Youth Education and Understanding of the Environment in a Rural Area Development Planning Point of View**

Regional development is a process to direct all the potential of the area concerned to be utilized in an integrated manner to realize people's welfare. This utilization process is usually a combination of mobilizing several factors that support one another so that certain results can be obtained [11]. Environmental education and understanding of youth in the Mangrove Beach Ecotourism Object Area of Kampung Nipah which is classified as good is a fundamental part of supporting the development of ecotourism in planning the development of rural areas.

**4. Conclusion**

The results showed that; environmental education and understanding have a positive and significant effect on the role of youth in the management of Mangrove Ecotourism in Kampung Nipah, Sei Nagalawan Village; the role of youth has a positive and significant effect on the development of the Ecotourism object; as well as education and understanding of the environment through the role of youth has a greater direct influence than indirect influence on the development of the Ecotourism Object.

**5. References**


