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The Effect Of Policy Implementation Of Information Meteorology Climatology And Geophysics On Economic Resilience

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ABSTRACT

The purpose of this study was to obtain empirical data on the effect of the implementation of the earthquake and tsunami information utilization policy on the economic resilience of the people of Sukabumi Regency. Research respondents were the people of Sukabumi Regency, from January to March 2020. The research method used was a quantitative descriptive method with a correlational study. The number of samples was 30 people who were randomly assigned. The data collection tool used was a behavioral scale questionnaire for variable X and with the type of behavior scale also from Likert for variable Y. All instruments were tested for their validity and reliability levels at a significance level of 0.95 or 0.05%. To complete the test requirements Hypothesis, a pre-requisite test for data analysis was performed, namely the normality and linearity test. For the normality of each variable, variable X gets a result of 0.0954 and variable Y is 0.0729, which when compared to L table of 0.1610 turns out to be both larger, so that both can be declared normally distributed. For the Linearity Test between the two variables yields Ŷ = 38.68 + 0.51X, F counts 0.6888 and F table is 2.95 with dk 28 at = 0.05. Since F count is less than F table (0.6888 <2.95), then the regression is linear. Hypothesis testing is done by using Product Moment Correlation. From the calculation results obtained rxy of 0.6125 and r-table at a significant level of 0.05 of 0.361 so that (0.6125> 0.361) it can be concluded that there is an effect of the implementation of policies on the use of earthquake and tsunami information on the economic resilience of the people of Sukabumi Regency. determination of 0.61252 = 0.3751. Thus the contribution of variable X to Y is 37.51%. The level of significance of the influence of the two variables was carried out by using the t-test. The results of the analysis show the t - count is 4.10 with a 95% confidence level in dk (28) and t - table of 2.05. Thus t - count is more than t - table (4.10> 2.05). The comparison of the two "t" values indicates a significant effect.

Keywords: Policy implementation, Earthquake and Tsunami, Economic Resilience.

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INTRODUCTION

Disaster experts in the world view Indonesia as a unique archipelago region, namely because it is in an area prone to natural disasters or prone to man-made disasters. With these conditions, this beloved country is vulnerable to various disasters with a high risk of disaster. Judging from its geographic location and regional characteristics, Indonesia has many advantages. In the economic aspect, by utilizing natural resources (natural resources) which are known to be rich, but in fact, the thousands of islands that we have have suffered losses and become prone to natural disasters. The large number of volcanoes in Java and Sumatra, flanked by the Asian and Australian plates in the south of the island of Java, and the plates in western Sumatra, because the low land area of Java is a potential disaster. Indonesia is one of the areas that has the potential for earthquakes and tsunamis, even a large earthquake accompanied by a mega tsunami (the largest in history) occurred in Indonesia on the gray December 26, 2004, to be exact, had a very large impact in Indonesia. Based on an evaluation conditioned by the World Bank in February 2005, approximately 150,000 people died, 127,000 houses were destroyed, in the Nias Islands there were 850 people missing, 35,000 houses destroyed, there were 500,000 residents whose homes were missing, there were two hospitals destroyed, of which five were badly damaged; There were 26 main Puskesmas that were destroyed; there were 1,488 heavily damaged schools; 11,000 hectares of damaged land while 2,900 hectares permanently damaged; It is estimated that 14% of the economy will shrink, productivity will be lost hundreds of billions of rupiah with half of it from the fisheries sector, 90% of coral reefs, extensive damage to mangroves. It is estimated that three-quarters of a million Acehnese are the direct victims, suffering so much because they have to lose their families and friends, not to mention the loss of their livelihoods, with a total loss of up to 41.4 trillion rupiah, which is even more sad the trauma that the community has to face. (Tempo, 2018).

On 8-01-2019, Tuesday at 16.45 WIB, the southern region of Java, namely the Indian Ocean, was hit by a tectonic earthquake. BMKG analyzed that the initial earthquake was with a magnitude of 5.4, with the epicenter at the coordinates of 7.83 South Latitude and 106.44 East Longitude, which is precisely at a sea location with a distance of 93 km in the Pelabuhan Ratu area of Sukabumi Regency with a depth of 50 km. (Rahmat Triyono; 2019) Thursday, March 5, 2020 at 13.16 WIB. BMKG data shows an earthquake with a magnitude of 3.3 SR. With the epicenter of the earthquake being in the southwest of Sukabumi Regency with the position at the coordinate point of 7.07 LS 106.46 East Longitude. The epicenter of the earthquake was in the sea 13 km southwest of Sukabumi Regency. (Alexander Haryanto; 2020). On Tuesday, March 10 2020 at 17:18 WIB an earthquake occurred in Sukabumi Regency with a magnitude of 5.1. 48 houses were severely damaged, 91 were moderately damaged and 63 houses were slightly damaged. Based on data, the most damage was in Kalapanunggal Subdistrict, Sukabumi District, namely 166 units damaged, with details of 41 housing units that

were severely damaged, and 75 houses were moderately damaged and slightly damaged. The BMKG determined that this earthquake was classified as type II, because the shock was strong, which was initiated by a preliminary shepherd. The epicenter of the local earthquake or shallow crust is in Kec. Kalapanunggal, Kab. Sukabumi. The BMKG monitoring station closest to the epicenter is at the seismic station of Pelabuhan Ratu with the code PJSM. (Addi M Idhom; 2020).

The occurrence of natural disasters in our country cannot be prevented, but society can minimize losses due to disasters, both material loss and loss of life. There are many problems that we must do at this time in improving our competence to provide information on early warning against disasters. Among other things, by further enhancing technological innovation based on big data and artificial intelligent because through increased technological innovation, it can be used to provide accurate and fast early warning information so that it can spread in the community.BPPT already has what is called Hammam, namely Sijagat technology to study problems in multi-storey buildings in the event of an earthquake. This policy is a disaster technology innovation owned by BPPT. Through the detection and early warning system for earthquakes and tsunamis via cable base tsunami meter technology. BPPT also maximizes the role of technology for preparedness in the face of disasters. In addition, it is hoped that new industrial strengths can grow, namely an Indonesian disaster industry. The purpose of this technology is to; (1) Forming resilience in the face of an earthquake through mitigation and preparedness. (2), support for acceleration in the emergency response process, (3), namely applying technology for the post-recovery process

Literature Review

Implementation of Meteorological, Climatological and Geophysical Information Utilization Policy

The policy on the use of meteorological, climatological and geophysical information is contained in the law (Law No.31 of 2009), which explains that stakeholders, in this case the government, and local governments, must make use of meteorological, climatological and geophysical information when establishing policies related. Theoretically, Eugene Bardach states that in implementing policy, bargaining and persuasion efforts are required, as well as maneuvering during uncertain conditions, and because BMKG as an actor from the bureaucratic element plays as much control as possible, BMKG must actively encourage the use of BMKG information to be obeyed by the central government until regions including related sectors. The policy for the utilization of earthquake and tsunami information has been implemented, among others. (1) for disaster management, (2) the safety of domestic shipping and international shipping (ALKI), (3) for regional planning included in the General Spatial Plan (RUTR) so that there is a balance between development and potential disasters for the realization of sustainable development, and for the benefit of disaster management before, during and after a disaster. However, at the level of policy implementation, it seems that it has not been optimal as evidenced by the large number of casualties caused by the earthquake and tsunami.Direct impacts include; First, from the financial side, the damage to economic assets is the destruction of houses as residences and places of business, as well as infrastructure. Second, the indirect effect, namely in the form of neglected production processes, no income and no source of income. Third, the continued effect in the form of stunted economic growth, unrealized development plans. (Abdul Muttalib & Mashur; 2019). It is the low-income groups who are most affected by the earthquake. For people who cannot afford it, losing their homes due to the earthquake disaster is the loss of all their assets. Rahmat Triyono as Head of the Earthquake and Tsunami Center of the BMKG, through his explanation on Friday, February 28, 2020, stated that the potential for an earthquake to occur was known based on the results of a study conducted in 2011. Further studies regarding the potential for earthquakes need to be carried out further by objectives for mitigation and risk reduction of vessels. In addition to the modeling of the past ten years, it was revealed that the shocks that occurred reached intensity VIII-IX on the MMI scale. This means that it can be very destructive. In this case, it does not frighten the population, but so that the authorities immediately prepare appropriate mitigation, structural or technical or cultural mitigation. The 8.7 magnitude earthquake is a potential result of the study and not the prediction. Although scientific studies can determine the potential magnitude in the megathrust zone, until now technology has not been able to predict precisely and accurately when an earthquake will occur. In the midst of uncertainty when an earthquake occurs with the potential to trigger a tsunami, what can be done is how to mitigate efforts by preparing concrete steps to reduce the risk of social, economic and casualty losses should an earthquake occur. (Rahmat Triyono; 2019)

In terms of access to meteorological, climatological and geophysical information that can be viewed as public information, the public has full rights as stipulated in article 88 of Law No.31 of 2009, "the public has the right to obtain public information regarding the implementation of meteorology, climatology, and geophysics in accordance with statutory provisions ". Handmer and Dovers (2007) describe the process stages in disaster management as follows; (1) problem farming discourse, (2) policy farming and strategic droice, (3) policy design and implementation; and (4) monitoring and learning policy. Public policy is what is determined by the government to be implemented or not implemented. (Dye in Leo Agustino, 2008; 7). Policy according to Cerl Friedrich (in Wahab, 2004; 3) that policy is an action directed at the goals of a person, group or government from a certain environment related to problems with getting opportunities to achieve goals or achieve expected targets. This means that policies cannot conflict with the norms and values that apply to society. If a policy that contains norms and values is not in accordance with the norms and values that exist in society, then the policy can become an obstacle when implemented. On the other hand, a policy must be able to accommodate norms and values and practices that exist and develop in society. Disaster risk assessment efforts can determine the size of 3 components.

Community Economic Resilience

Building community resilience in earthquake-prone areas is a bureaucracy that is not routine, a bureaucracy that anticipates disaster risks that have a wide impact. The process of building community resilience needs to focus on local needs. Encouraging economic activity is directly in touch with the joints of family life. Community

empowerment is expected to lead to independence and foster vigilance in obtaining and managing capital. Business capital can be provided in the form of grants or loans from various sources, for example; The Office of Cooperatives and MSMEs, which annually provide grants in the form of small loans, for example the People's Business Credit (KUR), and the development of capital assistance can be expanded and more equitable. The development of people's economic institutions can grow from the people by the people and in the end it is used for the interests of the people on the basis of the principle of kinship which can be done through coaching the community in the economic sector as a group. This activity is expected to be able to make the community more familiar, so that they can trust, and have the same interests through the formation of groups, so that good cooperation and synergy can be born, so as to increase awareness and independence.The survey results showed that the damaged dwellings reached 547 units, spread over three districts; Kalapanunggal, Cidahu and Kabandungan. The most damage data came from Kalapanunggal District, namely the damage to 166 units. In that sub-district, 41 houses were severely damaged, 75 were moderately damaged, and slightly damaged. (Agus Wibowo; 2020) This has caused the people of Kalapanunggal, with the potential for many public facilities to be affected by the earthquake, to worry about aftershocks. Besides being able to damage various public facilities, earthquakes also have an impact on people's livelihoods. Damage to people's livelihoods is also one of the factors that can increase vulnerability (De Leon, 2008). The earthquake has destroyed agricultural land, and destroyed the enclosures of pets and animals. Livelihoods can mean the way people get a life, namely the various ways that are used to empower the various resources they have to earn income in order to sustain their life. Aspects of life are prioritized on abilities, resources in the form of material and including social, capital, and activities as components that can explain that local communities can still survive and can overcome their difficulties in life resulting from disasters (Scoones, 1998; Chambers and Conway; 1992; ; and Ellis; 1999). The results of the analysis show that of the 30 respondents, only 29% or only 9 respondents have permanent jobs as civil servants, retired civil servants, and private employees, while others have professions with irregular income, as laborers and farmers. This proves that the livelihoods of most people depend on agriculture and livestock. If people's livelihoods are damaged or lost, the community will be more vulnerable.Even so, it is possible that someone who is a profession with a non-permanent income will have a better resilience than a profession with a regular income. This can happen because with their skills, they are considered to be able to make adjustments to the new environment. The purpose of the new environment is their ability to make livelihoods based on post-disaster conditions such as those in Kalapanunggal District. Besides the importance of paying attention to physical and economic aspects in assessing the effect of implementing policies on the use of meteorological, climatological and geophysical information on the economic resilience of communities in earthquake-prone areas. It is also necessary to pay attention to the social aspect, which has the most important role in implementing policies on the use of earthquake and tsunami information due to minimal preparedness or efforts to deal with an earthquake. In addition, the mobilization of existing resources in the community is still low, because in general, respondents stated that they had never organized and attended training, socialization and assistance on earthquake Disaster Risk Reduction (DRR) which could affect coordination and cooperation in DRR efforts. In addition, the level of community alertness to the possibility of a disaster is still minimal.The level of regional resilience will be analyzed through the Hyogo Frame work for Action (HFA). HFA contains 5 priorities of action as commitments in disaster risk reduction. The 5 priorities of HFA action are elaborated into 22 indicators of achievement, each indicator of achievement is assessed together in a value range 1-5 and each indicator is given an index of importance. The highest total number of resilience index of an area is 100 (UN-ISDR. 2007). The five priorities for HFA action are as follows; Priority for action I; namely prioritizing disaster risk reduction (DRR) is a national and local priority with a strong institutional basis. Disaster management efforts must be the main priority of the stipulated policies, regulatory policies and the direction of regional development. Many areas have the old belief that if a disaster occurs they will still be overcome. This view changed after the Aceh Tsunami in 2004, after Indonesia had a special agency for disaster management (BNPB) and Law No.24 of 2007. Through these agencies and laws, our country has made disaster risk reduction (DRR) with the highest priority. of every action. Currently, all regions in Indonesia have created a Regional Disaster Management Agency (BPBD). In addition to making legal products and special bodies, Hyogo 's first action also involved the community in DRR, which was the division of special responsibilities for each party in society.Priority for action II; identify, explore and monitor disaster risks and improve early warning. In this action, we are required to allow, assess and remove risks and implement the initial system. Everyone must have a disaster risk map. This map can be the basis for development planning and budgeting. In addition to making maps, in an effort to overcome these problems and assess disaster problems, data on disaster events must be provided every year. From the event statistics data can be used as a guideline for dealing with disasters in the future. We must also have an early information system for all disasters. Priority for action III; harnessing scientific innovation, and turning it into a culture of safety and resilience at all levels, in this third action must be able to leverage scientific innovation, and education to build a culture of safety and resilience in the entire society. In order to increase knowledge, encourage and develop education, academics and must insist on creating a system of delivering correct information about novelty to the general public. Delivering correct information will reduce the level of community risk. The problem that often occurs is public panic, this happens because accurate information does not reach the public so that the compilation that is heard by the public is confusing information, in the end people panic because they are confused. In an effort to provide an accurate understanding of disaster mitigation, it is necessary to conduct community trainings and research in an effort to get the latest innovations in DRR efforts. As stated by Pudjiastuti, public knowledge of natural disaster warnings determines community preparedness for the impact of natural disasters in the future. The average percentage of households that know about signs or warnings of natural disaster emergency response in their neighborhoods in all provinces is 11.35% in urban areas and 8.08% in rural areas. The low level of public knowledge related to the safety of one's life will increase the risk of becoming a victim in the face of the impact of natural disasters that will occur. (Pudjiastuti, SR .; 2019). On this basis, it is very necessary to provide counseling and training to the community in Kalapanunggal District.

Priority for action IV; reduce underlying risk factors. In this fourth action, we must reduce the factors that cause the occurrence or impact of the risk. Natural resources and environmental factors are often the fundamental factors that influence nature and society. In an effort to overcome fundamental factors, natural resource management and environmental conservation are priorities for local governments. Every policy made must address nature. Increasing food security is also the government's main program in social DRR efforts. Priority for action V; strengthen disaster preparedness. In this action, in transition to all communities to be able to respond, what is done to be more effective is to strengthen preparedness. In line with the third action, this fifth action we must maintain policies, technical and safety capacities at regional, national and local scales, including those related to technology, training and human resources. Society, government and all elements of the people must provide sufficient knowledge with planning and their preparedness for implementation should really improve. Even if a disaster occurs that should not have happened, the community is ready to face the disaster and knows what to do before, compile and a disaster occurs. The government and stakeholders must also prepare before emergency response and reconstruction rehabilitation in preparation for a short and well coordinated time. (MPBI; 2007). These are some of the actions that regions must take in efforts to reduce disaster risk (PRB) and to realize community economic resilience and create resilient communities in the face of disasters.

METHOD

The research method used is a quantitative method with a correlational study and is classified as a survey method, because the data to be studied comes from a number of samples selected from a number of populations, and the data collection tool used is a questionnaire of information mainly about the data in the study. Meanwhile, the data analysis technique used is the correlation technique, which is to calculate the strength of the relationship between the two variables under study. (Pudjiastuti, SR; 2019) In this study, the two variables studied were the implementation of the earthquake and tsunami information utilization policy as independent variables and the community's economic resilience as the dependent variable.

Place and time of research

The research site was carried out in Kalapanunggal District, on the grounds that this area is an earthquake prone area, and is most often affected by earthquakes, while the research was carried out for 3 months, from January to March 2020.

Population and Sample.

The research population is the people in Kalapanunggal District. The research sample, namely the people in Kalapanunggal District, was taken by proportional random sampling, namely randomly selecting the people who were the respondents, namely 30 respondents. And 20 other communities will be used as test samples for the instrument items.

Research Instruments.

The research instrument to collect data on the two variables, namely the independent variable regarding the implementation of the policy on the use of earthquake and tsunami information (X) and the dependent variable on the economic resilience of the community (Y), both used a questionnaire with a behavior scale from Likert. With the category of five answer choices, for positive statements, namely 5 for always answers (SL), 4 for frequent statements (SR), 3 for occasional statements (KD), 2 for never statements (P), 1 for never statements (TP) and for negative statements on the contrary, namely 1 for (SL), 2 for (SR), 3 for (KD), 4 for (P) and 5 for (TP). In filling out the questionnaire, respondents only filled out the checklist in the available column. The number of statement items for the two variables each were 30 items, then tested on non-respondent communities so that they were appropriate for distribution to respondents as a research tool.

Data Analysis Technique.

Before arriving at the statistical technique testing stage, the main data will first be explained in the form of a description regarding the summary of the frequency distribution list, minimum score, maximum score, average, mode, median and requirements for determining interval class, and finally the presentation of the data in histogram and polygon shapes. Then for further testing the data analysis requirements, namely by knowing the level of normality and the level of linearity of the two variables studied data. The data analysis technique in this study used a formula, product moment correlation

Statistical Hypothesis

To determine the existence of a linear and significant effect, namely by comparing the value statistics $a_{t\ count}$ and $a_{t\ table}$ each independent variable with a = 0.05 and determine the accepted hypothesis with the following conditions:

$H_0 = \rho_{xy} = 0$

$H_1 = \rho_{xy} > 0$

Information : ρ_{xy} : correlation between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community.

Testing Criteria: calculated by the formula: Refuse Ho if $F_{count} < F_{table}$ At the 95% confidence level with dk = n-2

RESULTS AND DISCUSSION

Data Description.

Based on the number of variables and referring to the research problem, the data description can be grouped into 2 (two) parts, namely the first is data regarding the implementation of policies on the use of meteorological, climatological and geophysical information and the second is data on the economic resilience of the community. Descriptions of descriptive statistical calculations are presented below.

a. Data on the Implementation of Meteorological, Climatological and Geophysical Information Utilization Policies

The ideal score that is expected to be obtained from research for the variable implementation of the policy on the use of meteorological, climatological and geophysical information is in the range of scores between 70 and 99. But it turns out that the results of the study show that the range of scores for the implementation of policies on the use of meteorological, climatological and geophysical information is between 70 - 96, the average price is 85.83. The standard deviation or standard deviation is 6.39. The

median is 87.00. While the mode is 87.19. The complete frequency distribution is as listed in table 1:

No.	Interval Class	The midpoint	Turus	F	Real Limits
1	70 – 74	72	II	2	69,5 – 74,5
2	75 – 79	77	III	3	74,5 – 79,5
3	80 – 84	82	IIII	5	79,5 – 84,5
4	85 – 89	87	IIII IIII II	12	84,5 – 89,5
5	90 – 94	92	IIII I	6	89,5 – 94,5
6	95 – 99	97	II	2	94,5 – 99,5
∑			30	30	

Table 1.Data Frequency Distribution for the Implementation of Meteorological, Climatological and Geophysical Information Utilization Policies (X)

Based on the data in the table above, when compared with the average score of the variable implementation of the policy on the use of meteorological, climatological and geophysical information is below the average of 10 (33.33%) respondents, which is on average there are 12 (40 , 0%) of respondents, and those who are above the average price of 8 (26.67%) respondents. This means that the score of the implementation of the policy on the use of meteorological, climatological and geophysical information is in the high category. Based on the frequency distribution table, a histogram and polygon graph can be made regarding the implementation of the policy on the use of earthquake and tsunami information which can be described as in the graph below

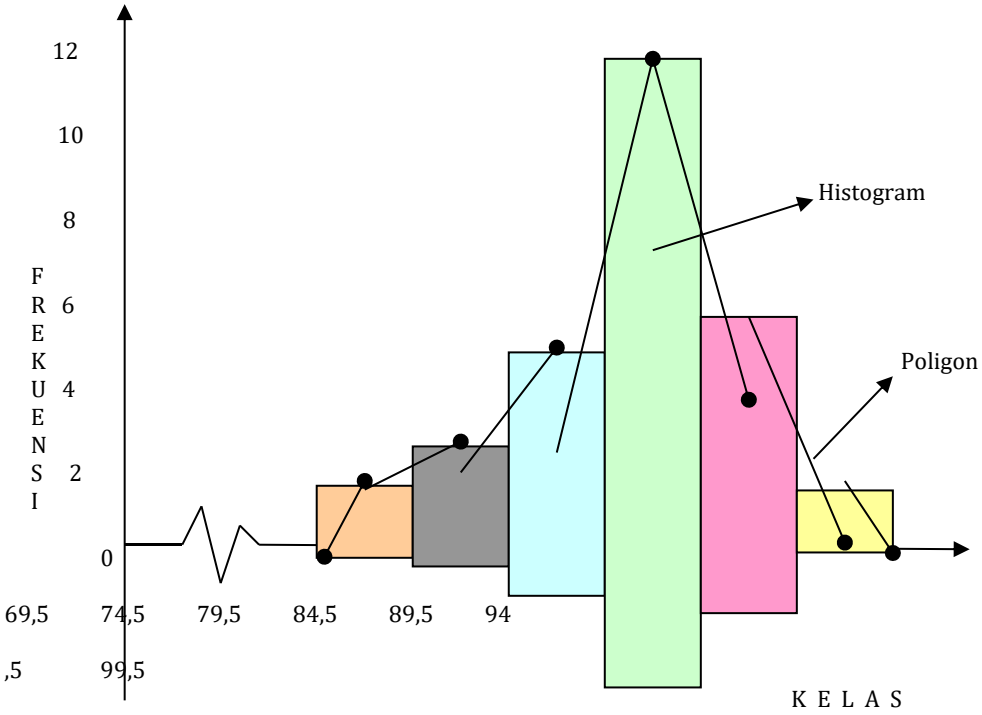

Figure 1.Histogram and Polygon of Variable X

a. Data on Community Economic Resilience Variables.
The ideal score that is expected to be obtained from research for the variable of community economic resilience is in the range of scores of 68 to 97. It turns out that the results of the study explain that the range of community economic resilience scores is between 68 - 97, the average price is 83.17. The standard deviation or standard deviation is 7.25. The median is 84.00 while the mode is 83.17. The complete frequency distribution can be seen in table 2.

Table 2.Frequency Distribution of Community Economic Resilience Data (Y)

No.	Interval Class	The midpoint	Turus	F	Real Limits
1	68 – 72	70	III	3	67,5 – 72,5
2	73 – 77	75	IIII	4	72,5 – 77,5
3	78 – 82	80	IIII	5	77,5 – 82,5
4	83 – 87	85	IIII IIII	10	82,5 – 87,5

5	88 – 92	90	IIII	5	87,5 – 92,5
6	93 – 97	95	III	3	92,5 – 97,5
Σ			30	30	

Based on the data in table 2, when compared with the average, the economic resilience score of the community is below the average of 12 (40.0%) respondents, who are at an average price of 10 respondents (33.33%).), and is above the average price of 8 (26.67%) respondents. This means that the score of community economic resilience in the Kalapanunggal District, Sukabumi Regency, is in the medium category. The histogram and polygon of the community economic resilience variable can be depicted as in the graphic below:

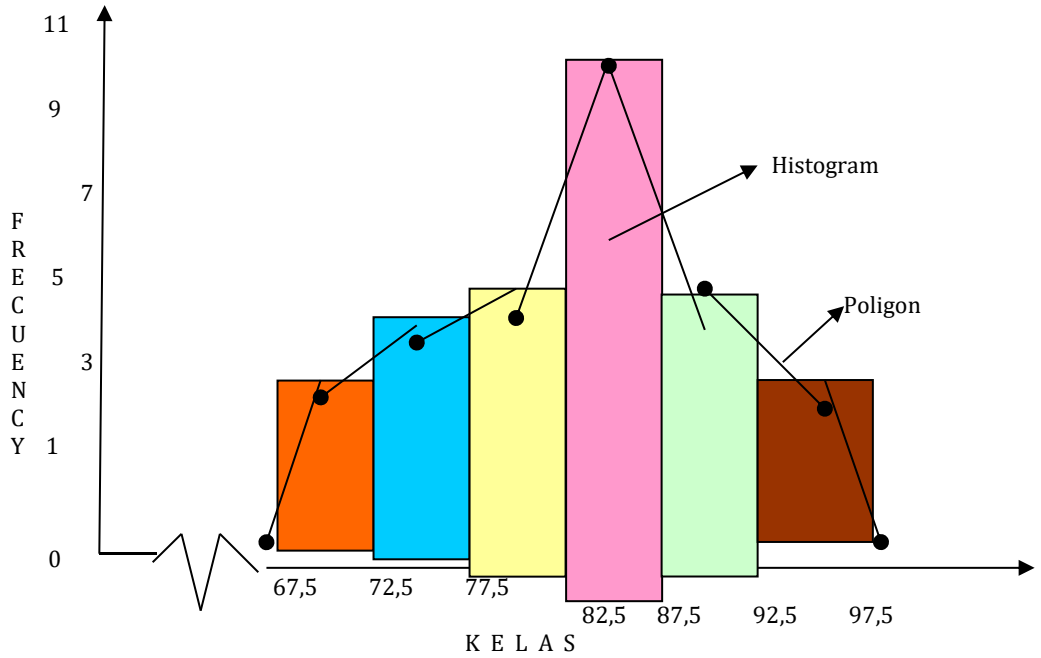

Figure 2. Histogram and Polygon of Variable Y

Testing Data Analysis Requirements.
Research variable data were analyzed using inferential statistical analysis through simple correlation techniques which must meet several requirements, as follows: the first; Data sourced from samples in the form of pairs of variable data on the implementation of policies on the use of meteorological, climatological and geophysical information and community economic resilience must be taken randomly and meet the minimum sample. The second ; each group of variable prices for the implementation of policies on the use of earthquake and tsunami information and the variables of community economic resilience must be normally distributed. The third ; the influence of the variable on the implementation of the earthquake and tsunami information utilization policy and the variable of community economic resilience must be linear.
To fulfill these requirements, the analysis requirements test has been conducted, namely testing the normality of data distribution. The test results are stated as follows:

Normality Test (Liliefors).
The normality test is used to determine whether the data comes from a population that is normally distributed or not. The criterion for normality test is Ho is rejected if "L" count is greater than "L" table or Ho is accepted if "L" count is less than "L" table.
The data obtained about the variable implementation of the policy on the use of meteorological, climatological and geophysical information and the variable of economic resilience of the community from a normal population, to be able to find out how much the calculation results are then both calculated

Variable X. (Implementation of Meteorological, Climatological and Geophysical Information Utilization Policy).
From the calculation, it is obtained that "L" is 0.0954. If we consult the "L" table with a confidence level of 95% and N = 30, then the "L" table is 0.1610. Thus Ho is accepted because "L" count is less than "L" table (0.0954 <0.1610). This means that the data on the policy implementation variable for the use of meteorological, climatological and geophysical information as the independent variable (X) comes from a normally distributed population.

Variable Y. (Community Economic Resilience).
From the calculation of the variable of community economic resilience, it is obtained that "L" is 0.0729. If we consult the L table at the 95% confidence level and N = 30, it is obtained that the "L" table is 0.1610. Thus Ho is not accepted because "L" count is greater than "L" table (0.0729 <0.1610). This means that the data on the community economic resilience variable comes from a population that is normally distributed.
Table 3. Normality Test of X and Y Variables

N	α	Variable	Lo count	Lo table	Conclusion
30	0,05	X	0,0954	0,1610	Accept Ho
30	0,05	Y	0,0729	0,1610	Accept Ho

Linearity Test

In the linearity test, the linear model is opposite to the non-linear model. From the calculation, the calculated "F" is 0.6888. If we consult the "F" table with a confidence level of 95% and dk (28), the "F" table is 2.95. Thus the linear model hypothesis is accepted because "F" count is less than "F" table (0.6888 <2.95). This means that the data has a simple linear regression model.

Table 4. Linearity Test of Both Variables

N	**α**	**F-count**	**F-table**	**Conclusion**
30	0,05	0,6888	2,95	Terima Ho

Research Hypothesis Testing.

In this study, two hypotheses have been proposed, which will be tested using inferential statistics through regression and correlation analysis techniques. The first and second hypotheses were tested by simple correlation and regression analysis techniques. Which is then followed by partial correlation analysis. Each of these tests is described in detail below;

The research hypothesis (Ho) tested was "there is a positive influence between the implementation of policies on the use of meteorological, climatological and geophysical information on meteorology, climatology and geophysics on the economic resilience of the community". Meanwhile, the alternative hypothesis (H1) states "there is no positive influence between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community". In other words, it is assumed that the higher the implementation of policies on the use of meteorological, climatological and geophysical information, the higher the economic resilience of the community. Conversely, the lower the implementation of policies on the use of meteorological, climatological and geophysical information, the lower the economic resilience of the community. Based on the results of a simple linear regression analysis between the pairs of data on the implementation of the earthquake and tsunami information utilization policy independent variable (X) on the economic resilience of the community as the dependent variable (Y), it is known that the value of the regression coefficient (b) obtained is 0.51 and a constant value (a) 38.68. Thus the form of influence between the variable implementation of the policy on the use of meteorological, climatological and geophysical information on the economic resilience of the community can be expressed by the line regression equation $\hat{Y}$ = 38.68 + 0.51X.

To find out whether the regression line equation model can be used to draw conclusions, or whether the resulting regression line equation is significant or not, it can be determined using variable analysis (F-test). The assessment criterion is "F" count <"F" table (0.05). From the calculation results, the calculated "F" value is 0.6888. While the "F" table is 2.95. Then the regression equation model obtained can be declared significant. Therefore the regression equation $\hat{Y}$ = 38.68 + 0.51X can be used to explain and draw further conclusions regarding the effect of implementing policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community.To find out whether the regression line equation obtained is linear or not, you can use the regression linearity test, with the assessment criteria "F" count <"F" table. Obtained value "F" count = 0.6888. This value is consulted with the value "F" table at the 95% confidence level, the value is 2.95. Thus "F" count <"F" table (0.6888 <2.95). Therefore the regression equation can be stated linear. For more details, a summary of the results of the variable analysis in question can be seen in the following table.

Table 5. Analysis of Variables (ANOVA) for the Regression Model $\hat{Y}$ = 38.68 + 0.51X

Source of Variance	DK	JK	RJK	Fcount	0,05
Total (T)	30	223716,00	7457,20		
Regression (a)	1	222568,53	222568,53	16,8107	4,20
Regression (b/a)	1	430,47	430,47		
The Rest	28	716,99	25,61		
Tuna cocok (TC)	10	424,83	22,36	0,6888	2,95
Galat (G)	18	292,17	32,46		

* Very significant (Fh> Ft) ** Form of linear relationship (Fh <Ft)

A simple correlation analysis of the data pairs on the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community results in a correlation coefficient of "r" of 0.6125. The summary of the results of the simple correlation analysis of the variable implementation of the policy implementation of meteorological, climatological and geophysical information on the economic resilience of the community and the t-significance test can be seen in the following table:

Table 6. Simple Correlation Analysis Table of Variables X against Y

ΣX^2	ΣY^2	ΣXY	Γxy	Test-t	
				t-count	t-table
209153	223716	215746	0,6125	4,10	2,05

The results of the analysis in the table above show that the correlation coefficient "r" is 0.6125, which means that the implementation of policies on the use of

meteorological, climatological and geophysical information has a positive effect on the economic resilience of the community. Thus the higher the implementation of policies on the use of meteorological, climatological and geophysical information, the higher the economic resilience of the community.To find out whether the correlation coefficient "r" obtained is significant or not, it can be tested using t-test analysis. The results of the t-test analysis obtained a value of 4.10. This value is consulted with the value of "t" table (0.05) obtained by a value of 2.05 which indicates that the correlation coefficient between the implementation of policies on the use of meteorological, climatological and geophysical information as the independent variable (X) on the economic resilience of the community as the dependent variable (Y) very significant.The result of square the value is 37.51%. Thus it can be concluded that the magnitude of the contribution of the policy implementation variable on the use of meteorological, climatological and geophysical information to the economic resilience of the community is 37.51%, meaning that the other 62.49% are influenced by other variables not observed in this study. If a simple regression equation for the pair of data between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community is displayed, the strength of the influence can be described as in the following graph:

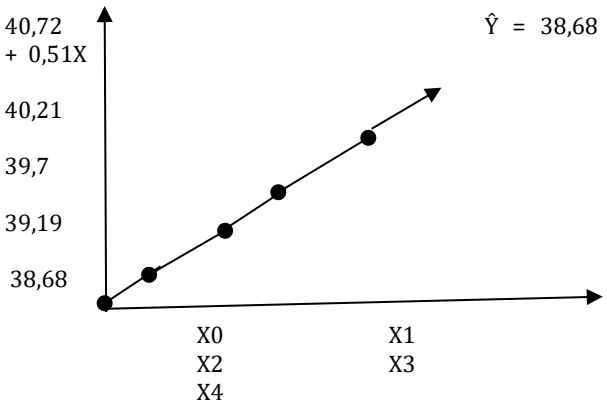

Figure 3. The Scatter Diagram Regarding

Unidirectional Influence of Both Variables

The results of this simple effect analysis conclude that there is a positive and significant influence between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community. The findings in this study at the same time reject H1 which states that there is no positive influence between the implementation of the policy on the use of earthquake and tsunami information on the economic resilience of the community and accepting Ho who states that there is a positive and significant influence between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community.

DISCUSSION

The effect of the implementation of the policy on the use of earthquake and tsunami information on the economic resilience of the people of Sukabumi Regency, in this analysis it can be explained that the policy on the use of earthquake and trunami information in the Indonesian economic system has convinced other countries that the Indonesian economic system has considered the costs of the earthquake and tsunami disasters and hydrometeorological disasters. Indonesia is able to make a positive contribution at the global, regional and regional levels in providing earthquake information and trunami early warnings to countries in the Hindian Ocean and Indonesia in order to reduce the economic impact of the community due to the earthquake and tsunami disaster, in accordance with the Hyogo framework for action (MPBI; 2007).

At each stage of management requires persuasion, a bargaining process (Bardach; 2004), and control of elites whose interests do not stop at the official level, but continue to strive until goals are achieved so that the Indonesian economic system remains based on Pancasila and the 1945 Constitution of the Republic of Indonesia, resilience the economy is stable and dynamically capable of facing threats, challenges, obstacles and disturbances from within and outside the country. In the management process in the economic sector it does not only take into account economic growth alone but also needs to take into account the direct and indirect impacts of the earthquake and tsunami disaster (Edwatds III; 1980), as with the earthquake and tsunami in Kalapanunggal District, Sukabumi Regency, with this incident the economic resilience of the community is disturbed material prices are increasing and economic losses are difficult to calculate (De Leon, 2008).

The theoretical study of Eugene Bardach (2004) explains that; (1) the process of solving problems in economic relations with foreign countries requires the ability of diplomats in the economic field to convince the world through a process of bargaining, persuasion, control that Indonesia is capable of economic relations with other countries with mutual benefit, (2) In maintaining economic relations abroad, problems domestic strategic issues will be resolved immediately through synergy and negotiations by the government elite, namely; (a) improving the quality of human resources, (b) reducing unemployment and poverty, (c) building infrastructure in the context of connectivity between surplus and deficit areas, (4) increasing national values, (5) strengthening the economic structure, (6) reducing high costs, (7) fostering a culture of innovation, (8) creating a culture conducive to investment. In implementing the policy on the use of earthquake and tsunami information, it is ensured that; (1) infrastructure development as well as to overcome the lack of infrastructure for earthquake and tsunami observation, processing and communication because Ina-TEWS has been trusted by the world as the Regional Tsunami Service Provider (RTSP) for Hindian Ocean since 2012; (2) To increase the awareness of the government, regional government, and the community towards the potential vulnerability to natural disasters in the earth, especially earthquakes and tsunamis.With the development of science and information technology that is produced must also be in accordance with the considerations of the complex and the size of the data, it is necessary to strengthen the data base and the development of Reverse Engineering for earthquake and tsunami equipment, meteorological and other geophysical equipment to overcome shortages and high prices for facilities and infrastructure for observation, processing and dissemination in the field of earthquake and tsunami or communication in the field of mkg. In order to maintain the

balance of the economic structure of the agricultural and non-agricultural industries, a commitment to synergies and control of government elites, academics, industry and economic actors is required. The economic structure must also be built when regional planning is adjusted to the potential and advantages of the regional economy, equal distribution of industrial areas, regional elites need to participate in synergy, negotiate to build the economic structure of their respective regions. The implementation of policies on the use of earthquake and tsunami information for the agricultural industry requires accurate and correct climate and weather information, an increase in the added value of the natural tourism industry requires weather information or earthquake and tsunami information, with precise and accurate information that can increase the competitiveness of the Indonesian tourism industry even though it is regional prone to earthquakes and tsunamis, but because it is located under the foot of Mount Salak and Halimun, which is more beautiful compared to other countries, this is useful for building economic growth from the Kabandungan Tea Plantation Mountain Slope Tourism (Chevron / PLTP), which can penetrate the Ratu Crater and have a beautiful waterfall. .According to Eugene Bardach (2004), planning, implementing, evaluating and reporting certainly requires infrastructure development, in this case consensus, bargaining, persuasion and agreement between elites are needed so that infrastructure development can reduce development disparities and improve the quality of human life with priority development of infrastructure and human resources. In implementing the policy, it is necessary to further study and make use of the earthquake and tsunami information or other MKG information in accordance with the prevailing laws and regulations, so that when an earthquake and tsunami occurs, the conditions of facilities and infrastructure remain solid, public services continue to run and have no effect on economic resilience. Optimizing the budget, increasing PNBP for special earthquake and tsunami services, in addition to seeking alternative financing through the development of conditions that are conducive to investment because Indonesia has abundant geographic, demographic and natural resources.Indonesia is a country prone to earthquakes and tsunamis, and every time a disaster occurs, the government and society are so panicked and the economy in the area is almost paralyzed. For this reason, it is necessary to increase understanding of the benefits of earthquake and tsunami information through socialization, discussion, training, curriculum and syllabus from elementary to tertiary institutions, and other ways adapted to local wisdom, situations and conditions of the community.

CONCLUSION

From the results of the research that has been conducted, which examines the problem, the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the people of Kalapanunggal District, Sukabumi Regency, the authors can conclude that there is a significant positive effect between the implementation of policies on the use of meteorological, climatological and geophysical information on the community economic resilience, as indicated by the calculated "r" that is greater than the "r" table at the 95% confidence level and N as much as 30 (0.6125> 0.361). The nature of the effect obtained is one-way, where the motion of one variable will be followed by other variables. If the score for implementing policies on the use of meteorological, climatological and geophysical information is high, the economic resilience of the community will be high as well. So it can be said that the level of implementation of the policy on the use of earthquake and tsunami information affects the economic resilience of the community. This is in accordance with the hypothesis proposed that Ho is accepted if the "r" count is greater than the "r" table, namely (0.6125> 0.361).

Test the meaning of correlation using the test - "t" where the results of the calculation obtained the value of "t" counted at 4.10 while the price "t" table at the 95% confidence level was 2.05 (4.10> 2.05). This means that there is a positive and significant influence between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the people of Kalapanunggal District, Sukabumi Regency.The rise and fall of the score for the implementation of the policy on the use of earthquake and tsunami information can be explained by the high and low scores of the community's economic resilience through the regression equation $\hat{Y} = 43.68 + 0.51X$. The contribution of the X variable, namely the variable implementation of the policy on the use of meteorological, climatological and geophysical information to the Y variable, namely the community economic resilience variable was 37.51%. With a contribution of 37.51%, it shows that there is a significant influence between the implementation of policies on the use of meteorological, climatological and geophysical information on the economic resilience of the community, so this research can be said that the theory that states the implementation of policies on the use of meteorological, climatological and geophysical information can affect community economic resilience is still relevant to use at this time.

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