



Government Coordination in Flood Management in Serang Regency Banten Province Indonesia

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Abstract

This study aims to determine and analyze government coordination in flood management, determine and analyze the supporting and inhibiting factors of government coordination in flood management, and determine and analyze efforts to overcome the inhibiting factors of government coordination in flood management in Serang Regency, Banten Province. This study uses the coordination theory proposed by George R. Terry in Erliana Hasan and Eva Eviany (2014) as an analytic tool, which contains seven sub-themes consisting of communication, awareness of the importance of coordination, competence of participants and governance calendar, agreement and commitment, establishment of the agreement by the coordinating parties, incentives of coordination, and feedback. The research method in this study was descriptive qualitative with an inductive approach. Techniques to collect data included interviews, observation, and documentation. The informants in this research were the Regional Secretary of Serang Regency, the Head of BPBD of Serang Regency, Division Heads in BPBD of Serang Regency, the Head of DPUPR of Serang Regency, the Head of Environmental Service of Serang Regency, the Head of Settlements Service of Serang Regency, and leading figures. Techniques to analyze data include data reduction, data presentation, and conclusion drawing. The results of this study indicated that the coordination by the Regional Disaster Management Agency (BPBD) of Serang Regency with related agencies has still fallen short of the coordination theory by George R. Terry in Erliana Hasan and Eva Eviany. Supporting and inhibiting factors in the coordination process might come from internal and external to the BPBD of Serang Regency. Efforts made to overcome inhibiting factors can include improving coordination with each other in managing disasters, especially floods, for more effective coordination with related regional government agencies in flood management.

Subject Areas

Government

Keywords

Government Coordination, Disaster, Regional Government, Indonesia

1. Introduction

Law No. 23 of 2014 on Local Government states that in administration of governmental affairs by local government and regional house of people's representatives is according to principle of autonomy and supporting duty by principle of autonomy extensively within the system and principle of Unitary State of the Republic of Indonesia as explained in 1945 Constitution [1].

Natural disasters have always been a major threat to every country, including Indonesia. Earthquakes, volcanic eruptions, tsunamis, landslides, and floods are common in Indonesia. The threat that keeps people worried during the rainy season is flooding. Flooding can be defined as the state of an area being submerged by large amounts of water. It is possible to predict the occurrence of floods by paying attention to the intensity of rain and water flow. Floods, however, can come at any time due to stormy winds and other things. Factors that cause flooding include high rainfall, low-lying lands below sea level, areas located in depressions surrounded by hills with little water absorption, constructed buildings along rivers, and trash that prevent the river from flowing smoothly.

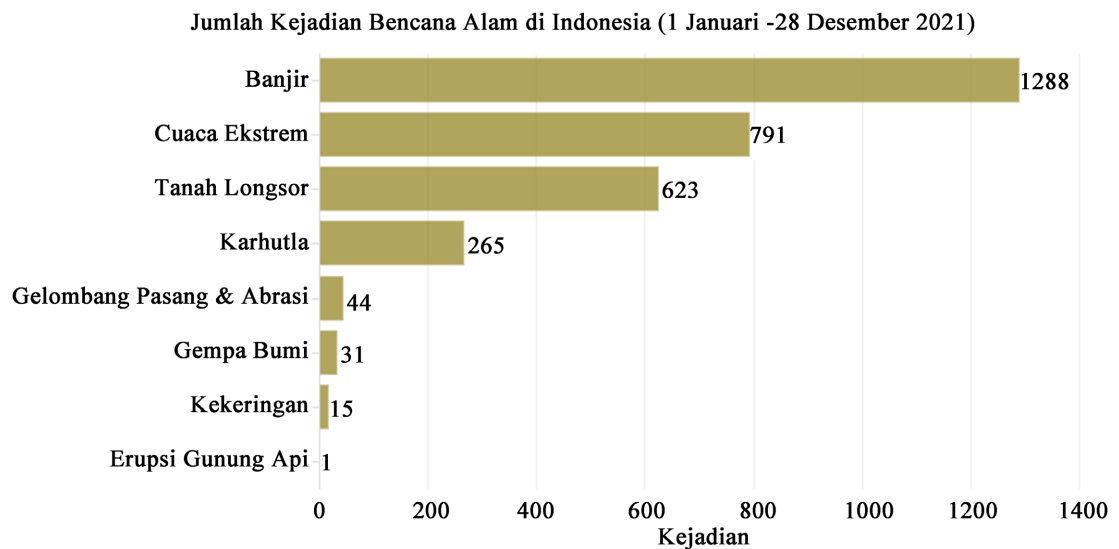
Flooding is an event that makes the news every year. During the rainy season, floods hit many cities in Indonesia. The government has put a lot of effort into making canals, building dams, and reforesting forests, but none of them have been able to solve the problem. In fact, it seems to be only getting worse and worse, in terms of its extent, depth, and duration.

Flooding in Indonesia keeps on occurring every year, affecting many regions. According to the Indonesian National Disaster Management Agency (*Badan Nasional Penanggulangan Bencana* or BNPB), in 2021, there were 7574 cases of flooding in Indonesia from 2011 to 2020. These cases had a frequent level of intensity over the past 10 years. In 2021, Indonesia recorded as many as 1298 flood events. Major floods hit many provinces in Indonesia, including Aceh, Central Java, West Java, South Sulawesi, East Java, and South Kalimantan. **Figure 1** shows the number of natural disasters that occurred in Indonesia from January 1 to December 28, 2021:

Serang Regency is a region in Indonesia with an area of 1467.35 km² and one of the regencies of Banten Province. Serang Regency is at coordinates 5.50 to 6.21 degrees south latitude and 105 to 106.22 degrees east longitude with an altitude of 1778 meters above sea level, hence the tropical climate. So, the average temperature in Serang Regency each month is 26.03°C, ranging between the lowest of

23.1°C and the highest of 31.3°C, with an average rainfall of 1500 - 4000 MM/year with the biggest rain in January and December [2].

Serang Regency is an area in Indonesia with high flood risk. The threat of flooding has made residents in Serang Regency concerned. According to data provided by Statistics Indonesia (BPS) regarding flood events in Serang Regency, floods are a fairly frequent disaster. As seen from **Table 1**, in 2022, 71 flood events hit Serang Regency, and as many as 6561 residents were displaced:



Source: BNPB, 2021.

Figure 1. Number of natural disaster events in Indonesia.

Table 1. Number of disaster events in Serang Regency.

Month	Disaster				Casualty				
	Flood	Land Movement	Extreme Weather	Drought	Died	Missing	Injured	Affected	Displaced
Jan	9	0	6	0	0	0	0	1	403
Feb	26	5	19	0	0	2	0	4	1772
Mar	1	1	2	0	0	0	0	0	4
Apr	6	2	8	0	0	0	1	1	733
May	0	0	5	0	0	1	0	1	1
Jun	0	0	3	0	0	3	1	0	1
Jul	0	0	3	0	0	0	0	1	4
Aug	5	0	3	0	0	1	0	1	0
Sep	10	1	3	0	0	3	0	3	1852
Oct	0	0	5	0	0	1	0	2	0
Nov	1	1	13	0	0	0	0	4	4
Dec	13	3	8	0	0	1	0	2	1787
TOTAL	71	13	78	0	0	12	2	20	6561

Source: BPS, 2022.

Floods in Serang Regency are a common occurrence every year, and some of the causes are the narrowing of the Cibanten River, making it unable to hold water discharge from the Sindang Heula reservoir; the inadequate capacity of the river, eventually letting the overflow hit the settlements and rice fields; the limited number of lakes and dams; and high rainfall. Floods usually occur in December-February when there is high rainfall every year. One of the major floods that hit Serang Regency was in 2022 [3]. It was recorded to reach a height of more than 5 meters, severely damaging many houses and completely disrupting everything due to the overflow of the Cibanten River and the blockage of the drainage system caused by littering. The flood in Serang Regency at that time forced many people to evacuate. Shown in **Table 2** below is the total number of flood evacuees based on data provided by the Regional Disaster Management Agency (BPBD) of Serang Regency, with 3778 houses submerged, 3021 families and 10,108 people affected, and 6 deaths.

Table 2. Data on casualties of the 2022 Serang Regency floods event.

NO	CASUALTIES OF THE 2022 SERANG REGENCY FLOODS EVENT			
	DISTRICT	SUBMERGED HOUSE	FAMILIES	PEOPLE
1.	Padarincang	525	698	2019
2.	Gunungsari	4	7	32
3.	Ciomas	1096	117	425
4.	Waringin Kurung	48	60	240
5.	Kramatwatu	397	377	1100
6.	Kragilan	50	50	183
7.	Cinangka	170	170	684
8.	Ciruas	608	659	2425
9.	Baros	20	18	54
10.	Lebak Wangi	15	20	80
11.	Pontang	845	845	2866
12.	Mancak	-	-	-
13.	Pamarayan	-	-	-
14.	Cikeusal	-	-	-
15.	Pabuaran	-	-	-
	Total	3778	3021	10,108

Source: BPBD of Serang Regency, processed by the author, 2022.

Data in **Table 2** above leaves many tasks to be completed, one of which is collecting data on houses damaged by flooding. The reason is that the data released by the Serang Regency Government, in this case, the BPBD of Serang Regency, does not match the actual number since many houses are not included in the data

released later, and the relevant regional agencies such as the Public Works and Spatial Planning Service (*Dinas Pekerjaan Umum dan Penataan Ruang*, or DPUPR) of Serang Regency and the Environmental Service also released data that does not match the actual number [4]. This is a common problem in many regions in Indonesia, including Serang Regency, Banten Province, as illustrated in **Table 3** below:

Table 3. Locations and conditions of drainage systems in Serang Regency.

No.	Location	Condition
1	Jl. Jendral Sudirman (Hotel Le Dian)	<ul style="list-style-type: none"> • Presence of sediment • A lot of trash
2	Jl. Warung Pojok	<ul style="list-style-type: none"> • A lot of trash and sediment in the channels
3	Jl. Ahmad Yani (near the Regent's Office)	<ul style="list-style-type: none"> • The capacity of channels and culverts is smaller than the flood discharge that occurs
4	Bundaran Ciceri Indah	<ul style="list-style-type: none"> • The capacity of channels and culverts is smaller than the flood discharge that occurs
5	Perumahan Bumi Serang Timur	<ul style="list-style-type: none"> • The channels are covered with sediment, as well as trash and grass
6	Jl. Saleh Baimin	<ul style="list-style-type: none"> • The capacity of channels and culverts is smaller than the flood discharge that occurs • A lot of trash in the channels
7	Jl. Arip Usman	<ul style="list-style-type: none"> • A lot of grass • A lot of trash in the channels, especially in the culverts
8	Komplek Perumahan Cimuncang	<ul style="list-style-type: none"> • A lot of trash in the channels
9	Al Ittihad Mosque	<ul style="list-style-type: none"> • A lot of trash downstream • The channels downstream are still natural

Source: DPUPR of Serang Regency, 2022.

Table 3 above illustrates the locations and condition of drainage systems in Serang Regency which may cause flooding, especially during the rainy season, and may also adversely affect the environment and public health. To address this issue, all stakeholders, both the Serang Regency government and the community itself, need to work together. The community can contribute by littering, reducing the use of disposable plastic products, and processing organic waste at home. In addition, the community can also make a report if anyone is littering or if any drainage channels are blocked due to trash. Hopefully, with everyone's support and coordination, the problem of littering and blocked drainage in Serang Regency, Banten Province can be minimized.

Illegal buildings along rivers can be a factor contributing to flooding. Their presence can prevent the water from flowing freely along the river. During heavy rain or high rainfall situations, the water flow will be stronger and can overflow

the surrounding area. With illegal buildings obstructing the water flow, the likelihood of flooding increases. DPUPR found 42 spots of spatial planning violations on riverbanks across Serang Regency. Those 42 spots have caused flooding in Serang Regency. Spatial violations are still dominated by settlements, with 30 percent done by developers and 70 percent by residents, including constructions on river banks. Many residents complain that many illegal buildings along the banks of the Cibanten River lead to Batukuwung. Even though it should have been designated as a riparian zone, semi-permanent buildings were built there. The waterways of the Cibanten River are obstructed due to the construction of shophouses and others, causing the diameter of the culverts to become smaller and resulting in blockages wherever there are tree branches and trash. Given the high activity at the location combined with the presence of a local market, there is a high potential for flooding to occur on the Palka highway. To address this problem, the Serang Regency Government and the community must work hand-in-hand to control the construction of illegal buildings along the river banks. The government can also take legal action against illegal construction and impose regulations governing construction along rivers. In addition, people must also avoid constructing illegal buildings around rivers and help keep the surrounding environment clean to avoid flooding [5].

The funding managed by the BPBD of Serang Regency in 2022 was 3,315,810,120.00 IDR with a realized budget of 3,126,243,389.00 IDR (94.28% of the total budget of the BPBD in Serang Regency), with details shown in the following **Table 4**:

Table 4. Data on budget of BPBD in Serang Regency in 2022.

NO	DESCRIPTION	AMOUNT		MORE OR LESS	
		ALLOCATED	REALIZED	IDR	%
1.	Disaster Management Program	1,218,255,221	1,083,241,700	135,013,521	8.92
	Regency/City Disaster-Prone Information Services:	207,982,221	204,356,700	3,625,521	8.26
2.	Preparation of Regency/City Disaster Risk Assessment	85,660,000	84,788,000	872,000	8.98
	Promotion, Communication, Information, and Education (CIE) of Disaster-Prone Regencies/Cities (per disaster type)	122,322,221	119,568,700	2,753,521	7.75
	Disaster Prevention and Preparedness Services:	379,181,000	320,033,000	59,148,000	4.40
3.	Regional Capacity Building for Prevention and Preparedness	78,175,000	61,065,000	17,110,000	8.11
	Regency/City Post-Disaster Management	31,842,000	23,782,000	8,060,000	4.69
	Capacity Building of Regency/City Disaster Quick Response Team (TRC)	217,993,000	208,071,000	9,922,000	5.45
	Rescue and Evacuation Services for Disaster Victims:	631,092,000	558,852,000	72,240,000	8.55
	Regency/City Disaster Emergency Rapid Response	320,450,000	319,500,000	950,000	9.70
4.	Search, Rescue, and Evacuation of Regency/City Disaster Victims	203,568,000	136,842,000	66,726,000	7.22
	Logistics Procurement for Rescue and Evacuation of Regency/City Disaster Victims	107,074,000	102,510,000	4,564,000	5.74

Source: BPDB of Serang Regency, 2022.

Table 4 above illustrates the 2022 budget realization report in BPBD of Serang Regency, with the following details: the Disaster Management Program with a budget of 1,218,255,221.00 IDR (88.92%), Disaster-Prone Information Services with 207,982,221.00 IDR (98.26%), Disaster Prevention and Preparedness Services with 379,181,000.00 IDR (84.40%), and Rescue and Evacuation Services for Disaster Victims with 631,092,000.00 (88.55%).

In reality, however, the Serang Regency Government is still expecting housing assistance for flood victims in Serang Regency. The government has submitted proposals for the repair of a number of houses damaged by flooding but is currently still on the fence about when the assistance will be distributed. According to data obtained by BPBD Serang Regency, 229 houses were damaged by flooding, but the government will only provide assistance to 40 houses. The houses in the riverbank area that were washed away, however, are not eligible for assistance as they are illegal and do not have land ownership certificates. It is not yet known what the future holds for them. Therefore, coordination between regional government agencies such as the Public Housing and Settlements Service of Serang Regency is supposed to be able to synchronize the activities to reduce losses due to flooding [4].

An aspect that also influences the performance of a regional government agency in its main duties and functions is the support from personnel resources. The BPBD of Serang Regency, however, has yet to meet the standard, with the BPDB of Serang Regency only consisting of 20 Quick Response Team (TRC) personnel who assist in disaster management in Serang Regency, as illustrated in **Table 5** as follows:

As seen in **Table 5**, the performance of the personnel of the BPBD of Serang Regency in preventing (mitigation) and managing floods is not optimal, considering the flood events that occurred in Serang. The disaster management carried out is merely regular assistance. In addition, it can be seen that the lack of management carried out by the BPBD of Serang Regency has resulted in a lack of coordination between the BPDB of Serang Regency and related agencies, so flood mitigation has yet to be implemented. Had flood management been well implemented, it would have shown a form of coordination between BPBD and other agencies in managing the floods.

Based on this, regarding the management of this year's flood disaster in Serang Regency this year, there are still many complaints from people affected by the flood. The disaster management is considered not optimal, such as the lack of equipment from the BPBD of Serang Regency, especially since the flood events in Serang Regency were quite severe, causing the BPBD of Serang Regency to request additional rubber boats for evacuation of people during floods. See the following **Table 6**.

BPBD of Serang Regency currently only has 1 rubber boat, 3 refugee tents, 6 family tents, 4 command post tents, 1 flood pump, 1 gen-set, and 11 lifebuoy units. Considering this, the equipment that the BPBD of Serang Regency owns

Table 5. Data on personnel of the BPBD of Serang Regency in 2022.

No.	Name	Position
1	Nana Sukmana Kusuma, SE., MM	Chief Executive
2	Drs. H. Jajang Kusmara, M.Pd	Secretary
3	H. Ade Ivan Munasyah, S.Kom, M.Si	Head of Emergency & Logistics Division
4	Hotman Siregar, S.STP, M.Si	Head of Prevention & Preparedness Division
5	Siti Komariah, SH, M.Si	Head of Rehabilitation & Reconstruction Division
6	Edi Junaedi	General Functional
7	Hasnaini, SE	Duty officer
8	Nabila Syahiddah	Operator of Planning SIMRAL
9	Neng Rakhmawati	Administration Operator
10	Rini Inayati	Operator of RABEG
11	Noviyanti	Operator of ATISISBADA
12	Mira Oktavia	Operator of SIPBARJAS
13	Tb. Budi Setiadi	Web Operator
14	M. Haeru Sahri. R	Quick Response Team (TRC)
15	Tb. Edwin Junior	Quick Response Team (TRC)
16	Tb. Furqon	Quick Response Team (TRC)
17	Syafrudin	Quick Response Team (TRC)
18	Nawawi	Quick Response Team (TRC)
19	Hasrowi	Quick Response Team (TRC)
20	Abdu Rajif	Quick Response Team (TRC)
21	Ahmad Kayani	Quick Response Team (TRC)
22	Ahnaf Raihan	Quick Response Team (TRC)
23	Sobirin	Quick Response Team (TRC)
24	Tata Mulhat	Quick Response Team (TRC)
25	Romli	Quick Response Team (TRC)
26	Jamhadi	Quick Response Team (TRC)
27	Ofi Sofyan	Quick Response Team (TRC)
28	Anjas Riyadi	Quick Response Team (TRC)
29	Abun Najib	Quick Response Team (TRC)
30	Supriatna	Quick Response Team (TRC)
31	Tb.Moch Fikram Jaelani	Quick Response Team (TRC)
32	Sajudin	Quick Response Team (TRC)

Continued

33	Ahmad Jajuli	Quick Response Team (TRC)
34	Nasrudin	Janitor
35	Peri Heryanto	Janitor
36	Sirrojudin	Security Officer
37	Dullah Mukti Holid	Security Officer
38	Kasmudin	Security Officer
39	Nozwar Leonardo Julian	Security Officer

Source: BPDB of Serang Regency, 2022.

Table 6. Facilities and infrastructures of the BPDB of Serang Regency.

No.	Equipment	Number	Condition
1	Boat engine	3	Proper for use
2	Gen-set	1	Proper for use
3	Refugee tent	3	Proper for use
4	Family tent	6	Proper for use
5	Command post tent	4	Proper for use
6	Flood pump	1	Proper for use
7	Lifebuoy	11	Proper for use

Source: <https://www.bantenraya.com/daerah/pr-1272834034/bpbd-kota-serang-minta-pe-rah- karet-ditambah>.

can be deemed inadequate and disproportionate to the flooding events that occurred, especially the number of rubber boats needed to evacuate flood victims.

Coordination is crucial in flood control and management. Based on research journals, such as Endah Mustika Ramdani's (2015) [6] study, *Koordinasi oleh BPBD dalam Penanggulangan Bencana Banjir di Kabupaten Bandung* (Coordination by BPBD in Flood Disaster Management in Bandung Regency), there was poor coordination in flood management in Bandung Regency between the BPBD and the related agencies, and it was still confined to internal institutional regulations. Furthermore, in a study by Oky Firmansyah *et al.* (2016) [7], *Koordinasi Penanggulangan Bencana Daerah, Studi Kasus Bencana Banjir di Kecamatan Rancaekek Kabupaten Bandung* (Coordination of Regional Disaster Management, Case Study of Flood Disasters in Rancaekek District, Bandung Regency), it showed that flood management in Rancaekek District, Bandung Regency, was still not optimal as it has not received attention from the BPBD and related agencies. Another study, *Koordinasi Penanggulangan Bencana Daerah di Kecamatan Kampar Kiri Hulu oleh Badan Penanggulangan Bencana Daerah dan Dinas Sosial Kabupaten Kampar* (Coordination of Flood Disaster Management in Kampar Kiri Hulu District by the Regional Disaster Management Agency and the Social Service

of Kampar Regency) by Edi Kurniawan *et al.* (2011), demonstrated that the coordination has not run well due to absence of cooperation program, the difficulty of holding meetings, and the lack of communication [8].

Likewise, in Iin Nurbaity's (2018) study called *Koordinasi Pemerintah Daerah Kabupaten Kepulauan Meranti dalam Penanggulangan Banjir di Desa Alahair Kecamatan Tebing Tinggi* (Coordination of the Meranti Islands Regency Government in Flood Management in Alahair Village, Tebing Tinggi District), the result showed that flood management was not properly realized due to disharmonious communication and the lack of budget [9]. Furthermore, based on the results of a study by Dera Izhar Hasanah *et al.* (2021) titled *Fungsi Koordinasi Pemerintah Kelurahan Andir dan Badan Penanggulangan Bencana Daerah terkait Penanganan Banjir di Kelurahan Andir Kecamatan Baleendah Kabupaten Bandung* (Coordination Function of the Andir Subdistrict Government and the Regional Disaster Management Agency regarding Flood Management in Andir Subdistrict, Baleendah District, Bandung Regency), the coordination function was poorly executed as there were sectoral egos between agencies, making it difficult to coordinate flood management [10].

Previous studies, however, focused on or were limited to discussions only on BPBD. The difference between the study that we will do and the previous ones lies in the theory, meaning that the theory used is different and naturally the locus is different as well. This study, therefore, is to bridge the research gap in analyzing the coordination in flood management by the Serang Regency Government.

Considering the current flood problem in Serang Regency, coordination in flood control and management is necessary. Law Number 24 of 2007 concerning Disaster Management states that in the event of a flood emergency, the Regional Disaster Management Agency (BPBD) of Serang Regency shall coordinate flood management. Based on the elaboration above and initial observations made by researchers, regarding Government Coordination in Flood Management in Serang Regency, Banten Province, several problems have caused a lack of coordination in flood management. Based on the searches by researchers on the internet, media, and communication, the problems are:

- 1) The public in Serang Regency still litter, resulting in blocked drainage systems;
- 2) The lack of facilities and infrastructure for managing flood disasters in Serang Regency, Banten Province;
- 3) The illegal buildings along the tributaries of the Cibanter River, Serang Regency [11];
- 4) The lack of personnel of the BPBD of Serang Regency in managing flood disasters.

Coordination is required in addressing the flood problem in Serang Regency as the process involves parties from across government organizations. This coordination aims to synchronize and integrate all ongoing programs. When implementation can be properly coordinated, all programs from any part can be in line and in alignment with common goals. In relation to government, it refers to government coordination, an arrangement for work-related activities between government

officials, both at the central and regional level, and government agencies that have interconnected duties and responsibilities, with this arrangement aiming at preventing overlapping actions in work order.

The fact in government administration is that the coordination issue has been the dominant factor in the government's failure to carry out its duties and functions. Based on the elaborated problem identification above regarding the flood problem in Serang Regency, there must be synchronized and aligned coordination in flood control. This research will look at the coordination carried out by the Serang Regency government in addressing the flood issue.

2. Framework

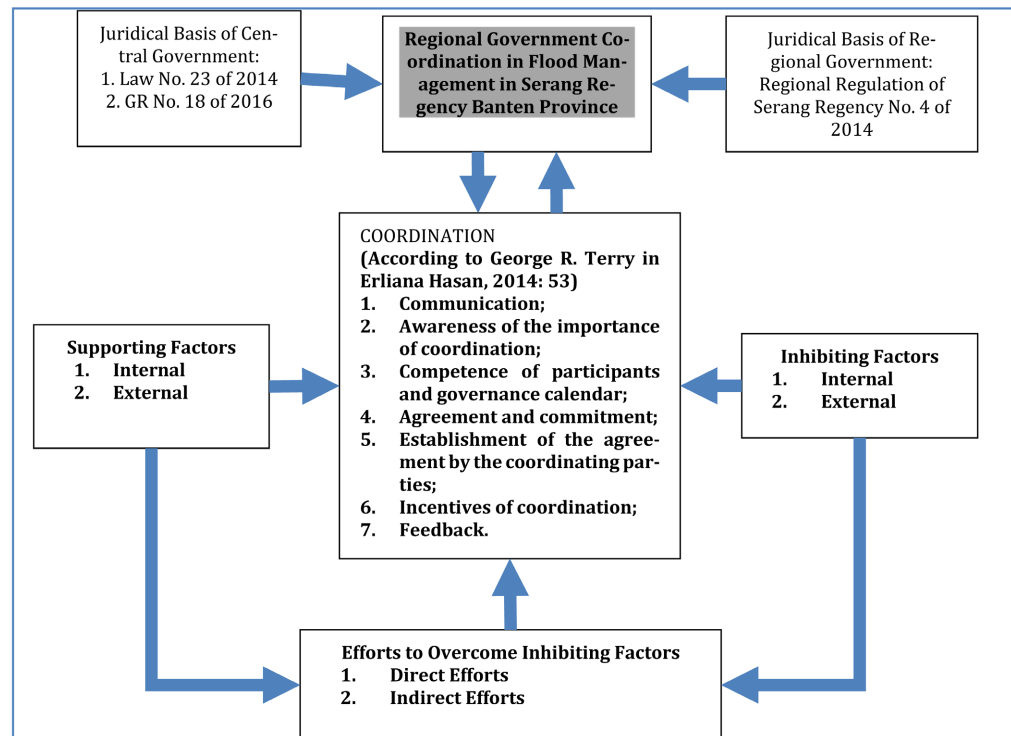
The focus of the study is Government Coordination in Flood Management in Serang Regency, Banten Province, using the juridical basis of the central government, namely Law Number 23 of 2014 and Government Regulation (GR) of the Republic of Indonesia Number 18 of 2016, and juridical basis of the regional government, namely Regional Regulation of Serang Regency Number 4 of 2014. In this study, the concept that we use is coordination theory from George R. Terry in Erliana Hasan and Eva Eviany (2014: p. 53) [12], which specifies 7 dimensions of coordination:

- 1) Communication;
- 2) Awareness of the importance of coordination;
- 3) Competence of participants and governance calendar;
- 4) Agreement and commitment;
- 5) Establishment of the agreement by the coordinating parties;
- 6) Incentives of coordination;
- 7) Feedback [12].

This study uses descriptive qualitative research methodology with an inductive approach and data sources from selected informants related to the coordination in flood management as well as auxiliary informants who may appear during the research. To collect data, we conducted interviews, observations, and documentation at the Regional Disaster Management Agency (BPBD) of Serang Regency. After the data was collected, we analyzed it by simplifying and presenting it to then draw conclusions from it and, hopefully, be able to find an answer to the existing problems of government coordination in flood management in Serang Regency, Banten Province. The details regarding the scope of the study to do are in **Figure 2** below.

3. Working Hypothesis

According to Fernandes Simangunsong (2017: p. 174) [13], a working hypothesis is the researcher's basic assumption regarding a problem being studied. With the hypothesis as a guide, it is then proven empirically by testing it using data obtained during research. The working hypothesis in this study is government coordination in flood management in Serang Regency, Banten Province. The working hypothesis



Description:

 = Research Focus

Figure 2. Framework.

in this research is “government coordination in overcoming floods in Serang Regency, Banten Province can be implemented if through 7 (seven) aspects of coordination, namely communication, awareness of the importance of coordination, competency of participants and government calendar, agreement and commitment, determination of agreement by parties coordinating, coordination incentives, and feedback (Coordination Theory from George R. Terry in Erliana Hasan’s study (2014: p. 53)) [12].

4. Methodology

Data collection techniques of qualitative research on public administration are basically the same as that of social research. According to Fernandes Simangunsong (2017: p. 215) [13], in qualitative research on public administration, data is collected using interviews, observation, documentation, and focus group discussions, and is improved by triangulation. To collect data in this study, researchers used interviews, a process of direct communication carried out by researchers to informants in a question-and-answer session. Fernandes Simangunsong (2017: p. 215) [13] argues that an interview is a process of communication or interaction to collect information by means of questions and answers between researchers and informants or research subjects. In qualitative research on public administration, there are several steps required to prepare for an interview:

Table 7. The scope of research.

TITLE 1	THEME 2	SUBTHEME 3	SUB-SUBTHEME 4
Regional Government Coordination in Flood Management in Serang Regency Banten Province	1. Government Coordination in Flood Management in Serang Regency Banten Province (According to George R. Terry in Erliana Hasan and Eva Eviany's study, 2014: p. 53) [12]	1.1. Communication	1.1.1. Whether there is communication or not
		1.2. Awareness of the importance of coordination	1.2.1. How knowledgeable the implementers are about the importance of coordination
			1.2.2. Implementation of built-in coordination in each job-desc
		1.3. Competence of participants and governance calendar	1.3.1. Availability of competent officials
			1.3.2. How compliant officials are with attendance
		1.4. Agreement and commitment	1.4.1. Availability of agenda towards agreement and commitment
			1.4.2. Availability of formal agenda
		1.5. Establishment of the agreement by the coordinating parties	1.5.1. Whether an agreement is established or not
			1.5.2. Whether programs are implemented or not
		1.6. Incentives of coordination	16.1. Availability of incentives for the implementers of the agreement
			1.6.2. Availability of sanctions for violators of coordination
		1.7. Feedback.	1.7.1. Any feedback from the objects and subjects of coordination
			1.7.2. Any changes to the results of the agreement
	2. Inhibiting factors of government coordination in flood management in Serang Regency Banten Province	2.1. Supporting Factors	2.1.1. Internal supporting factors
			2.1.2. External supporting factors
		2.2. Inhibiting Factors	2.2.1. Internal inhibiting factors
			2.2.2. External inhibiting factors
	3. Efforts to overcome inhibiting factors of government coordination in flood management in Serang Regency Banten Province	3.1. Direct Efforts	3.1.1. Internal direct efforts
			3.1.2. External direct efforts
		3.2. Indirect Efforts	3.2.1. Internal indirect efforts
			3.2.2. External indirect efforts

Source: Data processed by authors, 2020.

1) Prepare interview guidelines

2) Prepare tools for the interview

3) Schedule the time for the interview

To prepare interview guidelines, according to Fernandes Simangunsong (2017: p. 216) [13], refer to the following example of work order:

1) Identify research informants

2) Specify the research theme structure

- 3) Specify question items based on themes
- 4) Arrange classification of questions based on informants
- 5) Arrange interview results based on informants [13]

The research theme structure for this study is as follows

The 14 informants in this study are categorized into 2 (two):

A. Key informants, including:

- 1) Regional Secretary of Serang Regency as Informant 1
- 2) Head of the Bappeda of Serang Regency as Informant 2
- 3) Head of the Regional Disaster Management Agency (BPDB) of Serang Regency as Informant 3
- 4) Head of the Emergency and Logistics Division of BPBD of Serang Regency as Informant 4
- 5) Head of the Prevention and Preparedness Division of BPBD of Serang Regency as Informant 5
- 6) Head of the Rehabilitation and Reconstruction Division of BPBD of Serang Regency as Informant 6
- 7) Head of the Public Works and Spatial Planning Service of Serang Regency as Informant 7
- 8) Head of the Environmental Service of Serang Regency as Informant 8
- 9) Head of the Public Housing and Settlements Service of Serang Regency as Informant 9

B. Auxiliary informants, including 2 (two) village heads, consist of:

- 1) Community leader as Informant 10
- 2) Religious leader as Informant 11
- 3) Youth leader as Informant 12
- 4) Educational leader as Informant 13
- 5) Female figure as Informant 14

5. Result

Based on the results of research and discussion on government coordination in flood management in Serang Regency, Banten Province, we can draw the following conclusions:

1. Government Coordination in Flood Management in Serang Regency Banten Province

(1) Communication

1) Whether there is communication or not

There is communication between the BPDB of Serang Regency and related agencies. The authors agree that communication is essential in coordination. Leaders of related agencies or services have established good relationships with other agencies, ensuring quick response whenever a problem arises. BPDB of Serang Regency has created a disaster-related communication system with all related regional government agencies and has also built communication with the community.

(2) Awareness of the importance of coordination

1) How knowledgeable the implementers are about the importance of coordination

Leaders do have proper knowledge and skills related to the importance of coordination, judging from how the personnel work in line with their fields. In BDPD of Serang Regency, there is a *WhatsApp group* that contains information on BPBD and disaster management services to facilitate coordination between regional government agencies. Similarly, the internal problems of BPBD are resolved and things are progressing well thanks to its commitment and cooperation with related agencies in managing disasters, especially floods, in Serang Regency.

2) Implementation of built-in coordination in each job-desc

Coordination in each job-desc is considered to have gone well in the BPBD of Serang Regency. Flood management in each field was carried out since there has been a group to monitor the status of disasters and coordinate the management. Flood management has been centered at the Control Center for Disaster Management Operation (*Pusat Pengendalian Operasi Penanggulangan Bencana*, or Pusdalops for short) and an inter-agencies team has been formed to assist in supervising flood control.

(3) Competence of participants and governance calendar

1) Availability of competent officials

The flood management has involved competent officials as well as other institutions and regional government agencies. In coordinating, the government has involved different parties and facilitated the formulation of policies and the implementation of disaster management under the authority of the Serang Regency Government.

2) How compliant officials are with attendance

Each regional government agency that has the main duties and functions in flood management in Serang Regency, especially the BPBD, Bappeda, and the DPUPR has shown compliance with attendance.

(4) Agreement and commitment

1) Availability of agenda towards agreement and commitment

Meetings have been held to overcome flooding in Sreang Regency. However, the government usually would jump in directly to the site to provide first aid to flood victims. Communication was directly from the regional government through groups related to what is needed on the site for flood management. Scheduled meetings to reach agreement and commitment have been held but only at certain times. People have also been provided with training and outreach programs regarding education on flood disaster mitigation.

2) Availability of formal agenda

Formal meetings have been held to discuss and evaluate flood control in Serang Regency. Meetings have also been held informally by those who jump in directly to the flood sites. Some meetings have been also held incidentally on the site. In addition, coordination in flood control and management with related agencies has also been carried out.

(5) Establishment of the agreement by the coordinating parties

1) Whether an agreement is established or not

There has been an agreement established. The agreement could be in writing, in the form of minutes which would later be used as guidelines for related regional government agencies to deliver their main duties and functions and internally delegate tasks to their officials.

2) Whether programs are implemented or not

Implementation of programs is always after a decision is made, and it then should be evaluated. Such as a disaster prevention training is provided to the community of Serang Regency with high risk and then a coordination meeting on flood control is held. This is based on the results of meetings held together with related agencies to suggest problems and obstacles.

(6) Incentives of coordination

1) Availability of incentives for the implementers of the agreement

Incentives for the implementers of the agreement were available but with limited funding. The incentives were prepared by the BPBD but with a limited budget and would be distributed only in major disasters using the Emergency Fund (*Dana Siap Pakai* or DSP). Otherwise, there were no incentives. Moreover, since the Covid-19 pandemic, there are no longer incentives given to personnel on the site.

2) Availability of sanctions for violators of coordination

Almost all related parties have imposed sanctions on those who violate the coordination agreement made. Sanctions are imposed as punishment and warning for the underperforming personnel.

(7) Feedback

1) Any feedback from the objects and subjects of coordination

Related regional government agencies actively involved in flood control in Serang Regency received good responses and appreciation from the community for their satisfactory performance. While several obstacles remained in the implementation, things have been going relatively well so far.

2) Any changes to the results of the agreement

Changes to the results of the agreement through evaluation. The evaluation was carried out regarding disaster management in Serang Regency to serve as a reference other than data from the Data and Information Center (*Pusat Data dan Informasi*, or PUSDATIN for short), which is used as evaluation material to determine performance, including the situation on the site, and for anticipation.



2. Supporting and Inhibiting factors of government coordination in flood management in Serang Regency Banten Province

(1) Supporting Factors

1) Internal Supporting Factors

The internal supporting factors are that the personnel have been equipped with disaster mitigation training and are responsive to disaster management, the equipment owned by the BPBD of Serang Regency is sufficient, and the local government agencies have been proactive in responding to disasters and willing to directly join in monitoring disasters in Serang Regency.

2) External Supporting Factors

The participation and active contribution from each sector of interest following what has been mutually agreed upon within the context of flood disaster prevention and management in Serang Regency is indispensable as an external supporting factor.

(2) Inhibiting Factors

1) Internal Inhibiting Factors

The lack of facilities and infrastructures to support and assist the operational activities of each regional government agency for the acceleration of flood management in Serang Regency is still an internal inhibiting factor.

2) External Inhibiting Factors

In the implementation, there are still several inhibiting factors from each regional government agency, but corrective efforts are constantly underway to ensure the implementation of programs complies with the applicable SOPs.



3. Efforts to overcome inhibiting factors of government coordination in flood management in Serang Regency Banten Province

(1) Direct Efforts

1) Internal direct efforts

Efforts that the regional government agencies made to address those inhibiting factors were to find the right way and solution for a more targeted resolution.

2) External direct efforts

Evaluate data, list damages, and dispatch facilities and infrastructures for follow-up evacuation. Clean the rivers and plant trees, ensuring no more trash causes flooding.

(2) Indirect Efforts

1) Internal direct efforts

Indirect efforts that the regional government agencies made were to directly educate the community on unfamiliar **matters** by which they can gain new knowledge.

2) Indirect Efforts

The indirect efforts were for the regional agencies involved in flood management

to reach out to all communities and then listen to the parties participating in anticipating disasters, especially floods.

6. Recommendation

Based on the discussion above, several suggestions for the better implementation of coordination in flood management in Serang Regency Banten Province are as follows:

1. Government Coordination in Flood Management in Serang Regency Banten Province

(1) Communication

1) Whether there is communication or not

For ease of communication between the BPBD of Serang Regency and related regional government agencies, it is necessary to use a quickly accessible and effective application in flood management. The BPBD and regional government agencies in Serang Regency must also be responsive and have a one-way communication means for proper flood management.

(2) Awareness of the importance of coordination

1) How knowledgeable the implementers are about the importance of coordination

Putting aside sectoral egos would create coordination with optimum results. Personnel of the BPBD and related regional government agencies involved in flood control in Serang Regency must be responsive and quick to avoid delays in flood control.

2) Implementation of built-in coordination in each job-desc

Continuing good coordination in Serang Regency and improving well-built coordination with related agencies may prevent overlapping responsibilities and blame-shifting in the future.

(3) Competence of participants and governance calendar

1) Availability of competent officials

Various guidelines (regulations and standard operating procedures) in disaster management that all parties own and use should be regularly and continuously publicized to improve understanding and minimize each party's sectoral ego.

2) How compliant officials are with attendance

It is expected in the future for different parties to participate in any form so that flood control in Serang Regency can be a common concern for all the people in Serang Regency.

(4) Agreement and commitment

1) Availability of agenda towards agreement and commitment

Serang Regency Government, especially the BPBD, must constantly monitor any potential flood disaster to avoid the impression of them ignoring public safety should flooding happen. Also, the government should hold regular meetings. One of the advantages of these scheduled activities is that evaluation and corrective actions can be taken.

2) Availability of formal agenda

Meetings should be held consecutively and not just incidentally. From these meetings, it is expected to achieve appropriate solutions and correct action for flood management. In the agenda of the meetings, there should be an evaluation to be used as a reference for future consideration and improvement.

(5) Establishment of the agreement by the coordinating parties

1) Whether an agreement is established or not

Minutes as a record of established agreement should be archived by each agency involved so that in the event of similar problems, they can be used as a reference for future improvement and as a standard in flood management in Serang Regency.

2) Whether programs are implemented or not

Documentation and minutes of each program should be archived by each regional government agency involved so that in the event of similar matters, they can be used as a reference for future improvement.

(6) Incentives of coordination

1) Availability of incentives for the implementers of the agreement

The allocated budget for the BPBD should be increased to ensure that personnel on the site can receive incentives. The incentives should also apply to minor disasters instead of only major disasters.

2) Availability of sanctions for violators of coordination

It is expected that coordination should also be built between officers-in-charge and related parties to ensure that what has been agreed upon proceeds as it should.

(7) Feedback.

1) Any feedback from the objects and subjects of coordination

In the future, it is expected that regional government agencies and leaders can constantly improve and optimize the performance of their personnel resources according to their respective main duties and functions.

2) Any changes to the results of the agreement

There should be periodic and scheduled evaluations. Evaluation should also be improved for unimplemented programs. For example, in the event of a disaster emergency, evaluation could improve the performance of personnel so they can do better in the situation of flood control in Serang Regency.

2. Supporting and inhibiting factors of government coordination in flood management in Serang Regency Banten Province

(1) Supporting Factors

1) Internal Supporting Factors

Maintaining facilities and infrastructures at the BPBD of Serang Regency to stay in good condition, ready-to-use, and long-lasting can save the budget for the procurement of facilities and infrastructures. Regional government agencies must also keep working together to achieve the desired purpose of managing flood disasters in Serang Regency.

2) External Supporting Factors

It is expected that all parties of interest can maintain good communication and preserve the established relations for the progress and welfare of the people of

Serang Regency.

(2) Inhibiting Factors

1) Internal Inhibiting Factors

In the future, it is expected that regional government agencies can improve facilities and infrastructures to better support the implementation of programs for effective and efficient flood prevention and control.

2) External Inhibiting Factors

Each of the related regional government agencies is expected to be able to review the SOP of each program and activity to ensure the proper implementation and achieve the expected objectives.

3. Efforts to overcome inhibiting factors of government coordination in flood management in Serang Regency Banten Province

(1) Direct Efforts

1) Internal direct efforts

In the future, it is expected that related parties engaged in the structure within the context of coordination established by the regional government and the BPBD of Serang Regency can be responsive in receiving directions and instructions in order to effectively and efficiently achieve mutual expectations and common goals.

2) External direct efforts

An active role of regional government is needed to make policies on banning littering to the river and cutting down trees. Serang Regency government must regularly hold reforestation programs with the aim of reducing the intensity of flooding.

(2) Indirect Efforts

1) Internal direct efforts

Interested parties can continue providing understanding to the community, through campaigns, on the issue of flooding, which remains a problem for Serang Regency, and efforts are continuously being made to overcome it.

2) Indirect Efforts

Serang Regency Government, especially regional government agencies involved in flood management must coordinate with each other and discuss together to find solutions for flood-prone areas in Serang Regency.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] M. O. H. Affairs (2014) Law of the Republic of Indonesia Number 23 of 2014 on Regional Government.
- [2] (2022) Kota Serang. Wikipedia. https://id.wikipedia.org/wiki/Kota_Serang
- [3] Dany, F.W.W. (2022) Tiga Penyebab Banjir yang Sempat Melumpuhkan Serang. <https://www.kompas.id/baca/metro/2022/03/03/aliran-air-terhambat-penyempitan-sungai-cibanten>

- [4] Banten, K. (2022) Bantuan Rumah Rusak Akibat Banjir di Kota Serang Masih Menunggu Pemprov Banten.
<https://kabarbanten.pikiran-rakyat.com/seputar-banten/pr-594094110/bantuan-rumah-rusak-akibat-banjir-di-kota-serang-masih-menunggu-pemprov-banten>
- [5] Baldan, H. (2022) BPBD Kota Serang Minta Perahu Karet Ditambah.
<https://www.bantenraya.com/daerah/pr-1272834034/bpbd-kota-serang-minta-perahu-karet-ditambah>
- [6] Ramdani, E.M. (2015) Koordinasi Oleh Bpbd Dalam Penanggulangan Bencana Banjir Di Kabupaten Bandung. *Jurnal Ilmu Administrasi: Media Pengembangan Ilmu Dan Praktek Administrasi*, **12**, 383-406.
- [7] Firmansyah, O. (2016) Koordinasi Penanggulangan Bencana Daerah (Studi Kasus Bencana Banjir Di Kecamatan Rancaekek Kabupaten Bandung). *Jurnal Sosial dan Politik*, **21**, 3 p.
- [8] Kurniawan, E. and Erman, M. (2011) Coordination of Flood Disaster Management in Kampar Kiri Hulu District by the Regional Disaster Management Agency and the Social Service of Kampar Regency. (in Indonesian)
<https://repository.unri.ac.id/server/api/core/bitstreams/2e157dc6-a3df-4fd0-990c-c9a12932a35b/content>
- [9] Nurbaity, I. (2018) Coordination of the Meranti Islands Regency Government in Flood Management in Alahair Village, Tebing Tinggi District. *Journal of JOM Fisip*, **V**. (in Indonesian)
- [10] Hasanah, and Dera, I. (2021) Coordination Function of the Andir Subdistrict Government and the Regional Disaster Management Agency Regarding Flood Management in Andir Subdistrict, Baleendah District, Bandung Regency. *Journal of JISI POL of Public Administration*, **V**. (in Indonesian)
- [11] M. O. H. Affairs (2007) Law Number 24 of 2007 on Disaster Management.
- [12] Hasan, E. and Eviany, E. (2014) Communication in Government Coordination. IPDN.
- [13] Simangunsong, F. (2017) Governmental Studies Research Methodology. Alfabeta.