



COMMUNITY-BASED DEVELOPMENT MANAGEMENT FOR CLIMATE CHANGE ADAPTATION AND MITIGATION ACTIVITIES IN INDONESIA

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Abstract

The management impact of climate change has been a global agenda in Indonesia for last decade. Based on policy studies conducted in eight districts/cities in West Java Province, shows that development activities in climate change adaptation and mitigation require a strengthening mechanism of development management. It also shows the gaps in policy development implementation between national government, province government, district government and community. In addition, institutional development management need to collaborate between stakeholders and local community need. Through a participatory multi-stakeholder dialogue, it is found that the development climate change adaptation and mitigation activities need to implement community-based development management. The development programme process starting from initiating activities at the community level in one village, and encourage collaboration between the various communities to experience and enlarge the scale of activities, establishing common understanding from the community to in line with Regional Development Planning to set up a productive area as an economic effort considering the sustainability of natural resources. This is a social learning form to educate the community, increase satisfaction and encourage solidarity stakeholders. This community-based development management will further contain the characteristics of local culture and give priority to the value of collaboration in vulnerability due to climate change impacts.

Introduction

Background

Thinking Global is a mindset that indefinitely connected to world prospers together (Parnell, 2006). All the countries in the world should change their way of mindset thinking – from national to global. The challenge of thinking global mindset is not always comply with conditions and local development of a country. Parnell (2006) mentions that thinking global needs to be aligned with three strategies of local action development, namely: (1) opportunities to collaborate with others to exchange knowledge and share risks; (2) relationship awareness between regionals in country; (3) diversity awareness of local conditions that encourage the successful implementation of an activity.

Refer to thinking global definition, there is a critical attention on the impact of climate change as a policy agenda of the world. This policy contains two main purposes. First, the target reduction in world emissions, and second, the vulnerability of communities in various countries dealing with the impact of climate change. The goal of developments of "think globally, act locally" motto by Ching and Talley (2012) directed the real action community to participate in the process of achieving the world's agenda.

Development management in Indonesia has included consideration of climate change impact. The basis of national policy is Law No. 17 of 2007 on the Long Term Development Plan 2005-2025 Indonesia with Vision "Mewujudkan Indonesia Lestari dan Asri" (Indonesia Sustain and Green) (Bappenas, 2013). It considers climate change as a challenge and opportunity of development plan. Moreover, it encouraging varieties of regional development policy includes activities to climate change adaptation and mitigation.

Indonesia, has committed to reduce greenhouse gas emission in five sectors focus, namely: (1) forestry and peat land, (2) agriculture, (3) energy and transport, (4) industry, and (5) waste management. Target of reduction emissions without international aid is 26%, and it will be higher if international aid involves is approximately 41%. The targets of emission reduction will be part of regional development policy in Indonesia, so it requires an appropriate development management.

Development activities of climate change adaptation and mitigation requires development management which is able to accommodate thinking global mindset and commit with the local community needs. Further analysis shows the description and process of development program (planning, implementation, monitoring and evaluation, then return to planning) which accommodate with development management of climate change adaptation and mitigation. It is as an effort to find a form of development management with a global spirit and kindness is believed by the government, the private sector, non-government organization, and in line with the interests and meet the local community needs.



Research question

Based on background explanation, this research examines how community-based development management can accommodate climate change impacts through adaptation and mitigation activities in Indonesia?

Objective

Following the research question, the purpose of this research is to identify and formulate the community-based development management activities of climate change adaptation and mitigation in Indonesia. The expectation of this research would be a form of development management in order to deal with climate change impacts.

Methodology

The development management analysis in terms of policy studies has two important focuses: (1) goal setting of policy formulation, (2) institutional strengthening process (Eriyatno, 2010). The approach used focus group discussion (FGD) through a series of multi-stakeholder dialogues in three districts and five cities in West Java Province, namely: (1) Bandung District, (2) West Bandung Regency, (3) Bandung City, (4) Cimahi City (5) Purwakarta City, (6) Karawang City, (7) Bekasi Regency and (8) Bekasi City.

Series of multi-stakeholder dialogue conducted at the level of West Java province followed in eight districts/cities in period of January 2012 – March 2013. The eight districts/cities include Citarum River Basin and categorized into three sub-locations: upstream, midstream, and downstream. The upstream consists of Bandung Regency, West Bandung Regency, Bandung City, and Cimahi City, midstream consists of Purwakarta City and Karawang City, and downstream consists Bekasi Regency and Bekasi City.

This research relates to the commitment of West Java Province Government to implement the Green Province Program by reducing greenhouse gas emissions in the years 2029, based on a long term development planning 2005-2025. This research conduct with ADB programs related with Package E (TA 7189 INO) in attempt to make the institutional strengthening of government dealing with climate change impact in Citarum Watershed Management.

Result

Development management problems identification

There are important findings from this research, namely (1) development of government policies are not synergistic, (2) NGO's development initiatives do not have relation with government policy, and (3) there is no institution that can build collaboration among stakeholders to manage development. These findings challenge the effectiveness of development management which is still the center of policy implementation gaps and areas, the pattern is still sectorized policies (not integrated and sustainable) as well as accompaniment pattern is less participatory and unsustainable.

Challenges of development management policy in this research that integrate climate change adaptation and mitigation differ between regions upstream, midstream, and downstream. Upstream region is threatened by illegal logging activities that cause deforestation, floods occur suddenly when the river overflowed, and the waste problem. Threat in the midstream is caused by the emergence of urban settlements and industrial development with the waste management process. Meanwhile, the challenge in the downstream region is almost similar to the midstream coupled with the threat of flooding due to overflow of the upper and abrasion damage.

The climate change adaptation and mitigation activities in development implementation need a development management that consider with ecosystem management and various policy of government administrates units (village, district/city, province and national government). Ecosystem management related to nature resources use through customized development pattern based on government administrates units. Thus, development management need for strengthening existing institutions and to optimize the support program that has been running. Institutional strengthening incorporates multi-stakeholders, while optimizing existing programs should be continuous, from planning, implementation, monitoring and evaluation. Institutions for development management of climate change adaptation and mitigation activities should collaborate with other policies.

The gaps of policy implementation in local and national government in climate change adaptation and mitigation action is in management programs and budget allocation. Various existing policy initiatives have not been able to initiate the program activities in accordance with the community needs. This is caused by the three levels of government administration, namely: district/city government, provincial governments and the national government; that had own policy respectively. Based on the conditions, known many existed initiative of various district/city level but not at the institutional synergy provincial and national levels. This is due to the perception that development management is national government business, where the management is fully conducted at the national level and not accommodate local community needs.

Development management conditions did not reflect the current management of continuous multi-party inter-process since it is still sectoral minded. Based on stakeholder satisfaction index scores reflect the stakeholders' perceptions related to institutional performance. The stakeholder satisfaction index score in this research determine the level of satisfaction for institutional stakeholders and existing programs. Stakeholder satisfaction levels can be measured by the amount of Stakeholder Satisfaction Index (SSI). SSI is based on community satisfaction index (HPI) as general guidelines for the preparation of community satisfaction



index service unit of government agencies.

Stakeholder satisfaction index ratings includes 15 elements obtained from the major elements of planning, implementation, monitoring, and evaluation that shows satisfaction index score in upstream areas is the highest among three. The score is 69.5 which mean the institution performance in that area is good and can be upgraded into very well. The score in midstream area is 61.8 which mean average. The score in downstream area is 63 which mean good and can be upgraded into very good. The results of the calculation are listed in Table 1.

The result of satisfaction index shows that multi-stakeholders hope development management can be improved. The most essential thing is to connect the planning process to implementation and so forth. It will need to involve many parties to manage support of community initiative for community-based development management. Synergy between these parties is important to build the common understanding in managing climate change adaptation and mitigation activities.

The current development management shows no action that integrates the management of climate change, although there has been some form of climate change adaptation and mitigation activities. Running process so far has not been initiated to catch the opportunities and handle risks of climate change impact. Climate change adaptation and mitigation is a global issue that must be communicated in a variety ways according to stakeholders' plurality.

Refer to Boer dan Kolopaking (2010), current development problems is to promote economic growth that has implications for rapid population growth, technology developments and bias production management. This is the major contributor that increases in of greenhouse gases emissions that have an impact on the variability and climate change. There are impacts on human and natural systems such as food, health and ecosystem. Therefore, it is necessary for climate change adaptation and mitigation. Adaptation and mitigation is a form to response the risk and chance of climate changes. Climate change mitigation refers to efforts of preventing and reducing emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior (www.unep.org). UNDP quoted by Boer and Kolopaking (2010), without mitigation efforts the impact of climate change in developing countries 20-30 years from now will be difficult to handle and investment for adaptation will be more expensive.

Table 1: Stakeholders' Satisfaction Index related to Development Management in Climate Change Adaptation and Mitigation Action.

Element	Upstream	Middle	Downstream
Planning			
1. Existed institution involves multi-lateral planning well	3	2,6	2,9
2. Planning involves multi-lateral in sharing ideas	3	2,5	2,6
3. Capable in deciding priority location	2,85	2,7	2,5
4. Schedule is well designed	2,77	2,5	2,3
5. Funding is well designed	2,76	2,7	2,5
Implementation			
1. Capable to synergize all parties well	2,85	2,5	2,4
2. Location of Implementation management activities are decided	2,62	2,2	2,6
3. Activity is implemented in accordance to schedule	2,69	2,5	2,6
4. Activity is implemented by sharing fund	2,69	2,5	2,5
Monitoring			



1. Involving many related parties	2,85	2,5	2,4
2. Monitoring techniques are suitable and satisfied	2,92	2,3	2,4
3. Capable of providing monitoring report on schedule and based on needs	2,54	2,4	2,5
Evaluation			
1. Involving all related parties	2,85	2,4	2,5
2. Evaluating techniques are suitable and satisfied	2,62	2,5	2,5
3. Evaluation result can be followed up in restructuring plan	2,69	2,3	2,6
Average Portion	2,78	2,47	2,52
Stakeholders' Satisfaction Index	69,5	61,8	63

Source: Primary Data

The definition of adaptation from the IPCC (2007) refers to planned adaptation. Adaption is a planned process of nature or human systems in response to the life system of actual and anticipated climate change, beneficial or not. Adaptation is one of the policy options with regard to climate change that affect the activity of development (Tanner & Mitchell, 2008). Adaptation to climate change is related to the arrangements of the practices, processes and systems to minimize the negative impact of climate change on the present and future to catch opportunities and maximize the benefits (Adiyoga et al, 2012). Adaptation will not occur without the influence of socio-economic factors, culture, politics, geography, ecology and institutions that make up the interaction between man and his environment (Eriksen and Selboe, 2012).

Climate change adaptation and mitigation are responses in disaster handling and dealing with the opportunity that comes from the environment changes that caused by climate change (UNDP, 2007; Olmos, 2001). Society has the ability to deal with climate change through endurance in times of crisis or called resilience. According to Folke (2006), this resilience treats disorders (disturbance) in the system of social ecology as an opportunity. In other words, resilience relates to the ability to do 'new things, for innovation and development'. Manyena (2006) defines resilience as the ability of a system to adapt to environmental shocks and continue to function without any change in the fundamental characteristics. This idea means that resilience is a process. The other resilience understanding by Brenson-Lazan (2003) is the ability to face internal or external crisis and effectively resolves not only it but also learn from it, be strengthened by it and emerge transformed by it, both individually and as a group.

Results from stakeholders' dialogue mentions that there are a lot of climate change adaptation and mitigation activities undertaken as anticipation. Thus, it has not been identified and has not been included in the scope of the policy in three governance level. The only policy that has been done is regional disaster policy. Besides that, stakeholders' dialogue needs to be done more intensively for growing sense of belonging among the members. With the active participation of members, the synergies expected to be in line with the adaption and mitigation activities. Conclusion from the stakeholders' dialogue also identify that private sector and academic could be involved in climate change adaptation and mitigation activities.

Management strategy for developing climate change adaptation and mitigation activities

There are 4 selected strategies namely: (1) developing inter-areas and multi-stakeholders management forum; (2) strengthening government institution; (3) developing a pilot project for climate change adaptation and mitigation and political negotiation; and (4) developing a funding institution for pilot project of climate change adaptation and mitigation. Based on the Analytical Hierarchy Processes, four strategies above can implemented in upstream area, midstream area, and downstream area.

The strategies implementation considers factors, actors and objectives priorities in each area. Priority factors in upstream area contain (1) spatial area policy, (2) potential conflict, (3) area vulnerability, (4) technology development and (5) institutional development. Meanwhile, priority factors in midstream area contain (1) spatial area policy, (2) technology development, (3) area vulnerability, (4) institutional development and (5) potential conflict. Priority factors in downstream area contain (1) spatial area policy, (2) area vulnerability, (3) technology development, (4) institutional development, and (5) potential conflict.



Priority actors for strategies implementation are (1) government, (2) private/industry, (3) university, (4) NGO and political personage, (5) community and (6) press. These show that government is the main actor in climate change adaptation and mitigation implementation. This result is in line with analysis factor result which shows that spatial planning policy is the biggest factor.

The priority objectives for strategies implementation are: (1) policy enrichment and improvement through Government Regulation or Local Regulation, (2) awareness rising program for upstream, middle and downstream areas, (3) capacity building of Development Institution, (4) budgeting, and (5) prior vulnerable areas. Therefore, development management policy needs to be enriched, improve and include in development of climate change adaptation and mitigation activities.

Formulation community-based development of climate change adaptation and mitigation activities

The existed development management work based on their sector all this time. They need to be strengthened and designed more intensively by involving multi-parties to accommodate the local community needs. Community-based development encourages community empowerment and local institution capacity. Uphoff and Esman (1974) state that institution capacity development in local level is a managerial process within the context of: (1) identify and analyze local issues to design appropriate responses; (2) mobilize and manage resources; (3) communicate and coordinate the implementation of policies; and (4) solve local conflicts. Community empowerment is a changing process by putting creativity and initiative of community as a starting point. Empowerment sense contains two elements, namely independence and participation. The community empowerment is the first step towards community participation (Mayo and Craig, 1995).

Friedmann (1992) said the empowerment is social force for reducing poverty. Social power is consist of eight elements, namely: (1) territorial base (household activities), (2) time surplus, (3) knowledge and skill, (4) information access, (5) social organization, (6) social network, (7) livelihood source and (8) financial source. The territorial base of social power mentioned by Friedmann is in line with Tjondronegoro (1984) that development oriented to community welfare that democratically based on territorial and needs.

Community empowerment needs to be approached with community-based development to strengthen social community. Rubin (1993) said that there are five basic principles of community-based development. First, every profit from activities needs to be distributed back to community for maintaining the existence. Second, community-based development needs to involved community participation from the planning to implement the activities. Third, community-based development cannot be separate from capacity building and physics development. Fourth, maximize the nature resources, especially in funding. Fifth, community-based development institutions need to be function as catalyst that linked between government and community interest.

Development of community-based climate change adaptation and mitigation activities can be carried out through six stages, namely: (1) identification of community initiative on climate change adaptation and mitigation activities; (2) reflecting the process for mutual learning; (3) bridging the community initiative; (4) building the same vision and objectives among the multi-parties; (5) designing collaborative action multi-parties; (6) community initiative action.

These stages modify theory of Woolcock (2001) about three accumulation strategies of social capital that embedded to social structure, social relation, organization and institution (Coleman, 1990; Fukuyama, 2001; Putnam, 1995; Turner, 2001). Three accumulation strategies of social capital, namely: bounding strategy, bridging strategy and creating or linking strategy. Stage 1 and Stage 2 (bounding strategy) is strategy that is done to strengthen the institutional community level. It begins with common understanding and institutional collaboration of climate change adaptation and mitigation activities. Mutual dialogue resulted community initiatives that identify climate change adaptation and mitigation activities and make the process as social learning form.

If stage 1 and stage 2 are successful, then proceed to stage 3 that are organizing the community (bridging strategy). This stage bridges the various initiatives of climate change adaptation and mitigation and strengthens among community collaboration. Moreover, in stage 4 to stage 6 are strategies creating / linking with the initiatives that have emerged from the community on a multi-stakeholder collaboration. In stage 4 is built a common understanding among multi-stakeholders' about the vision and objectives of climate change adaptation and mitigation activities based on local community needs. Then, it may proceed to stage 5 which designing multi-stakeholders' collaborative activities and its implementation by local communities (stage 6). The stages can be seen in Figure 1.

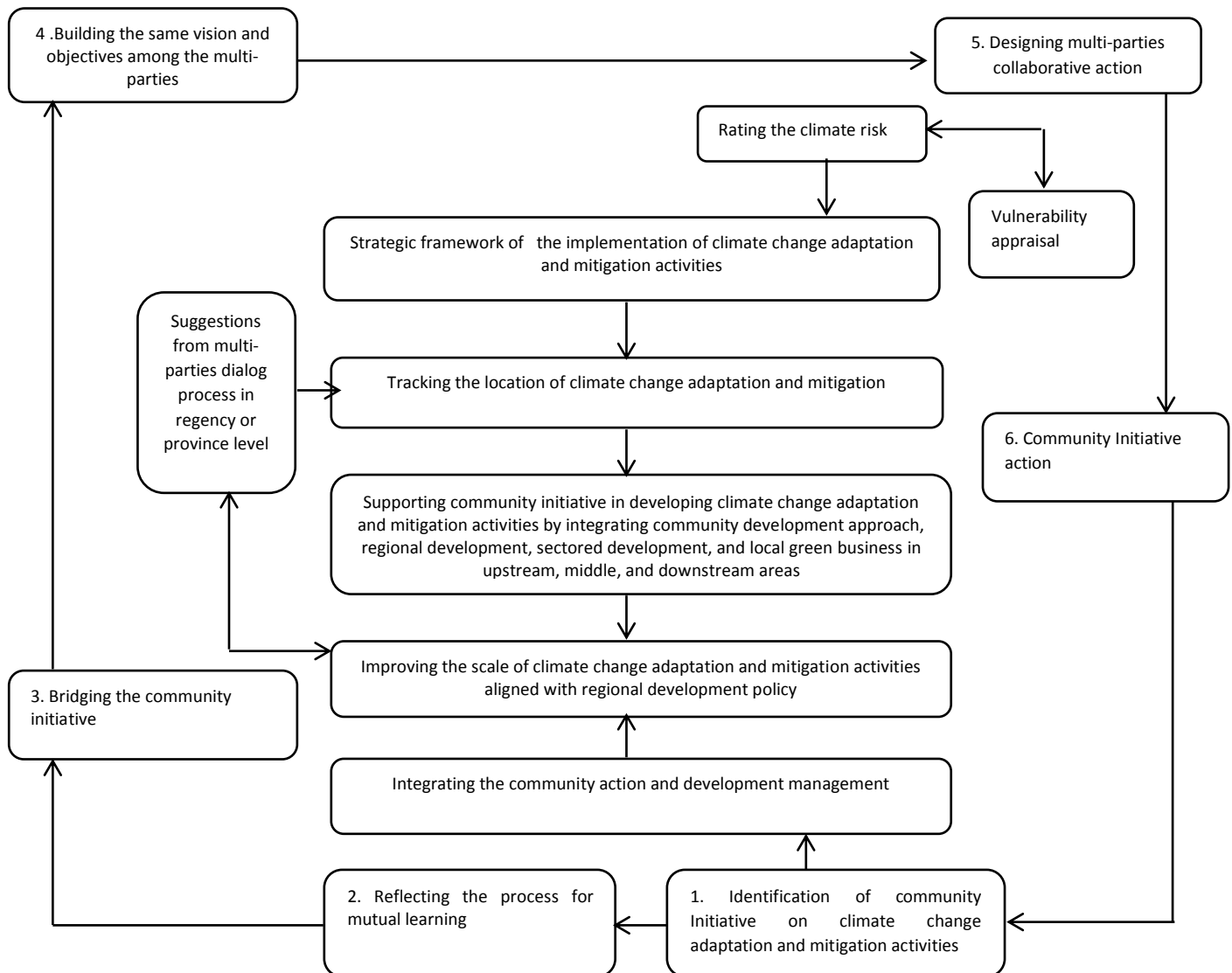


Figure 1. Formulation Community-Based Development Management for Climate Change Adaptation and Mitigation Activities

The importance of identify the community initiatives and build collaborative action for climate change adaptation and mitigation activities especially at various government level is the preparation process where community can be involved in Regional Development Plan. It is used to in line the activities plan in community level with climate change adaptation and mitigation activities agenda in government level. The in line process conducted with multi-stakeholders' dialogue which produce several suggestions, namely: (1) improve the scale of climate change adaptation and mitigation activities with regional development policy; and (2) tracking the location of climate change adaptation and mitigation.

Conclusion

Community-based development management climate change adaptation and mitigation activities is a process that involved the community initiatives to in line with government policy to accommodate local community needs in Regional Developments



Plan. There are 4 selected strategies for climate change adaptation and mitigation, namely: (1) developing inter-areas and multi-stakeholders' management forum; (2) strengthening government institution; (3) developing a pilot project for climate change adaptation and mitigation and political negotiation; and (4) developing a funding institution for pilot project. Those four strategies can be carried out through six stages, namely: (1) identification of community initiative charge on climate adaptation and mitigation activities; (2) reflecting the process for mutual learning; (3) bridging the community initiative; (4) building the same vision and objectives among the multi-parties; (5) designing collaborative action multi-parties; (6) community initiative action.

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