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Characteristics of Village Development in the Perspective of Sustainable Development in West Sumatra Province, Indonesia

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ABSTRACT

Sustainable village development in West Sumatra Province has not been implemented optimally, so that many people are still below the poverty line. This can be seen from the Village Development Index for West Sumatra Province, where many villages are still very underdeveloped and disadvantaged. This study aims to analyze the influence of Village development characteristics in the perspective of sustainable development in West Sumatra Province. This research is a quantitative causal research. The population in this study was 846 villages in West Sumatra Province. Samples were taken using multistage sampling techniques with a total of 272 villages. Data was collected using a questionnaire. The data analysis applied was multiple regression. This study found that Institutional influence on sustainable village development (0.183); education level influences sustainable village development (0.777); community participation has an impact on sustainable village development (0.110); utilization of natural resources has an impact on sustainable village development (0.281) and poverty affects sustainable village development (-0.025).

1. INTRODUCTION

To departure, and arrival of goods/logistics, Nowadays, sustainable development has evolved over time and plays a central role in the global agenda [1, 2]. Sustainable development is not only an urgent need but also a necessity to ensure the well-being of future generations [3]. This concept, as described by the Brundtland Commission in 1987, the balance between providing for current needs and preserving resources for future generations [4]. Even though this understanding has become the basis of discussions on sustainable development, the UN 2023 report highlights the real challenges that the world still faces today [4, 5]. Around 700 million people around the world still have to overcome extreme poverty, reflecting that the achievement of sustainable development goals is far from optimal.

In Indonesia, sustainable village or rural development is a crucial issue. Villages in Indonesia are often the center of life for large rural communities. However, they are also often marginalized in national development, and the main challenges faced include several aspects. Many villages and rural in Indonesia still lack basic infrastructure such as good road access, clean water, proper sanitation and electricity. This lack of infrastructure makes access to basic services difficult for villagers, and hinders their economic and social growth [6]. In addition, the majority of people in villages or rural depend on the agricultural sector or work related to natural resources. However, productivity and income from this sector are often low and unstable. Lack of access to broad markets, advanced agricultural technology, and business capital are major obstacles in improving economic welfare in villages [7]. This harmonization process involves joint efforts to achieve overall community welfare, taking into account environmental preservation and village- specific potential [8]. Therefore, effective coordination and close collaboration between all relevant parties are needed to address these issues and make sustainable village development a driving force for positive sustainable change.

Village Development Index data shows strategic issues that are problematic, including gaps in infrastructure, institutions, natural resources, and human resources in various regions. This results in each region having different potential to increase sustainable development activities.

Sustainable Village development in West Sumatra Province requires a holistic approach that does not rely solely on physical infrastructure, but also relies on strong institutions that are appropriate to the local context. Institutions have a central role in shaping the foundation of natural resource management and community governance in villages [9]. The Village governance structure, involving customary institutions and local government, is a key pillar in designing policies that are in line with local values and community needs. The sustainability of rural is not only influenced by physical and economic factors, but is also highly dependent on existing institutions, especially customary and traditional institutions [10]. According to this study, customary and traditional institutions are not just formalities, but are the foundation of local wisdom that has been accumulated from generation to

generation.

The role of the level of community education is to shape the direction and sustainability of rural development [11, 12]. Communities with higher levels of education tend to better understand the essence of sustainable practices [13]. They have deeper knowledge of the effects of human actions on the environment can identify innovative solutions that support sustainable development [14, 15]. In addition, a high level of education also opens people's eyes to innovation. Formally educated people are more likely to accept and adopt new technologies and methods that support sustainable practices. They can more easily adapt to changes and take advantage of new opportunities that may arise in the context of rural development [16].

Active community participation in decision making and project implementation is very important so that it becomes the main foundation, and the institution that organizes this participation is the determinant of the success of rural sustainability [17]. Village development is based on the ability of various aspects, for example natural resources, human, economic, social, and cultural communities [18]. The large demand for natural resources, especially in the construction and industrial sectors, is the main driver of environmental degradation [19]. Suboptimal sustainable development and environmentally unfriendly implementation in economic activities are important contributions to this problem. The problem of ecosystem degradation, reduced biodiversity and potential adverse effects on human health. Unsustainable use of natural resources has an impact on the decline in ecosystem quality and reduced biodiversity, contributing to the unsustainability of rural development [20, 21].

Previous research found that environmental, economic, and social factors directly and indirectly influence ecotourism progress factors [22]. Sustainable development is influenced by institutional quality factors. In countries with lower middle incomes, sustainable development is influenced by institutional quality factors [23]. Institutional quality has a negative effect on MDGs and SDGs [24]. If institutional quality declines, then MDGs and SDGs will also decline [25]. Sustainable development is significantly influenced by education and globalization factors [26].

The solution provided/novelty opens up opportunities to search for dominant factors that influence sustainable rural development. The question in this research is to what extent is the influence of institutions, level of education, level of community participation, natural resources, and poverty on sustainable village development in West Sumatra Province? This study examines the impact and implications of institutions, education levels, community participation, natural resource utilization and poverty on sustainable rural development.

2. LITERATURE REVIEW

2.1 Institutional influences on sustainable rural development

Institutions have an influence in implementing sustainable development in rural areas. The initiative to establish a sustainable development institution signals the importance of integrating sustainable development principles into national and local policies [27]. The existence of such institutions is key to effectively coordinating various segments of society, as well as ensuring genuine participation from various stakeholders outside the sphere of government [27]. The importance of adequate and effective institutions highlights that these institutions have a special function in economic development and achieving sustainable development goals [5]. The quality of government institutions and government intervention in shaping quality institutions form a major factor in successful development [28]. The complex interactions between state politics and socio-economic development, as well as the ability of states to develop and reorganize themselves, are strongly influenced by institutional frameworks and governance.

A concept that places villages as the main foundation for achieving national sustainable development goals. This concept involves a deep transformation in village governance, aimed at improving effectiveness, consistency, synergy, and sustainability in the development process. The renewal of village development governance requires structural changes in the village institutions themselves, as successful development cannot be achieved without the support of strong and relevant institutions.

2.2 The effect of community education level on sustainable village development

Community education has a main function in sustainable development activities. This involves building awareness, stimulating active participation and improving the standard of living of the community as a whole [29]. Participatory action research methods and the implementation of community-based education programs contribute to the creation of lifelong learning environments, particularly in communities that may be more vulnerable [30]. Education policy makers and practitioners are increasingly recognizing the urgency of community participation in education efforts to achieve efficient, accountable and sustainable outcomes.

Higher education levels in an urban area have a negative relationship with poverty levels. However, increasing education levels at the city level was also identified as a positive factor that could reduce the level of inequality in India's urban neighborhoods [31]. Community empowerment through engineering projects involving higher education institutions has great potential to promote sustainable development.

2.3 The influence of environmental participation on sustainable village development

The humanity is required to be involved in making sustainable rural development a success. In this context, community participation is not only a tool to identify environmental problems, but also a key element in setting development targets and implementing environmental protection and management initiatives. Nonetheless, challenges mainly arise in the level of community awareness and participation, which is uneven in some areas [31]. The Covid-19 pandemic has provided an interesting example of how community participation can be a driving force, especially in advancing sustainable rural tourism. Some villages managed to overcome these difficult times by actively involving the community in planning and implementing low-cost programs for environmental protection.

By involving communities, local governments, the private sector, and non-governmental organizations, a comprehensive

framework to improve environmental issues and promote sustainable development in villages can be created [32]. Overall, community participation is not just a complementary element, but a key foundation in efforts to address environmental issues, promote sustainable development, and achieve a high quality of life in villages. Through active and inclusive involvement of all stakeholders, villages can develop effective and sustainable strategies to conserve the environment and maximize people's standard of living.

2.4 The effect of natural resource utilization on sustainable village development

Natural resource utilization has a significant impact on sustainable village development. Various studies have looked at the vital aspects of understanding impacts and promoting sustainability in this context. For example, a study conducted by Krasnoshtanova [32] thoroughly examined the impact of industrial natural resource development on the sustainability of village communities by considering qualitative and quantitative data, as well as the views of local communities. The importance of promoting transcendental values in village development policies related to natural resources and the environment [33]. They highlighted that these values contribute to the sustainability of natural resource ecosystems and community well-being.

Highlighting the need for sustainable rural development to advance the standard of living and welfare of rural communities [34]. They identify vulnerable attributes that can be used in assessing progress, including ecological, economic, socio-cultural, and legal and institutional dimensions. Sithole et al. emphasized the importance of understanding gendered spaces in natural resource use to redress gender inequalities and ensure sustainable development in rural landscapes. This shows that a gender perspective is essential in making inclusive and sustainable rural development policies.

2.5 The effect of poverty on sustainable village development

Poverty is a direct and indirect driver of various events that occur malnutrition, migration, hunger, conflict and all of which affect social sustainability and cause development to be delayed [35]. Knowledge of the dynamics of poverty is essential in making appropriate and effective decisions and in separating poverty into something temporary when assessing overall progress towards development goals [36]. This is caused and triggered by poverty which is varied and has various aspects which require various solutions and special policies that target TP [37]. Therefore, policy makers must understand the complexities associated with households and identify their causes, so that appropriate and effective policies can be designed to solve the problem of various types of poverty [38].

TP benchmarking has the potential to minimize global poverty, have a continuous effect and create externalities related to the acceptance of SDG1 and the SDGs as a whole. [39-41]. TP in sustainable development contributes to supporting sustainability and implementing policies on poverty [42, 43]. This study ignores temporary poverty rather than chronic poverty [44].

Socio-economic policies aim to reduce poverty by focusing on improving housing conditions and sustainable development such as hygiene, drinking water, toilets, and the environment and reducing disparities from the sub-regional level through pro-rural development. In addition, there is a relationship between social, economic, and welfare issues and sustainable development [45].

3. RESEARCH METHOD

This study explains how much influence poverty and the This research applies a type of quantitative exploration research. This study explains how much influence institutions, education levels, community participation, natural resource utilization and poverty have on sustainable Village in West Sumatra Province. Probability sampling is carried out according to multistage samples with a sample of 272 villages

Data was collected using questionnaire techniques. The questionnaire is addressed to community leaders and Walirural and Village officials in the Province in West Sumatra to ask for their opinions and experiences about Village development, which is influenced by institutional aspects, education levels, community participation, resource utilization. The data analysis used is by using multiple regression analysis.

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + e \quad (1)$$

where,

Y = Sustainable rural development
X_1= Institutional
X_2 = Education level
X_3 = Community participation
X_4 = Utilization of Natural Resources
X_5 = Poverty
a = Constant
b_1, b_2, b_3, b_4, b_5 = Regression coefficients
e = error

4. RESULTS AND DISCUSSION

After the data was collected, it was analyzed in order to make a research report. Before the data is processed using regression, pre-analytic examination is applied to ensure that the data obtained and the variables learned are suitable for secret handling. The pre-analytical tests carried out include:

To test normality using the K-S sample test at an alpha level of 5%. The results of the normality test can be seen in Table 1.

Table 1. Residual normality test results

Smaller Group	D	p-value
Development	0.4405	0
Cumulative	-0.0015	0
Combined K-S	0.4405	0.994

Table 1 shows the K-S probability value > 0.05 so that the data is normally distributed.

Multicollinearity testing by looking at the VIF value, if it is less than 10 and the tolerance value is less than 0.10, it means there is no multicollinearity.

The VIF value in Table 2 is obtained in the range 1-10 and 1/VIF in the range 0.1-1.0 The data in this study does not have multicollinearity.

This heteroscedasticity test aims to see if a regression model has an inequality of residual variants from one observation to

another. To find whether or not there is heteroscedasticity in this study, this study applied the park test, which is to pay attention to the pattern of the distribution plot graphics point. If the significant value (Sig.) > 0.05, then all independent variables used in the study do not have symptoms of heteroscedasticity.

Table 2. Multicollinearity test results

Variable	VIF	1/VIF
Participation rate ~3	6.36	0.157346
Poverty	5.38	0.186035
Institutional	2.89	0.346433
Education level	1.88	0.532419
Utilization of natural resources	1.81	0.553931

Table 3. Heteroscedasticity test results

Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity
H0: Constant variance
chi2(1) = 4.78
Prob > chi2 = 0.0889

Table 3 can be interpreted that the Breusch-Pagan test can be concluded that all variables (institutions, education levels, community participation, natural resource utilization, and poverty in this study) have a sig. > 0.05, so there are no symptoms of heteroscedasticity.

Table 4. Multiple linear regression estimation

	Coefficient	t-value	Probability
Constant	6.769	4.54	0.000
Institutionalization (X_1) -> Sustainable Village Development (Y)	0.183	6.68	0.000
Education Level (X_2) -> Sustainable Village Development (Y)	0.777	13.65	0,000
Community Participation -> Sustainable Village Development (Y)	0.110	2.13	0.033
Natural resource utilization (X_4) -> Sustainable Village Development (Y)	0.281	14.5	0,000
Poverty -> Sustainable Village Development (Y)	-0.025	-0.63	0.532

The form of the regression equation obtained is:

$$Y = 6.769 + 0.183X_1 + 0.777X_2 + 0.110X_3 + 0.281X_4 - 0.025X_5 \quad (2)$$

The equation above can be explained below:

1) The constant number is 6.769, this means that the institutional, educational institution level, community participation, utilization of natural resources and poverty are zero, then the value of the sustainable rural development variable is at 6.769. This means that institutional variables, education levels, community participation, natural resource utilization and poverty contribute to sustainable village development (Table 4).

2) Coefficient between institutions and sustainable rural development is 0.183. This means that every progress of one institution unit will increase sustainable village construction in West Sumatra Province by 0.183.

3) Coefficient between the level of education and sustainable village development is 0.777. This means that every one-unit level of education in Sumatra Province will increase sustainable village development by 0.777.

4) Coefficient between community participation and sustainable rural development is 0.110. This means that every one-unit increase in community participation will increase sustainable Village development in West Sumatra Province by 0.110.

5) Coefficient between natural resource utilization and sustainable village development is 0.281. This means that every increase in natural resource utilization will increase sustainable village development in West Sumatra Province by 0.281.

6) Coefficient between poverty and sustainable village development is -0.025. This means that every increase in poverty will reduce sustainable village development in West Sumatra Province by -0.025.

The significance results are obtained through the method of evaluating the effect by considering the significant value. If the significance value is small from 0.05, it has an effect, while if it is large, it has no effect. The results of hypothesis testing can be seen in Table 5.

Table 5. Partial hypothesis test results

Construct	T_{count}	Sig	Information
Constant	4.54	0.000	Accepted
Institutionalization (X_1) -> Sustainable Village Development (Y)	6.68	0.000	Accepted
Education Level (X_2) -> Sustainable Village Development (Y)	13.65	0.000	Accepted
Community Participation -> Sustainable Village Development (Y)	2.13	0.033	Accepted
Natural resource utilization (X_4) -> Sustainable Village Development (Y)	14.5	0,000	Accepted
Poverty -> Sustainable Village Development (Y)	-0.63	0.532	Rejected

Table 5 shows that the first hypothesis test where the t-value is 6.68 and the significant value is 0.000. Because the significance of 0.000 < 0.05 can be concluded that Ha is accepted, which means that partial institutions have a significant effect on sustainable village development in West Sumatra Province.

The second hypothesis obtained a t value of 13.65 and sig 0.000. The sig value is smaller than 0.05 so that Ha is accepted which means that the level of education has a significant partial effect on sustainable village development in West Sumatra Province.

The fourth hypothesis obtained a t value of 2.33 and sig 0.033 is smaller than 0.05 which means that community participation has a significant partial effect on sustainable village development in West Sumatra Province.

The results of the fourth hypothesis test obtained a t value of 14.5 and alpha 0.000 > 0.05 so that Ha is accepted. It can be concluded that the use of natural resources has a significant effect on sustainable village development in West Sumatra Province.

Hipotesis kelima didapat nilai t yaitu 0.063 dan sig 0.000 sehingga Ha ditolak. Dapat disimpulkan bahwa kemiskinan tidak berpengaruh signifikan terhadap pembangunan desa berkelanjutan di Provinsi Sumatera Barat.

To test the effect of independent variables simultaneously on the dependent variable using the F test. If the sig value is

less than 0.05 then there is a simultaneous effect. The results of the F test can be seen in Table 6.

Table 6. F test

Number of Observation	272
F Count	414.45
Prob > F	0.000

Tabel 6 menunjukkan sig 0.000 > 0.5. dapat disimpulkan bahwa kelembagaan, tingkat pendidikan, partisipasi masyarakat, pemanfaata sumber daya alam dan kemiskinan secara bersama-sama berpengaruh terhadap pembangunan desa berekelnjutan.

The determination coefficient value is determined by the Adjusted R square value.

Table 7. Cofficient of determination

Number of Observation	272
R-squared	0.6048
Adj R-squared	0.6034

Table 7 shows that the Adj R-squared value is 0.6048 (60.48%). This can be interpreted that the independent variables of institutions, education levels, community participation, natural resource utilization, and poverty, are able to influence 60.48%.

4.1 Institutional influence on sustainable village development

This study found that institutions have a positive and significant influence on sustainable Village development in West Sumatra Province. In this case, strong support from Village institutions will create sustainable Village development in West Sumatra Province. Great support from government institutions, including village institutions in West Sumatra Province, realize sustainable village development. Sustainable development is a process of change seen from the utilization of resources, investment direction, adapting technological developments, changing all appropriate institutions and increasing the potential that will be data now and in the future to meet humans' needs and aspirations [46].

Strong support from village institutions will encourage the creation of sustainable village development in the Barfat Sumatra Province. Government institutions and village institutions are very necessary to regulate the scope of human use of natural resources. Institutions also function in protecting the environment and all environmental problems. Government institutions have a key role in sustainable development planning and policies. This includes good infrastructure, education and sectors

The importance of careful planning to promote sustainable development is strong. Legislative support in the form of institutional enforcement is needed to facilitate effective policies that are in accordance with environmental resource management and take into account the form of lag in designing policies to protect environmental resources and environmental governance.

To face the challenges of sustainable development, institutional harmony is needed in achieving sustainable development goals in all aspects of decision making [47]. The positive impact of external institutional factors on SDG reporting has agreed as an institutional pressure that is entirely [5]. All include pressure from non -governmental organizations and society, sustainability policies and the influence of global sustainability for example iIRc and Ungc. The confidence in reporting sustainability is another external impact of SDGs reporting and has been discussed with a positive relationship with SDG [17].

Good cooperation from various institutions is very necessary to realize development that can be implemented in an integrated and efficient manner. Like building a bridge, good cooperation is needed between technical institutions, finance and other related institutions to ensure that planning, funding, construction and maintenance of the bridge are carried out on time and in accordance with the provisions that have been determined [48]. Strengthening rural institutions can result in several positive impacts, such as increased efficient coordination between the government, community, and private sector in planning and implementing development programs [49].

The involvement of all stakeholders in village development planning has a significant impact on sustainable outcomes [50]. The involvement of community members in decision-making, along with experts and specialists, is an important step to ensure well-informed development plans [51]. By directly involving communities, their needs and aspirations can be effectively considered in decision-making, which in turn will increase the acceptance and sustainability of development outcomes.

4.2 The effect of education level on sustainable rural development

The research results found that the level of education has a significant and positive influence on sustainable village development. It can be concluded that the higher the level of education, the higher the development in the village. A person with higher education understands social, economic and environmental problems. They will actively participate in making policies and implementing development agendas.

Sustainable village development can be successful if supported by a higher level of community education. Communities with higher levels of education better understand the social and economic environmental issues related to the sustainability of sustainable development. They will be actively involved in the planning, implementation and policy-making process in creating sustainable development programs. Those who are highly educated will understand the risks faced by every human activity on the environment and can provide innovative solutions so that sustainable development can be implemented properly.

Individuals who have higher levels of education tend to have a deeper understanding of various aspects related to sustainable development, including environmental, social and economic [52]. The level of community education has a central role in shaping the direction and sustainability of Village development. Sustainability practices are understood by people with a high level of education [12]. They will better understand the risks of human activities on the environment and can think of innovative solutions that encourage sustainable development [15].

Education and knowledge diffusion are critical to achieving sustainability [53]. Since ESD encompasses environmental, economic and social issues, people must receive basic knowledge from natural sciences, humanities and social sciences before they can understand the principles of ESD.

Collaboration between communities and local government officials is essential for effective decision- making in development, including educational initiatives [54]. Community participation in the highlighted decision- making process is crucial for sustainable development and economic resource allocation. Formally educated communities are more likely to accept and adopt new technologies and methods that support sustainable practices. They can more easily adapt to change and capitalize on new opportunities that may arise in the context of Village development [20].

Higher education levels have a significant positive impact on the sustainable development of village [46]. Education also has an influence on social policies and decision-making in agricultural development, including in the adoption of new technologies and environmental protection efforts [55].

4.3 The effect of community participation on sustainable village development

The results of the third hypothesis test obtained were that community participation has an influence on sustainable village development in West Sumatra Province. meaning that community activeness in activities in supporting sustainable rural development will create and improve sustainable Village development in West Sumatra Province. Therefore, the role of community participation is needed in the sustainable development process.

Strong community participation in village development budgeting is essential to ensure sustainable and inclusive outcomes with community needs and aspirations [56]. By actively involving communities in resource allocation decision-making, development programs can be designed to meet their needs directly, thus promoting more accountable and effective development. This participation approach is not only empowering the community, but rather to refine the legitimacy and confidence in decision -making activities [57]. In addition, community participation in budgeting promotes accountability in the management of Village funds and encourages good governance and budget discipline. Ultimately, these collaborative efforts between communities and local governments lead to more sustainable and community-based development initiatives, reflecting the vision of sustainable development desired by village communities [58].

External factors also have a significant influence on the level of community participation in the implementation of sustainable village development [59]. One of the influencing external factors is the support from non-governmental organizations (NGOs) and non-governmental organizations (NGOs). Community involvement in the development process has shown high success rates globally, which emphasizes the importance of collaborative efforts between NGOs, government departments, and local communities [60]. Studies from India, Ireland, Jordan, Indonesia and Kenya highlight the importance of involving stakeholders in various development activities. This collaboration not only ensures that local problems are addressed with local solutions, but also promotes inclusivity, responsiveness, and sustainability in the development process.

According to Arnstein's Ladder of Participation theory, which divides community participation into eight levels, ranging from non-participation to community control, provides an important framework for understanding the level of community involvement and influence in the development process [61]. However, research findings show that community participation in rural is still at a high level, particularly tending to be at levels such as manipulation, therapy, and placation. At the manipulation level, communities tend to only be involved in certain stages, but the final decision and control over the development process is still in the hands of the authorities [62]. This indicates that community participation is more of a formality or not just to fulfill administrative needs, without providing real space for community contribution and influence in village development.

4.4 The effect of natural resource utilization on sustainable rural development

This study found that there is a significant influence between the utilization of natural resources on sustainable village development in West Sumatra Province. This means that if natural resources are managed well, sustainable village development can be implemented well. The availability of natural resources is one of the factors that encourage sustainable village development.

Utilization of forest areas is also an aspect that needs to be considered in sustainable development. Forests have a huge role in maintaining environmental balance, providing abundant natural resources, and protecting biodiversity. In utilizing forest areas, it needs to be done wisely and responsibly, taking into account aspects such as biodiversity conservation, ecosystem maintenance, and the economic sustainability of local communities [63].

The use of natural resources plays an important role in sustainable development activities in the village [64]. The goal of sustainable development is to improve people's lives by meeting their basic needs through optimal and fair utilization of natural resources. Finding the right approach to natural resource utilization is essential to prevent negative impacts on the environment and ensure sustainable progress, often in economic and social terms [65]. While initiatives to conserve natural resources are essential in promoting sustainable development, it can often also pose challenges such as displacement and resettlement. Therefore, it is important to address these challenges by implementing appropriate criteria for sustainable development. Sustainable development and sustainability of natural resources can be grouped into six [66]: (1) a situation where resource utilization does not decrease over time; (2) managing resources as well as possible so that their production capacity does not decrease over time; (3) there is no decrease in resource reserves over time; (4) managing natural resources as well as possible to protect sustainable outcomes, namely the impacts of their use; (5) providing a situation of minimal ecosystem stability over time and (6) sustainable resource use and sustainable development, namely the capacity to achieve greater consensus.

The idea of sustainable development whose goal is a sustainable economy and environment in effective agricultural production activities, energy utilization, organizing natural resources and industrial production [67].

4.5 The effect of poverty on sustainable village development

The findings show that there is no significant effect of poverty on sustainable Village development in West Sumatra Province. This means that not all Village in West Sumatra Province experience poverty. This indicates that not all

villages in West Sumatra Province experience high levels of poverty. Although poverty can be one of the factors affecting rural development, there is variability in the economic conditions of various Village in the region. Analysis of the dimensions of economic welfare, health access, and social welfare shows a very satisfactory picture of sustainable Village development in West Sumatra Province.

Poverty factors have an impact on the sustainability of development in a region. If a region has a high poverty rate, this certainly causes development activities to be hampered. Because these poor people have limited access to technological advances, education, health and other resources needed in the sustainable development process. They focus more on meeting their daily needs than being involved in sustainable development activities.

The government has implemented programs that seek to increase household income and create inclusive economic policies that have an impact on the welfare of a region [68]. There is strong public support for initiatives aimed at increasing income and supporting inclusive economic growth [11].

The factors causing imbalances and gaps in access to resources and services are poverty, while infrastructure, education, public benefits and institutional capacity have essential roles. There is a complex relationship between poverty and sustainable village development [11]. Based on the overall research results, the novelty results of this study are that the education level variable has a greater influence on sustainable Village development in West Sumatra. Higher education will encourage sustainable village development to be implemented effectively. Sustainable rural development is influenced by the level of community education [11, 12]. A high level of education will encourage sustainable development activities [13].

Communities that have passed higher levels of education tend to be more aware of the impact of human activities on the environment and better understand the urgency to adopt sustainable practices [69]. Policy integration between the rural government and the city government is very important to ensure adequate education infrastructure and qualified educators in each rural [70]. With a high level of education owned by the community, the village government can carry out institutional functions properly, where all parties involved have high knowledge according to the level of education. People who have higher education will encourage themselves to actively participate in sustainable village development activities and use the natural resources owned by the village properly by considering sustainability for future problems.

5. CONCLUSIONS

Based on the results of research and discussion, this study can be concluded in general that the characteristics of Village development in the perspective of sustainable development in West Sumatra Province have a more dominant influence, namely the variable level of education, then followed by the variable variable utilization of natural resources, while the lowest variable influence is the variable poverty. When viewed from each influence between variables can be described as follows: (1) Institutions have a significant and positive effect on sustainable village development in West Sumatra Province. This indicates that institutions determine sustainable development. (2) There is a significant and positive influence between the level of education and sustainable development in West Sumatra Province. This indicates that the level of education also determines sustainable development. (3) There is a significant and positive influence between community participation on sustainable rural development in West Sumatra Province. This indicates that community participation determines sustainable development. (4) Village natural resources have a significant and positive effect on sustainable development in West Sumatera Province. This indicates that natural resources determine sustainable development. (5) Poverty has no significant and negative effect on sustainable development in West Sumatra Province. This indicates that poverty does not determine sustainable developments.

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