

COMMUNITY ORGANIZING FOR CLIMATE CHANGE ADAPTATION AND MITIGATION IN KALIKATIR VILLAGE, GONDANG SUB DISTRICT, MOJOKERTO REGENCY

Maufidah Nazilatul Habibah¹, Moh. Ansori²

^{1,2}Sunan Ampel State Islamic University Surabaya
¹maufidah16@gmail.com, ²anshormoh75@gmail.com

Abstract: This research focused on the following things; a) How are the problems resulting from climate change to the quality of the environment and people in Kalikatir village? b) How are strategies in solving the problem of climate change through adaptation and mitigation efforts? c). What was the meaning of da'wah in this community organizing? Researchers used the Participatory Action Research (PAR) method along with Participatory Rural Appraisal (PRA) techniques for data mining. The dynamics of community organizing included inculturation, knowing, understanding, planning, action, monev, reflection, and report. The results of the research showed that the local climate change presents various problems in the disaster of natural resources, food resistance, economy, and health sectors. Community organizing of people produced a "Farmer Group Learning Center", and also facilitated some access to the information, knowledge, and experience about climate change. Da'wah activities showed in this community organizing on the form of *tathwir* and *tamkin* which transformed the teaching of Islam through empowering the community of their human, social, economic, and environmental resources.

Keywords: Community Organizing, Adaptation and Mitigation, Climate Change.

Abstrak: Penelitian ini difokuskan pada hal-hal berikut; a) Bagaimana permasalahan akibat perubahan iklim terhadap kualitas lingkungan dan masyarakat di Desa Kalikatir? b) Bagaimana strategi penyelesaian masalah perubahan iklim melalui upaya adaptasi dan mitigasi? C). Apa makna dakwah dalam pengorganisasian komunitas ini? Peneliti menggunakan metode Participatory Action Research (PAR) beserta teknik Participatory Rural Appraisal (PRA) untuk data mining. Dinamika pengorganisasian masyarakat meliputi inkulturasi, mengetahui, memahami, merencanakan, tindakan, monev, refleksi, dan laporan. Hasil penelitian menunjukkan bahwa perubahan iklim lokal menghadirkan berbagai masalah di sektor sumber daya alam, ketahanan pangan, ekonomi, dan kesehatan. Pengorganisasian masyarakat menghasilkan "Pusat Pembelajaran Kelompok Tani", dan juga memfasilitasi beberapa akses ke informasi, pengetahuan, dan pengalaman tentang perubahan iklim. Kegiatan dakwah ditunjukkan dalam pengorganisasian komunitas ini dalam bentuk *tathwir* dan *tamkin* yang mentransformasikan ajaran Islam melalui pemberdayaan komunitas dari sumber daya manusia, sosial, ekonomi, dan lingkungan mereka.

Kata kunci: Pengorganisasian Masyarakat, Adaptasi, dan Mitigasi, Perubahan Iklim.

A. Introduction

In general, climate change is defined as a condition where the climate on earth is undergoing a process of change. This has the potential effects to cause extreme weather. So that without realizing it, the impacts in everyday life such as temperature increases, rainfall patterns and changes, the spread of disease, hydrometeorological disasters (floods, landslides, droughts,

forest and land fires, and tidal waves) increases, crop failures and others. The future trend of this disaster will continue to increase because it is anthropogenic.¹

The geographical condition of Kalikatir Village is currently experiencing degradation in its forest land use. The number of critical lands and the conversion of forest land functions around Kalikatir Village. The forest area which was originally a life support for both biodiversity and natural resources has now become reduced and unbalanced. The community shifted the function of forest land as an agricultural area and built several buildings. As a result, the Kalikatir Village environment is prone to floods and landslides.² Another negative impact of climate change is that it creates vulnerability in the agricultural sector. This vulnerability results in a decrease in agricultural production yields and the level of food security. Where the agricultural process is very dependent on the seasonal calendar such as rain patterns, planting and harvesting times. Changes in rain patterns cause farmers to find it difficult to determine the planting period and the types of plants to be planted. This condition gets worse when pest attacks also increase, so that farmers experience crop failure. Meanwhile, we know that Indonesia is an agricultural country that is very dependent on the agricultural sector.³

This condition is a problem that must be solved collectively and together. Public awareness and participation in maintaining the balance of nature is needed to rebuild a safe and comfortable environment. If this situation is ignored, even if there is no initiative to improve the environment, the impact will be even greater. Human activities utilizing ecosystems and natural resources without knowledge can indirectly damage the environment and the balance of nature.⁴

This research examines the following points; How is the problematic reality due to climate change on the quality of the environment and people's lives in Kalikatir Village; Community organizing strategies in solving climate change problems through adaptation and mitigation efforts; As well as the relevance between community organizing in dealing with climate change and the da'wah of Islamic Community Development.

B. Theoretical Review

1. Community Organizing

Community organizing is a process of reflection of awareness that arises from direct experience with the community. The term "Community Organizing" has a broad meaning. It stems from combining two words into a comprehensive framework. This framework can be used in solving "people-specific" problems as well as rebuilding a more just order.⁵

Another understanding put forward by Murray G. Ross in Soeroto's quote, community organizing and development is the step when people try to determine their needs and goals. In relation to the implementation of meeting the needs, it is necessary to develop cooperative and collaborative attitudes and practices in the community. So that before developing trust and the desire to fulfill, the community is required to organize, regulate, determine resources and take the necessary actions together. The concept of the emergence of the Community Organizing (CO) work pattern is the result of a reaction from development or modernization practices. The reality that is happening today often ends with low human dignity and the massive exploitation of various natural resources just for the materialistic interests of some ruling groups.⁶

¹ Tusy A. Adibroto, *et.al.*, *Iptek Untuk Adaptasi Perubahan Iklim: Kajian Kebutuhan Tema Riset Prioritas*, (Jakarta: Dewan Riset Nasional, 2011), pp. 2.

² Kusnadi, Secretary of Kalikatir Village, Gondang sub District, Mojokerto Regency, interview on 8 Maret 2020.

³ Tusy A. Adibroto, *et.al.*, *Iptek Untuk Adaptasi Perubahan...*, pp. 13.

⁴ Umar Fahmi Achmadi, *Kesehatan Masyarakat dan Globalisasi* (Jakarta: PT Rajagrafindo Persada, 2014), pp. 67.

⁵ Agus Afandi, *et.al.*, *Modul Participatory Action Research (PAR) untuk pengorganisasian Masyarakat (Community Organizing)*, (Surabaya: LPPM UIN Sunan Ampel, 2016), pp. 197.

⁶ Agus Affandi, *et.al.*, *Dasar-Dasar Pengembangan Masyarakat Islam*, (Surabaya: IAIN Sunan Ampel Press, 2013), pp. 114.

The whole process of community organizing consists of a series of stages that are related to each other as an integrated whole. Quoting from Agus Afandi in the book *Critical Research Methodology* regarding the stages which are also the steps in the process of community organizing, there are seven stages including; Through Approaches, Social Investigations (Participatory Research), Facilitating Processes, Designing Strategies, Directing Actions (Actions), Organizing the Organization and its Sustainability and Building Support Systems.⁷

2. Climate Change

Climate change is a physical condition of the Earth's atmosphere that undergoes changes. This process involves increasing temperature, wind, humidity and rainfall intensity over a period of 50 - 100 years. However, human activities (anthropogenic) actually accelerate the process of climate change. This results in GHG emissions. Thus, seasonal changes in weather and extreme events such as La Nina and El Nino are not categorized as climate change.⁸ Climate change is often associated with the effects of global warming. A general understanding of global warming (cause) and climate change (effect) are two different but closely related topics. The process of global warming occurs when sunlight passes through the earth's atmosphere, then some of the solar radiation is absorbed by the earth's surface. Some of this heat will be radiated back into the atmosphere in infrared (IR) waves. This IR radiation will be absorbed by GHGs in the atmosphere. Some of them will be emitted into space and the rest will be reflected back into the atmosphere causing global warming.⁹ GHG that coats the earth is formed naturally from water vapor. Meanwhile, GHGs that are formed due to human activities (anthropogenic) will produce a collection of gases in the form of, carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), Sulfurhexafluoride (SF₆), Perfluorocarbons (PFCs), and Hydrofluorocarbons (HFCs). Nearly 80% of GHGs are dominated by gases originating from human activities. So do not be surprised if the concentration of GHGs in the atmosphere is increasing faster.¹⁰

Analysis of the calculation of the annual average air temperature aims as a comparison of air temperatures from previous years. BMKG data shows that 2016 was the hottest year with a temperature increase of 0.8°C from normal temperature. Meanwhile, in 2019 the increase in air temperature was 0.58°C so it was recorded as the second hottest year during that period. And the third rank was experienced in 2015 with an anomaly in air temperature of 0.5°C.¹¹

Climate change is closely related to globalization. Globalization holds the potential danger of pandemics (global outbreaks) of infectious diseases. Outbreaks or commonly known as Extraordinary Events (KLB) are actually also a series of natural disasters. Various kinds of infectious disease attacks due to climate change such as Malaria, dengue fever, cholera, diarrhea, typhoid, bubonic plague, bird flu, hanta virus, SARS, MERS and so on. Due to climate change, globalization, various problems in countries, including the incidence and spread of disease, can become world problems. Human movement helps spread various infectious diseases that move as fast as airplanes. Disease is also related to movement and technological change. Advanced technology from superpowers can spread to become a potential disease risk in developing countries. For this reason, cooperation between countries is needed in dealing with and dealing with global problems that tend to cross borders.¹²

⁷ Agus Affandi, *et.al.*, *Modul Participatory Action...*, pp. 209.

⁸ Dedi Hermon, *Mitigasi Perubahan Iklim*, (Padang: Rajawali Press, 2019), pp. 5.

⁹ Badan Meteorologi, klimatologi dan geofisika, "Pemanasan global dan dampaknya terhadap perubahan cuaca-iklim wilayah indonesia", dalam https://wxmod.bppt.go.id/dokumen/materi_seminar/bmkg.pdf diakses pada 19 Mei 2020

¹⁰ Edwin Aldrian, *Adaptasi dan Mitigasi Perubahan Iklim di Indonesia*, (Jakarta: Pusat Perubahan Iklim dan Kualitas Udara Kedepuan Bidang Klimatologi BMKG, 2011). pp. 31.

¹¹ Badan Meteorologi, klimatologi dan geofisika, "Perubahan Iklim", dalam <https://www.bmkg.go.id/iklim/?p=ekstrem-perubahan-iklim> diakses pada 19 Mei 2020

¹² Umar Fahmi Achmadi, *Kesehatan Masyarakat...*, pp. 59.

3. *Climate Village*

Climate village is a location where the community carries out activities as an effort to adapt and mitigate climate change in a measured and sustainable manner. The Indonesian government responded quickly to this activity by cooperating with a Climate Village Program (Proklim) according to the contribution report to the UNFCCC. Regulation of the State Minister of Environment and Forestry of the Republic of Indonesia Number P84/Menlhk-Setjen/Kum.1/11/2016, defines that the Climate Village Program is a national program managed by the Ministry of Environment and Forestry in an effort to encourage communities and stakeholders to participate in reducing GHG emissions and increasing adaptation and mitigation capacity to climate change. The government also appreciates the adaptation and mitigation efforts that have been carried out at the local level according to regional conditions. The implementation of Proklim is developed at the minimum area at the Hamlet/Dusun/RW level and a maximum at the Village/Kelurahan level. In addition, the implementation of Proklim includes a series of planning, socialization, facilitation, monitoring, assessment and evaluation activities from climate villages.¹³

In the Regulation of the State Minister of Environment and Forestry of the Republic of Indonesia Number P84/Menlhk-Setjen/Kum.1/11/2016, efforts to adapt to climate change in the climate village program include the following activities: 1) Control of droughts, floods and landslides; (2) Increasing food security; (3) Handling or anticipating sea level rise, rob, sea water intrusion, abrasion, ablation, and high waves; (4) Control of climate-related diseases; and/or (5) other activities related to efforts to increase adaptation to climate change. Meanwhile, climate change mitigation efforts in the climate village program include the following activities: 1) Waste, solid and liquid waste management; (2) The use of renewable energy and energy conservation and saving; (3) Handling agricultural land with low greenhouse gas emissions; (4) Increasing and/or maintaining vegetation cover; (5) Prevention and control of forest and land fires; and/or (6) other activities related to efforts to reduce greenhouse gas emissions. So that the government program is expected to be able to become a forum for the community to manage the environment by increasing the ability to adapt and prepare the community for climate change.

4. *Islamic Community Empowerment Da'wah*

Da'wah is a series of knowledge that aims to realize the welfare of society both in this world and in the hereafter. The da'wah as a form of empowerment must be balanced with an activity that touches on the process of transformation and change. So that when the concept is applied to participatory community empowerment activities, it is hoped that after the da'wah in society a social order is created that is full of harmony, peace, justice and diversity, as a reflection of the Islamic religion that is rahmatan lil 'alamin.¹⁴

The discussion regarding the meaning of community empowerment is taken from a word in English, namely "empowerment" which means "mastery", or "power" which means "power" or "power". Meanwhile, according to the term Community Empowerment, it means giving and increasing control over a community/community that is weak or disadvantaged (disadvantaged), so that previously powerless people become empowered, aka "power". Zubaedi explained in his book entitled community empowerment, that community empowerment efforts must be based on the understanding that the emergence of community powerlessness is due to the fact that people do not yet have power.¹⁵

¹³ Siti Fajria. "Kontribusi Program Kampung Iklim (Proklim) Untuk Pencapaian Target Pembangunan Berkelanjutan (SDGs) : Studi Kasus Provinsi Jawa Barat" *Skripsi*. Institut Pertanian Bogor 2018), Pp. 4.

¹⁴ Hasan Bastomi, "Dakwah Bil Hikmah Sebagai Pola Pengembangan Sosial Keagamaan Masyarakat", *Jurnal Ilmu Dakwah*, (online), Vol. 36(2) 2016 EISSN 2581-236X.

¹⁵ Zubaedi, *Pengembangan Masyarakat: Wacana dan Praktek*, (Jakarta, Kencana Prenadamedia Group, 2014), pp. 24-27.

Another definition also contributes its assumptions to empowerment as an effort to increase the ability of the weak (poor, marginal, and marginalized) to express opinions, ideas, make choices, meet their needs, participate and manage community institutions responsibly in order to improve life. The facilitator is only tasked with organizing and supporting the community so that they are able to make beneficial behavior changes to improve the welfare of their more independent lives.¹⁶

This research raises the issue of climate change adaptation and mitigation efforts. A research on community organizing action which is included in da'wah bil wisdom. According to Imam Abdullah bin Ahmad Mahmud an-Nasafi, explaining that da'wah bil wisdom is da'wah using true and definite words, namely arguments that explain the truth and remove doubts. In other words, da'wah bil wisdom is a series of ways for the da'i to adapt da'wah techniques to the conditions of mad'u. Ability to convey Islamic views in reality through communicative language and have logical arguments.

Islamic Community Development is a real action system that provides various alternative models for solving "people-specific" problems in an Islamic perspective. So, it is not surprising that Islamic Community Development is one form of da'wah bil hal, which transforms all aspects of institutions according to Islamic teachings in family life, social groups and society.¹⁷

5. Nature Conservation in Islamic Perspective

The nature that we inhabit now is experiencing criticality as a result of climate change, because on earth there is very fast global warming. Then what kind of responsibility is given by humans after taking the benefits from nature. Of course, noble souls will not be able to remain silent if the nature that provides life has been destroyed.

Allah SWT has said in QS. Ar-Rum verse 41: "Corruption has appeared on land and at sea due to the deeds of human hands so that Allah may taste for them some of the consequences of their actions, so that they will return to the right path." (QS. Ar-Rum: 41).¹⁸

The above verse briefly and clearly describes the prohibition against humans to do mischief on earth. Everything we do on earth, there will be a reciprocal relationship between humans and the environment. If humans always do damage to nature, then disaster will occur. So that human actions can result in the destruction of ecosystems, decreasing the quality and quantity of natural resources both on land and at sea.¹⁹

Religion is the main foundation for humans in carrying out the mandate of God as caliph. God does not immediately free His servants to do "as they please" on earth. In Islam everything has been arranged by Allah through His words in the holy book Al-Qur'an. The messages conveyed not only regulate the relationship between humans and God, the relationship between humans and humans, but also regulates the relationship between humans and the environment. Environmental ethics which is actually highly recommended by the Prophet SAW has been interpreted in a hadith Ath-Thabrani and Al-Hakim, "Love whoever is on earth, surely you will be loved by whoever is in the sky."²⁰

C. Methods

The researcher used the PAR (Participatory Action Research) approach as an effort to solve a problem in participatory community organizing. The community is directed to be active in every activity because they themselves understand the conditions and the problems they face.

¹⁶ Oos M. Anwas, *Pemberdayaan Masyarakat di Era Global*, (Bandung: Alfabeta, 2014), pp. 117.

¹⁷ Soetomo, *Strategi-Strategi Pembangunan Masyarakat*, (Yogyakarta: Pustaka Pelajar, 2006), pp.42

¹⁸ Al-Quran Kementerian Agama dalam <https://quran.kemenag.go.id/sura/94> diakses pada 27 Januari 2020.

¹⁹ Fajar Hardoyono, 2009, "Menggagas Dakwah Penyelamatan Lingkungan", *Komunika*, Vol.3 No.1 Januari-Juni 2009 pp.20-36 ISSN: 1978-1261, Pp. 2.

²⁰ Rachmad K. Dwi Susilo, MA., *Sosiologi Lingkungan...*, pp. 181.

The community is invited to jointly discuss in the form of FGD (Forum Group Discussion), formulate problems, design program strategies, implement change actions, and carry out monitoring and evaluation.²¹

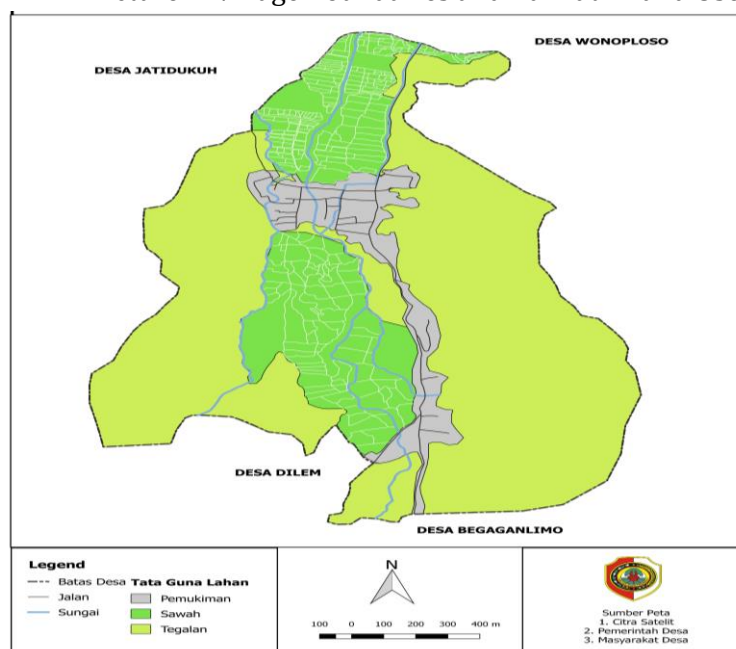
This research was conducted in Kalikatir Village, Gondang District, Mojokerto Regency. The target in research activities is the Kalikatir community. Local stakeholders such as village officials, RT/RW, disaster preparedness groups, Waste Bank groups, Youth Youth Organizations, Kalikatir Village Farmers' Groups and local NGOs. The data collection process was in the form of semi-structured interviews, FGDs and documentation. The data analysis includes participatory social mapping, problem tree and hope tree, transect, timeline, trend and change and flow chart. Meanwhile, data validation uses triangulation techniques according to the PRA (Participatory Rural Appraisal) principle. In the PAR module it is explained that triangulation is a system to cross check data in order to obtain accurate data, this triangulation includes; Triangulation of team composition, triangulation of various sources of informants, triangulation of tools and techniques. While the analysis technique uses two components, namely trend and change analysis and timeline analysis.

D. Results and Discussion

1. Profil Desa Kalikatir

Kalikatir Village is located in Gondang District, Mojokerto Regency, East Java Province. It is about 28 km from downtown Mojokerto. This village consists of only one hamlet which borders the villages of Wonoploso, Jatidukuh, Begagan Limo and the Perhutani area. The total area is approximately 2.22 km² at an average altitude of 256-300 meters above sea level. These data indicate that Kalikatir is a central watershed (DAS). The data on the population of Kalikatir Village is around 1,534 people with details of the number of men 783 people and women 751 people.²²

Picture 1. Village Boundaries and Kalikatir Land Use



Source: *Mapping with the Community*

²¹ Agus Affandi, *et.al.*, *Modul Participatory Action Research (PAR) untuk pengorganisasian Masyarakat (Community Organizing)*, (Surabaya: LPPM UIN Sunan Ampel, 2016), pp. 90.

²² Badan Pusat Statistik Kabupaten Mojokerto, "Kecamatan Gondang Dalam Angka 2019", dalam https://mojokertokab.bps.go.id/publication.html?Publikasi_page=8&page=3 diakses pada 16 Mei 2020.

The variety of localities in Kalikatir Village has a fairly good condition in terms of facilities and community participation in aspects of education, health, religion and culture. Organizational institutions in the community also support the achievement of youth achievements and even get an appreciation as the first winner of Disaster Resilient Village. This is inseparable from the collaborative and massive movement carried out by the village and the community as a form of seriousness in reducing the risk of natural and non-natural disasters after the 2017 flash flood.

2. Problems Related to Climate Change

Environmental problems in Kalikatir Village can be summarized in the following two major groups. First, the low access to public knowledge. This problem is influenced by the lack of education about the impacts of climate change. The low level of knowledge affects readiness in dealing with problems that occur. Farmers often experience agricultural problems, such as crop failure, pests and diseases, lack of fertilizers, as well as extreme weather. The term climate change is still unfamiliar to rural communities. On the one hand, people do not know about the phenomenon of climate change. While on the other hand they are most vulnerable to the impacts of climate change.

Second, an irresponsible lifestyle towards the environment, various environmental problems are influenced by the human perspective on nature itself whether a view led to an attitude of anthropocentrism or ecocentrism. Causality can be seen clearly in people's daily lives. Either consciously or unconsciously. The results of in-depth research indicate that a lifestyle that is not responsible for the environment is reflected in activities such as; transition of forest land functions, natural exploitation, dependence on chemical fertilizers, limited human resource skills, even the habit of littering and littering.

3. Community Organizing to Solve Problems

Referring to the flow of the organizing process according to the PAR method, it includes several stages carried out in a participatory manner with the community. This activity indirectly brings the community to be the main actor of change. So that people can feel their role in every activity.

a. Introduction Through Approach

the first step is to approach or inculturate with the surrounding community to introduce themselves. The goal is to make it easier for researchers to form relationships with the community and build trust. During the inculturation period, the researcher applied in the form of a *sowan* to several village apparatus/leaders while at the same time conducting preliminary mapping. Researchers are also allowed to mingle with activities in the community.

b. Participatory Problem Identification

The identification process uses several techniques including participatory mapping, transects, seasonal calendars, trend and change, timelines, ven diagrams and flow charts in a meeting.

c. Analyzing Problems

Analyzing Problems carried out with the community at the second meeting through FGD. The topic of discussion is more focused on aligning climate change with the problems faced by the group today, or adjusting the results with problems. From the results of the Tani Jaya group discussion, it was found that there were three main problems focused on dry land, namely the availability of air, the shackles of conventional farming, and the limited skills of women farmers. These three problems are considered more important to be solved in the agricultural sector. Because it will be very obsessed with economic conditions.

d. *Designing a Strategy*

The process of designing a strategy begins with determining the urgency of the most dominant issue to be discussed in depth in order to find a point of completion. Technically, ideas emerge from the community through small discussions. The results of the discussion of the strategy design form a program framework called LFA (*logical Framework Appraisal*). This framework contains special notes in the form of Narrative Summary, Performance Indicators, verification tools and key assumptions. Narrative summaries are grouped based on goals, objectives, results and activities. Of course, strategic planning is strengthened by strategic feasibility analysis, participation analysis and activity planning schedules.

e. *Implementation of Solutions: Education and Action*

It is the core of a community assistance process. Action is intended as an action to solve community problems. The process was carried out by researchers in the Tani Jaya group. Actions to be implemented include providing education about climate change, restoring forest land functions and increasing spiritual awareness in maintaining ecosystem balance and environmental health. Each core program has several activity points that are carried out according to community needs.

f. *Monitoring and Evaluation of Work*

This stage is carried out by testing the work results during the mentoring process and then making revisions if necessary. The instruments used in the monitoring and evaluation process include content/materials, media developed and evaluation of the effectiveness and success of the organization. The existence of an evaluation process is expected so that the results of the mentoring activities can be followed up as a sustainable program.

g. *Sharing experiences*

Supporting stages, namely reflection as a continuation of the monitoring and evaluation stages. The reflection in question is telling the researcher's experience during the mentoring process in the field into new knowledge.

h. *Reporting Results*

The last stage is carried out by researchers by reporting the results of assistance in written form or popular media. The article can be submitted as a scientific work with a particular interest in order to provide better benefits and contributions in the field of research and science.

4. *Building Community Resilience*

One of the activities to improve environmental problems is to increase public awareness through education. The educational action aims to increase farmers' critical awareness of the environment by establishing a learning center for the Tani Jaya group. The facilitation team together with the assisted groups moved based on the agreement that was built from the start. The agreement begins with the formation of study groups that include study participants, time, place, learning media, and knowledge practice.

a. *Information Access*

Access to information on the activities of the Tani Jaya group learning center is a series of assessment activities, which are grouped into two; First, observing the area and spatial planning of dry land agriculture. That is the process of seeing, recognizing, analyzing, and knowing the condition of agricultural land with group discussions and observing directly the condition of the area in the moor. While the observation of spatial planning is the process of observing the arrangement of land, both in terms of settlements, agriculture, plantations, forestry and so on. In the observation process, it is necessary to at least print a raster map to make it easier for learning center participants to recognize and see the area.

Second, Observation of plant species. Where we are invited to know and find what plants are suitable for cultivation in dry land agriculture. Observation of plant species is also directed to see the condition of land cover around the forest area moor. This is one of the media to channel knowledge to farmers, so that awareness arises to participate in maintaining the balance of natural ecosystems. The activity of observing plant species began with a small discussion with several members of the Tani Jaya group. The process of observing plant species follows the flow of a transectional assessment and determines the seasonal calendar.

b. Knowledge Access

The next activity is to provide access to knowledge. This activity is an educational process that is packaged like a discussion or sharing. In the educational process, there are specific topics that will be delivered. So that the discussion carried out can run according to the curriculum material that has been provided. The educational activity lasted about 120 minutes with a material presentation session and a question and answer session. The materials presented included education on climate change, education on waste and waste management and socialization of PHBS.

c. Experience Access

Access to experience is a continuation of access to knowledge carried out with members of the learning center. Access to experience is intended as an effort to implement science in real life. Experience access activities are based on programs that have been prepared in the strategic design. There are several program designs to implement experience access, including; maintaining the availability of water in the dry season, making roasted husks, making organic fertilizers, making processed agricultural products aimed at women farmers. However, there are several obstacles in the implementation process. So that access to experience has not been fully realized. As an alternative to starting the activity, it was agreed to make burnt husk as an ingredient for making organic fertilizer.

5. Kalikatir Village Adaptation and Mitigation Activities

Basically, Kalikatir Village has made efforts to adapt and mitigate climate change. In this case, the activities carried out include disaster control and waste management. It's just that the results of the activity process are not optimal and comprehensive. So it still needs support from various parties involved.

Table 1 Climate Change Adaptation Activities in Kalikatir Village

Aspect	Program	Activity
1. Control of droughts, floods and landslides	Flood control	Construction of river embankments, provision of disaster early warning system facilities, socialization of DESTANA and disaster simulations.
2. Increasing food security	Not yet program	Not yet activities
3. Handling/anticipating sea level rise, rob, intrusion, abrasion, ablation and high waves	-	-
4. Control of climate-related diseases	Covid-19 prevention	Covid-19 socialization, distribution of hand washing places and masks

Source: The results of the discussion are processed by researchers

Table 2 Climate Change Mitigation Activities in Kalikatir Village

Aspect	Program	Activity
1. Waste management, utilization of solid and liquid waste	Waste management	Facilitating the community with a Waste Bank, sorting inorganic and plastic waste.
2. Use of renewable energy and energy conservation and saving	Not yet program	Not yet activities
3. Reducing emissions from agricultural activities	Not yet program	There is a farmer's initiative to make organic fertilizer
4. Forest conservation	Protection of forest area	Planting trees, selective logging.
5. Prevention and control of forest and land fires	Not yet program	Not yet action or activity

Source: The results of the discussion are processed by researchers

The table above is the result of the researcher's discussion with the stakeholders of Kalikatir Village. The discussions entered the stage of advocacy to the village government which was concurrently with the evaluation. Through this small discussion, the stakeholder team generates hopes that aim to build a better Kalikatir. Maximizing climate change adaptation and mitigation programs. As well as expanding the scope of the program in one village.

The community organizing process in the Tani Jaya group is a form of assistance to farmers to participate in climate change adaptation and mitigation efforts. Other factors influenced by the impact of climate change are very vulnerable to be felt by farmers in agricultural activities. The mitigation activities carried out are in the form of reducing emissions from agricultural activities.

6. Advocacy to the Village Government

Several points were put forward in the policy proposal to the Kalikatir Village government regarding the preparation of groups in dealing with the impacts of climate change.

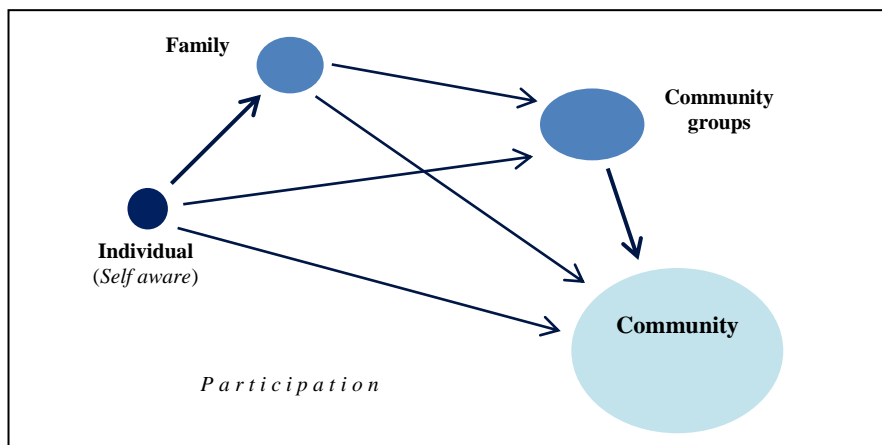
1. Environmental care involves all elements both as a group and individually.
2. To rehabilitate or protect forests, while the utilization and forest products are based on the applicable policy licensing.
3. Agricultural management is carried out by taking into account local local wisdom.
4. Implementation of Clean and Healthy Lifestyle starts from the family scope.
5. Every citizen has the right to access knowledge, information, security and justice.

So far, the theoretical practice that is often applied in providing assistance to the community is still top-down, that is, from top to bottom. The point is that the assistance provided is only limited to desire, sympathy which leads to the interests of the government, not based on the needs of the community with environmental ethics. In fact, certain government/company assistance in the form of tools, materials, or materials is left alone. Even if the aid can be used, what happens is that people are increasingly dependent on the aid. Interestingly, the reality between the wants and needs of the farming community in Kalikatir Village is slightly inversely proportional to the goals of the village government. All farmer life is based on nature. However, there are still many who ignore the nature of the relationship between humans and nature. Meanwhile, the village government has basically tried to improve environmental conditions, especially in terms of controlling floods and landslides.

Conditions like this can eventually lead to social inequality between communities. What the village wants is not in line with the wishes of the community. Meanwhile, if this is left unchecked, it can have a catastrophic impact. From here, there is a link between access to public knowledge and human capacity development packaged in organizational processes. Thus, alternative organizational strategies in solving environmental problems related to climate

change adaptation and mitigation efforts can be carried out through climate-aware family actions. An alternative description of the organizational process strategy for climate conscious action is illustrated below.

Chart 1. Alternative Community Organizing Strategies



Source: Processed by researchers

The main key in climate conscious action is participatory improvement that starts with oneself. When referring to community assistance, it can involve individuals as mobilizers. Then, each individual begins to invite climate-aware action within the family. Furthermore, participation in climate-aware actions is increased in community groups, so that climate-conscious actions can be mobilized in the wider community.

The real challenge when communicating climate change is where the causes are not visible. Often people convey climate change information only pointing out various problems without a solution. Meanwhile, the problem is still far from people's daily lives. All forms of complexity and uncertainty that arise due to environmental problems, of course, there are many things that accompany it. So, it is very natural if things are felt less urgent. What we know, some activities of some humans are not directly related to nature. On the other hand, there are groups of people who are so greedy to suck up natural resources. Then, how can humans feel the existence of climate change? Or, why do those who understand nothing suffer even more?

From here, the author can draw a common thread that the core of climate change is a behavioral problem. Where the moral crisis is more synonymous with a view of life that shapes attitudes. We as humans have the same rights and responsibilities over the earth. And, accept it or not, all of our activities have the potential to increase emissions or have a carbon footprint. So, we as actors have a moral obligation or debt to help reduce emissions. If it is reduced it is still quite difficult, because it is related to the business-as-usual process. There are economic pillars that must always be supported. So that the most effective alternative way is to instill in each individual, there is a moral demand for reducing the pollution that occurs.

7. Social Changes That Occur

The journey of the researcher to carry out the organizing process from beginning to end opened a new view of the Kalikatur community, especially the Tani Jaya group towards the environment. Monitoring and evaluation activities are important to see the results of the achievements during the organizing process.

Table 3. Changes in Community Conditions

Programs	Indicators of Social Change	
	Before	After
Conducting	• The public does not yet know	• The community understands

integrated education in response to climate change	<p>the information on the impact of climate change.</p> <ul style="list-style-type: none"> • Adaptation and mitigation activities are carried out based on the experience of previous events. • Do not know the causes and effects of environmental problems. 	<p>information about the impact of climate change and its solutions.</p> <ul style="list-style-type: none"> • Adaptation and mitigation activities are directed at building climate villages. • Have alternative ideas for activities in an effort to control environmental problems. • Have a sense of concern for environmental sustainability.
Conduct group capacity building	<ul style="list-style-type: none"> • Communities tend to depend on government assistance. • Low community participation in maintaining environmental balance • Lack of Human Resources capacity 	<ul style="list-style-type: none"> • Farmers have a learning group facility as a medium for discussion • Able to carry out alternative needs independently. • Have the skills to become other community mobilizing actors • There is a network relationship between groups and the village government • Utilization of yard land by planting activities at home
Advocating for program sustainability	<ul style="list-style-type: none"> • There is a fear of conveying aspirations to the village government. • The community only follows village policies without any involvement in policy formulation. 	<ul style="list-style-type: none"> • The community began to open up and dare to express opinions. • There is community participation in policy formulation, especially regarding conservation.

Source: Research data from monitoring and evaluation results

The table above discusses the changing conditions of society. In the community-based action research process, it is known as the before and after method analysis. The analysis is applied to see the extent to which the community changes after the activity compared to before the education or training activity. The results of the before-after analysis show that there are changes in community conditions, both in integrated education activities, group capacity building, and advocacy.

8. The Meaning of Da'wah in this Community Organizing

The results of the study also show the relevance of organizing in the face of climate change in Kalikatr Village and Islamic Community Development Da'wah. This relationship is based on the concept of da'wah which means the obligation to invite people to the path of Allah. Among the da'wah activities carried out in the form of *tathwir* or tamkin, namely da'wah activities by means of the transformation of Islamic teachings through pious charity actions in the form of empowering human, social, economic and environmental resources. On a practical level, the word *tathwir* is synonymous with tamkin which means community development, which can specifically be interpreted as Islamic Community Development (PMI).²³

From the presentation, it should be able to open each other's awareness to be ecocentric. A view that every activity carried out by humans must be in line with ecology and must pay attention to environmental ethics. Climate change will be interesting and very urgent if we learn from the Covid-19 pandemic. The urgency here is because both of them have the capacity to be

²³ Mukhlis Aliyudin, *Pengembangan Masyarakat Islam Dalam Sistem Sistem Dakwah Islamiyah*, Jurnal Ilmu Dakwah Vol.4 No.14 Juli-Desember 2009.

detrimental to deadly across sectors. The ability of humans to maintain and protect themselves, as well as being careful in taking actions so as not to transmit negative impacts to others are the keys to improving better conditions.

The flow of the reciprocal relationship between humans and the environment is shown that all aspects of culture, behavior and even the "fate" of humans are influenced, determined, and subject to the environment. Including the religious aspect, there is a spiritual context that guides human awareness of maintaining relationships, involvement related to conservation and ecological issues. So it is important to re-explore the spirituality of human consciousness from each experience in relation to solving our current ecological crisis, such as climate change. In line with the concept of spirituality of consciousness, where every human being is a leader, and a leader has responsibility for himself on earth. So, the moral order of bonds should also be instilled in every individual. Moral responsibility plays an important role in reflecting knowledge into action. Mainstreaming common (social) interests before personal interests. Examples of ways that can be done such as, Utilization of natural resources must be based on licensing rights and obligations. Or the efficiency of using fossil fuels energy should need to be considered between the benefits and impacts. So that the carbon footprint can be minimized as small as possible.

E. Conclusion

Based on the fact's findings and discussion above, this research conclude the following things;

1. The phenomenon of climate change has a major influence on the quality of the environment and people's lives in Kalikatir Village. The problems due to local climate change causes various problems in the disaster sector, natural resources, food security, economy, and even health. The lack of information about climate change affects the community's readiness to face the impacts. The majority of rural people's lives to meet their economic needs rely on natural resources. So that climate-related problems both in agriculture and others, such as changing rainy seasons and extreme weather, people tend to depend on solving these problems.
2. To solve the problem of climate change in Kalikatir Village can be carried out with adaptation and mitigation activities. In this case the activities that have been carried out in Kalikatir Village include disaster control and waste management. It is proven by the existence of the Tagana group and the Waste Bank Group. It's just that the results of the activity process are not optimal and comprehensive. The organizational strategy in PAR-based mentoring is carried out using the inculturation and 7-T stages, namely to know, to understand, to plan, to action, to monev, to reflect, and to report. During activities monitored by monitoring and ending with activity evaluation as a measure of the success of each activity. The activity was carried out in a participatory manner with the target group by pioneering the "Farmers Group Learning Center". The activities carried out are in the form of access to information, access to knowledge, and access to experience. The urgency of organizing is carried out in order to increase the group's capacity to be ready to face the impacts of climate change. Other factors that are influenced by the impact of climate change are very vulnerable to be felt by farmers in agricultural activities. So that adaptation and mitigation activities that can be carried out are in the form of reducing emissions from agricultural activities.
3. The results of the study also showed that the meaning of da'wah in this community organizing in dealing with climate change in Kalikatir Village based on the concept of da'wah which means the obligation to invite people to the path of Allah. Among the da'wah activities carried out in the form of *tathwir* or *tamkin*. It means the transformation of Islamic teachings through empowering community of their human, social, economic and environmental resources.

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