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To cite this article: Nasruddin *et al* 2020 *IOP Conf. Ser.: Earth Environ. Sci.* **499** 012024

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Community Participation in the Village Climate Program to Anticipate Future Climate Change in Wetlands

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Abstract. The issue of global warming and climate change is a crucial problem in the world as it triggers an increase in temperature and disasters. Indonesia one of the countries most vulnerable to climate change impacts. The impact of climate change is increasing every year. Efforts to reduce the impact of climate change on environmental management through climate village. Community participation is an important aspect of the success of the climate village program. The purpose of this study is how the Community Participation in the Village Climate Program to Anticipate Future Climate Change in Wetlands. This research method is quantitative. Sources of data in this study are primary data and secondary data. Sources of primary data obtained through interviews. Secondary data sources in the form of documentation and official archives that can support the research. Population and sample in the community in the village climate. Processing of data from interviews calculated percentages based on criteria of severe, moderate and good. Data in scoring with Likert scale approach and wide intervals. The analysis is based on the theory of Miles and Huberman. The findings of the study were to determine the Community Participation in the Village Climate Program to Anticipate Future Climate Change in Wetlands. Limitations of the study limit community participation in the climate village program. Community participation in the program is limited to mitigation and adaptation. The results showed community participation in the mitigation activities has been "good" and should be improved. Community participation in the activities of adaptation is "moderate". This participation still needs improvements to community participation in the activities of adaptation to climate change can be better. Community participation is an important aspect of the success of the climate village program. Success climate village programs can reduce the negative impacts of future climate change on wetlands.

Keywords: Climate Village Program, Community Participation, Future Climate, Wetlands.

1. Introduction

The issue of global warming and climate change is a crucial problem in the world as it triggers an increase in temperature and disasters [34]. Climate change is the biggest public policy issue currently [3]. Climate change is a change in the static properties of the climate system (temperature and wind) [15].

Climate change has a direct negative impact on humans and the environment [10]. In 2050 it is estimated that 67% of the world's population will live in cities [38], and the fastest rate of urbanization will occur in developing countries [43]. Urbanization is followed by degradation of environmental function such as water quantity, water quality, air and noise [13]; [19]; [52]; [40]; [12]; [11]. Adaptation to climate change refers to the arrangement of interaction between government, the public and private sectors [18].

Climate change has an impact on the availability of food. Fluctuations in the availability of food are strongly influenced by climatic variations and weather [1]. Global warming and climate change affect agricultural land in developing countries, including Indonesia. Indonesia is among the countries that is most vulnerable to climate change. The impact of climate change is increasing every



year, making it the focus of all parties. To lessen the impact of climate change on environmental, Indonesian government has launched a program called Climate Village program.

Climate Village Program is a national program to encourage all stakeholders to actively improve resilience to climate change impacts and make necessary efforts to adaptation and mitigate climate change on an ongoing basis. The problems that often arise are (1) the choice of adaptation policies [21], (2) leadership in climate adaptation regional [25], (3) the policy risk of flooding [41], (4) policy and governance practices [8], (5) the tradition of state and government initiatives [40], and (6) research collaboration [35].

Public participation is an important aspect of the success of the climate village program. Society must take an active role and has a major position in the neighbourhood as a place to stay so that the climate village program successfully. Creating an independent society is the empowerment of communities [7]. Community empowerment is a process of developing and strengthening the ability of communities in the development process, hence people can solve problems independently [31]. Involvement or participation is a central concept, and the basic principle of the development community because involvement is closely linked to the notion of human rights [16]. Involvement or participation is the participation of each party involved in every stage of development activities [14]. The other view is the outpouring of participation activity or objects through a process of joint activities to achieve common goals [6].

Environmental management through the climate village program became one of the focuses in the area research. Environmental management to address the adaptation and mitigation of climate change. The success of the climate village program cannot be separated from community involvement. The success of the climate village program is expected to anticipate climate change in the future. Based on the above background the purpose of this study is to determine Community Participation in the Village Climate Program to Anticipate Future Climate Change in Wetlands.

Adaptation and mitigation are two main approaches to combating climate change. Mitigation is considered as the most important tasks in dealing with climate change in scientific research, financial support and technical practices as global warming intensifies; while currently the warming trend still cannot be reversed, and adaptation task seemed to gain urgency although it is late-starting [8]. Adaptation to climate change in the government is still unclear, especially on climate policy [2]. Adaptation to climate change is solved with the institutional and governance approach [39]; [9]; [21]. Approach to the adaptation to climate change that is already done government is spatial planning, water management and public health [40]; [29]; [4]; [22]; [5]; [37]. Approach adaptation to climate change has also been done in Indonesia.

Indonesia is one of the developing countries most vulnerable to climate change impacts. Efforts are needed to lessen the impact of climate change in Indonesia with the management of the environment through the climate village program. Climate village program is a government program with the community to reduce the impact of climate change. Society and the private sector are government actors at national, regional or local [25]; [24]. The good cooperation between government, social service agencies, research institutes, universities and community governance needed for adaptation and mitigation of climate change [35].

Cooperation between the government and the public on the climate village program can be seen from community participation. Involvement or participation is the participation of each party involved in every stage of development activities [14]. The active involvement of the community and the government can reduce the impact of existing climate change [36]; [23]. The success of the climate village program in terms of adaptation and mitigation is expected to address climate change in the future (see Figure 1).

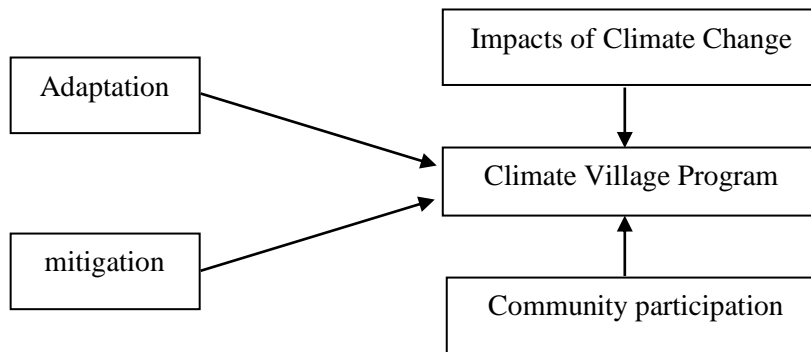


Figure 1: Climate Village Program and Community Participation

2. Method

This study uses quantitative research. Quantitative research on participation is a community empowerment process that includes strengthening, protection, smiles, and maintenance by using a purposive sampling technique [34]. The study was conducted at the Sungai Bilu District of Banjarmasin Eastern, Banjarmasin. Samples were heads of families who live in the climate village. The total samples were 300 and population were 300.

Variable	Sub variable	Indicator	Data Collect
Community Participation	Adaptation	Participation in Making Rainwater Reservoirs	Questionnaires
		Making Dams for Drought	Questionnaires
		Making Rainwater Shelter	Questionnaires
		Restrictions on Water Use	Questionnaires
		Making Biopori	Questionnaires
		Making Infiltration Wells	Questionnaires
		Manufacture of Waterfall Buildings	Questionnaires
		Land Use Yard	Questionnaires
		Aplication of 3 M Patterns	Questionnaires
	Mitigation	Good Air Circulation House Ownership	Questionnaires
		Application of Alert Systems for Disease	Questionnaires
		Provision of Decent Trash	Questionnaires
		Waste composting	Questionnaires
		Activity 3R (Reduce, Reuse, Recycle)	Questionnaires
		Use of Compost Organic Fertilizer for Plants	Questionnaires
		Waste Management becomes Valuable	Questionnaires
		Behavior Save Electricity	Questionnaires
Climate Village Program		Tree planting	Questionnaires
		The opening of agricultural land without the Forest Fire	Questionnaires
Climate Village Program		Climate Village Program	Questionnaires

Source: Walgito, 2003; Sugihartono 2007

Table 1: Research variable.

The data source was differentiated as primary data sources and secondary data sources. Sources of primary data obtained through interviews with people who live in the climate village. The validity of the study was measured using triangulation by comparing the observed data and interviews with the state's perspective, and interviews with the contents of the document [27]. Secondary data were sources in the form of documentation and official archives that supports research. Secondary data were obtained by reviewing some of the documents related to the climate village program and by study of literature. Research variables and participation criteria can be seen in Table 1 and Table 2.

Data analysis was carried out by using interactive model of Miles and Huberman which consist of data collection, data reduction, data presentation and conclusion/verification [32]. Questionnaire was distributed to the respondent and the respondent answers was then calculated and expressed as percentage. Then categorized based on the percentage of poor, moderate and good. The survey analysis using a scoring approach and a wide-interval Likert scale.

Variables	Category Adaptation	Category Mitigation
Community participation in the Climate Village Program	Good (40-55)	Good (29-40)
	Moderate (26- <40)	Moderate (19- <29)
	Poor (11- <26)	Poor (8- <19)

Source: Sugiyono, 2015 and Primary Data, 2018

Table 2: Criteria Category Community Participation on Climate Village Program.

3. Results and Discussion

Climate change is a challenge that must be faced by all humans. But many people in the world who do not care about the existing climate change. Examples of climate change are already visible impact is shoreline change. People only know the general issues regarding climate change.

Society does not know the specific details of climate change and its impact in the long term and therefore considers climate change is not a priority issue [30]. Climate change is happening to cause adverse effects on the environment and human life so that necessary controlled together. The joint effort to tackle climate change at the local level with the climate village program are.

3.1. Participation Adaptation

Climate village program success determined the amount of community participation. Community participation in adaptation to cope with the impacts of climate change in the future. One local effort at the community level to tackle climate change in the study area to participate actively in the climate village program. Community participation in the climate village program can see Table 3 Figure 2.

No.	Class	Score	Amount	%
1	Good	40-55	137	46
2	Moderate	26- <40	154	51
3	Poor	11- <26	9	3
Amount			300	100

Source: Sugiyono, 2015 and Primary Data, 2018

Table 3: Participation Community Adaptation to Climate Change

Participation of society's adaptation to climate change in the category of "moderate" (51%) (see Table 1). This condition is still needed improvements to the participation of society's adaptation to climate change can be better. Adaptation to climate change by community groups to improve climate resilience, reducing greenhouse gas emissions, capped the increase in global average temperature

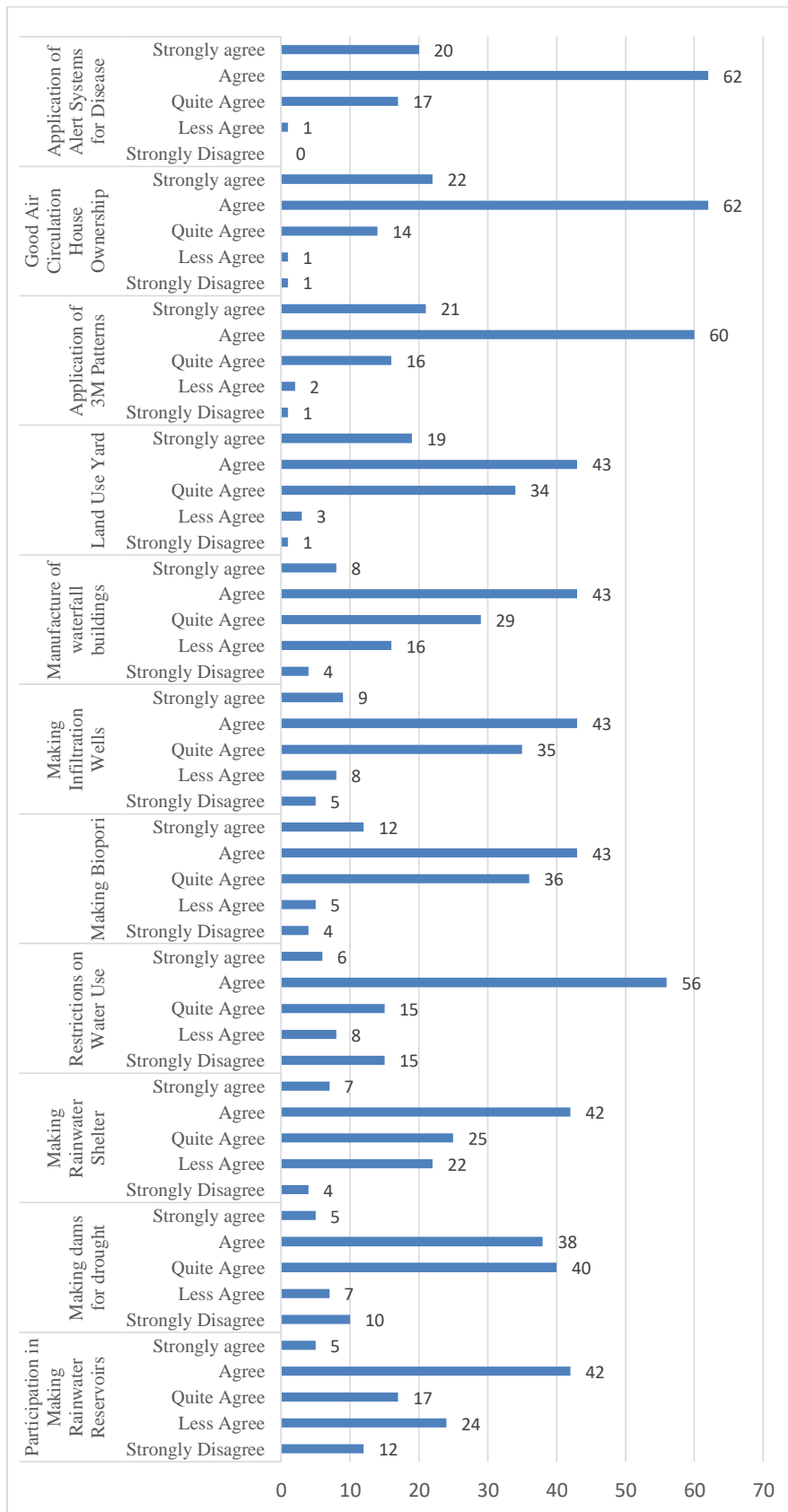


Figure 2: Participation Climate Change Adaptation.

below 2 ° C [17]. Community-based organizations to increase the capacity of communities to increase the participation of adaptation to climate change are necessary [39]. Organizations are like the provision of a range of activities for residents of the neighbourhood.

Participation by the community adaptation to climate village support program is an environmental management activity that requires the role of actors, social capital, and public participation in the process of implementation. Regional research shows community participation began to appear with their involvement in various programs, such as willing renovation home to the domicile on the riverbank, and participate in keeping the village. The success of the program in the climate village is expected to address adaptation to climate change in the future.

3.2. Participation Mitigation

Another important aspect of the implementation of the climate village is mitigation. Mitigation is a form of efforts to combat climate change. Mitigation activities starts from activities in the environment around the home by involving citizens in the climate village. The behaviour of energy-efficient, green transportation, waste management, tree planting and forest and land fire control involving the public is to have campaigned mitigation activities to stakeholders [18]. Mitigation activities are done in a simple, but still, involved the public in varying levels.

Mitigation participation in the study area so good that it needs to be improved to make it better (see Figure 3 and Table 4). Some climate change mitigation participation needs to be improved and supported by the government in the area of research, is (1) to provide bins; (2) do not throw garbage into the river; (2) composting by utilizing Ilung (hyacinth) for fertilizer; (3) perform 3R (reduce, reuse, recycle) to waste; (4) to plant trees around their homes and neighborhoods; and (5) do not burn the land and trash.

No.	Class	Score	Amount	%
1	Good	29-40	232	77
2	Moderate	19- <29	67	22
3	Poor	8- <19	1	1
Amount			300	100

Source: Primary Data, 2018

Table 4: Community Participation for Climate Change Mitigation.

4. Conclusion

- Participation adaptation and society to climate change mitigation are moderate and good, the conditions need to be maintained and improved so that community mitigation action adaptation to climate change better.
- Participation of society's adaptation to climate change in the category of "moderate" (51%).
- Participation of mitigation to climate change in the category of "good" 77%.

Acknowledgments

The authors would like to express Reviews their sincere gratitude to Mangkurat University for supporting this study.

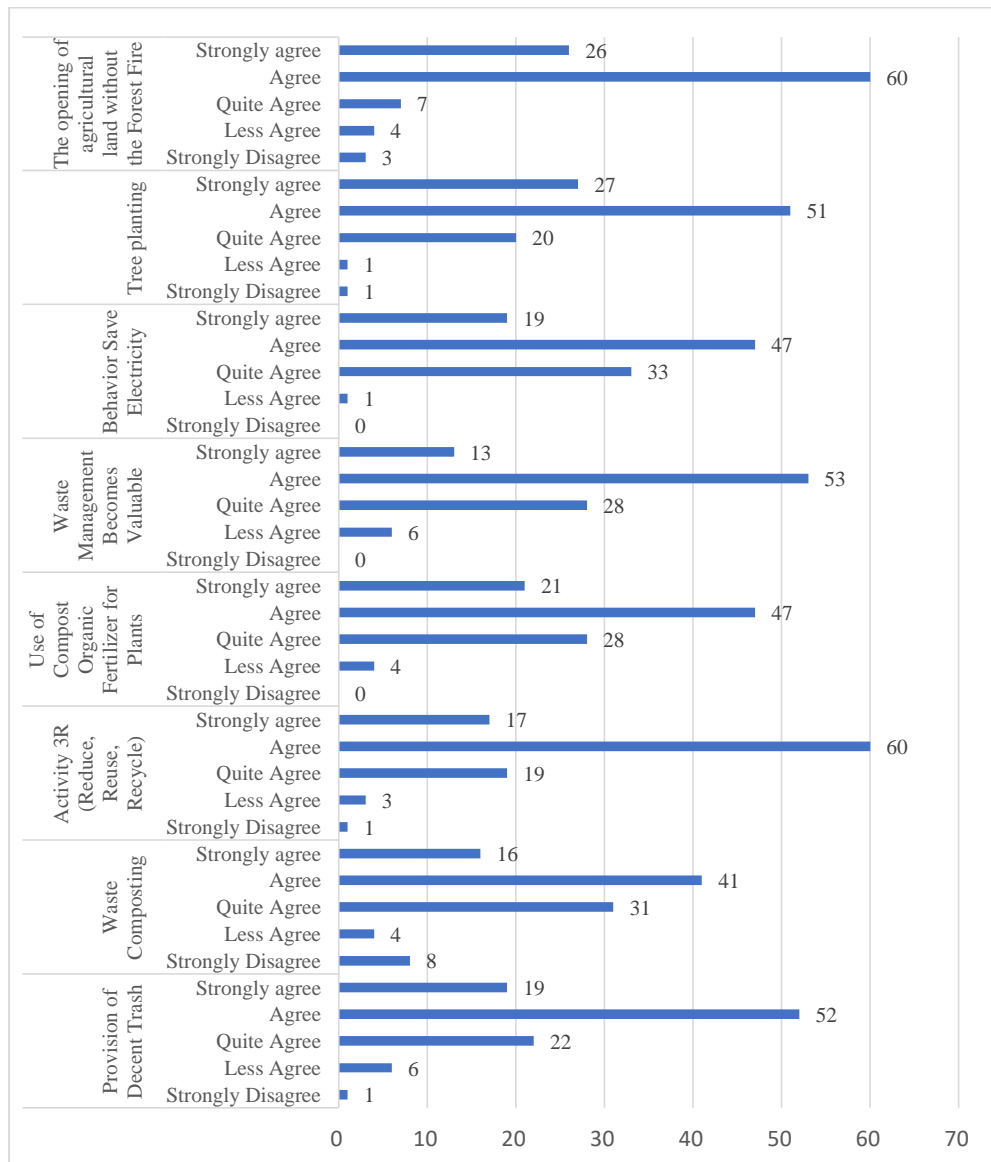


Figure 3. Participation for Climate Change Mitigation

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