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Climate Change Communication on Mitigation Policy and Its Challenges Towards Sustainable Development Goals (SDGs)

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Abstract

As the world's largest archipelago and straddles the equator, and as one of the largest Greenhouse Gas (GHG) emitters in the world, Indonesia is very vulnerable to climate change. This fourth most populous country has experienced extreme climate events such as floods and droughts, as well as long-term impacts from rising sea levels. Seven, out of ten disasters in Indonesia are hydrometeorological disasters or climate change-related. In line with the increase in population, natural disasters affected by climate change have a wider impact on people and their assets, making it difficult for them to get out of poverty. This is a challenge for SDGs implementation in Indonesia. Government has thus been making efforts to reconcile sustainable development and mitigation policy to reduce Green House Gas Emission (GHG) in various sectors. However, there is no evidence for strategic government communications in delivering its policy due to lack coordination and integration among institutions and their understanding of the value of messaging development in disseminating its policy to increase public awareness. Additionally, the research on climate change communication of mitigation policy is limited. This study attempts to explore the flow of communication actions on the said climate its communication barriers. From interviews with government officials, this research shows that strategic management function must be provided government communication is to strengthen the climate change national policy to SDGs implementation.

Keywords: *SDGs climate mitigation policy climate communication, strategic government communication*

I. Introduction

With more than 17,000 islands, and most provincial capitals and almost 65% of the population live in coastal areas, Indonesian territory is vulnerable to the effects of climate change, especially those caused by rising sea levels and due to flooding in coastal or tidal areas. Sea level rise, in addition to causing direct impacts in the form of the reduced area due to sinking by seawater, damage to coastal ecosystem areas, also causes indirect impacts in the form of loss or changes in community livelihoods, especially those living on the coast, decreasing paddy fields lowlands near the coast which will affect food security, inter-island transportation disruption, and damage or loss of island and coastal tourism. Climate change will result in decreased water availability, changes in crop productivity, loss of biodiversity which is an invaluable asset owned by Indonesia. Climate change will have an impact on health, mortality, food security, migration patterns, natural ecosystems and economic prosperity, both at the local and national level [1]. Indonesia has also the second largest forest area in the world. It is one of the fastest-growing economies as well. According to the World Development Indicators, the population more than doubled and the real gross domestic product (GDP) increased by more than ten times during the period from 1965 to 2005. With a population of 240 million in 2010, Indonesia is the world's fourth most populous country after China, India, and the United States, and ranked at 16th in the world in terms of GDP. With this growth and scale, it also has become widely recognized as one of the largest greenhouse gas (GHG) emitters in the world [2].

Climate change forms the basis of Sustainable Development Goal 13, ‘take urgent action to combat climate change and its impacts’, but is heavily entangled with most, if not all, of the other goals, and a principle of the SDGs is that they cannot be disentangled. Sustainable development goals provide a new framework to consider climate action within the multiple dimensions of sustainability. The Paris Agreement of December 2015 was a major step in working towards SDG 13, but that really was only a first step. The 2030 Agenda calls on all nations, civil society, business and the public to contribute towards this global programme. Indonesia is very committed to implementing Sustainable Development Goals (SDGs) because the goals of national development and global development goals are basically mutually reinforcing. One of Indonesia's high commitment to implement SDGs is manifested by the enactment of Presidential Regulation No. 59 of 2017 concerning the Implementation of Achieving Sustainable Development Goals. This regulation emphasizes the importance of implementing SDG principles, *no one is left behind and inclusiveness* [3]. Of the 17 Goals set in the SDGs, the 13th target on climate change is an important target as Indonesian National Development Planning Agency stated that three important issues that remain global and national problems are poverty and inequality, stagnant economic growth, and climate change [4]. To tackle climate change for sustainable development, Indonesia follows global policy with mitigation effort to reduce emissions of greenhouse gases as declared in the history of Paris Agreement in 2015 which resulted in an agreement on the Nationally Determined Contribution (NDC) that regulates and projects the potential for Greenhouse Gas emission reductions carried out by States Parties in the post-2020 timeframe. The Paris Agreement also adopted the specific goal of holding global warming to well below 2°C compared to pre-industrial levels, and of pursuing efforts to limit warming to 1.5°C [5]. Global warming is closely related to a reduction in GHG emission and Indonesia has committed to reducing it by 29% on its own capacity and up to 41% with international support, compared to without mitigation or business as usual (BAU) actions. The NDC explained five sector categories and the proportion of their contribution by 29% from BAU 2030, namely: forestry (17.2%), energy (11%), agriculture (0.32%), IPPU (Industrial Processes and Product Use: 0.10%), and waste (0.38%). The following targets for emission reduction by sector can be seen in Table 1 and Figure 1 as outlined in the NDC Implementation Strategy:

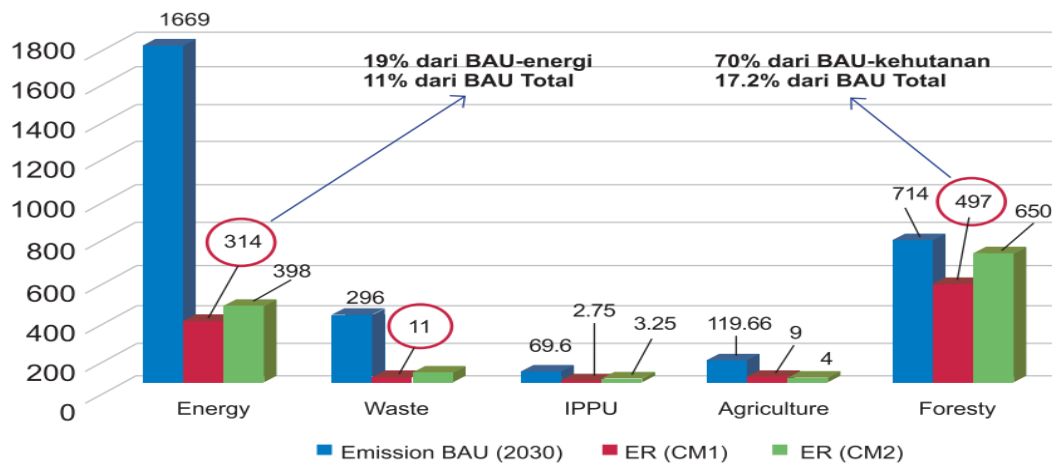


Figure 1. Emission Reduction by sector (ER in millions tons of CO₂e; CMI=29%, CM2:38%) [6]

In carrying out mitigation efforts to reduce greenhouse gas emissions in various sectors, communications have been made among relevant institutions such as Ministry of Environment and Forestry as national focal points to UNFCCC, Ministry of Energy and

Mineral Resources, Ministry of Industry, Ministry of Public Works and People's Housing, and Ministry of Agriculture. Unfortunately, there is no evidence that strategic government communication has been done. Additionally, the leading role for mitigation policy to reduce GHG is National Planning Development Ministry with its Low Carbon Development program. Avoidance of sectionalism and finding solutions to streamlining institutional arrangement for mitigation policy in reducing GHG and overall climate agenda requires additional efforts [7].

To communicate climate change is not simple as climate change itself is a complex issue. Due to the complex scope of policy issues, climate change is referred to not only as a scientific problem but also a social or wicked problem. A series of negotiations is needed for a scientific agreement from scientists and politicians [8]. Furthermore, the climate change policy designed by each country including Indonesia often clashes with other sectoral objectives. Therefore, environmental policy integration is needed that must be used to resolve conflicts between environmental policy objectives and others. This is where communication is needed to create policy actions that strengthen synergies towards achieving goals in various sectors [9]. To give people better understanding in the complexity of climate change and its policy, policy communication is needed to help people find new norms and harmony in implementing policies. Policy communication can also help implementors and targets work together to achieve policy goals [10], Article 6 of the UNFCCC document even emphasizes the importance of communication to develop and implement effective policies to actively involve all stakeholders in implementing these policies. Communication must be involved and become the backbone in the successful implementation of climate change management policies to achieve sustainable development goals (SDGs) [11].

After more than a quarter-century being involved and participating in environmental negotiations and climate change, Indonesia has had a series of climate change policies including mitigation efforts as shown in the table below.

Table 1. Chronology of Climate Change Policy in Indonesia [2]

August 1994	Ratification of the UNFCCC (signature in 1992)
October 1999	Submission of the First National Communications
December 2004	Ratification of the Kyoto Protocol (signature in 1998)
January 2005	National Mid-Term Development Plan (RPJMN 2004-2009)
February 2007	National Long-Term Development Plan (RPJMN 2005-2025)
November 2007	National Action Plan for Climate Change (RAN-PI)
December 2007	National Development Planning: Indonesia Responses to Climate Change
	UNFCCC COP13 in Bali
July 2008	Establishment of DNPI (National Climate Change Council)
September 2009	Indonesia Climate Change Trust Fund (ICCTF)
	Announcement of 26% emission reduction target at G20 meeting in Pittsburgh
December 2009	Indonesia Climate Change Sectoral Roadmap
	Announcement of 26% reduction target at UNFCCC/COP15 in Copenhagen
January 2010	Submission of Indonesia NAMAs to the UNFCCC
March 2010	Revision of National Development Planning: Indonesia Responses to Climate Change (Yellow Book)
May 2010	RPJMN 2010-2015
November 2010	Submission of the Second National Communications
September 2011	Presidential Regulation No. 61/Year 2011 concerning RAN-GRK

2011	Presidential Regulation No. 71/Year 2011 concerning GHG Inventory
2012	Regional Action Plan for Greenhouse Gas Reduction (RAD-GRK)
2013	Preparation of MER Mechanism for RAN / RAD-GRK
2016	Presidential Regulations No. 16/Year 2016 concerning Ratification of Paris Agreement to the United Nations Framework Convention on Climate Change

However, for as long as the climate change mitigation policy made, it was found that the government has not fully implemented communication efforts to provide knowledge and understanding to the public. In fact, Indonesia, which is vulnerable to disasters caused by climate change, requires people who are highly exposed to information about climate change and policies made by the government in tackling the effects of climate change.

This study generally explores the process of relations between stakeholders in the communication of climate change mitigation policy and the communication obstacles occurred.

This study intends to:

1. Explores the process of relations between government stakeholders on the communication of climate change mitigation policy
2. Explores the flow of communication actions undertaken by government stakeholders in climate change mitigation policy and its obstacles factors

2. Literature Review

2.1. SDGs

United Nations General Assembly (2015) concludes that a major example of an attempt at environmental integration and coherence within the United Nations environmental umbrella are the SDGs. The SDGs encompass major environmental areas such as climate change, chemical pollution, waste, and marine and terrestrial ecosystems, but they also include social, economic and institutional development objectives applicable to both low-income and high-income countries, such as access to food, water, sanitation, energy, health, education and justice, and the development of infrastructure, cities, employment and growth [12].

The SDGs mark a historic shift for the United Nations towards a unique 'sustainable' development agenda after a long history of trying to integrate economic and social development with environmental sustainability. Before the SDGs, international agreements were more fragmented and sectoral, and while environmental integration was regularly mentioned on paper, it was rarely translated into practice. Of course, the effectiveness of the holistic, indivisible approach recommended for the SDGs remains to be seen,

Mitigation efforts are closely related to SDGs. There is an obvious link between mitigation policy in reducing GHG emission and SDGs. As reported by IPCC on the impacts of global warming of 1.5 °C that failing to meet the more ambitious target would bring far higher risks to health, livelihoods, food security, water supply, human security and economic growth. The goals and target in SDGs will not be met [13].

Scientists state that the mitigation pathway is closely related to SDGs as the efforts to reduce GHG in relevant sectors may limit warming to 1.5°C. It also brings positive or negative impact in the achievement of sustainable development (high confidence). In particular, demand-side and efficiency measures, and lifestyle choices that limit energy, resource, and GHG-intensive food demand support sustainable development (medium confidence). Limiting warming to 1.5°C can be achieved synergistically with poverty

alleviation and improved energy security and can provide large public health benefits through improved air quality, preventing millions of premature deaths [14].

Indonesia is very committed to implementing SDGs because the national development goals and global development goals are basically mutually reinforcing. One of Indonesia's high commitment to implement SDGs is manifested by the enactment of Presidential Regulation No. 59 of 2017 concerning the Implementation of Achieving Sustainable Development Goals. This regulation emphasizes the importance of implementing SDG principles; no one has left behind and inclusiveness, which is manifested by the involvement of all stakeholders, through four platforms of participation which include the Government and Parliament, Community and Media Organizations, Business and Philanthropic Actors and Academics and Experts.

2.2. Climate Mitigation Policy

Climate change mitigation is basically an active action to prevent or slow the occurrence of climate change or global warming and reduce the impact of climate change by stabilizing the concentration of greenhouse gas volumes.

As stated in Indonesia's NDC, the Government sets an unconditional 29 per cent and conditional 41 per cent (with sufficient international support) reduction target on the country's GHG emissions below business-as-usual by 2030.

The sectors that act as mitigation actions are as follows; the forestry and land (AFOLU), energy, (both from power generation and transportation), the IPPU, and waste. Some examples of mitigation actions that have been carried out in the field for these sectors include:

- a) agriculture, forestry and land sector / AFOLU: rehabilitation forests and land, forest moratorium on peatlands, controlling changes in land cover inside and outside forest areas, increasing carbon conservation in conservation areas, specialized ecosystems, and mangrove ecosystems, increasing carbon stores, in restoring ecosystems, implementing REDD ++ activities,
- b) energy sector: energy conservation programs, improvement planning and management of public transportation, improvement of public transportation infrastructure,
- c) IPPU (The industrial processes and product use) sector: improvement of processes and operating systems, improvement of technology, the substitution of industrial raw materials;
- d) waste sector: 3R (reuse, recycle, recovery) policy implementation, urban solid waste management policy implementation, management industrial liquid waste, etc. [15].

Furthermore, effective communication and coordination between ministries/institutions must handle each sector well before the results of the calculation are communicated by Indonesia through effective National Focal between the ministries/institutions that handle each sector before the results of the counts are communicated by Indonesia through the National Focal Point to the international world (through the UNFCCC Secretariat).

2.3. Climate Change Communication

Communication is a two-way process that the receiver and transmitter may take part at the same time. The transmitter knows how his message is understood by the receiver's feedback [16]. In general, communication is defined as the exchange of information among various stakeholders and is driven by outcomes the communicator aims to achieve. In some situations, it is used as a means of persuasion, while in others, it can be used to guide decision making or to improve relevant stakeholders' understanding of related issues. Communication in the case of climate change is key to enhance public

understanding of the science, social aspects (impact on everyday lives), and policies (reduction targets and actions needed to meet goals) related to climate change [17]. To relate to climate change communication effectiveness, communication must embrace public participation in order to promote inclusivity and fairness in climate change discussions and decision-making [18]. Public participation defined as the ability of individual citizens and groups to influence decisions through (1) the right to know, or the ability to have access to relevant information; (2) the right to comment, or the opportunity to publicly address the agency or entity that is responsible for a decision about actual or potential harms and benefits one perceives as a result of that decision; and (3) the right of standing, or the legal status accorded a citizen who has a sufficient interest in a matter and who may speak in court to protect that interest [19].

Through this study, it can be concluded that climate change communication in the climate policy of mitigation efforts, must increase public knowledge and understanding as well as foster participation of all people and all relevant institution in controlling climate change. Since talking climate change in mitigation efforts conducted through several institutions, the communication should function strategically among themselves.

However, many actors are involved in communicating about climate change to a variety of other actors: governments, citizens, communities, NGOs, businesses are involved in communicating about climate change to a variety of other actors: governments, citizens, communities, NGOs, businesses, international orga-to a variety of other actors: governments, citizens, communities, NGOs, businesses, international organizations, celebrities, risk communication consultants, and many more. When communicating with each other, these actors try to achieve different things, such as raise awareness, persuade people to vote for a political party, support government policies, and so on [20]. Lack of global cooperation, lack of governance of the required energy and land transformation, and increases in resource-intensive consumption are key impediments to achieving 1.5°C pathways. Governance challenges have been related to scenarios with high inequality and high population growth in the 1.5°C.

2.4. Strategic Government Communication

To understand climate change communication in mitigation efforts, we should put the government in the strategic position as it is legitimate to execute the reduction of GHG emissions policy. Strategic communication lives at the intersection of management strategy and communication [21]. In [22] simply define strategic communication as “aligned with the company’s overall strategy, to enhance its strategic positioning”, whereas other definition explained as the purposeful use of communication by an organization to fulfil its mission [23]. Communication with strategic approach has long been developed by [24], public relations scholar who invented Excellent Theory to increase the value of the public relations function to the organization.

2.5. Concept Framework

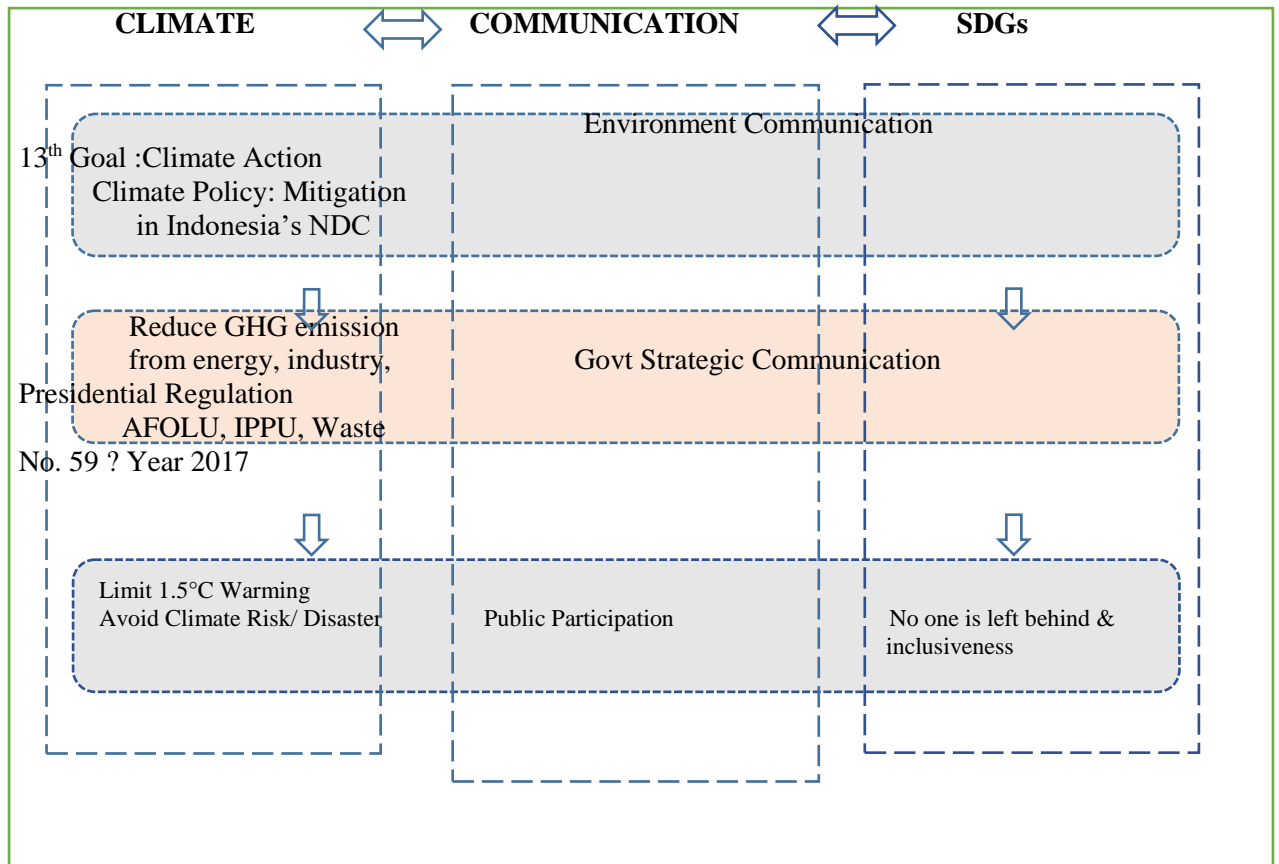


Fig. 2: Climate – Communication – SDGs dynamic

3. Methodology

Methods of Qualitative Data Collection use are in-depth interviews with the government officials (Ministry of Environment and Forestry, Ministry of Industry, Ministry of Energy and Mineral Resources and Coordinating Ministry of Economic) to explore whether they use strategic communication to coordinate among relevant sectors and integrate the mitigation policy (reducing GHG emissions) to overcome this global risk impacts in Indonesia towards the sustainable development goals. The researcher also participated in several FGD under one local civil society organisation experiencing in mitigation efforts and UNFCCC negotiations.

A process documenter recorded and took notes during each discussion, and transcribed all discussions. The researchers analyzed the transcripts inductively, starting with keywords from the discussions which were used to build generalizations that would answer the research question. The researcher used desktop research and participants' observation in several discussions and events held by The Ministry of Environment and Forestry (MOFE) and one local civil society organisation experiencing in mitigation efforts.

4. Results and Discussion

According to information from government agencies involved in climate change mitigation for GHG emission reduction, communication conducted for climate change

policy in their sectors are adjusted with their audience target. Communication carried out by the Ministry of Industry is to disseminate information and to increase awareness of the industry. The Head of the Green Industry Center stated that they have been communicating with business actors through Technical Guidance in order to convey the importance of reducing emissions in the industrial sector. Additionally, The Center of Green Industry engages its audience by giving appreciation to industries that have successfully carried out their production processes in accordance with the direction of using environmentally friendly energy.

Energy leading sector, the Ministry of Energy and Mineral Resources (ESDM), also communicates the message of mitigation policy to its target audience. Communication on Mitigation policies in the leading energy policy sector is carried out internally by The Directorate General of New, Renewable Energy, and Energy Conservation (EBTKE). Internal communication simply conducted by inviting units to draw up action plans to be carried out in the energy sector. For example, coordinating with various energy directorates to develop micro-hydro, solar PV, Wind, Bioenergy that develops energy such as Bio Fuel, Biomass, Bio Gas, and others. The Directorate conveys messages and equates perceptions about how to produce oil and gas that is environmentally friendly.

Furthermore, the messages communicated through this institution are simply energy savings. Despite the complexity of each energy characters, this institution's message resembles the related sector such as Ministry of Industry which deliver energy efficiency message. Interestingly, the whole mitigation policy message is not the primary goal for this ministry. It is said that the mitigation policy to reduce GHG emissions must meet first renewable energy referring to government regulation no 79/Year 2014 concerning energy policy. However, the impact must be there automatically as called Co-Benefit.

In terms of the integration approach of SDGs, the mitigation efforts in reducing GHG emissions are also integrated by sectors related. Participant in the Directorate of Mitigation of the Ministry of Environment and Forestry (MoEF) clearly state that the reduction in greenhouse gases cannot be linked to any institution in government institutions. But, it is associated with the sector. The Forestry and Land Use Sector is under the care of the Director-General of Climate Change.

5. Conclusion

Climate change communication on mitigation policy for greenhouse gas (GHG) emissions reductions as set out in the country's first nationally determined contribution (NDC), has clearly been communicated to their target audience in each sector. However, strategic communication has not been developed yet since the communication function is characterized by government activities in discussions, technical guidance, events, and other technical functions. However, to achieve the goal of sustainable development in all sectors, strategic communication is needed. There must be a grand design of communication which the messages displayed are comprehensive and the same, in the context of climate change is the most important environmental issue of all time. Ignoring this will cause disasters, economic and social injustice and the sustainable development goals. Communication is the glue for climate change and the goals of the SDGs.

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