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Edu Robe International Journal of Climate Change and Natural Disasters In Indonesia

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ARSTRACT

The absence of natural disaster control due to climate change case have an inquest one economic and environmental supers. The purpose of this study is to enhant the role of village governments in superiormental supers. The purpose of this study is to enhant the role of village governments in superiormental supers. The purpose of this study is to enhant the role of village governments in superiormental supers. The purpose of this study is to enhant the role of village governments in superiormental supers. The purpose of this study is to enhant the role of village governments in superiormental supers. The purpose of this study is to enhant the role of village governments and environmental supers. The purpose of this study is not enhant to individual from observations, inserviews, supplies to the control of the village governments and purpose of the supplies governments and prostructure of the control of the village programme in the local production and prostructure of the good estepony. The search showed international production of the village programme of Conta Regions to the control of the village programme of Conta Regions to the control of the village control of the village programme, in a biovariant to the local production (Lin et al., 2015, Conda and in the control of the village control of the vi

environmentally friendly behaviors, such as transitioning to renewable energy, reducing carbon emissions and adapting to the impacts of climate change (Hori et al., 2022; Zhang et al., 2020). With the combination of both, climate change response efforts can be designed and implemented holistically, sustainably, and responsively to global and local needs. In various studies on Sustainable Development Goals, have been very often and widely researched by researchers around the world. We conducted a search and mapping related to the extent to which the topic of sustainable development goals was researched. In the search, we did using the Scopus database with the latest 10-year vulnerability starting from 2014-2024. The results of our search found 10,572 documents. The country with the most research document contributions is China with 1398 documents. Then, the United Kingdom is in second place with a total of 1341 documents, the United States total document 1274, India has 911 documents and Spain has 853 documents. While Indonesia as the focus country of this research has 382 documents that discuss Sustainable Development Goals. The mapping of topics related to Sustainable Development Goals obtained from the Scopus database was analysed using VosViewer to see the extent and sequence of topics discussed, please see Figure 1.

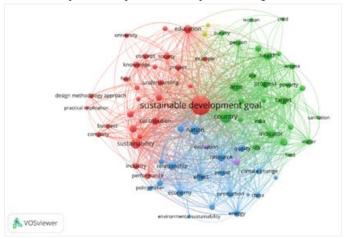


Figure 1. Network Visualisation VosViewer 'Sustainable Development Goals'.

Source: Processed by the researcher, 2024.

Based on the visualization done in mapping the research topics related to Sustainable development goals using Vosviewer, it can be explained that 5 clusters. In the first cluster (Red), various researchers who discuss Sustainable Development Goals tend to research topics related to business, industry, Sustainable Development Goals, society, stakeholders, projects, integration, companies, sustainability and unsustainable Development Goals. Then the second cluster (Green) various studies from abroad are more dominant in discussing health and food security issues such as the topics of children, food, population, poverty, sanitation, water, women, and risk. Cluster (Blue) discusses more about the trend of climate action, climate change, economic growth, energy, innovation, policy makers, synergy and China. The fourth cluster (Yellow) discusses research trends related to covid and pandemic issues. Finally, the fifth cluster (Purple) only discusses assessment and evaluation. Although there have been many studies related to the Sustainable Development Goals, this research is different from the visualised studies. Because this research will discuss the implementation of the Sustainable Development Goals for Villages in Indonesia.

One form of implementation of the Indonesian government's commitment is by issuing regulations on the Implementation of Achieving Sustainable Development Goals stipulated in Presidential Regulation 111 of 2022, Village SDGs is a sustainable development role that is included in the priority program for the use of Village Funds (Boekoesoe & Maksum, 2022; Setiawan & Zulmasyhur, 2024). Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Number 8 of 2022 concerning Priorities for the Use of Village Funds in 2023, National economic recovery, national priority programs, as well as mitigation and handling of natural and non-natural disasters are priorities for the use of Village Funds in 2023 to support the achievement of Village SDGs and Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Number 67 of 2023 concerning Village Environmental Care guidelines.

Various studies related to the SDGs are still frequently researched topics including research from Husain et al., (2022) by providing assistance to the community, addressing poverty issues by implementing the Village SDGs (Nawir et al., 2022), alignment of SDGs programmes with village government programmes (Surya, 2019), A bottom-up participatory Climate Village Programme strategy (Yunginger & Dako, 2021). This shows that the SDGs programme that is passed down to the village and becomes the village SDGs is very important to be implemented, including the village SDGs points regarding disaster.

In some studies on resilience in climate change until now it is still very often researched by researchers around the world. Carmen et al., (2023) in their research explained that in overcoming complex community problems such as climate change and social justice issues, it is necessary to have a synergy of life policies from the Scottish government. The study of community resilience in climate change is very important. It was also conveyed by Carmen et al., (2023) that efforts in resilience to climate change really require changes in social and political terms because it will have an impact on conflict in the community.

Thus, research on resilience in the face of climate change is particularly important in safeguarding community, economic and environmental well-being. Building climate resilience helps communities better prepare for natural disasters such as floods, droughts and storms, which are becoming more frequent due to climate change (Munawar et al., 2021). Then in the agricultural sector, it allows farmers to adapt to changing weather patterns (Mensah et al., 2021). In addition, climate resilience promotes economic diversification, especially in sectors that are vulnerable to climate change (Kumar & Agrawal, 2020). As well as by reducing the impacts of climate change, such as air pollution, extreme temperatures, and disease (Manisalidis et al., 2020). Therefore, this research is very important for the continuity of people's lives in facing the challenges of climate change. On the other hand, this research is also important for the government in order to provide policies that can overcome climate change as early as possible.

In contrast to previous studies, this research will discuss programme evaluation related to accelerating the achievement of village goals for climate change control and response. Then, the second difference is that the location of this research was conducted in Gowa Regency, where no researcher has ever conducted research related to accelerating the achievement of village goals responsive to climate control and change. Third, the difference between this research and previous research is also related to the methods and theories used, because previous research used qualitative research methods while this

research used qualitative and quantitative methods. As well as the next difference is the use of theory, this study uses the CIPP model theory (context, input, process and product) (Stufflebeam, 1971). Therefore, this research emphasises the importance of every village responding to the 13th goal of the SDGs as a climate change response village. This is a sustainable development goal, mitigation/disaster management in the Gowa Regency.

The purpose of this research is to analyse the implementation and results of the evaluation of the climate change response village program in Gowa Regency using the CIPP Evaluation model. Then to measure the effectiveness of the implementation of the village programme for climate change control and response in Gowa Regency. So this research question is:

- 1. How is the implementation of the village response to climate change and control programme in Gowa Regency?
- What are the results of the evaluation of the Desa Tanggap Control and Climate Change Programme using the CIPP model in the Gowa Regency?
- 3. What is the effectiveness of the implementation of the village response to the climate change programme in Gowa Regency?

Furthermore, this research contributes to the government in evaluating the performance of the village government in controlling climate change in accordance with the regulations and goals of the village SDGs. Finally, future researchers can assist the central to village level government in applying the SDGs concept to build sustainable villages. Therefore, this research is very important for the progress of development in the village area.

2. METHOD

This research was conducted in Gowa Regency, South Sulawesi Province, specifically in the Barombong Sub-district which consists of 5 villages, namely Tinggimae Village, Kanjilo Village, Moncobalang Village, Tamanynyeleng Village, and Biringala Village. We conducted research at the site for approximately 2 months in 2023.

This research uses qualitative and quantitative research methods so that research can obtain more complete and more valid data (Creswell, 2014). This is because the results of data obtained from quantitative methods can be strengthened by qualitative results through in-depth interviews. Meanwhile, qualitative findings can be tested for validity with quantitative data. So that using qualitative and quantitative methods can overcome the limitations of each method.

The data collection techniques carried out are in terms of qualitative methods, namely observation, interviews, and document studies (Maulida, 2020).

- Observation was carried out by researchers by making direct observations to the research location and seeing the conditions of the community in Barombong District, Gowa Regency.
- Interviews were conducted by researchers with a total of 6
 informants including from government elements, namely
 from the Sub-district Level such as the Head of the
 Barombong Sub-district, Secretary of the Barombong Subdistrict, then village facilitators at the sub-district level and
 village level facilitators.
- 3. The document study conducted by the researcher was carried out by collecting several documentation files, related articles

and documents from 5 villages in Barombong Sub-district consisting of regional action plans.

Then the data collection carried out from quantitative methods is to distribute questionnaires to respondents (Teguh et al., 2023), The questionnaires were distributed to the elements involved, namely the community and village staff in Barombong Sub-district. The data results from the questionnaire were then processed using the SPSS application. In determining the sample, the researcher first collected population data. The population in this study is the entire community of Barombong Subdistrict of 29,384 people consisting of 5 villages, namely, Tinggimae Village as many as 4978 people, Kanjilo Village as many as 9305 people, Moncobalang Village as many as 5027, Tamanynyeleng Village as many as 6935, and Biringala Village as many as 3139 people.

After the population is obtained, the researcher determines the sample with various considerations from the researcher such as in terms of age, gender, expertise, experience, and position. Determination of the sample of this study using pupusive sampling technique (Retnawati, 2017). Then, determining the sample, the researcher used the Slovin method, this method is useful, especially in situations where the population is limited and there is a need to streamline the use of available resources. The Slovin formula for determining the sample can be seen in the formula below.

$$n = \frac{N}{1 + Ne^2}$$

Description:

n = Sample size/number of respondents

N = Population size

e = The percentage of allowance for the accuracy of sampling errors that can still be tolerated (tolerance level).

The tolerance level in the slovin formula is:

Value e = 0,1 (10%)
$$\frac{29.384}{1 + 29.384 \cdot (0.1)^2}$$

$$n = \frac{29.384}{1 + 293.84}$$

$$n = \frac{29.384}{294.84}$$

$$n = 99,660~100$$

So, the sample for this study amounted to 100 people with a confidence level of 90% and an error of 10%. The greater the tolerance value, the smaller the chance of generalisation error and vice versa.

3. RESULTS AND DISCUSSION

To reduce the negative impacts of climate change that can cause losses, collaboration is necessary. Booth et al., (2020) argue that collaboration in addressing the impacts of climate change is a must. Synergy between stakeholders, including government, communities, academia, and the private sector is needed. Even in another study Booth et al., (2020) also said that to reduce the danger of disasters arising from climate change, it is also necessary to pay attention to clear communication. In addition, the involvement of the government and the private sector must be felt by the community. In 2023 in Gowa Regency, especially in Barombong District, there were disasters caused by climate change. Based on information obtained from the

National Disaster Management Agency, Barombong sub-district has been flooded 5 times and hit by whirlwinds 3 times, resulting in damage to infrastructure, namely 50 damaged houses and several public facilities affected and displaced around 200 people.

So from this incident, the Government of Gowa Regency then made a regional action plan related to climate change as a step and effort in minimising the impacts of climate change that occurred. The preparation of this regional action plan involved various elements from the government, academics, the community and the private sector.

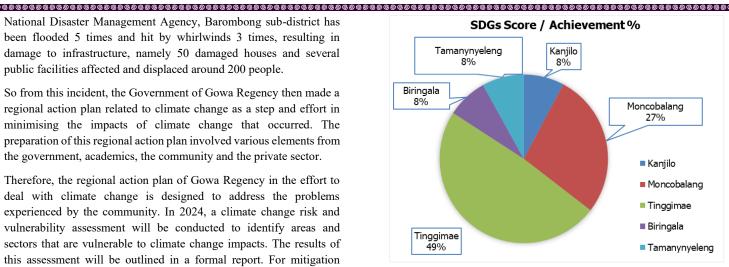
Therefore, the regional action plan of Gowa Regency in the effort to deal with climate change is designed to address the problems experienced by the community. In 2024, a climate change risk and vulnerability assessment will be conducted to identify areas and sectors that are vulnerable to climate change impacts. The results of this assessment will be outlined in a formal report. For mitigation strategies, several measures will be implemented, including the implementation of renewable energy projects such as solar and hydro power by 2025, as well as energy efficiency improvement programmes in the industrial, transportation and building sectors in the same year with the target of reducing energy consumption in each sector. In addition, waste management facilities will be built by 2026 to reduce methane emissions. Afforestation and reforestation programmes will also be conducted during the 2024-2026 period with a focus on tree planting in deforested areas and water catchment areas.

Under the adaptation strategy, the development of disaster-resistant infrastructure will be carried out in the period 2024-2028, while the construction of dams and reservoirs for water resources management is planned for 2025-2027. Farmers will also receive training on climate-resilient agricultural practices during the period 2024-2026. To raise public awareness, public campaigns on climate change and mitigation measures will be held in the period 2024-2025, along with the integration of climate change education into the school curriculum.

Cooperation with national and international institutions will be strengthened during the period 2024-2026 to support the implementation of regional action plans, marked by the signing of a number of memoranda of understanding. Finally, in the period 2024-2028, performance indicators will be set and periodic monitoring and evaluation of the implementation of the regional action plan will be conducted, the results of which will be documented in periodic evaluation reports.

The action plan provides an overview of the various actions that have been taken by Gowa Regency in the face of climate change, along with the target years and performance indicators that will be used to measure their success. The government's actions are based on disasters that often occur in the region. It is also in accordance with what Baker et al., (2012) said that local governments must increase their responsibility in preparing and adapting to climate change and must make plans to adapt. So that planning in adapting when facing the impacts of climate change is indeed very important to do.

Sustainable Development Goals (SDGs) number 13 is 'Action on Climate Change' which focuses on controlling and mitigating climate change. At the village level, achievements related to SDGs 13 can be seen from various initiatives and programmes implemented to reduce the impacts of climate change and increase community adaptive capacity.



<u>|</u>

Figure 2. Achievement of SDGs 13 in Barombong sub-district. Source: Barombong Sub-district Government, 2023.

The achievement of SDGs 13 or Village responsiveness to climate control and change from 5 villages in Barombong Sub-district still shows a lack of numbers, the highest achievement is Tinggimae Village with 62.50% and the other four villages are still far behind, therefore the purpose of this evaluation is to find out where the shortcomings of programme implementation are that can be improved to support better results in achieving goals. Each village certainly has different ways or problems in implementing this programme.

Evaluation of the CIPP model of the Climate Change and Change Response Village Programme

a) Evaluasi Context

Context evaluation of climate change management is the first step in the CIPP evaluation model which aims to understand programme objectives, suitability to community needs, policy support and environmental context that affects the implementation of climate change/disaster management programmes. The goal of the Climate Change Response Village Programme is to create more resilient and empowered village communities in the face of climate change impacts. Some of the key objectives of the programme include Climate Change and Control Response Village, Disaster Ratio Index (IRT) reaches 0 in all neighbourhoods dan Disaster risk management/mitigation covers 100% of disaster opportunities in each neighbourhood.

The purpose of climate change and control response villages is very important for several reasons, namely, Mitigation of Climate Change Impacts Where villages in Barombong District must be responsive to climate change can reduce negative impacts such as floods, droughts, and other natural disasters. Then Adaptation and Resilience which is ready to face climate change will be better able to adapt to changing weather conditions. This includes the use of agricultural technologies that are resistant to extreme weather, efficient water resource management, and resilient infrastructure, as well as sustainable natural resource management. A climate-resilient approach promotes sustainable management of natural resources, such as forests, agricultural land and water. This is important for maintaining ecosystem balance and supporting the livelihoods of village communities. Thus, the goal of climate change and control responsive villages is to protect and improve the quality of life of village communities and ensure the sustainability of the environment and natural resources for future generations.

The purpose of the Desa Responses to Climate Change programme in the Barombong sub-district is for the village government to prepare their village for disasters caused by climate change. The objectives of this programme have been socialised to the local community. In identifying the objectives, the programme implementers already understand where the direction and objectives of the programme actually are. This agrees with what was conveyed by Maharani (2017) that in implementing a programme, a programme implementer must understand the objectives of the programme being implemented. In general, the Climate Change and Control Response Village programme aims to help deal with and prepare villages in the event of a disaster. Including those caused by unavoidable climate change, therefore the government needs to anticipate by implementing the climate change and control responsive village programme. This is also in accordance with what was stated by Awalia et al., (2015) The government must be prepared for all conditions including natural disasters that can lead to social problems in the community. Similarly, the Desa Tanggap Control and Climate Change programme in village areas in the Barombong sub-district, Gowa Regency, needs to be considered.

In the implementation of this programme, disaster management decisions need to adjust to the needs of the local government/community. The village government needs the presence of the district government, especially the BPBD or the environmental agency. This need should be stated in the MOU for cooperation in dealing with excessive climate change situations and conditions, but this cooperation has not been formally stated. This shows that the implementation of the programme requires cooperation from various parties, including the local government, community and other sectors. This agrees with what is stated by Ozaki & Shaw (2022) which encourages community involvement in achieving the goals of the SDGs. However, Lalaguna & Dorodnykh (2018), Instead, he said that achieving the SDGs programme also requires the involvement of the private sector.

So that in the Context evaluation of the Desa Responses to Climate Change Control programme in Barombong sub-district with the aim of understanding the objectives of the programme implementation. This is to help deal with and prepare if at any time a disaster occurs in their respective villages caused by unavoidable climate change. Erratic environmental conditions can affect the implementation of climate change management programmes in the Barombong sub-district. In addition, the impact of climate change and natural disasters can also have an impact on children's health, impact on the community's economy, income that has an effect on the economy (Banholzer et al., 2014; Kousky, 2016; Panwar & Sen, 2019; Pleninger, 2022). So the government really needs to anticipate these events so that the impact is not felt too much by the community.

The programmes implemented in the form of socialization to the community related to disaster management are different in each village, some focus on flood management because the area is prone to flooding. As well as some that focus on events such as fires, local governments must understand the characteristics of the existing environment and implement programs according to the types of disasters that often occur in order to achieve the target of Village Response to climate change and control, namely the disaster ratio index (IRT) reaches 0 in all RTs, and disaster risk management/mitigation covers 100% of disaster opportunities in each RT. This is due to the many disasters that

occur such as floods, tornadoes, and fires with handling that has not been seen so that disasters such as floods occur every rainy season.

The 5 villages for the disaster mitigation/management programme each began to show a form of disaster response in 2022, such as Kanjilo Village and Tinggimae Village. The activities are flood disaster management training, procurement of buoys, and procurement of light fire extinguishers. In 2023, Biringala Village and Moncobalang Village also conducted the same activities in the form of disaster response training and procurement of disaster management signs (rallying points and village evacuation routes).

a) Input Evaluation

Input evaluation is an important part of the programme evaluation process. In an input evaluation, the focus is on the programme's human and financial resources/funding and the condition of the programme's facilities and infrastructure that affect the implementation and outcomes of the programme in order to obtain a comprehensive picture of the programme's readiness and feasibility prior to the implementation phase. Input evaluation helps identify potential problems early on and allows for any necessary improvements or adjustments to make the programme run more effectively and efficiently.

These activities are carried out to provide understanding to the community regarding the importance of a fast attitude in dealing with a disaster such as a fire incident. This is in accordance with the opinion of Lubis (2024) that the importance of synergy in disaster management and the involvement of the government, private sector and the community is very important. So it is necessary to increase human resources to overcome various threats of social problems such as the impact of natural disasters due to climate change. So the village government needs to provide special training to improve human resources in disaster risk reduction caused by climate change (Utama et al., 2020).

In line with the Biringala Village government, the Moncobalang Village government, Tinggimae Village in collaboration with Kanjilo Village also carried out the same activities, and training for human resource capacity building was also carried out by the Tamanynyeleng Village government. The efforts to improve human resources in each village in carrying out disaster management activities must be accompanied by adequate financial resources. All villages in Barombong Sub-district use budgets from different village funds. The use of village funds in disaster management activities can be seen in Table 1.

Table 1. Village Funds Related to Disaster Management

Village Name	Activities	Total Budget	Realisation
Kanjilo	Disaster	IDR	IDR
	Countermeasures	24,200,000	8,325,000
Moncobalang	Disaster	IDR	IDR
	Countermeasures	10,650,000	10,650,000
Tinggimae	Disaster	IDR	IDR
	Countermeasures	41,051,005	40.051.005
Biringala	Disaster	IDR	IDR
	Countermeasures	10,500,000	10,500,000

Tamanynyeleng	Disaster	IDR	IDR
	Countermeasures	22,856,000	22,856,000

Source: Village data processed by researchers, 2023.

Each village has a different budget for programme implementation depending on the amount of Village Fund received, with Tinggimae Village having the highest disaster management fund among the other four villages at IDR 41,051,005 and Biringala Village with a lower budget of IDR 10,500,000. The types of training provided and the estimated budget for disaster management in Barombong Sub-district can be seen in Table 2.

Table 2. Disaster management training data

Village Name	Type of Training	Total Budget	Year
Kanjilo	Flood Management Training	IDR 8,325,000	2023
Moncobalang	Firefighter Training	IDR 36,666,000	2023
Tinggimae	Firefighter Training	IDR 9,949,819	2023
Biringala	Firefighter Training	IDR 8,500,000	2023
Tamanynyeleng	Flood Management Training	IDR 15,926,000	2023

Source: Village data processed by researchers, 2023.

So it can be said that there have been efforts by the village government to improve and provide resources such as in the form of financial and quality human resources by empowering community leaders and local youth leaders. It is expected that human resources can provide participation in the implementation of the Desa Tanggap Pengendalian dan Perubahan Iklim programme, especially in the Barombong subdistrict area. Cooperation between villages is also very important and effective to implement, as done by Tinggimae Village and Kanjilo Village in providing disaster management training.

The existence of inter-village cooperation can increase the synergy of the two parties which can increase cooperation in terms of politics, social and development. This agrees with what is written by Nugroho & Suprapto (2021) in his book entitled "Intervillage Government Cooperation" which can increase village synergy, exchange disaster management strategies and certainly reduce the potential risk of conflict between villages.

However, there are some challenges faced in the implementation of the programme, lack of facilities and infrastructure provided by the government to support programme implementation. The facilities and infrastructure that can be reached by the budget from the Village Fund are very limited. This, of course, makes the programme potentially less than optimal, because the potential of human resources will not be balanced if it is not balanced with adequate facilities and infrastructure. This is in accordance with what was conveyed by Chester et al., (2021) that infrastructure must be adequate and must be prepared to cope with the aftermath of disasters in order to realise resilience from the impacts of climate change. The five villages in Barombong sub-district have budgeted for disaster management equipment, such as mini fire extinguishers, buoys, and emergency tents. The facilities and infrastructure provided are quite limited because they are also hindered

by the Village Fund. The budget spent on the procurement of facilities and infrastructure in disaster management can be seen in Table 3.

Table 3. Facilities and Infrastructure

Village Name	Facilities and Infrastructure	Budget
Kanjiloo	Signposts	IDR 3,500,000
	Evacuation route	IDR 3,500,000
	Volunteer team vest	IDR 2,500,000
Moncobalang	Mini fire extinguisher	IDR 1,000,000
	Signposts	IDR 3,500,000
	Evacuation route	IDR 3,500,000
	Volunteer team vest	IDR 2,500,000
Tinggimae	Mini fire extinguisher	IDR 1,000,000
	Signposts	IDR 3,500,000
	Evacuation route	IDR 3,500,000
	Volunteer team vest	IDR 2,500,000
Biringala	Mini fire extinguisher	IDR 1,000,000
	Signposts	IDR 3,500,000
	Evacuation route	IDR 3,500,000
	Volunteer team vest	IDR 2,500,000
Tamanynyeleng	Signposts	IDR 3,500,000
	Evacuation route	IDR 3,500,000
	Volunteer team vest	IDR 2,500,000
	Buoys	IDR 5,000,000
	Emergency tent	IDR 5,000,000

Source: Village data processed by researchers, 2023.

The form of goods provided in an effort to prevent and overcome the impacts of climate change in the Barombong Sub-district can be seen in Figure 3.



Figure 3. Disaster Management Facilities and Infrastructure

Source: Processed by researchers, 2023.

So all villages in the Barombong sub-district have provided facilities and infrastructure to support the implementation of the programme and to be used by the community in need. All facilities and infrastructure provided by the village government are funded from the Village Fund, so far there has been no assistance from other parties obtained by the Village government. So it can be said that the human resources, financial/funding and condition of the programme facilities and infrastructure that influence the implementation of the programme can

be said to be sufficient to support the readiness of the programme for serious disaster management.

b) Evaluation Process

Process evaluation in the climate change response village programme aims to assess the extent of activity implementation, programme management and community participation in achieving the expected goals. Programme recommendations implemented by village governments in the Barombong sub-district are sourced from the results of input from the village government into the village information system, therefore the recommended programme appears. All programmes implemented have objectives and implementation rules.

The implementation of the activities of the Village programme to respond to climate control and change must refer to the applicable SOPs and be adapted to local environmental conditions. The general SOP for the implementation of disaster activities in the Barombong Sub-district area can be seen below.

- Establishment of Village Disaster Response Team
 Village disaster response teams will be formed by selecting
 members from village officials, community leaders and
 volunteers. Afterwards, the team will receive training and
 capacity building related to disaster management and
 climate change.
- Preparation of Emergency Response Plan
 The initial step involves identifying disaster and climate change risks that may occur in the village. Next, an emergency response plan along with evacuation procedures will be developed.
- Socialisation and Education
 Community outreach activities will be conducted to raise awareness about disaster risks and how to reduce them.
 Educational programmes related to climate change and its impacts will also be conducted.n
- Evacuation
 Evacuation will be carried out in accordance with the
 developed plan. Temporary evacuation centres that are safe
 and fulfil basic needs will be provided.
- Provision of Assistance
 Emergency assistance such as food, clean water, medicine, and hygiene kits will be distributed. Coordination with government agencies, NGOs, and other parties will be conducted to obtain additional assistance.
- Evaluation and Learning
 The implementation of emergency response and recovery will be evaluated. The results of this evaluation will be used to develop recommendations for the improvement of future SOPs.

Programme recommendations implemented by village governments in the Barombong sub-district are sourced from the results of input from village governments into the village information system, therefore the recommended programmes appear. All programmes implemented have objectives and implementation rules that are still guided by the SOP in general.

The process of handling disasters has been prepared by the village government and if at any time a disaster occurs, the handling process has been arranged. The process of implementing the programme is inseparable from the initial plans that have a goal to be realised, one

form of the implementation process is that 5 villages have prepared evacuation routes.

The implementation of this programme can already be seen in its development, not only focusing on disaster management but also trying to improve the environment by greening the neighbourhood roads. The shape of the evacuation route can be seen in Figure 4.



Figure 4. Evacuation Route **Source:** processed by researchers, 2023.

The implementation of these forms of management requires support from various parties including village governments, communities and other institutions. With good cooperation, these programmes can increase village resilience to the impacts of climate change and improve the welfare and quality of life of local communities. All forms of innovation carried out are inseparable from community involvement, community participation is very important in the success of village programmes responsive to climate control and change. In addition to providing education, the government must provide examples to local communities, such as sustainable natural resource management.

Collective Action and Programme Implementation Communities can be directly involved in concrete action and implementation of environmental and social programmes (Rusliadi et al., 2023). This is very important, so that the government and the community not only try to overcome the problem of natural disasters caused by climate change. However, it is necessary to preserve the environment and conduct reforestation. Preserving nature can be one of the factors in reducing the risk of potential disasters from the effects of climate change. This is in accordance with research conducted by Hobbie & Grimm (2020) which says that it is very important to manage the impacts of climate change using a nature-based approach. This is what was then applied in various villages in the Barombong Sub-district to do greening around the village.

Thus, the main objective in the process of implementing a programme, especially the climate change response village programme, is to increase the village's awareness and ability to deal with climate change. The planned activities are expected to be carried out well. All programmes implemented by the village government are pre-planned activities. And in accordance with the rules that apply in the local area. The implementation of the programme cannot be separated from the

coordination of the parties or the participation of the local community. With the aim of assisting the village government in further developing and recognising the needs for better programme implementation. So that in the future it can handle the impact of climate change in Barombong Sub-district. With the active participation of the community in various aspects of the climate change response village programme, the sustainability of the programme can be guaranteed, and its impact will be more significant and sustainable.

a) Product Evaluation

The product evaluation of the climate change response village programme aims to assess the achievement of programme objectives, short-term impacts and long-term impacts. This evaluation can produce a variety of outputs that are important for understanding the impact of the programme and providing recommendations for future improvements.

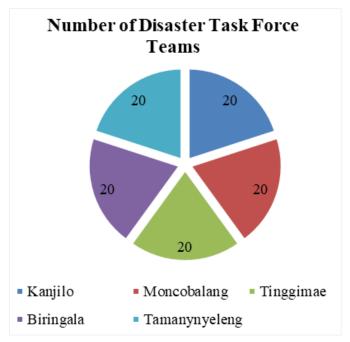


Figure 5. Number of Disaster Task Force Teams in Barombong subdistrict.

Source: processed by researchers from the Barombong District Government, 2023.

In the implementation of the programme, the most visible form of community participation is the formation of a disaster management task force team in 5 villages, each village has a disaster team/volunteer who is in charge during and after a disaster, following special training for volunteers, such as firefighting, first aid, and rescue. The existence of these task force teams provides evidence that community participation is very enthusiastic in participating in village government programmes.

Then one of the tangible forms that can be seen from the implementation of the village programme for climate change control and response is the reforestation and planting of trees around the village tourism road, especially in Biringala Village. So that it has a good impact on the community, especially from the environmental and health aspects. Planting trees for reforestation can have long-term impacts such as overcoming extreme weather changes, droughts, and floods, thereby reducing economic and social losses. This also agrees with the submission of Chong (2014) To maintain resilience from the impacts of climate change, there needs to be awareness from the

community and government involvement in greening and protecting the environment. Therefore, it is important to educate the community to preserve and love the environment in order to realise the village's resilience to potential climate change.

Another benefit of the evacuation routes provided by the village government is when a flood disaster occurs in 2022 because the community can see instructions from the evacuation route board to reduce panic. In addition, the availability of evacuation sites and task force team personnel helped the community's condition at that time. This information was obtained from the results of interviews conducted from various informants. So that the community is better prepared for natural disasters through the preparation of emergency plans, evacuation training, and the development of disaster-resistant infrastructure. Implementation of early warning systems for disasters such as floods and other disasters.

However, in reality the implementation of the programme did not run smoothly as expected. This is because there are several obstacles found such as the lack of quality human resources, finance, incomplete facilities and infrastructure so the results of the implementation are not optimal and there are still programmes that have not been implemented by the village government.

So the outputs produced in the implementation of the climate change and control response village programme become an assessment to measure the extent to which the programme objectives have been achieved, especially for the Barombong sub-district. In essence, not all programme recommendations have been implemented. Villages can experience significant benefits both in the short and long term, which will improve their resilience and well-being amidst the challenges of climate change. The results of this evaluation are important to provide feedback and suggestions to the village government to further maximise, improve weaknesses, and ensure that the village climate change response programme can achieve its objectives effectively and sustainably.

Based on the results of the application of the CIPP model evaluation of the Desa Tanggap control and climate change programme in Barombong District, the success or failure of a programme is determined by whether or not the objectives of the programme are achieved which can be seen from the results of the application of evaluation through the CIPP model conducted by researchers as a process of obtaining, obtaining and providing information to focus more on the information needed by decision makers.

Effectiveness of the implementation of the Climate Change and Control Response Village Programme in Gowa Regency

The first indicator aims to measure the defined objectives and Performance Indicators, the following table of data analysis of indicator X1 with 100 respondents from 5 villages in Barombong District, Gowa Regency can be seen in Table 4.

Table 4. Descriptive analysis based on indicators of clear goals and indicators (X1)

Value	Clear Objectives and Indicators			
	X1.1 X1.2 X1.3 X1.4			
Biringala	62	63	62	58
Moncobalang	62	62	62	57

Tinggimae	39	40	40	45
Kanjilo	60	59	62	55
Tamanynyeleng	39	37	38	46
Total Score	262	261	264	261
Average	65,5	65,25	66	65,25
Categories	Effective	Effective	Effective	Effective

Source: processed by researchers, 2023.

Table 4 above shows that X1.3 or realistic and achievable objectives and indicators of the success of the programme studied in 5 locations has the highest score (66), while X1.1 and X1.2 show the same figure of 65.25. The data also shows that the tendency of the first indicator or clear objectives and indicators is in the Effective category.

Then the second indicator aims to measure active participation as well as communication and coordination following the data analysis table of the X2 indicator with 100 respondents from 5 villages in the Barombong sub-district. As for seeing the results of descriptive analysis based on stakeholder involvement indicators (X2) can be seen in Table 5.

Table 5. Descriptive analysis based on stakeholder involvement indicators (X2)

Value	Stakeholder Engagement			
	X2.1	X2.2	X2.3	X2.4
Biringala	59	46	56	57
Moncobalang	59	45	58	57
Tinggimae	46	43	46	45
Kanjilo	56	46	55	56
Tamanynyeleng	46	44	45	44
Total Score	266	224	260	259
Average	66,5	56	65	64,75
Categories	Effective	Effective	Effective	Effective

Source: processed by researchers, 2023.

From Table 5 above, it can be seen that X2.1 or Stakeholders are actively involved in decision-making related to the programme studied in 5 locations is at the highest score (66.5), while X2.2 or Nongovernmental institutions are also well involved in this programme showing the lowest score of 56. The data also shows that the tendency of the second indicator or stakeholder involvement is in the Effective category.

Stakeholder engagement, includes an active participation analysis where the level of engagement and active participation of various stakeholders, including local communities, government, NGOs, and the private sector, is critical. Secondly communication and coordination, effective communication and coordination between stakeholders ensures that all parties understand their roles and work towards the same goal. The stakeholder engagement indicator has a slightly smaller influence than the first indicator. However, if categorised, it is still in the good category in influencing the level of

effectiveness of the implementation of the Climate Change Response Village program in Barombong District.

The third indicator aims to measure the availability of resources and capacity and competence, the following table analyses the data of indicator X3 with 100 respondents from 5 villages in Barombong subdistrict can be seen in Table 6.

Table. 6. Descriptive analysis based on indicators of resources and capabilities (X3)

Value	Resources and Capacity			
	X3.1	X3.2	X3.3	X3.4
Biringala	57	56	56	57
Moncobalang	58	58	55	56
Tinggimae	47	45	43	42
Kanjilo	55	53	54	52
Tamanynyeleng	43	43	43	43
Total Score	260	255	251	250
Average	65	63,75	62,75	62,5
Categories	Effective	Effective	Effective	Effective

Source: processed by researchers, 2023.

Table 6 above shows that X3.1 or the resources available for this programme are sufficient to achieve the objectives studied in the 5 locations have the highest score (65), while the lowest score, X3.4 or Management support in providing resources is very adequate, shows 62.5. The data also shows that the tendency of the second indicator or stakeholder involvement is in the Effective category.

Resources and capacity, including the availability of adequate resources, including funds, manpower, and infrastructure, are essential for effective programme implementation. Secondly, capacity and competence, the ability and competence of the programme implementation team as well as the local community affect the effectiveness of the programme. In the programme implementation, the resource and capacity indicators are in the effective category. The data also shows that the tendency of factors affecting the level of effectiveness is in the effective category.

Finally, the factors that influence programme effectiveness in this study are measured based on three indicators, namely, clear objectives and indicators, stakeholder involvement, resources and capacity.

Table. 7. Descriptive Analysis based on Factors that influence the level of Effectiveness

Value	Indicator			
	Clear Objectives and Indicators (X1)	Stakeholder Engagement (X2)	Resources and Capacity (X3)	
Total Score	1048	1009	1016	
Total Score	262	252	254	
Average	65,5	63	63,5	
Categories	Effective	Effective	Effective	

Source: processed by researchers, 2023.

Table 14 above shows that the three indicators studied in the 5 locations are in the good category, but when viewed partially, stakeholder involvement (X2) 63 shows the lowest score, while the resource and capacity indicator (X3) 63.5 in influencing the effectiveness of programme implementation, while the X1 indicator or clear objectives and indicators is the highest indicator with a score of 65.5. When averaged, the data also shows that the tendency of factors affecting the level of effectiveness is in the effective category.

4. CONCLUSION

Based on qualitative analysis, evaluation using the CIPP model shows that the village programme in the Barombong sub-district is generally successful in achieving its objectives. Although there are some obstacles such as lack of facilities and infrastructure, financial, and need to improve human resources. While the findings of this study are that of the six programmes there is one programme that has not been able to be implemented by the village government in the Barombong sub-district, namely the MOU with the Regency BPBD, UPT KPH, Regency Environmental Service, overall, this programme has a positive impact on the villages involved.

Based on quantitative analysis related to the level of effectiveness of the implementation of the village response programme to control and climate change in the Barombong sub-district, it is found that the three indicators studied in 5 locations are in the good category, but when viewed partially, clear objectives and indicators score 65.5 shows the highest number compared to the other two indicators, the overall level of effectiveness is at 64, while the lowest number is the indicator of stakeholder involvement. The data also shows that the tendency of factors affecting the level of effectiveness is in the effective category. The results of this quantitative data analysis support the qualitative data on the evaluation of the village programme on climate change control and response applied in the region.

The CIPP theory in this study is very useful for knowing how the village government carries out its role in terms of resilience to climate change. This concept can be applied in climate change resilience programs in Indonesia and even around the world by evaluating four aspects y. At the context stage, climate needs and risk analysis helps ensure that the program is in accordance with the challenges faced, such as natural disasters or droughts. Input evaluates the availability of resources, including technology and funding to support adaptation efforts. The process monitors program implementation, such as water management or disaster-resistant infrastructure, and allows for improvements if needed. Finally, the product evaluates the final results, such as increased community resilience and long-term impacts on the environment.

The limitation of this research is related to the location of the research which was only conducted in 1 sub-district, so for future research to be able to conduct similar research in other regions. This is useful for mitigating disasters caused by climate change. In addition, this research can have implications for progress in responding and preparedness of the government and the community when a disaster occurs. And can provide recommendations to the government to strengthen relations and policies in achieving sustainable development goals.

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