

The Influence of Environmental Resilience on Determining the Status of the Developed Village Index (IDM) in Bone Bolango Regency

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Abstract

This research aims to examine the impact of the Environmental Resilience Index on the Village Development Index (IDM) status in Bone Bolango Regency. The study uses a qualitative approach, incorporating field surveys, questionnaires, and interviews with village government officials, community leaders, and professional assistance staff. Data was collected from 15 villages across 13 sub-districts. Results reveal a decrease in the Environmental Resilience Index from April to December 2024, which influenced the IDM status. For example, Langge Village experienced a drop in the Environmental Resilience Index from 0.9333 (Independent IDM) to 0.8 (Advanced IDM). Similarly, other villages like Bunuo and Molintogupo also showed declines in both Environmental Resilience Index and IDM values. The study indicates that the Environmental Resilience Index, based on environmental quality, disaster proneness, and disaster response, significantly impacts IDM status. To maintain IDM levels, the research emphasizes the need for continuous cooperation among stakeholders and supra-village authorities. Recommendations include strengthening village infrastructure, enhancing education, developing the local economy, ensuring community participation, and sustainable natural resource management. These measures should be implemented consistently, not only during data collection but also throughout the year.

Keywords: Environmental Resilience, Developed Village Index (IDM), Environmental Influence, Natural Resource Management.

Introduction

Research Context

Over time, villages have the potential to be utilized to drive economic growth, reduce inequality, and improve the welfare of their residents. Indonesia has a large population, with around 49% of its population living in rural areas. Law Number 6 of 2014 concerning Villages, provides an understanding that the paradigm of village development has changed from the original "Developing Villages" to "Developing Villages", where "Developing Villages" makes villages the subject of development that can plan, implement, and empower their own communities. Bone Bolango Regency was established based on Law Number 6 of 2003 concerning the Establishment of Bone Bolango Regency and Pohuwato Regency in Gorontalo Province (State Gazette of the Republic of Indonesia 2003 Number 26, Supplement to the State Gazette of the Republic of Indonesia Number 4269). Based on the mandate of Law Number 22

of 1999 concerning Regional Government as amended by Law Number 32 of 2004 and considering Law Number 38 of 2000 concerning the Establishment of Gorontalo Province which at that time only had three Regencies, while ideally it should have at least five Regencies/Cities, then with the enthusiasm and aspirations of all levels of society in four Sub-districts in Gorontalo Regency, namely Suwawa, Kabila, Tapa and Bonepantai Sub-districts, the Solidarity Committee for the Establishment of New Regencies (KSPKB) was formed, which tried and fought to make these four sub-districts into a Regency area. Exactly on May 6, 2003, Bone Bolango Regency was inaugurated as the fourth Regency in Gorontalo Province in accordance with the mandate of Law Number 6 of 2003 concerning the Establishment Bone Bolango Regency and Pohuwato Regency in Gorontalo Province.

As an effort to manage and protect the environment, the district government has implemented the Village Development Index (IDM) program (Anggraini & Sutopo, 2021; Retnowati et al., 2022). The Village Development Index (IDM) is a Composite Index formed based on three indices, namely the Social Resilience Index, the Economic Resilience Index and the Ecological/Environmental Resilience Index (Muhtarom & Purwanti, 2018; Sandag et al., 2022; Christianingrum, 2020; Dewi et al., 2021). The indicator set developed in the Village Development Index was developed based on the concept that to achieve an advanced and independent Village, a sustainable development framework is needed where social, economic and ecological aspects become mutually complementary forces and maintain the potential and ability of the Village to improve the welfare of Village life. However, in determining the IDM status, the environmental resilience factor often does not receive sufficient attention (Fu et al., 2021). In fact, environmental resilience is an important factor in determining the sustainability and quality of life of people in a village.

Research Focus and Subfocus

Environmental resilience plays an important role in determining the status of the Village Development Index (IDM) (Rahmawati & Amalia, 2023). IDM is a composite index consisting of three types of indices, namely the Social Resilience Index, the Economic Resilience Index, and the Environmental/Ecological Resilience Index. The definition of the environment according to Law Number 32 of 2009 is a unity of space with all objects, power, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other living things. The environmental dimension consists of the sub-dimension of environmental management and the sub-dimension of disaster management.

Sub-Dimensions of Environmental Management

Environmental management is a systematic and integrated effort carried out to preserve environmental functions and prevent environmental pollution and/or damage which includes planning, utilization, control, maintenance, supervision, and law enforcement (Law Number 32 of 2009). The assessment of environmental management sub-dimensions consists of environmental wisdom components, waste management systems, and environmental pollution levels (Azmin Shompa et al, 2025).

Sub-Dimensions of Disaster Management

Disaster management as covered in Law Number 24 of 2007 is an activity before, during and after a disaster that is carried out to prevent, reduce, avoid and recover from the impact of the disaster which aims to provide protection for the community. The assessment of the sub-

dimensions of disaster management consists of disaster management components through related efforts.

Based on the focus of the problem that has been described above, the researcher then limits the scope of the study to be more focused and not broad with sub-focuses related to the Influence of Environmental Resilience on the Determination of IDM Status in Bone Bolango Regency, with the following sub-focus details:

- a. How does the Environmental Resilience Index affect the determination of IDM status in Bone Bolango Regency?
- b. How does the Environmental Resilience Index affect the assessment and determination of IDM status in Bone Bolango Regency?
- c. What is the strategy of the Bone Bolango Regency government in maintaining the Village Development Index

Research Objectives

Research Objectives Based on the sub-focus that has been described in the previous point, the objectives of this research are:

1. To determine the influence of the Environmental Resilience Index in determining the status of the Village Development Index (IDM) in Bone Bolango Regency.
2. To analyze the Environmental Resilience Index on the assessment and determination of the IDM status in Bone Bolango Regency
3. To formulate policy and practice recommendations in maintaining the Village Development Index

D. Benefits of research

This research is expected to provide the following benefits: 1) Provide a better understanding of the level of environmental resilience in Bone Bolango Regency; 2) Assist in the development and improvement of the Village Development Index (IDM) in Bone Bolango Regency. By considering the Influence of the Environmental Resilience Index, this study can provide recommendations and suggestions to improve the quality and effectiveness of the IDM as a measurement tool for sustainable village development. 3) Provide a scientific basis for decision making in determining the IDM status in Bone Bolango Regency; 4) Encourage sustainable management of natural resources in Bone Bolango Regency. By considering environmental resilience factors, this study can provide recommendations for better management of natural resources in the Village, so that sustainable and environmentally friendly village development can be achieved.

Methods

Background and Time of Research

The research was conducted in Bone Bolango Regency, Gorontalo Province, which has 160 villages and 5 sub-districts. The research was conducted with a sample of 15 villages in 13 sub-districts. The villages used as samples were Langge, Poowo, Ulanda, Ombulo Hijau, Tuloa, Bunuo, Lonuo, Botutonuo, Modelomo, Alo, Tinemba, Molintogupo, Tapadaa, Owata, and Tinelo Ayula. These villages were used as case study locations because their Village Development Index status was varied, developing, advanced and independent, and

geographically represented the condition of villages in Bone Bolango Regency, as a sample of the social situation of Data Collection which was the main focus in this study. The research period was approximately six months starting from July to December 2024, starting from the preparation stage to the preparation of the research results report.

Research Approaches, Types and Procedures

The method used in this study is a descriptive Qualitative method using a field survey technique or grounded research, namely finding a theory based on data obtained in the field or social situations, using the Standard Instrument for measuring the Environmental Resilience Index (IKL). This IKL is one of three components of the Village Independence Index (IDM) - each Social Resilience Index (IKS) and Economic Resilience Index (IKE).

This study is also to find a pattern of relationships that are reciprocal in nature (interaction), describing or obtaining a complete picture of reality, this study expects a deep understanding of social phenomena, in this case Identifying the influence of environmental resilience on determining IDM status in Bone Bolango Regency. Qualitative methods are suitable for understanding the perspectives, experiences, and perceptions of individuals and society towards a situation (Fossey et al., 2002).

This study is to understand social phenomena and human behavior through descriptive data collection with methods, interviews, observations and document analysis. In the context of this research, descriptive research will help in describing in detail how the composition of the IDM consists of three types of indices, namely the Social Resilience Index, the Economic Resilience Index, and the Environmental/Ecological Resilience Index. This research is intended to describe the ecological dimensions in the Environmental/Ecological Resilience Index, including indicators of environmental quality, potential disaster risk, and disaster response as a whole and not bound by a particular hypothesis through direct observation. The research here interacts directly with the subjects to be studied so that it is easy to find problems and be sensitive and easy to adapt to each the influence contained in the research object.

Presence of Researchers

The presence of researchers in this research is very important to ensure the quality of data collection, proper interpretation, and suitability to the context at hand.

Data Collector

The data collection techniques for this study include the following:

Questionnaire

Interview questionnaire with the village government, Professional Assistance Staff, Sub-district Government and other stakeholders, related to the baseline data on village status and the process of preparing village development planning. IDM (Village Development Index) software application instrument. To obtain an overview of the status of the village with several indicators and analysis of the fulfillment of environmental development elements based on the Village Development Index indicators in the village planning document.

Data and Data Sources

Data sources in research are one of the important parts of research. Data can be interpreted as facts or information heard, observed, felt and thought by researchers from data sources at the research location. Data in this study is divided into two types, primary and secondary.

Primary Data

Primary data is data that comes from first-person sources or informants who know clearly and in detail about the problems to be studied. Primary data in this study is data obtained from direct interaction with sources, or participants, informants such as local communities, District Government, Sub-district and Village Government.

Secondary Data

Data obtained indirectly but rather documents and materials related to the research.

Data Collection Techniques and Procedures

Data collection techniques are the most strategic step in research, because the main purpose of research is to obtain data. In qualitative research, there is no other choice than to make humans the main research instrument. The reason is that, everything does not yet have a definite form. Problems, research focus, research procedures, hypotheses used, even the expected results, all of that cannot be determined with certainty and clearly in advance

Data Analysis Techniques

Each indicator has a score. The score value is 0 - 5. The determination of the score is based on the results of the FGD Analytical Hierarchy Process (AHP). The calculation of the index on each dimension is carried out using the scoring method which is then transformed into an index

$$I_x = \frac{\sum_1^n Skor X}{n_x \times 5}$$

I_x = indeks

n = number of indicators

For example: The Environmental Resilience Index consists of 3 indicators, namely environmental quality indicators, disaster-prone indicators, and disaster response indicators. Langge Village has an environmental quality score of 4, a disaster-prone score of 5, and a disaster response score of 3. So, the environmental resilience index value is as follows:

$$IKL = \frac{4+5+3}{3 \times 5} = \frac{12}{15} = 0,8$$

The calculation of the Village Development Index is generated from the average of the Social Resilience Index, Economic Resilience Index and Environmental Resilience Index which is calculated using the following formula:

$$IDM = \frac{IKS + IKE + IKL}{3}$$

Information:

IDM = Village Development Index,

IKE = Economic Resilience Index,

IKS = Social Resilience Index, and

IKL = Environmental Resilience Index.

Village Status Classification is determined with the following thresholds: 1) Very Underdeveloped Village: $IDM \leq 0.4907$; 2) Underdeveloped Village: $0.4907 < IDM \leq 0.5989$; 3) Developing Village: $0.5989 < IDM \leq 0.7072$; 4) Advanced Village: $0.7072 < IDM \leq 0.8155$; 5) Independent Village: $IDM > 0.8155$.

Data Validity Techniques

To check the validity of the data, the researcher used the Triangulation technique. The definition of triangulation is a data validity checking technique that utilizes something else in comparing interview results with research objects (Moloeng & Edisi, 2004).

Results and Discussion

Description of the Research Background

The people of Bone Bolango Regency generally work as farmers for the western and northern regions, and for the southern region, the people generally work as fishermen according to the geographical conditions of the region, so that serious assistance is needed in terms of finding simple technologies to support this potential. Therefore, the government needs to pay attention to supporting village communities both in the form of materials and ideas for the birth of appropriate technology to make villages advanced, strong, independent, just, prosperous and democratic. The conditions of the Bone Bolango Regency area are mostly highland areas (mountains). In general, the topographic conditions of the Bone Bolango Regency area are grouped into 3 (three) groups, namely: a) Land conditions with a highland surface (mountainous) or on a slope of more than 40%. The distribution of land is in the Districts of Suwawa, Bonepantai, Kabila and North Bulangol; b) and conditions with hilly relief (wavy) with moderate morphological texture. The distribution of land is mostly in every District in Bone Bolango Regency; c) Conditions with low surface relief. The distribution of land is in the Districts of Tapa, Suwawa and Kabila.

In addition, the Bone Bolango Regency area is crossed by several River Basins (DAS). The largest DAS that passes through the area is the Bone and Bulango DAS, where the Sub-districts passed through are Suwawa Sub-district, Kabila Sub-district and Tapa Sub-district. The area of this DAS is $\pm 265,000$ Ha with a main river length of 100 Km which flows into Tomini Bay. Meanwhile, to meet the daily needs of the community for clean water, it is obtained through groundwater excavations with a depth of 5-10 meters. The boundaries of Bone Bolango Regency are in the north bordering Atinggola Sub-district, Gorontalo Regency and Bolaang Mongondow Regency, in the east bordering Bolaang Mongondow Regency, in the south bordering Tomini Bay and in the west bordering Telaga Sub-district, Gorontalo Regency and North City and South City Sub-districts, Gorontalo City.

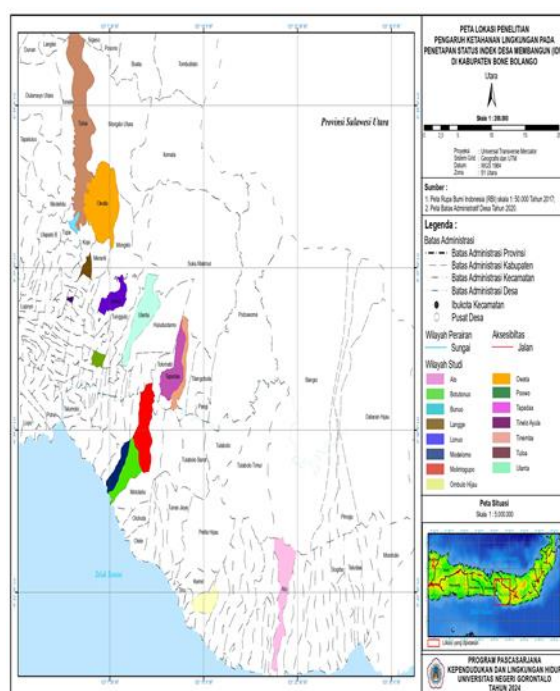


Figure 1. Map of research locations, Bone Bolango Regency

The Village Development Index (IDM) in Bone Bolango Regency reached 0.7860. This figure is the highest in Gorontalo Province. The portrait of rural development in Bone Bolango, specifically can be measured from the Village Development Index (IDM) of 0.7860, the highest in Gorontalo Province. The percentage of eradicating underdeveloped villages in Bone Bolango Regency is very good. Where, in 2023 it has been completed 100 percent. Likewise, the performance of the Village Government in increasing the Village Development Index has increased very significantly, from 40 independent villages in 2023, increasing to 75 independent villages in 2024. The most in Gorontalo Province. The increase in the Village Development Index Status specifically has not resolved extreme poverty, stunting, and unemployment. In the context of Bone Bolango Regency, increasing the status of the Village Development Index (IDM) is important in efforts to improve village welfare and sustainability. However, in determining the IDM status, environmental resilience factors often do not receive sufficient attention. In fact, environmental resilience is an important factor in determining the sustainability and quality of life of people in a village. That the success of development achievements, especially in villages, and in general the achievements of development in Bone Bolango Regency cannot be separated from the support and assistance of various parties. Synergy and collaboration of the legislature, local government and central government in implementing development are the keys to success.

Status of Achievement of the Environmental Resilience Index (IKL) at Research Locations in Bone Bolango Regency

The Achievement Status of the Environmental Condition Indicator describes the results of environmental parameter measurements in the village. There are three dimensions for assessing the Environmental Resilience Index at the village level, namely: Actions on Environmental quality with indicators such as (1) water, soil, and air pollution, which are measured through pollution indicators and river conditions affected by waste; and (2) frequency of natural disasters, measured by indicators such as landslides, floods, and forest

fires. (3) Actions on potential natural disasters with indicators such as disaster mitigation facilities, safety equipment, and evacuation routes

Table 1. Dimensions and Indicators of the Environmental Resilience Index (IKL)

Variable	Dimension	Indicator
Environmental Sustainability Index (ESI)	Environmental Quality	Pollution
		a.Water
		b.Air
		c.Land
		d.River Waste
	Disaster Prone	Type of Disaster
		a. Landslide
		b. Flood
		c. Forest Fire
	Disaster Response	Disaster mitigation/response facilities
		a.early warning of natural disasters
		b.early warning of tsunamis
		c.safety equipment
		d.evacuation routes)

Source: IDM SOP, 2024

Based on the results of the Environmental Resilience Index measurements ranging from April to May 2024, the Environmental Resilience Index (IKL) for villages in 13 Districts and 15 Villages that were the locations for the highest Environmental Resilience Index research was Tinemba Village, with a score of 1.0000, and then Langge Village, Tapa District, Lonuo Village, Tilongkabila District, with a total of 0.9333, then Poowo Village, Kabila District, Tuloa Village, North Bulango District, Tapadaa Village, Central Suwawa District, Tinelo Ayula Village, South Bulango District with a score of 0.8667, then Bunuo Village, North Bulango District with a score of 0.8000, Alo Village, Bone Raya District, Molintogupo Village, South Suwawa District with a score of 0.7333, then Ulanta Village, Suwawa District, Ombulo Hijau Village, Bonepantai District, Botutonuo, Kabila Bone District with a score of 0.6667 and the next village with the lowest Environmental Resilience Index score is Modelomo Village, Kabila Bone District and Owata Village, Bulango Ulu District with the lowest score of 0.6000. Details of the IKL scores for 15 villages in 13 Districts in Bone Bolango Regency can be seen in Table 3.2 Achievement of Environmental Resilience Index (IKL) Dimension Scores

Table 2. Achievement of Environmental Resilience Index (IKL) Dimension Scores

NO	DISTRICT NAME	VILLAGE NAME	Water, Soil and Air Pollution (Idx Per Item)	Natural Disaster Events (Floods, Landslides, Forest Fires) (Idx Per Item)	Efforts/Actions Against Potential Natural Disasters (Idx Per Item)	IKL
1	2	3	4	5	6	7
1	TAPA	LANGGE	5	5	4	0.9333
2	KABILA	POOWO	5	5	3	0.8667
3	SUWAWA	ULANTA	5	4	5	0.6667
4	BONEPANTAI	OMBULO HIJAU	5	5	0	0.6667

5	BULANGO UTARA	TULOA	5	5	3	0.8667
	BULANGO UTARA	BUNUO	5	4	3	0.8000
6	TILONGKABILA	LONUO	5	5	4	0.9333
7	KABILA BONE	BOTUTONUO	5	5	0	0.6667
	KABILA BONE	MODELOMO	5	4	0	0.6000
8	BONE RAYA	ALO	4	4	3	0.7333
9	SUWAWA TIMUR	TINEMBA	5	5	5	1.0000
10	SUWAWA SELATAN	MOLINTOGUPO	4	4	3	0.7333
11	SUWAWA TENGAH	TAPADAA	4	5	4	0.8667
12	BULANGO ULU	OWATA	5	4	0	0.6000
13	BULANGO SELATAN	TINELO AYULA	5	5	3	0.8667

Source: Secondary Data, 2024

Discussion

The Influence of the Environmental Resilience Index in Determining the Status of the Village Development Index (IDM) in Bone Bolango Regency

The results of the Environmental Resilience Index study in 13 sample villages showed a decrease in the Environmental Resilience Index, from the initial data of the Village Development Index Update in April to May 2024. The research was carried out by conducting field surveys and interviews with informants from October to December 2024. Showing the 2024 Environmental Resilience Index of Langge Village, the results of the April to May update (IKL: 0.9333) IDM Value (0.8319) Independent IDM Status. Results of Interviews and Field Surveys Environmental Resilience Index (IKL: 0.8) IDM Value (0.7875) with Advanced IDM Status, Next Poowo Village (IKL: 0.8667) IDM Value (0.8192) Independent Village. Results of Interviews and Field Surveys (IKL: 0.8), IDM Value (0.7970) Advanced IDM Status. Tinemba Village Environmental Resilience Index (IKL: 1), IDM Value (0.8244) Independent IDM Status. Interview Results and Field Visits Environmental Resilience Index (IKL: 0.9333) IDM Value (0.8022) Advanced IDM Status. There were three villages that experienced a decrease in IDM Value due to a decrease in the Environmental Resilience Index, namely Bunuo Village IKL (0.8) IDM Value (0.6829) Developing IDM Status, Becoming (IKL: 0.6) IDM Value (0.6162) Developing IDM Status, Molintogupo IKL (0.7333) IDM Value (0.8029) Advanced IDM Status, Becoming (IKL: 0.5333) IDM Value (0.7362) Advanced IDM Status while Tapadaa Village Environmental Resilience Index (IKL: 0.8667) IDM Value (0.7756) Advanced IDM Status, Becoming (IKL: 0.8) IDM Value (0.7533) Advanced IDM Status and nine other villages after being interviewed with The resource persons consist of Village Government, Community Leaders, Professional Companions, Environmental Resilience Index (IKL) and Fixed IDM Value. Can be seen in Table 3.3 Achievement of Environmental Resilience Index (IKL) Dimension Score

Table 3. Achievement of Environmental Resilience Index (IKL) Dimension Scores

NO	DISTRICT NAME	VILLAGE NAME	Water, Soil and Air Pollution (Idx Per Item)	Natural Disaster Events (Floods, Landslides, Forest Fires) (Idx Per Item)	Efforts/Actions Against Potential Natural Disasters (Idx Per Item)	IKL
1	2	3	4	5	6	7
1	TAPA	LANGGE	5	4	3	0,8
2	KABILA	POOWO	5	4	3	0,8
3	SUWAWA	ULANTA	5	4	5	0,9333
4	BONEPANTAI	OMBULO HIJAU	5	5	0	0,6667
5	BULANGO UTARA	TULOA	5	5	3	0,8667
	BULANGO UTARA	BUNUO	5	4	0	0,6
6	TILONGKABILA	LONUO	5	5	4	0,9333
7	KABILA BONE	BOTUTONUO	5	5	0	0,6667
	KABILA BONE	MODELOMO	5	4	0	0,6
8	BONE RAYA	ALO	4	4	3	0,7333
9	SUWAWA TIMUR	TINEMBA	5	4	5	0,9333
10	SUWAWA SELATAN	MOLINTOGUP O	4	4	0	0,5333
11	SUWAWA TENGAH	TAPADAA	4	5	3	0,8
12	BULANGO ULU	OWATA	5	4	0	0,6
13	BULANGO SELATAN	TINELO AYULA	5	5	3	0,8667

Source: Primary Data, 2024

The Influence of the Environmental Resilience Index in Determining the Status of the Village Development Index (IDM), is clearly identified if the Environmental Resilience Index value with the indicators of Environmental Quality, Disaster Prone and Disaster Response is not met, it will affect the IDM value, so it has great potential in determining the IDM value. Overall, the Village Development Index (IDM) is a Composite Index formed based on three indices, namely the Social Resilience Index, the Economic Resilience Index and the Ecological/Environmental Resilience Index.

Environmental Resilience Index for the Assessment and Determination of IDM Status in Bone Bolango Regency

Meanwhile, the results of the Environmental Resilience Index analysis consisting of 3 indicators, namely environmental quality indicators, disaster-prone indicators, and disaster response indicators, based on secondary data in 2024, Langge village has an environmental quality score of 5, a disaster-prone score of 5 and a disaster response score of 4, so the environmental resilience index value (0.9333), based on the calculation results from the average of the Social Resilience Index, Economic Resilience Index and Environmental Resilience Index, the IDM value (0.8319) Independent IDM Status. In October, the researcher conducted an interview with the village government with an informant named Susanti Jahja who serves as the Secretary of Langge Village, and at the same time an interview with Ratna Katili as the Village Local Companion, and during the interview a community representative named Devi Olivia Salilama was present, from interviews with the Village Government, Professional

Companions and the Community. Langge Village has an environmental quality score of 5, a disaster-prone score of 4 and a disaster response score of 3, so the environmental resilience index value is (0.8), IDM Value (0.7875) with Advanced IDM Status, there is a decrease in the indicator value for disaster-prone and disaster response, so that the average IDM value from, IDM Value (0.8319) Independent IDM Status, to (0.7875) with Advanced IDM Status. For an overview of the achievement of other village scores, see Figure 3.2 Achievement of Environmental Resilience Index Dimension Score (IKL).

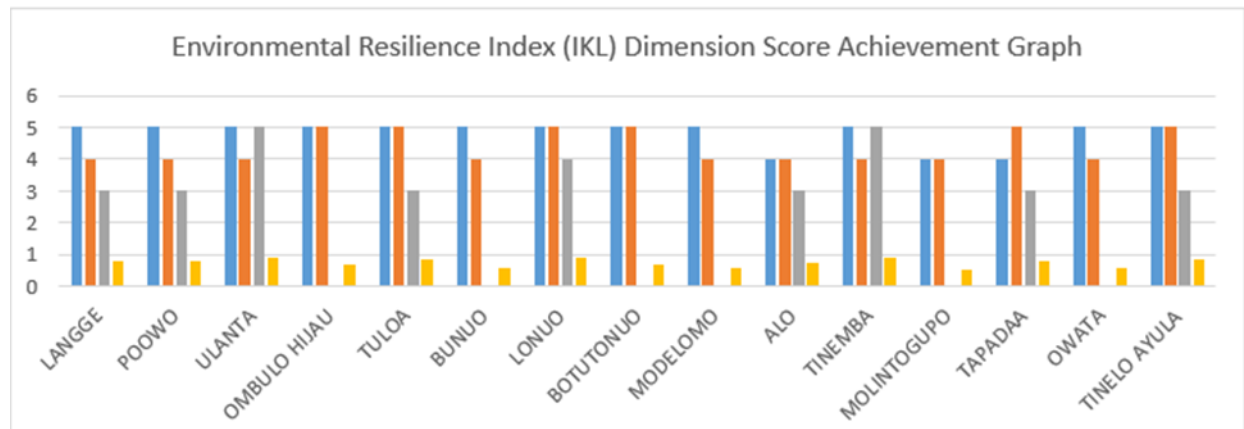


Figure 3.2 Achievement of Environmental Resilience Index (IKL) Dimension Scores

Source: Primary Data, 2024

- Water, Air, Land and Waste Pollution in rivers (Idx per item)
- Natural disasters (floods, landslides, forest fires) (Idx per item)
- Efforts/Actions against potential natural disasters (Idx per item)
- IKL

Table 4. Identification of Secondary Data Development Village Index (IDM) Achievements, 2024.

NO	SUBDISTRICT	VILLAGE NAME	SOCIAL		ECONOMY		ECOLOGY		IDM	IDM STATUS 2024
1	2	3	4	5	6	7	8	9	10	11
1	TAPA	LANGGE	0,85	DOWN	0,72	UP	0,93	UP	0,83	INDEPENDENT
2	KABILA	POOWO	0,87	UP	0,72	DOWN	0,87	STILL	0,82	INDEPENDENT
3	SUWAWA	ULANTA	0,95	UP	0,75	UP	0,93	DOWN	0,88	INDEPENDENT
4	BONEPANTAI	OMBULO HIJAU	0,72	UP	0,63	DOWN	0,67	STILL	0,67	DEVELOPING
5	BULANGO UTARA	TULOQ	0,77	UP	0,45	STAY	0,87	STILL	0,70	DEVELOPING
		BUNUO	0,75	UP	0,50	UP	0,80	STILL	0,68	INDEPENDENT
6	TILONGKABILA	LONUO	0,90	UP	0,75	UP	0,93	STILL	0,86	ADVANCED
7	KABILA BONE	BOTUTONUO	0,81	UP	0,67	STAY	0,67	UP	0,71	DEVELOPING
		MODELOMO	0,75	STAY	0,63	STAY	0,60	STILL	0,66	ADVANCED
8	BONE RAYA	ALO	0,93	STAY	0,72	UP	0,73	STILL	0,79	INDEPENDENT
9	SUWAWA TIMUR	TINEMBA	0,84	UP	0,63	TETAP	1,00	TETAP	0,82	INDEPENDENT
10	SUWAWA SELATAN	MOLINTOGUPO	0,91	UP	0,77	UP	0,73	DOWN	0,80	FORWARD
11	SUWAWA TENGAH	TAPADAA	0,76	DOWN	0,70	STAY	0,87	UP	0,78	FORWARD
12	BULANGO ULU	OWATA	0,78	STAY	0,72	STAY	0,60	STILL	0,70	DEVELOPING

13	BULANGO SELATAN	TINELO AYULA	0,70	DOWN	0,80	UP	0,87	STILL	0,79	FORWARD
									0,7860	Advanced
				IDM > 0,8155			2024		INDEPENDENT	75
				0,7072 < IDM <= 0,8155					ADVANCED	63
				0,5989 < IDM <= 0,7072					DEVELOPING	22
				0,4907 < IDM <= 0,5989					LAGGED	0
				<= 0,4907					VERY LAGGED	0
									JLH	160

Source: Secondary Data, 2024

This finding confirms the need to formulate policy and practice recommendations in maintaining the Village Development Index in Bone Bolango district, and this recommendation can be implemented if there is cooperation between stakeholders and supra-village in evaluating the achievement of IDM every year, maintaining and fulfilling the indicators in each composite of the Village Development Index not only during data collection but in practice continuously, including Strengthening Village Infrastructure, Improving the Quality of Education, Local Economic Development, Community Participation in Decision Making, Sustainable Management of Natural Resources, and is very important in implementing programs and activities in the village according to their authority. Identification of the Status of the Village Development Index from Interviews with the Village Government, Professional Companions and Community Representatives in all sampled villages is depicted in table 3.5 Identification of the Achievement of the Village Development Index (IDM) Primary Data, 2024.

Table 5. Identification of Primary Data Development Village Index (IDM) Achievements, 2024.

NO	SUBDISTRICT	VILLAGE NAME	SOCIAL		ECONOMY		ECOLOGY		IDM	IDM STATUS 2024
1	2	3	4	5	6	7	8	9	10	11
1	TAPA	LANGGE	0,85	DOWN	0,72	UP	0,80	DOWN	0,83	ADVANCED
2	KABILA	POOWO	0,87	UP	0,72	DOWN	0,80	DOWN	0,82	ADVANCED
3	SUWAWA	ULANTA	0,95	UP	0,75	UP	0,93	DOWN	0,88	INDEPENDENT
4	BONEPANTAI	OMBULO HIJAU	0,72	UP	0,63	DOWN	0,67	STILL	0,67	DEVELOPING
5	BULANGO UTARA	TULOA	0,77	UP	0,45	STILL	0,87	STILL	0,70	DEVELOPING
		BUNUO	0,75	UP	0,50	UP	0,60	DOWN	0,68	DEVELOPING
6	TILONGKABILA	LONUO	0,90	UP	0,75	UP	0,93	GO ON	0,86	INDEPENDENT
7	KABILA BONE	BOTUTONUO	0,81	UP	0,67	STILL	0,67	STILL	0,71	ADVANCED
		MODELOMO	0,75	STAY	0,63	STILL	0,60	STILL	0,66	DEVELOPING
8	BONE RAYA	ALO	0,93	STAY	0,72	UP	0,73	STILL	0,79	ADVANCED
9	SUWAWA TIMUR	TINEMBA	0,84	UP	0,63	STILL	0,93	DOWN	0,82	ADVANCED
10	SUWAWA SELATAN	MOLINTOGUPO	0,91	STAY	0,77	STILL	0,53	DOWN	0,80	ADVANCED
11	SUWAWA TENGAH	TAPADAA	0,76	UP	0,70	UP	0,80	DOWN	0,78	DEVELOPING
12	BULANGO ULU	OWATA	0,78	STAY	0,72	STILL	0,60	STILL	0,70	ADVANCED
13	BULANGO SELATAN	TINELO AYULA	0,70	UP	0,80	STILL	0,87	STILL	0,79	ADVANCED
									0,7860	Avanced
				IDM > 0,8155			2024		INDEPENDENT	72
				0,7072 < IDM <= 0,8155					ADVANCED	66
				0,5989 < IDM <= 0,7072					DEVELOPING	22
				0,4907 < IDM <= 0,5989					LAGGED	0

				<= 0,4907					VERY LAGGED	0
									JLH	160

Source: Primary Data, 2024

In an effort to understand and improve environmental quality in Bone Bolango Regency, it is important to evaluate the Environmental Resilience Index (IKL) as one of the key indicators in assessing and determining the status of the Village Development Index (IDM). This discussion will describe how IKL plays a role in creating sustainable environmental resilience, as well as its impact on village development in Bone Bolango Regency. In general, the basic data for evaluating the achievement of the Bone Bolango Regency IDM in 2024, the results of interviews with the Village Government, Professional Companions, and community representatives found changes in the 2024 IDM Value from the April to May data collection. Langge Village, Poowo Village and Tinemba Village initially had Independent IDM status, after re-registration in October to December it dropped to Advanced, due to a decrease in the Environmental Resilience Index, including three other villages, namely Bunuo Village, Molintogupo Village and Tapadaa Village, their IDM value decreased, although not to the point of lowering their IDM status, and nine other villages have a Permanent IDM Status, as shown in table 3.5 Identification of Achievement of the Village Development Index (IDM) Primary Data, 2024.

Conclusion

Based on the results of the study entitled "The Influence of Environmental Resilience on the Determination of the Status of the Village Development Index (IDM) in Bone Bolango Regency," it is important to have the sustainability of programs and activities that pay attention to the Environmental Resilience Index Indicator, which has not been optimal in the discussion and budgeting during Village Development planning, the Environmental Resilience Index The indicators are quite few, namely environmental quality indicators, disaster-prone indicators, and disaster response indicators. While the Social Resilience Index and the Economic Resilience Index are quite numerous, so the Environmental Resilience Index has a major influence on determining the final value when determining the IDM status. Other causes are the suboptimal achievement of SDGs Village goals related to the Environment, and village planning has not fully implemented programs and activities in order to achieve 17 goals and 169 SDGs targets which are grouped into 4 pillars, namely the Social Development Pillar, which includes Goals 1 to 5. The Economic Development Pillar, which includes Goals 7, 8, 9, 10 and 17. The Environmental Development Pillar, which includes Goals 6, 11, 12, 13, 14 and 15. The Legal and Governance Development Pillar, which includes Goal 16. Although divided into each pillar, in the implementation of the four pillars they are interrelated and mutually supportive.

The government and stakeholders to strengthen policies and programs that support environmental resilience, in order to improve the IDM status and quality of life of the community in Bone Bolango Regency. These steps will not only strengthen environmental resilience in the village, but also encourage the achievement of sustainable development goals.

Technically, there are still programs and activities in the village that have not been prepared for the long term, so that in a relatively short period of time the IDM input data can change, resulting in a decrease in the IDM value and IDM Status in a village. This finding confirms the need to formulate policy and practice recommendations in maintaining the Village

Development Index in Bone Bolango Regency, and this recommendation can be implemented if there is cooperation between stakeholders and supra-village in evaluating IDM achievements every year, maintaining and fulfilling indicators in each composite Village Development Index not only during data collection but also in practice continuously, including Strengthening Village Infrastructure, Improving Education Quality, Local Economic Development, Community Participation in Decision Making, Sustainable Natural Resource Management, and is very important in implementing programs and activities in the village according to its authority.

Suggestions

Based on the research findings, the researcher recommends several suggestions as follows: 1) Integration in Village Planning: Ensure that environmental resilience is an integral part of village development planning through documents such as RPJMDes, RKPDES, and APBDES. This will help create more sustainable programs and make 17 goals and 169 targets of Village SDGs and 241 indicators one of the indicators in Village Development Planning; 2) Data obtained from this study can be used as input in formulating policies and programs that support each other between the government and stakeholders, in order to optimize existing potential; 3) IDM Update Result Data becomes material for discussion and study in determining priority programs and activities in the village; 4) Overall, the Village Development Index (IDM) is a Composite Index formed based on three indices, namely the Social Resilience Index, the Economic Resilience Index and the Ecological/Environmental Resilience Index. The Village Government, Community and stakeholders including supra-village are able to maintain the status of the Village Development Index in Bone Bolango Regency according to their authority.

Thank-You Note

In particular, the author would like to thank the Head of the One-Stop Integrated Investment Service Office and staff, the Head of the Bone Bolango Regency PMD Office and staff of the Bone Bolango Regency PMD Office, the Head of BAPPEDA and Research and Development, the Secretary of Bappeda and Research and Development, the Sub-district Head and staff throughout Bone Bolango Regency, the Village Head and Village Apparatus throughout Bone Bolango Regency, specifically the Head of the Research Location Village and Village Apparatus, Professional Companions throughout Bone Bolango Regency, the Bone Bolango Regency Community, specifically the Community Residents of the Research Location, the Chancellor of UNG, the Postgraduate Director, Deputy Director I, Deputy Director II, Coordinator of the Population and Environment Study Program, Supervisors and Examiners, Postgraduate Academic Staff, and fellow Population and Environment Study Program Students of the Class of 2023, may Allah SWT repay all their kindness, Amen, O Allah.

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