TECHNIUM
SOCIAL SCIENCES JOURNAL

www.techniumscience.com

Vol. 66/2024

A New Decade for Social Changes

PLUS COMMUNICATION
International Communication & PR

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

Human Development On The Educational Dimension in East Kutai Regency

Siti Amalia[1], Diana Lestari[2], Siti Maria[3*]

[123]Universitas Mulawarman, Indonesia

siti.maria@feb.unmul.ac.id

Abstract. The Human Development Index (HDI) is a key metric for measuring achievement in improving human well-being. Various factors, such as economic growth and household expenditure, can have an impact on education's human development dimension. The purpose of this study is to examine the impact of economic expansion on household expenditure and human development in terms of schooling. The data analysis technique employs Multiple Regression with SmartPLS SEM (Partial Least Square - Structural Equation Modeling) software. According to the study's findings, economic growth has a significant effect on household spending, but not on human development in the educational dimension, household spending has a significant impact on economic development in the educational dimension, and household spending can mediate the influence of economic growth on human development in the educational dimension in East Kutai. Finally, it is vital to boost economic growth based on the agricultural sector, which can improve the welfare of the community, hence increasing human development in the educational dimension in East Kutai Regency.

Keywords. Human Development Index, Educational Dimension

Introduction

The achievement of welfare and social progress in society is a concept of human development. Human development is the foundation for improving the population's quality of life. One of the markers of successful economic development is an increase in GDP. The extent of growth displayed by changes in national output defines the direction of an economy. (Ma'ruf and Wihastuti, 2008). Akhmad (2016) states that Human Resources (HR) quality influences economic growth. Through the quality and number of population, human resources (HR) are an economic factor that determines the success of national development. On the other hand, population growth can hinder human development in an area if it is not controlled (Nuraini, 2017)

The success of development in the economy is seen from economic growth indicators. Economic growth is greatly influenced by the quality of its Human Resources (HR), Akhmad (2016). Human development means positive growth and changes in well-being (United Nations Development Programme, 1990). This needs to happen in every part of life, including the environment, culture, politics, society, and the economy. So, the main goal of human growth is to improve the lives of people (Kemenpppa, 2014). The Human Development Index (HDI) is a

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

significant metric utilized to assess the advancement of human quality of life. The Human Development Index (HDI) encompasses three fundamental dimensions of human development, evaluated through both physical and non-physical attributes of the population: health, education, and expenditure.

Human development is measured by three dimensions: longevity and health, knowledge, and decent living standards. Therefore, the increase in HDI achievement cannot be separated from the improvement of each component of the HDI. Along with the rise in HDI figures, the dimensions that make HDI also show an increase from year to year.

Average School Length is one of the shaping indicators in the Education Dimension which describes indicators of development output in the long term. The average length of schooling in East Kutai Regency in 2022 is 9.44 and increase by 9.45 in 2023, meaning that the average level of education of the population in East Kutai Regency will graduate from junior high school. The Average Length of School in East Kalimantan province has a target of 10.17 in 2023 with a realization of 9.99 years or a performance achievement of 98.23 percent. The average length of school in East Kutai Regency is still below the target of the East Kalimantan province.

In addition to the School Average dimension, School Expectation is also a shaping indicator in the Education dimension. The success of the Education program in the short term is illustrated by the Expected Length of School. The Expected Length of School in East Kutai Regency in 2023 is 13.01 which is still below East Kalimantan (14.01). The ELS figure in East Kutai Regency of 13.01 explains that children aged 7 years and older who enter the formal education level in 2023 have the opportunity to attend school for 13.01 years or equivalent to Diploma 1. According to Citrawan et al (2018), and Gendalasari and Riyadi (2021) Poverty and Gross Regional Domestic Product (GDP) influence the formation of the Expected Length of School. The Expenditure Dimension is the last indicator in shaping the HDI value of a region/country. The expenditure dimension (Decent Living Standard), measured from the Adjusted Per Capita Expenditure, shows that the per capita expenditure of East Kutai Regency in 2023 is already above the per capita expenditure of East Kalimantan Province, this is because the activities of the coal mining sector have also experienced a significant growth rate so that the per capita expenditure of the people of East Kutai Regency has soared to around 2,274,039 million rupiah.

The Human Development Index in East Kutai Regency in 2023 reached 74.98, this condition is still below the achievement of HDI in East Kalimantan with 78.20. Based on the three existing dimensions, the dimension of decent living as seen from the per capita expenditure of East Kutai Regency shows an increase in 2023, while the dimensions of Average School Length (ALS) and School Length Expectations (ELS) are still below East Kalimantan province, where the dimension of education must continue to be improved.

Based on the description above, the purpose of this study is as follows:

1. Analyze the economic growth rate that affects household expenditure in East Kutai Regency.
2. Analyzing the level of economic growth that affects human development in the educational dimension in East Kutai Regency.
3. Analyzing household expenditure that affects the human development dimension of education in East Kutai Regency.
4. Analyzing economic growth that affects human development in the dimension of education through household expenditure in East Kutai Regency.

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

Methodology

This paper employs SmartPLS SEM for data processing. According to Imam (2014:3), the PLS method is capable of representing latent variables, which are not directly measured, through the use of indicators. The author employs the Partial Least Square methodology due to the nature of this study as a latent variable, which can be quantified through specific indicators, enabling precise and detailed analytical calculations.

The PLS method analysis technique is used as follows:

1. The *outer model.* This analysis includes multiple calculations:
    a. *Convergent validity*. The expected value is> 0.7.
    b. *Discriminant validity*. The value of the targeted construct must exceed that of other constructs.
    c. *Composite reliability*. If the reliability value exceeds 0.7, the construction value is considered to have good reliability.
    d. *Average Variance Extracted* (AVE) is the mean variant that is no less than 0.5.
    e. *Cronbach alpha* with a minimum of 0.6.
2. The *inner model*. The following are the PLS assessment criteria for the *Inner Model* test (Structural Model/Hypothesis Test):
    a. The R^2 values for endogenous latent variables are 0.67, 0.33, and 0.19, indicating that the model is classified as good, moderate, and weak, respectively.
    b. In the structural model, the T-statistic and parameter coefficient for the calculated path relationship have to be significant. Acquired through a bootstrapping process.

Results and Discussion

One way to track a region's progress toward sustainable development is to look at its Human Development Index (HDI). Human development is measured through three dimensions, namely longevity and health, knowledge, and decent living standards. Human development in East Kutai Regency during the period 2019 to 2023 has increased from 73.49 in 2019 to 74.98 in 2023. The Human Development Index in East Kutai Regency grows by an average of 0.05 per year, this shows that the HDI in East Kutai Regency is increasingly showing improvement in human development.

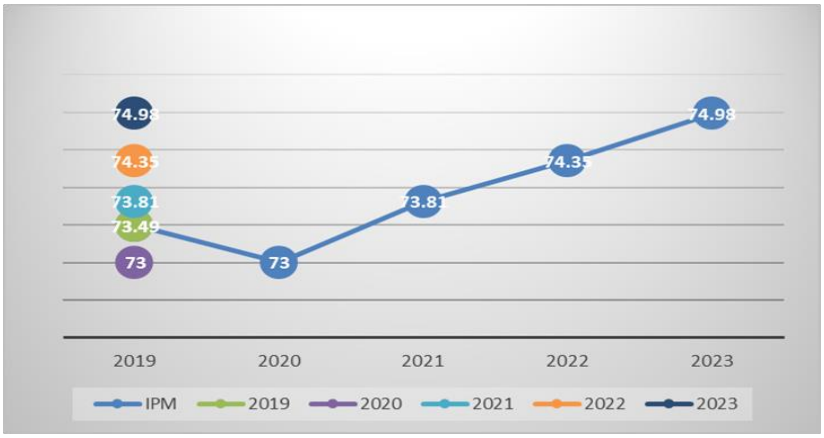

Figure 1. Human Development Index of East Kutai Regency 2019 -2023

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

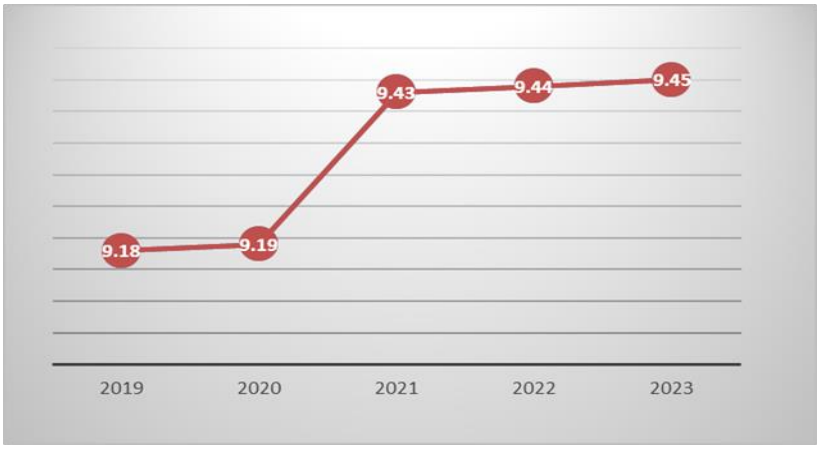

Figure 2. Average Length of School of East Kutai Regency 2019 -2023

Based on data from the Average Length of School (ALS) of residents aged 25 years and above in East Kutai Regency reached 9.45 years in 2023. The region's population ALS is below the average of East Kalimantan Province with 9.99 years in 2023.

Economic growth in East Kutai Regency shows a positive trend. East Kutai's economic growth in 2023 increased by 2.13 percent from the previous year, 2022 economic growth of 5.58 percent, and in 2023 reached 7.71 percent. The economic growth of East Kutai Regency is still heavily influenced by mining activities and commodities, especially coal (non-oil and gas mining subsector) whose contribution reaches 82 percent of the total GDP value in 2023 with the value of GDP based on the prevailing price of the mining sector of IDR 86,553,060.57 million out of a total GDP of Rp. 104,663,188.97 million. Coal is still the mainstay commodity of East Kutai Regency. Economic growth in East Kutai Regency in 2023 contracted to increase without the oil and gas and coal sectors by 7.18 percent. This increase occurred due to the contribution of the agricultural subsector in a broad sense. This condition illustrates that the government's efforts to encourage regional economic development by reducing dependence on natural resources are increasingly having a positive impact.

The ALS of East Kutai residents increased by 0.01 years (0.11%) compared to the previous year which was 9.44 years. Meanwhile, in the last five years, the ALS increased by 0.37 years (4.07%). The ALS shows that the average population of East Kutai only goes to school up to grade IX. The ALS is better than the national average of 8.77 years in 2023. Compared to 13 other districts/cities in East Kalimantan Province, ALS East Kutai is in 6th position. Another region in the province that has the largest ALS is Balikpapan City (10.93 years), while the lowest RLS is Nunukan Regency (8.26 years).

1. Measurement Model (*Outer Model*)

The initial stage of model evaluation is the outer model. Construct validity is comprised of two key components: convergent validity and discriminant validity (Hamid & Suhardi, 2019:41).

a. Convergent Validity

Convergent validity refers to the notion that the gauge of a construct should be substantially linked (Jogiyanto in Hamid & Suhardi, 2019:51). The validity assessment of reflective indicators using the SmartPLS program is determined by the loading factor value for each construct indicator (Ghozali & Latan in Hamid & Suhardi, 2019:41-42). The guideline for evaluating convergent validity indicates that the loading factor should exceed 0.7. Additionally, the AVE should be greater than 0.5 (Ghozali & Latan in Hamid & Suhardi, 2019:41-42).

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

The loading factor results for each indicator in this study are presented in the following figure:

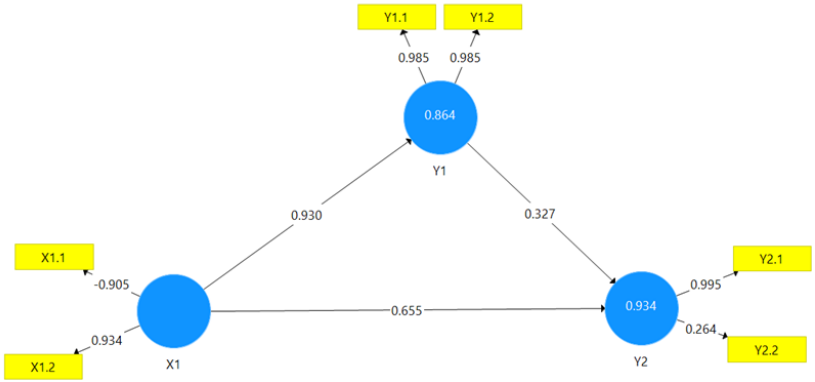

Figure 3. Loading Factor Before Reduction

The test results presented in Table 1 are as follows:

Table 1. Loading Factor Before Reduction

Variable	Indicator	*Loading Factor*	*Cut-off*	Information
Economic Growth	X1.1	-0,905	0,700	Invalid
	X1.2	0,934		Valid
Household Expenditure	Y1.1	0,985		Valid
	Y1.2	0,985		Valid
Education	Y2.1	0,995		Valid
	Y2.2	0,264		Invalid

Table 1 indicates that two indicators fail to satisfy the criteria for convergent validity, as their loading factor values are below 0.7. These indicators are the economic growth variable (X1.1) and the education indicator (Y2.2).

The subsequent test will utilize the AVE. The model demonstrates adequate convergent validity, as indicated by the AVE value, which is considered valid if it exceeds 0.5. The processing of data yielded the following results:

Table 2. Average Variance Extracted (AVE) Before Reduction

Variable	(AVE)	*Cut-off*	Information
X	0,846	0,500	Valid
Y1	0,971		Valid
Y2	0,530		Valid

Table 2 indicates that all AVE values exceed 0.5, demonstrating that all latent variables in the estimated model satisfy the criteria for convergent validity.

b. Convergent Validity After Data Reduction

The results of the loading factor after data reduction on each indicator in this study can be seen in the following figure:

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

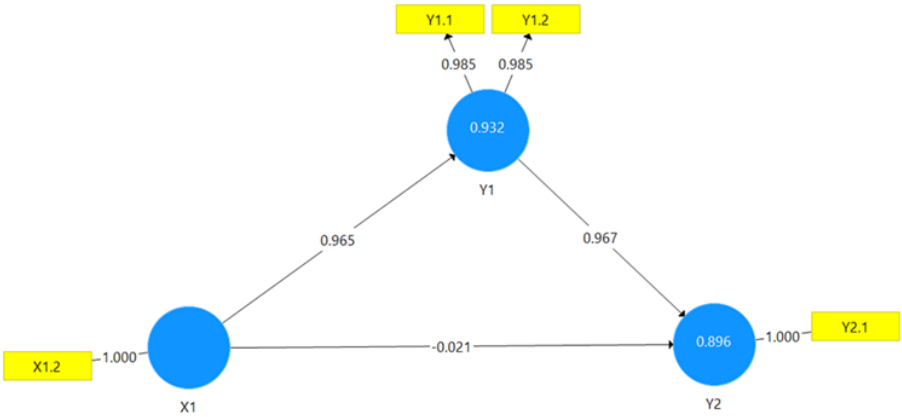

Figure 4. Loading Factor After Reduction

The test results presented in Table 3 are as follows:

Table 3. Loading Factor After Reduction

Variable	Indicator	*Loading Factor*	*Cut-Off*	Information
Economic Growth	X1.2	1,000	0,700	Valid
Household Expenditure	Y1.1	0,985		Valid
	Y1.2	0,985		Valid
Education	Y2.1	1,000		Valid

Table 3 indicates that all indicators satisfy the criteria for convergent validity, as the loading factor values exceed 0.7. The test will utilize Average Variance Extracted (AVE) to assess convergent validity. A model is considered valid if the AVE value exceeds 0.5. The processing of data yielded the following results:

Table 4. Average Variance Extracted (AVE) After Data Reduction

Variable	(AVE)	*Cut-off*	Information
X	1,000	0,500	Valid
Y1	0,971		Valid
Y2	1,000		Valid

Table 4 indicates that all AVE values exceed 0.5, demonstrating that all latent variables in the estimated model satisfy the criteria for convergent validity.

c. Discriminant Validity After Data Reduction

The discriminant validity is established if the AVE for each construct exceeds the correlation between that construct and other constructs within the model. The outcomes of cross-loading following reduction are displayed in Table 5.

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

Table 5. Cross-Loadings After Data Reduction

	X	Y1	Y2
X1.2	1,000	0,965	0,913
Y1.1	0,940	0,985	0,944
Y1.2	0,962	0,985	0,922
Y2.1	0,913	0,947	1,000

Table 5 indicates that the reduced cross-loading value demonstrates strong discriminant validity, as it exceeds 0.7 and exhibits a higher correlation between the indicator and its construct compared to its correlation with other constructs. The loading factor X1.2 (GDP indicator) is 1.00, surpassing the loading factors of other constructs: food expenditure (0.940), non-food expenditure (0.962), and average length of school (0.913).

d. Reliability Test

PLS-SEM involves conducting both validity and reliability testing (Ghozali & Latan in Hamid & Suhardi, 2019:42). The criterion for evaluating the reliability of a construct is that the composite reliability value should exceed 0.70.

Here are the *outputs* of *Composite Reliability* and *Cronbach's Alpha*:

Table 6. Composite Reliability dan Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability	*Cut-off*	Information
X	1,000	1,000	0,700	Reliable
Y1	0,970	0,970		Reliable
Y2	1,000	1,000		Reliable

The construct reliability test results indicate that the composite reliability and Cronbach alpha values for all latent variables exceed 0.70. All manifest variables used to measure latent variables in the estimated model are confirmed to be reliable. Therefore, the testing of the inner model may proceed.

2. Structural Model Analysis (*Inner Model*)

The goodness of fit (GoF) test is essential for evaluating the inner model by analyzing the parameters related to the percentage value of the endogenous construct variant in the R-Square value and the F test, the R-Square test is shown in Table 7 as follows:

Table 7. Structural Model Evaluation

	R Square	Category
Y1	0,932	Strong
Y2	0,896	Strong

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

The R Square values for Y1 and Y2 are 0.932 and 0.896, respectively, indicating a strong model fit. In addition to evaluating model fit through R Square, the F-Square test is employed. The F-Square values are categorized as follows: a value of 0.02 indicates a small influence, 0.15 indicates a medium influence, and 0.35 indicates a large influence at the structural level. This influence can be further elucidated by the exogenous construct, as detailed in Table 8 below:

Table 8. Effect Size (F-Square)

Observation	**F-Square**	
	Y1	**Y2**
X	13,711	0,000
Y1	-	0,614

The test results presented in Table 8 indicate that the F-Square value demonstrates a strong influence of economic growth on household expenditure, as well as a significant influence of household expenditure on education. Conversely, the influence of economic growth on education is characterized as weak.

Structural equations or path analysis

Before hypothesis testing is carried out, a structural model equation can be made based on the following formula:

Model 1: PRT = 0,965PE + ζ1..... (1)

The results of the model test show that the economic growth variable has a positive effect on household spending. This positive influence can be seen from the value of the path coefficient (path coefficient) on the economic growth variable which shows a positive value of 0.965. This means that the increase in economic growth is also increasing household spending.

For the second construction model, it can be seen as the following equation formula:

Model 2: PDK= -0,021IPE + 0,967PRT + ζ1..... (2)

The results of the model test show that the economic growth variable does not affect education. While household expenditure has a positive effect on education, this positive influence can be seen from the value of the variable path coefficient which shows a positive value of 0.967 (Household Expenditure). This shows that the greater household expenditure will cause an increase in the level of education.

3. Hypothesis Test

Table 9. Hypothesis Test

	Original Sample	***T Statistics***	***P Values***	**Information**
Direct Effect				
X -> Y1	0,965	55,177	0,000	Significant
X -> Y2	-0,021	0,040	0,968	Insignificant
Y1 -> Y2	0,967	1,938	0,053	Significant

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

	Original Sample	*T Statistics*	*P Values*	**Information**
Indirect Effect				
X -> Y1 -> Y2	0,933	1,916	0,056	Significant

The influence of economic growth on household expenditure

Based on a significance level of 0.05, the results presented in Table 9 indicate a hypothesis suggesting a significant positive influence of economic growth on family spending. This is in line with Keynes's theory, which explains that household consumption is currently greatly influenced by the rate of economic growth. According to Sari et al. (2021), public or household consumption will increase in line with income growth (GDP).

The increase in consumer spending in households is one of the indicators of increasing the welfare of the population in East Kuta Regency, due to the increase in economic activities in the production of goods and services from various economic sectors. One of the determining factors for the increase in household consumption expenditure is the increase in per capita income, thereby encouraging an increase in purchasing power not only in food products but also in non-food food products, including expenditure on education.

The influence of economic growth on human development in the educational dimension

The results of the hypothesis test show that the influence of economic growth has a negative and insignificant effect.

This is not in line with research conducted by Magdalena Laode (2020) who said that economic growth variables have a positive and significant effect on the Human Development Index (HDI) in the education sector. The results of this study are in line with the research of Wijayanto, Khusaini, and Syafitri (2015) which stated that improvements and expansions in the business climate allow the population to increase income so that purchasing power increases. Mirza (2012) also found that economic growth has a positive influence on the Human Development Index in Central Java, which means that an increase in economic growth can change consumption patterns in terms of people's purchasing power.

The increase in growth in East Kutai Regency is not accompanied by an increase in human development in the educational dimension because there is still a decrease in the School Participation Rate due to the dropout rate in East Kutai Regency which is caused by several factors including the geographical condition of the residence which is usually far from the school location so that the student is reluctant to continue school.

The influence of household expenditure on human development in the educational dimension

The findings indicate a positive and significant impact between household expenditure on human development in the educational dimension in East Kutai. Human capital investment through education is measured economically based on the sacrifices (opportunities) sacrificed when resources are allocated to spending. According to Simanjuntak (1998:69), what is sacrificed is the amount of funds spent and the possibility of obtaining income during the investment process. The income earned during this investment process must receive a higher level of income so that a higher level of consumption can be achieved. This kind of investment is called human capital. According to Todaro and Smith (2006: 455457), investment in human

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

capital through education increases the individual costs and benefits as well as the social costs and benefits of education. The average income level of the people in East Kutai is already above the UMP level, and the higher the level of awareness of the people in East Kutai about the importance of Education, the people in East Kutai will allocate their income level for Education.

Economic growth towards human development on the educational dimension through household expenditure

Economic growth that increases every year in East Kutai Regency will have an impact on increasing per capita income and the welfare of its people. The increase in community crime will have an impact on improving the quality of human resources. The quality of human resources can be seen from the Human Development Index (HDI) which is useful for comparing human development performance both between countries and between regions (Kuncoro, 2000). A low level of income or GDP per capita will result in low economic growth and will cause households to spend less on education. And vice versa, relatively high-income levels tend to make households spend more on education.

Conclusion

The correlation between economic growth and household expenditure suggests that an increase in consumer spending among households acts as a significant indicator of improved welfare for the residents of East Kutai Regency.

The relationship between economic growth and human development in the educational dimension reveals that the rise in growth within East Kutai Regency does not correlate with an improvement in educational outcomes. This is evidenced by the observed decline in the School Participation Rate.

Household expenditure significantly influences human development within the educational sector, indicating that individuals in East Kutai possess a strong awareness of education's role in enhancing community welfare.

Household expenditure serves as a mediator for the relationship between economic growth and human development, particularly in education. This suggests that the economic growth observed in East Kutai has the potential to enhance the welfare of the population, thereby positively influencing human development in the educational sector.

Recommendation

The East Kutai Regency Government needs to improve the community's economy, namely realizing the economic competitiveness of the community based on the agricultural sector, through increasing economic activities, increasing farmers' income, arranging the role of supporting the community's economic competitiveness, and increasing the growth of the number of small and medium industries (SMEs), so that the level of community welfare in East Kutai Regency increases and ultimately increases human development in the dimension of education. The dimension of education, namely increasing the competence and competitiveness of the population of East Kutai Regency through formal, non-formal, and informal education to meet the needs of national and regional development, is no less important to reduce the education gap by gender through increasing women's access to education. Third, the economic dimension, namely improving the economic status of the population through opportunities to expand employment and reduce unemployment. Reducing economic inequality is one of the efforts to reduce poverty rates.

Technium Social Sciences Journal
Vol. 66, 225-235, December, 2024
ISSN: 2668-7798
www.techniumscience.com

It is necessary to increase awareness of the importance of education in rural areas so that education can reach all children, even in remote areas. The policy of opening campuses or other schools in the region can also be expanded so that student interest is not burdened by access and distance problems. The government must strengthen educational infrastructure and the economic sector to increase the value of the Human Development Index and drive economic growth.

References

[1] Abdillah, W., & Jogiyanto. (2015). Partial Least Square (PLS) Alternative Structural Equation Modeling (SEM) in Business Research. CV. Andi Offset.
[2] Acar, Elif Oznur dkk. 2016. An Empirical Analysis of Household Education Expenditures in Turkey. *International Journal of Educational Development*, 51: 23-35.
[3] Akrom, H. M. (2020). Analysis of Factors Affecting Household Expenditure in East Java. FEB Student Scientific Journal, 8(1), 1–15. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/6326/5541
[4] Ahmad Ma'ruf & Latri Wihastuti (2008), "Economic Growth: Determinants and Prospects", Journal of Economics and Development Studies Vol 9 No 1.
[5] Andreou, S.N. 2012. Analysis of Household Expenditure on Education in Cyprus. Cyprus Economic Policy Review, 6: 1838. Europe: University of Cyprus.
[6] Atmanti, H.D. 2005. Human Resource Investment through Education. Journal of Development Dynamics, 2: 30 – 39.
[7] Abdillah, W., & Jogiyanto. (2015). Partial Least Square (PLS) Alternative Structural Equation Modeling (SEM) in Business Research. CV. Andi Offset.
[8] Central Statistics Agency. 2023. East Kalimantan in 2023 Figures: East Kalimantan
[9] Chi, Whei & Xiaoye Qian. 2015. Human Capital Investment in Children: An Empirical Study of Household Child Education in China, 2007 and 2011. China Economic Review, 5 (1): 24-38.
[10] Devi Budiarti and Yoyok Seostyo. *The Influence of Education Level on Economic Growth in Mojokerto Regency*. Year 2000-2011. Research Results.
[11] Didin Saripudin. Education Development and Indonesia's Economic Growth. International Seminar on Lifelong Education (ISLE) Paper.UPI, 2008.
[12] Ghozali, I. (2020) PARTIAL LEAST SQUARES CONCEPT, METHOD AND APPLICATION OF WARPPLS 7.0. 4th ed. Semarang: Diponegoro University Press.
[13] Hamid, Rahmad Solling and Suhardi M. Anwar. 2019. *Variant-Based Structural Equation Modeling (SEM): Basic Concepts and Applications with SmartPLS 3.2.8 Program in Business Research*. Jakarta: PT Writers Indonesia Incubator
[14] Joseph Stiglitz, 2004. Economy Growth and Education Policy, Jakarta. Kompas 15-12-2004
[15] Mukhlish, Faith. 2010. The Role of Human Resources in Economic Growth. http://drmuklis.blogspot.com/2010/03/peranan-sumber-dayamanusia dalam.html.
[16] Nuraini, F.A. 2017. Factors Affecting the Human Development Index (HDI) in Indonesia Using the Binary Probit Regression Method. Sepuluh Nopember Institute of Technology. Surabaya
[17] Rivayani Kusumawardani. 2018. Analysis of household expenditure on education in East Java province