

The 4th International Conference on Sustainable Future for Human Security, Sustain 2013

Government-Communities Collaboration in Disaster Management Activity: Investigation in the Current Flood Disaster Management Policy in Thailand

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Abstract

The importance of collaboration in disaster management activity has been mentioned as a key point of professionalism in disaster management activities since there appears to be limitation in a single authority and they can no longer handle it. Thus, a set of concepts of disaster management, such as professional management, command, control and collaboration, and Incident Command Systems (ICS) becomes more debatable. Government's responsibility as first-hand respondent in disaster management has underpinned the close relationship between local government and communities which also affect the effectiveness in disaster response. However, the difficulty in collaboration always occurs, such as different perceptions, willingness, political will and expectation that undermine the effort of collaborative disaster management. Based on the concept of professionalism in disaster management, this research argued that it had the level of professionalism in disaster management. The aim of this research was to investigate the current flood disaster policies in Thailand after 2011. There were two objectives as follows: (1) to find the linkage and connectivity of flood disaster management policy in different levels of government (National level, provincial level and municipality level) based on the concept of professionalism in disaster management, and (2) to analyze the level of involvement of citizen toward the current flood disaster management policy. This research was composed using literature review in the current flood management policy, provincial development guideline, municipality development plan and some projects implemented or proposed to be carried out in local communities by comparing with concept of disaster management and participation theory.

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Selection and peer-review under responsibility of the Sustain conference committee and supported by Kyoto University; (RISH), (OPIR), (GCOE-ARS) and (GSS) as co-hosts

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Keywords: Flood management policy; public involvement; participation theory; public administration

1. Introduction

Thailand experienced flooding from the ancient period with annual monsoon as the crucial factor. This circumstance happened in case of flooding in 2011; there were five tropical monsoons crossed during 25th July 2011 – 16th January 2012 which was originated from the northern region in August and became severe in September which caused floods throughout the central region of Thailand of approximately 14,241 Square Kilometers in November 2011. The afflicted area of flooding covered 65 provinces within some Square Kilometers and killed 657 persons at that time. The case of Thailand flooding in 2011 drew the attentions among scholars and communities to find out the improvement on regional watershed management in the future. Basically, the perception towards water management in Thailand was concerning of water scarcity issue in drought period than the issue of exceeding water in monsoon period, and the perception in flood disaster relief was addressed as the social welfare relief activity. As the result, flood disaster management concerned on defensive approach rather than offensive approach. The aspect of multi-boundary management was stated as one necessary factor in large-scale disaster management; there was no organization could deal with flood situation as a cross-jurisdiction organ in the professional way, although each governmental organ and division had data and information related to the flood situation; but, the linkage between those organs was not found. Moreover, the unclear of information, belated information and miscommunication among media and people were not something unique which led to misunderstanding towards the real situation of disaster.

Coordination among government and communities has been addressed as the crucial factor in disaster response, which could be addressed as professional approach of emergency management. However, the problems, such as late in response, communication, different of mutual understanding among divisions towards management in disaster situation undermined the effectiveness of disaster response and always occurred in the practices. This study argued that in order to increase the professionalism in disaster response, communities should play important roles and should understand more towards the professional ideas of disaster response rather than focusing on how to increase capability of the government.

2. Review Literature

2.1 *Coordination in Disaster Management*

Disaster Management can be defined as the entire process of planning and intervention to reduce disaster as well as the response and recovery measures, which is a neglected element in development planning. Traditional emergency management is rationale which is considered in the function of law enforcement and agencies as a temporary job, such as fire department [1]; but gradually it changes to a more coordinated of varieties of resources, techniques and skills for fast response and fast in the recovery process [2]. As the fundamental, coordination is the crucial aspect in order to fulfill towards post-disaster recovery in disaster management which also becomes the challenge nowadays [3]. Local government can play as the key role in disaster management activities in order to avoid loss of life in local communities [4]. The key points for local government and communities are the first-hand respondent in the threats of disaster [5]. Basically, the activities within responsibility of local government can be separated into two types which are comprehensive and integrated [4].

In order to increase the effectiveness in disaster management, organizations try to coordinate among different organs by applying the concept of governance, which is related to various fields, such as public administration, conflict resolution, and environmental management [6]. However, the definitions and core concept varied upon the application and situation in terms of governance that are as jointly determined; norms and rules are designed to regulate personal and group behavior [6] as the means to steer the process that influences decisions and actions within the private, public, and civic sectors [5]. The study on collaborative governance includes factors, such as general system context, drivers, the collaborative government regime (principle engagement, shared motivation, capacity for joint action) affecting the efficiency of collaboration in cross-border, multi-jurisdiction levels of government control [6]. The factors affecting coordination in disaster management are, among others, funding and

political will [3], reasonable organization structure and clear awareness of responsibilities, effectiveness towards information system and transfer, government unity of leadership to coordinate and plan as a whole, modern logistic technology, and continuous operational improvement system in emergency management [7], the support from higher governmental units and citizens [4]. The success in crisis management includes (1) leadership and authority, (2) strategic thinking and decision-making, (3) clear team structure, (4) information management, (5) crisis communications and media management, (6) future planning and "What if?" thinking [8].

Regarding to McEntire [9], there are two approaches of public administration towards disaster response and recovery. Two approaches have been stated on how the assigned organs have to tackle to disaster circumstances based on the concept of public administration study. Unlike the core concept of disaster management, the two approaches focus on how assigned authority can be done under disaster response and recovery activities, which are mainly related to the actors more than the cause or process; these two approaches can be introduced as follows

Table 1. Comparison between disaster management approach and ladder of participation

Traditional approach	Professional approach
Refer to civil defense, command and control, bureaucratic, or emergency service perspectives	All-hazards, networking, collaborative, problem solving, or public administration model
Hierarchy and adhere strictly to standard operating procedures	Horizontal relationship also important as vertical relationship
Government is the most reliable actor because societal chaos will result in time of disaster	No single individual, group, or organization can respond alone
Viewed disaster operations from the standpoint of a single agency	People work together to overcome challenge of disaster
Emergency managers duplicated the services provided by first responders	Emergency cannot be prevent, Citizen will respond to disaster whether they are invited or not
Emergency managers duplicated the services provided by first responders	It underscores the importance of relations with decision makers and the leaders of different government departments. In addition to including the role of government in disaster, it also takes into account the many different participants from the private and non-profit sectors that may provide either positive or negative results (depending on what they do and how they are managed)

Source: David A. McEntire [9]

Although the coordination becomes crucial in disaster management and emergency management, the achievement in the effectiveness of emergency might be the impossible tasks [10] and might not become easy in the real situation of disaster response. The basic problems towards coordination are, as example, lack of coordination between agencies, failure of communication, competitive practice, lack of trust, slow mobilization of response, failure to sharing information, lack of awareness, poorly defined the chain of demand, and failure to fully integrate military into the response. In terms of coordination, large numbers of participants might cause misunderstanding among participants and sometimes conflicts are driven by differences in operational method [11].

2.2 Participation Theory and Disaster Management Issue

Ladder of participation was firstly explained by Arnstein in 1969. There are three major levels of participation: non-participation, degree of tokenism, and degree of citizenship. For each step, the power and involvement of citizen are gradually increasing in public policy; powers of citizen towards public policy are, for example, federal social programs, urban renewal, anti-poverty and model city [12]. To explain the idea of participation in disaster management, especially in terms of coordination, table 3 compares the concept of disaster management between traditional approach and professional approach. In order to measure the level of professionalism in disaster management as stated by McEntire in 2005, it is done by applying the ideal of participation based on the concept of Arnstein in 1969; the limitation reaching the top of the ladder might not be possible [10].

Table 2. Comparison between disaster management approach and ladder of participation

Characteristic	Description	Application to disaster management(3)
Traditional approach, or non-participation		
Manipulation	People are placed on rubberstamp advisory committees or advisory boards for the express purpose of educating them or engineering their support	Totally follow orders (e.g., law, ordinance or enforcement, or some government initiate disaster management projects)
Therapy	Come from the “dishonest and arrogant” Citizen have to change by themselves in any plan and conducting programs, rather than giving them a say in procedures	Providing basic relief to communities and promising to communities that municipality can protect threats of disaster in the next time
Transitional approach, or degree of tokenism		
Informing	Government tries to inform to citizen regarding to their rights, their responsibilities and option, but just the one-way communication, of no feedback and no power to negotiation	Informing and provide basic information to local community as the standard
Consultation	Inviting citizens’ opinions, like informing them, can be a legitimate step toward their full participation, but the output from consultation might not be account to power holder decision	Invite community to participate the disaster management plan in the initial stage (e.g., public hearing)
Placation	Citizen have some degree of influence through tokenism is still apparent	Community member initiate some effort which relevance to disaster management activities to municipality, and shown willingness to involve to those kind of activities in the normal period
Professional approach, or degree of citizen power		
Partnership	Power if in fact redistributed through negotiation between citizens and power holders, the planning and decision-making has been shared, which is effectively on the organization leaders is accountable	Community tries to drive some activities relevance to disaster management together with municipality
Delegated power	Negotiations between citizens and public officials can also result in citizens achieving dominant decision-making authority over a particular plan or program	Might not be reach in this level
Citizen control	Citizen have control their local policy and managing regarding to their demand	

Source: Adapt from Arnstien [12] and McEntire [9]

The United Nations’ framework which focuses on the year 2015 stated that the tasks of actors which are relevant to disaster management activities, such as government, communities and other stakeholders are to take responsibility under the Hyogo Framework for Action (HFA) using various kinds of incentives, such as economic incentive, political incentive, administration, legal, and moral incentive. Based on the Hyogo Framework for Action¹³, there are five pillars which state: (1) Ensure that disaster risk reduction (DRR) is a national and local priority with a strong institutional basis for implementation, (2) Identify, assess and monitor disaster risks and enhance early warning system, (3) Use knowledge, innovation and education to build a culture of safety and resilience at all level, (4) Reduce the underlying risk factors, and (5) Strengthen disaster preparedness for effective response at all level. In order to achieve coordination among stakeholders and to initiate disaster management activity as the mainstream, the collaboration among stakeholders is necessary. However, there are factors affecting coordination in disaster management, such as the funding and political will [3]. Also, to achieve the success in Total Disaster Risk Management (TDRM), consensus among stakeholders, especially local level, commitment to push back to highest level for adopting TDRM and to reduce the existing gap between each stakeholder needs to be established.

2.3 Characteristic of Disaster Stakeholders in Disaster Management Activity

There are many stakeholders taking part in disaster management and development activities; stakeholders such as emergency service, governmental organizations and civil society become the first-hand respondents. Other Non-Governmental Organizations (NGOs) as external organizations facilitate and create links of cooperation among first-hand respondents in domestic level and international level. The rationale of the NGO may be based on social justice that is dynamic upon the current condition; the role of Non-Governmental Organization has evolved since the previous era; the similarity of NGO in service provision sector is competing each other which is considered as

uncoordinated. This circumstance reveals that the willingness of NGO to involve in disaster management is not a problem but it is a matter of lack of good coordination [14] which affects the success of disaster management issues

Table 3. Broad typology of institutions identified with disaster and development strategy

Type of organizations	Description	Institutional rationale	Role in disaster and development work
Emergency services	State sector primary responders	Deal with immediate aftermath of an incident	A part of civil contingencies and disaster preparedness plan
Civil society	People who are informally grouped with each other through location or their means of primary subsistence	People independently cooperating with each other towards a common goal	Mobilizes prevention and response activities as part of ordinary life
Civil Societal Organization (CSO)	Community based function, locally more representative	Represent coordinated bottom-up strategies that include local knowledge	Community-Based disaster management (CBDM) using community response groups, risk and resilience committees or similar
Non-Governmental Organization (NGO)	Has legal institutional status usually agreements with official donors and/or recipient governments	Development or disaster reduction through project and plan advocacy. Independence from the government of the country within which it was formed	Implementing donor and government disaster and development programs/ emergency facilitator which links between civil societal groups, funders and government
NGO (development)	NGO that is oriented towards human development issues	Addresses basic and extended human needs	Recreate livelihood society, support infrastructural development
NGO (environment)	NGO that is oriented towards environment and conservation issues	Address sustainability of the natural resource base (ecological conservationist or economic approaches)	Promote intrinsic value of nature and secure natural environment, as a part of disaster risk reduction and sustainability development
Non-Governmental humanitarian agency (NGHA)	Implements humanitarian assistance. Include international committee	Saves life in emergency situations. Rationale may vary depending on the mission statement of each organization	Assess emergency aid requirements and delivers to target populations during crisis.
Inter-governmental organization (IGO)	Organization where two or more governments represented	Represents international state-level dialogue and policy on issues of global concern	Synthesizes global disaster and development policy, provide support base to international disaster and development related strategy
Private Sector	Primary owned enterprises	Business and enterprise for profit	Implements strategies that improve business continuity issues

Source: Collins [14]

3. Current Disaster Management Policy in Thailand

3.1 Strategic National Action Plan (SNAP) [15]

In 2010, Ministry of Interior established a plan called Strategic National Action Plan (SNAP) on Disaster Risk Reduction (SNAP) to apply an operational plan to response to disaster situation during 2010 – 2019. This SNAP plan was established under the Hyogo Framework of Action (HFA) for initiative on how to tackle threats from disaster and consequential hazards. There are five objectives which stated as follows (1) to increase the safety standard in terms of life and assets of people and tourists to become practical safety standard in international level, (2) To establish the strategic plan of disaster management to reduce threats cause by disaster in long-term period, (3) To declare the willingness of Thai government towards disaster risk reduction, (4) To develop and establish disaster reduction plan in long-term period under the Hyogo Framework of Action, and (5) To increase capabilities of divisions, departments and government in any level towards disaster management issues, and encourage them to establish disaster risk reduction plan and operate in integrative approach according to SNAP plans.

According to SNAP plan, there are four aspects that are specified into the plan as core strategies, such as (1) Prevention and Mitigation, i.e. Information management, Risk assessment, Community-Based Disaster Risk Management Programs (CBDRM), Risk awareness projects; (2) Preparation, i.e. improvement of early warning system, disaster training drill, disaster preparedness plan, machine preparation, basic needs preparation, budget allocation, infrastructure preparation; (3) Emergency Response, i.e. monitoring, Incident Command System (ICS), evacuation planning, provision of relief aid, search and rescue ; and (4) Rehabilitation and Reconstruction plan, i.e.

disaster damage assessment, measurements in relief efforts, urban infrastructure restoration, disaster relief goods allocation and management, mental relief, and recovery plan establishment. SNAP plan also designs the main actors and supporters to coordinate for each strategy.

Table 4. Activities stated in Strategic National Action Plan (SNAP) in 2010 - 2019

Description	Actors/ Participants	
	Main Actor	Supporters
Establish the CBDRM as a baseline and to integration to all departments, division, and subordination organs	Department of Disaster Protection and Prevention (DDP)	Related organizations, departments, divisions, International Organizations
Establish CBDRM curriculum for training officers in all departments, division, and subordination organs	Department of Disaster Protection and Prevention	Province, Amphoe, Municipality, Public Administration Organization (PAO), Int'l organizations
Training CBDRM to disaster prone area	Public Administration Organization (PAO)	Department of Disaster Protection and Prevention, Province, Amphoe, Municipality, PAOs, Int'l organizations
Raise public awareness in disaster risk reduction issues	Department of Disaster Protection and Prevention	Related organizations, departments, divisions, Private Organizations, foundations
Raise common understanding in disaster risk reduction issues in young generation	Ministry of Education (MoE)	Department of Disaster Protection and Prevention, Related organizations, departments, divisions
Regular training program	Department of Disaster Protection and Prevention	Related organizations, departments, divisions, Private Organizations,
One Tambon One Search and Rescue (OTOS)	Department of Disaster Protection and Prevention, MoE	Province, Amphoe, PAOs, Civil Society, Private Organization
Establish local risk maps and evacuation map	Department of Disaster Protection and Prevention	Related organizations, departments, divisions, Private Organizations,
Launching ICS training programs	DDP, MoE , Thai Research Funds	DDP, Amphoe, NGOs
Disaster warning equipments installation in communities	Department of Disaster Protection and Prevention, Department of Local Administration, Water Resource Management	PAOs, Provinces, NGOs, Institutions, Religions, RAST
Establish local disaster early-warning network	Department of Disaster Protection and Prevention, Department of Local Administration, Department of Mineral Resources	Department of Provincial Administration, PAOs, Provinces, NGOs, Institutions, Religions, RAST
Publish operating manual for community leaders	Department of Disaster Protection and Prevention, Department of Local Administration	PAOs, Provinces, NGOs, Schools
Establishing criteria for assessment (Damage and demand assessment)	Department of Disaster Protection and Prevention	Department of Provincial Administration, PAOs, Civil society, Private organization

Source: Strategic National Action Plan, Ministry of Interior [15]

3.2 Disaster Management Policy by Department of Disaster Prevention and Protection [16]

According to disaster management policy which was established by Department of Disaster Management and Prevention in 2013, the seven principles are: (1) To apply the Incident Command System (ICS) as an operational framework, (2) To lower the number of traffic accidents under the governmental policy as national policy, (3) To prepare the suitable operation plan of disaster management in accordance to the ASEAN Economic Community

(AEC) policy in 2015, (4) To increase the idea of safety culture to young generation, (5) To increase the preparation in local level through by applying Community-Based Disaster Risk Management (CBDRM), (6) to increase capabilities and accuracies in disaster-related information and data, and (7) To increase the capabilities of volunteer to become ready to dispatch for disaster response. Under the umbrella of disaster management policy in the organizations, Incident Command System (ICS) is the core idea of disaster management, which underlines the importance in command to take response in any kinds of disaster events. Table 5 shows descriptions of disaster management policy established by Department of Disaster Management and Prevention. Three-of-seven policies are related to public participation perspective while the other four are related to management and operations for increasing the efficiency in disaster management activities, such as improving the accuracy of data and information, coordination to other organizations and academics in both international and domestic level, and to provide knowledge to young generations. Since the Department of Disaster Prevention and Mitigation is being the subordinate of the Ministry of Interior, the policies initiated by this department follow the disaster management policy framework and Strategic National Action Plan (SNAP)

Table 5. Description towards disaster management policy in Department of Disaster Management and Prevention

Descriptions	Applications
<i>To apply the Incident Command System (ICS) as a operational framework</i>	
<ul style="list-style-type: none"> The concept of disaster management which suitable to all-types of disasters, and all-level of response. ICS is the system that manage by central government and command, supervise, monitoring sub-ordinate organs (e.g., ICS in provincial level, Sub-district level and public authority organization level) Under the idea of ICS, decision maker came from Prime Minister 	<ul style="list-style-type: none"> Training projects to increase capabilities of emergency managers Collaboration projects in terms of academic through the study curriculums, (such as ASEAN, governments, private sectors, Public administration organization, foundations, and institutions) which propose to institutional and public society Monitoring the ICS pilot projects (e.g., Phuket) Establishing operation manual for all-level of governments, and all-types of disaster situations Establish ASEAN international conferences among ASEAN countries for improving ICS Publishing ICS manual and distribute to organizations
<i>To increase the preparation in local level through by applying Community-Based Disaster Risk Management (CBDRM)</i>	
<ul style="list-style-type: none"> According to the previous disaster events which caused large of damages in local level, there are some reason is there are ineffectively in disaster management in local level and unpreparedness of community members in all phase of disaster. Thus, encouraging local communities to take part of disaster management plan under their own communities are necessities to achieving towards the idea of Community-Based Disaster Risk Management (CBDRM) 	<ul style="list-style-type: none"> Community – Based Disaster Protection project Volunteer disaster training drill Community – Based Disaster Preparedness Center Projects
<i>To increase the capabilities volunteer activities to be ready to dispatch for response to disaster response</i>	
<ul style="list-style-type: none"> As the duty of DDP in accordance to Civil Protection Volunteers in 2010, and Disaster Relief act in 2007 which designated DDP to recruit volunteers to be ready to dispatched in disaster situations 	<p>Difficulties</p> <ul style="list-style-type: none"> The data of Civil Protection Volunteers did not update properly The welfare of CPV is not effective especially in budget support and wages The deficiency and tiredness of volunteers towards the long duration of response <p>Improvement</p> <ul style="list-style-type: none"> Integration in executive organizations in department of the Interior Integration in executive organizations in local level

Source: Department of Disaster Prevention and Protection [16]

4. Investigation toward Collaboration in Current Disaster Management Policy

4.1 Intergovernmental Relation in Current Disaster Management Policy

As usual, the inter-governmental relation is explained in terms of intergovernmental relations; there are two types of relations within governmental sectors: vertical relationship and horizontal relationship. Vertical relationship

is always found in terms of policy implementation, especially in terms of designation through various kinds of commands and control approaches, such as Incident Command System (ICS) or Single Command (SC) where the subordinate units will take action towards plan which is initiated by the supervising organ. Regarding to the policies initiated by the subordinate organs, those policies should not violate or be completely different from the policy framework (in this case, disaster management policy). However, this inter-relationship between supervision organs and subordinate organs is not always static; level of severity affects the level of decision-maker, but the subject is not changed in the subordinate organ. Thus, transition of decision-maker is considered as the "additional" aspect in inter-governmental relations, and it becomes more easily found in disaster management activity. The coordination effort and collaboration effort can be found in the subordinate organs which are considered as action units. The fundamental activities, such as training, information sharing or some disaster management activities stated in SNAP plans reveal the collaboration significantly. Collaboration among subordinate organs might happen in different subordinate organs where they belong to different supervising organs. However, the vertical relationship becomes important in emergency response situation, where the horizontal relationship (among subordinate organs) becomes important and underpinned to increase their capability, especially in non-disaster situation.

4.2 Government-community Collaboration in Disaster Management Policy

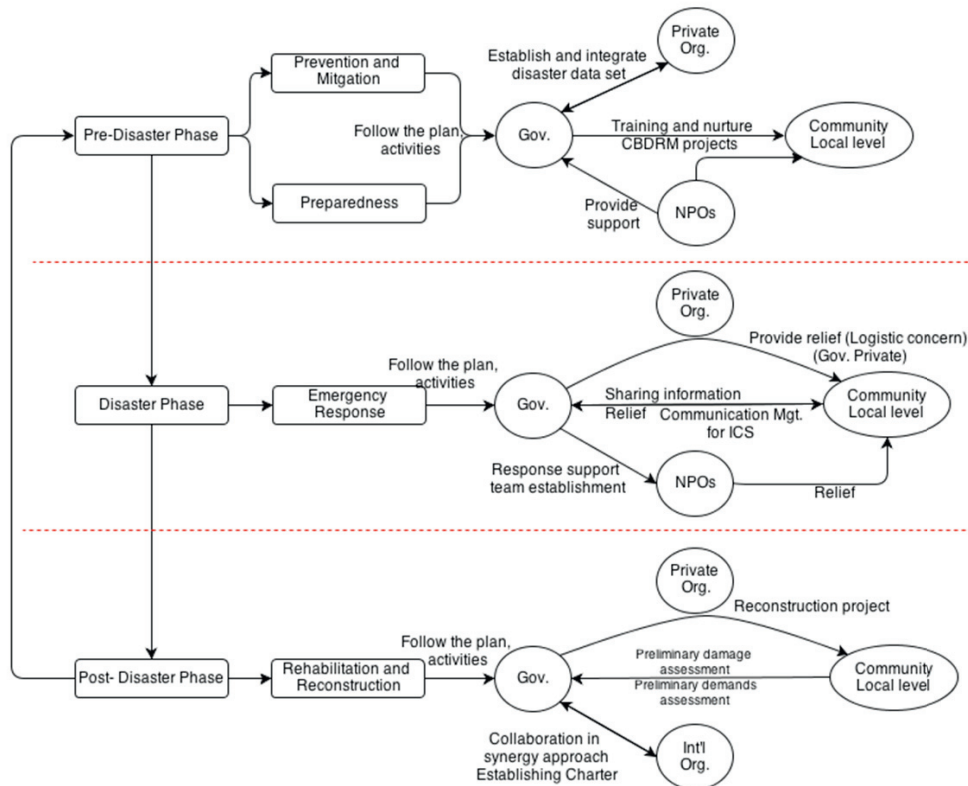


Fig. 1 Linkage between government and external organs in disaster collaboration under SNAP plan

Table 6. Investigation to the collaboration between government and community in disaster management policy in Thailand

Strategy	Activity	Role of communities, civil society	Compare to ladder of participation
Expanded Implementation of Community Based Disaster Risk Management (CBDRM)	Training CBDRM to disaster prone area	<i>Department of Disaster Prevention and Mitigation</i> – Nurture CBDRM training <i>Community</i> – Participation training	Informing (Gov – Com)
Public Awareness and Education for DRR	Raise public awareness in disaster risk reduction issues	Publish pamphlets, websites, News to stimulate public awareness	Informing (Gov – Com)
	Raise common understanding in disaster risk reduction issues in young generation	Provide study curriculum for increase awareness in young generation in school	Informing (Gov – Com)
Preparedness and Response Capacity Enhancement	One Tambon One Search and Rescue (OTOS)	Provide training curriculum for train local people to be ready for response in initial phase of disaster	Informing (Gov – Com)
Enhanced National Disaster Early Warning and Dissemination	Encourage the local wisdom for apply in risk communication	Encouraging the local radio team to participate in the sequent of disaster period. For support the implication of incident command system	Informing (Gov – Com) (Com – Gov)
Public Awareness	Disaster warning equipments installation in communities	Training community volunteers to monitoring hazards and inform to other community member	Informing (Com – Com)
Preliminary survey (Damage assessment and demand assessment)	Establishing criteria for assessment (Damage assessment)	Afflicted people assess damages in their community after disaster situation	Informing (Com – Gov)

Source: Strategic National Action Plan, Ministry of Interior [15]

5. Conclusion

The flood in 2011 can be considered as the unusual case because of the failure of management; it has been stated as a core failure in disaster management, especially in flooding. However, that situation stimulates the collaboration among various stakeholders, such as government, communities, non-governmental organizations, academics, and private organizations to find out how to reduce damages and losses caused by flood and consequent hazards. According to the Strategic National Action Plan (SNAP) the collaboration has been established, both inter – governmental relation and government – community collaboration. In case of inter – governmental relation, collaboration in disaster management policy has been described in administration aspects, vertical relationship (e.g., Incident Command System ICS, Single Control, SC). However, the shape of the relationship within governmental sector depends on the level of severity of disaster; decision maker will change since limitation of ability of executive organization has been reached, implying that if local government (e.g., municipality) can control their own resources and if it can do, supervision will not intervene the local government disaster management activity, especially in response situation. This relationship reveals the sense of decentralization approach, meaning that supervision organ will be intended to intervene in case of necessary issues according to law of subsidiary. In case of government – community collaboration, even their relationship and collaboration, those activities in this disaster management policy (SNAP) plan are communication-related issues, and tend to be passive. To be precised, the relationship between government and community has been established in disaster management policy, such as information sharing activities, linkage data and information, preliminary disaster damage evaluation, and participation on training. Despite various kinds of collaborations between community and government, they has been spotted by empirical study in emergency response; thus, those kinds of participation can be considered as "temporary collaboration" or "unexpected collaboration". Moreover, the government – communities' collaboration under the SNAP plan is not significantly found after disaster. Most of activities that both government and community relate

together are based on disaster management policy which tend "to inform" another organs rather than to apply as a two-way communication. Although these plans stated the intention to establish Community Based Disaster Risk Management (CBDRM) Programs, it is still questioned on how community shall increase their level of participation since the main actors belong to governmental side, and have measurements (e.g., standards or curriculum) which possibly being manipulated. Nevertheless, although the intention of Community-Based Disaster Risk Reduction is stated in the disaster management policy, these policies did not obviously reveal the sense of public participation.

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