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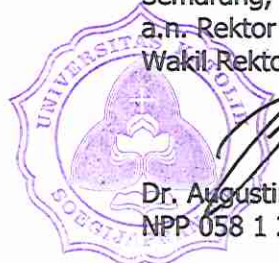
Rektor Universitas Katolik Soegijapranata dengan ini memberikan tugas kepada :

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- S t a t u s** : Dosen Unika Soegijapranata Semarang
- T u g a s** : Menjalankan penelitian pengambilan data sekunder tentang dana pemerintah yang terkait dengan kegagalan panen padi akibat cuaca ekstrim sebagai bagian dari penelitian bertajuk " *Climate Based Insurance* " pada SKPD terkait di Jawa Tengah.
- W a k t u** : 1 – 31 Agustus 2017
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Semarang, 26 Juli 2017

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# WEATHER INSURANCE POTENTIAL ANALYSIS

Expenditures Incurred  
in Dealing with  
Extreme Weather Events  
in Central Java

A Short Term Consultancy Report  
prepared for  
International Financial Corporation  
The World Bank Group

by

**Budi Widianarko,  
Probo Yulianto Nugrahedi,  
Berta Berti Retnawati**

**Faculty of Agricultural Technology  
UNIKA Soegijapranata**

Semarang  
March 2018

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# EXECUTIVE SUMMARY

The WBG Insurance team based in Indonesia is performing a feasibility study of parametric/ weather index-based insurance product/s that can be included as part of the Government of Indonesia, possibly also the Provincial Government(s) contingency plans against extreme weather events. Within the scope of Provincial Government of Central Java, this study aims to analyse the cost and/or expenditures incurred in dealing with the of extreme weather or disaster events, by incorporating the aspects of how (and to what extent) disasters impact the budgets of various government departments and what agencies responsible for addressing/ mitigating the impacts of disaster events within the Provincial Government of Central Java.

Data were collected and analysed by performing focus group discussions, interviews, and document analysis. Stakeholders involved in the FGDs and interviews are authoritative individuals from the relevant government agencies of Central Java Province, i.e. special staffs of the Central Java Governor, Food Security Agency (*Dinas Ketahanan Pangan*), Agriculture Agency (*Dinas Pertanian dan Perkebunan*), and Provincial Development Planning, Research and Development Board of Central Java (BAPPEDA, *Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah*). The results of FGDs and interviews were then calibrated by the existing formal data, both from the reports of relevant agencies as well as from the provincial annual statistics. For desk analysis, the documents were mostly from the Provincial Disaster Control Agency (BPBD, *Badan Penanggulangan Bencana Daerah*) as the main agency responsible for the management of any disaster events in the province.

The conclusions of this study are as follow:

- (a). The role of the Governor is central in making the declaration of a disaster event and its corresponding release of support fund. The Governor's decision on disaster is based on rapid assessment by the BPBD to identify the needs and appropriate action to cope with the disaster.
- (b). The budget appropriation involves government agencies at both province and district levels. For disasters impacting the agriculture and farmers, the agencies which might involve in resources deployments are Governor Office and all relevant agencies. If the disaster is of large magnitude the National Agency for Disaster Management (BNPB) can also provide support.
- (c). The funds for disaster response come from the already approved allocation in the Regional Budget of province or municipality/district (APBD). The disaster fund is distributed to relevant agncies, such as Governor Office, BPBD, Food Security Agency, Agriculture Agency, and so on. Additional supports from National Budget

- (APBN) are also available.
- (d). The disaster fund is centralized at and will flow from the BPBD (*Badan Penanggulangan Bencana Daerah*). In the event of disaster, BPBD has an authority to deploy the resources, including people, equipment, and logistics from any government agencies or units and community.
  - (e). Most disasters took place in Central Java during 2014 to 2017 have direct impacts on agriculture, destroying farms, plantation, forests, rice fields, and also dams and irrigation channels.
  - (f). The estimated economic losses due to disaster events in Central Java during 2014 to 2017 range from 48 billion IDR to 3.5 trillion IDR.
  - (g). The allocated budget for disaster responses is quite low. However, it has never been utilized fully, with spending rates only between 4.2% to 45.3%. The actual spending is far below the estimated economic loss of the disasters.
  - (h). There is no clear earmark on how much funds assigned for specific target. Specific beneficiary, namely farmers, can only be seen as clearly earmarked in specific support schemes, i.e. seeds support (from the national stock of rice) or crop insurance.



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- 4.5. Describing **how much budget/funds were allocated** for Post-Disaster Assistance following major EXTREME WEATHER RELATED DISASTERS (floods and droughts including El Nino and La Nina years like 1997-98, 2003, 2009, 2015)? How were the funds DISTRIBUTED to the various Ministry(ies)/ Department(s)/ Agency(ies)? 12
- 4.6. Describing **how much funds were earmarked** for families/ households including farmers, beneficiaries of various Social Safety Net Programs (e.g., Raskin/Rastra etc) 21



PROJECT TITLE

# Weather Insurance Potential Analysis: Expenditures Incurred in Dealing with Extreme Weather Events, in Central Java



# 1 THE ASSIGNMENT

The World Bank Group (WBG) is working to address the scarcity of affordable insurance protection against weather and natural disasters in developing countries and emerging markets, with the objective to promote the development of effective and sustainable markets for agri/indexed weather/catastrophic risk (CAT) insurance.

WBG supported projects and teams work with insurance companies, local financial institutions, agri-sector businesses/institutions, and regulatory bodies to build capacity for crop insurance/index-based insurance products and market development – with projects currently in Africa, South and East Asia Pacific and the Caribbean.

The mandate is to build and develop sustainable agri/index insurance markets in developing countries and emerging markets to meet the needs of low income segments and M/SMEs, which lack access to financial services. Project partners contribute significant public goods, help create new markets, develop new products in the insurance industry, strengthen sectoral capacity, and increase access to financial services for low income segments.

Since the ultimate goal is to create a sustainable and commercially attractive agri/index insurance industry, it is important to develop technically sound insurance products, effective distribution channels, strong local insurers, accessible regional and international risk transfer markets, and support a conducive regulatory/policy environment. The projects and technical assistance efforts therefore support innovative approaches to managing risks and challenges faced by the industry, as well as mechanisms to strengthen the capacity of insurance companies and relevant stakeholders, including government/public sector.

The WBG Insurance team based in Indonesia is working on an agriculture insurance project (a study) to explore the feasibility of parametric/weather index-based insurance product/s that can be included as part of the Government of Indonesia, possibly also the Provincial Government(s) contingency plans against extreme weather events (like El Niño or La Niña that have a significant impact on the various segments of the population and economy).

This report provides a detailed analysis of the cost and/or expenditures incurred (or contingent liability) in dealing with the extreme weather events– a) how (and to what extent) disasters/severe weather impact the budgets of various government agencies/units; and b) agencies/units/organizations responsible for addressing/mitigating the impacts of disaster risks/severe weather events within the Provincial Government of Central Java. The analysis include expenditures incurred by all relevant agencies/units (*Dinas/Badan*) under the Provincial Government; as well as Grants from Government of Indonesia. The analysis includes a trend analysis to ascertain and quantify the total spending of various agencies/units responsible for disaster event in Central Java Province.

This report contains (1) a brief explanation of the budget decision making processes and policies of the Provincial Government as it relates to disaster risk, and the roles/responsibilities of the various agencies/units; (2) an account on the annual budget plan and allocation of all related agencies/units to respond severe weather event/disaster – including to some extent the background of the allocation decision.

## 2 OBJECTIVES OF THE ASSIGNMENT



To conduct a detailed analysis of the *cost and/or expenditures incurred (or contingent liability) in dealing with the of extreme weather events*

- a. How (and to what extent) disasters/severe weather impact the budgets of various government departments.
- b. What agencies/units/organizations responsible for addressing/mitigating the impacts of disaster risks/severe weather events within the Provincial Government of Central Java.

# 3 DATA COLLECTION

Collection of data was performed by three (3) different methods, i.e. focus group discussions, interviews and document studies.

Three Focus Group Discussions (FGDs) were conducted involving of authoritative individuals from the relevant government agencies of Central Java Province.

- The first FGD involved special staff of the Central Java Governor focusing on the identification of relevant agencies and key persons of each agency who can assist the data collection.
- The second FGD was set up at the Food Security Agency (DKP, *Dinas Ketahanan Pangan*) Central Java participated by key persons from the agency who are knowledgeable and have been involved in disaster response policy and activity.
- The third FGD was set up at the Provincial Development Planning, Research and Development Board of Central Java (BAPPEDA, *Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah*), attended by key staffs of the agency who are knowledgeable and have been involved in disaster response policy and budget planning. The host of the meeting is the Chairperson of BAPPEDA who assigned one of his Division Heads (*Kepala Bidang*) to facilitate the FGD.

Each FGD was then followed up by performing interviews with the important resource persons of the group to explore and to gather more detailed data.

The results of FGDs and interviews were then calibrated by the existing formal data, both from the reports of relevant agencies as well as from the provincial annual statistics.

The documents studied were mostly from the Provincial Disaster Control Agency (BPBD, *Badan Penanggulangan Bencana Daerah*) as the main agency responsible for the management of any disaster events in the province. The provincial annual statistics were also used to complement and

refine the findings. A key person who has a crucial role in supplying the data and statistics is Mr. Nanang Dwi Saputro, SE. Social Welfare staff of the Provincial Development Planning, Research and Development Board of Central Java (BAPPEDA).

# 4 FINDINGS

## 4.1. Documenting the process of “declaration of a disaster event”, namely, **how does a disaster gets declared** as a disaster event requiring government support?

Depending on the scope and magnitude of the event, at the provincial level the Governor will declare an event as a disaster and otherwise at district level (*kabupaten/ kota*), *Bupati/ Walikota* will declare it provided that the event is considered localized in nature. The process of disaster declaration and the approval on the proposal of funds coming from the Governor Office in the form of Governor Aid as can be seen in Figure 1.

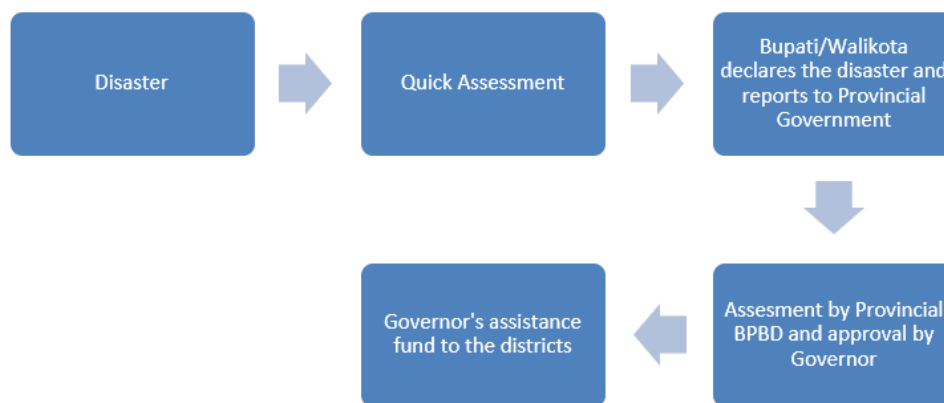


Figure 1. Flowchart of disaster event declaration and the release of fund

Upon disaster, a team under a coordination of the Regional Agency for Disaster Management (*Badan Penanggulangan Bencana Daerah/BPBD*) at the district level organizes a quick assessment. This assessment aims to identify the needs and appropriate action to cope with the disaster. Based on this assessment the Head of the District (*Bupati/Walikota*) declares the disaster event (*Surat Keputusan Darurat Bencana*). The disaster declaration and other documents on the impact of disaster are reported to the Governor as well as to the BPBD of the province. Governor commands the provincial BPBD to examine the report

and to conduct a need assessment. The results of the assessment will be approved by the Governor and followed by delivery of the funds of the Governor Aid.

Related to the agriculture, the Governor's Aid can support, among others, farmers who get total harvest failure; building temporary facilities and infrastructure at maximum 50% of the emergency budget proposed by the district government; when the drought disaster happened the support is given as clean water; and also rice for refugees and people living in the isolated area of disaster.

#### 4.2. Describing **how does budget appropriation** for disaster financing happen namely who are involved – Ministry(ies)/Department(s)/ Government Agencies?

The budget appropriation involves government organizations and agencies at both province and district levels. Regarding the impact of the disaster to agriculture and farmers in particular, these organizations can also be included to support; they are Governor Office, Agriculture Agency (*Dinas Pertanian dan Perkebunan*), Food Security Agency (*Dinas Ketahanan Pangan*), Social Affairs Agency (*Dinas Sosial*), Water Resource Management Agency (*Dinas Pengelolaan Sumber Daya Air*), and other related governmental organizations and agencies both at provincial and district levels. Depending on the severity and the needs, National Agency for Disaster Management (*Badan Nasional Penanggulangan Bencana/BNPB*) can also be involved to provide additional support.

#### 4.3. Identifying **what are the source** of funds once the appropriation budget/amount is decided namely does it come from reallocation of already approved budget to the various Ministries/Departments/Agencies or else are these “NEW FUNDS/ Additional Funds?”

The source of funds come from the already approved budget, namely province and district budget (*Anggaran Pendapatan dan Belanja Daerah/ APBD*). The budgets are allocated in each government organizations/departments and agencies. Hence, there are disaster management funds, for examples from the Governor Office, BPBD, Food Security Agency, Agriculture Agency, and so on.

- **From the Provincial Agriculture Agency  
(Dinas Pertanian dan Perkebunan)**

There are two schemes of support/assistance for the farmers impacted by disaster, in which loss of rice plants in the field (*sawah*) takes place, namely: crop insurance claim or seeds replacement by the national stock of seeds (*Cadangan Benih Nasional/CBN*). However, farmers are not entitled to utilize both schemes all together, instead they can only receive either CBN or crop insurance claim.

- (1) The CBN is given when there is a disaster or weather anomaly, such as drought, floods, or biologically due to plant diseases/organisms attack. The CBN is allocated from the national budget (APBN) and is not limited by fiscal term; it can therefore be utilized beyond the boundary of any fiscal year. The CBN covers rice, corn, and soybean; but, so far there has been only claims on rice since there were no two other commodity losses.

The procedure of CBN disbursement is started from the Agriculture Agency at district level assisted by an expert on plant protection from the Provincial Government examining the level of impact of the disaster to the rice paddy. The District Agriculture Agency then proposes the CBN accompanied with an information about the tentative lists of farmers and their locations (*Calon Petani Calon Lokasi/CPCL*). These lists must also be accompanied by a recommendation on total harvest failures (“*puso*”) from the so-called Controller of Organism Causing Plant Diseases (*Pengendali Organisme Pengganggu Tanaman/ POPT*). The Provincial Agriculture Agency will then verify the proposal and subsequently proposes it to the National Department (Ministry) of Agriculture. This process may take 7 to 10 days.

This CBN scheme is mainly aimed for recovery, not for replacement, meaning that when farmer already did self-financed replanting, then this scheme cannot be utilized. Actually, prior to 2015, the scheme can be used for replacement. The loss on fertilizers and labors cannot be included in the loss calculation because this scheme is meant for the seeds recovery only.

- (2) Starting from 2015, another scheme, namely crop insurance has been also in place. The claim of this crop insurance can only be given if the level of total harvest failure (*puso*) is higher 75%. The insurance is organized by the Directorate General for Facilities and Infrastructure of Agriculture, under the Ministry of Agriculture. The premium per hectare per planting season is IDR 180,000, whereas 80% of the premium is subsidized by the government.

For crop insurance, the total harvest failure (*puso*) of one hectare of rice paddy is worth for IDR 6,000,000 claim. Before 2017, the qualification of the insurance was focused on the endemic disaster, such as drought or floods. Since 2017, the qualification has been extended to include other causes of harvest failures. The insurance company is state-owned PT Jasindo. It also distributes supporting funds from the Directorate General for Facilities and Infrastructure of Agriculture at IDR 25 million per district, which are used for socialization up to sub-district (*kecamatan*) level. In Central Java province, there are 9 representatives of PT Jasindo and each covers 3-4 districts.

- **From the Food Security Agency (Dinas Ketahanan Pangan)**

The aid is based on the disaster impact on the transient food insecurity condition; hence, the support is not financial but *in natura*, i.e. rice. Upon disaster, the district proposes or alternatively, sometimes, the Provincial Food Security Agency asks the district to propose. The mechanism also includes the consideration from the BPBD (*Badan Penanggulangan Bencana Daerah*). However, the proposal does not have to be accompanied by the Declaration of Disaster Emergency (*SK Darurat Bencana*) of the district. The Provincial Food Security Agency will verify it and in maximum 10 days the rice aid will be disbursed. The rice was taken from the rice buffer stock managed by the provincial government.

The budget for this assistance is from the province annual budget (APBD). The allocated amount of this program is based on the result of food insecurity mapping of the former year, the targeted outcome and output set in the medium-term development plan and provincial government working plan (*Rencana Pembangunan Jangka Menengah Daerah/RPJMD* and *Rencana Kerja Pemerintah Daerah/RKPD*).

The budget is also allocated based on the results of the analysis of annual *Early Warning System (EWS)* or *Timely Warning and Intervention System (TWIS)* (*Sistem Isyarat Dini dan Intervensi (SIDI) - Sistem Kewaspadaan Pangan dan Gizi/SKPG*).

Additionally, in the event of a severe disaster, usually there is voluntary fund mobilization initiated by a certain group within the society, in the forms of money, food or other types donation.

#### 4.4. Describing **how does the fund flow happen** namely once the appropriation is agreed does it flow directly to the relevant Ministry(ies)/Department(s)/Agency(ies) or else does the money flow to a Centralized Department/Agency like Food Security or Agriculture?

The disaster fund is centralized at and will flow from the BPBD (*Badan Penanggulangan Bencana Daerah*). BPBD is an agency specifically assigned to deal with disasters take place at the provincial or district level. It is affiliated with BNPB (*Badan Nasional Penanggulangan Bencana*), but in terms of budgeting BPBD is organized independently by the Provincial Government. When there is a disaster, BPBD has an authority to enforce the resources, including people, equipments, and logistics from any government agencies or units and societies. All money (and other forms of the aids) will flow through BPBD, including the Governor Aids and fund form other governmental agencies. The BPBD itself also allocates the quick (emergency) funds in its budget to support the disaster relief efforts. If needed, social aid can be granted by national government to provide support for the post-disaster phase.

The funds for disaster management are allocated in the government budget for the three phases, namely prior to disaster (*pra bencana*), during disaster or quick response (*tanggap darurat*), and post disaster (rehabilitation and reconstruction). The post disaster funds can be granted by national government to the regional government upon approval of proposals.

4.5. Describing **how much budget/funds were allocated** for Post-Disaster Assistance following major EXTREME WEATHER RELATED DISASTERS (floods and droughts including El Nino and La Nina years like 1997-98, 2003, 2009, 2015)? How were the funds DISTRIBUTED to the various Ministry(ies)/ Department(s)/ Agency(ies)?

Total number of events considered as disaster in Central Java Province from 2014 to 2017 is depicted in Figure 2.

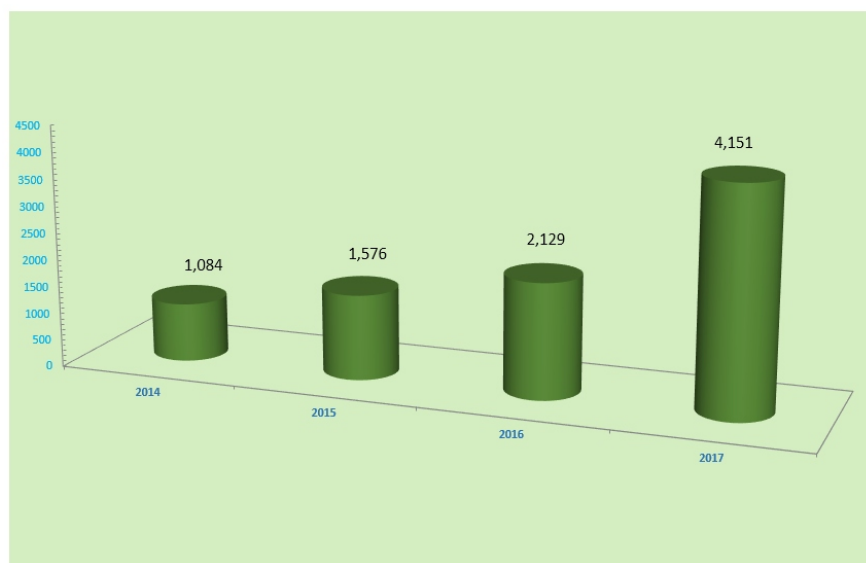


Figure 2. Total disaster events in Central Java (2014-2017)  
(Source: BPBD, 2017)

The events declared as disaster include hurricanes, floods, fires, landslides, ground movements, earthquakes, and volcanic eruptions. Figure 2 shows an increasing trend of disaster events, notably from 2016 to 2017 which shows 94% increase.

Most disasters have direct impacts on agriculture. Total numbers of each disaster type which have effect on agriculture are shown in Figure 3. From Figure 3 it can be seen that the most predominant type of disaster during the period of 2014-2017 was landslide, followed by fire, hurricane and flood.

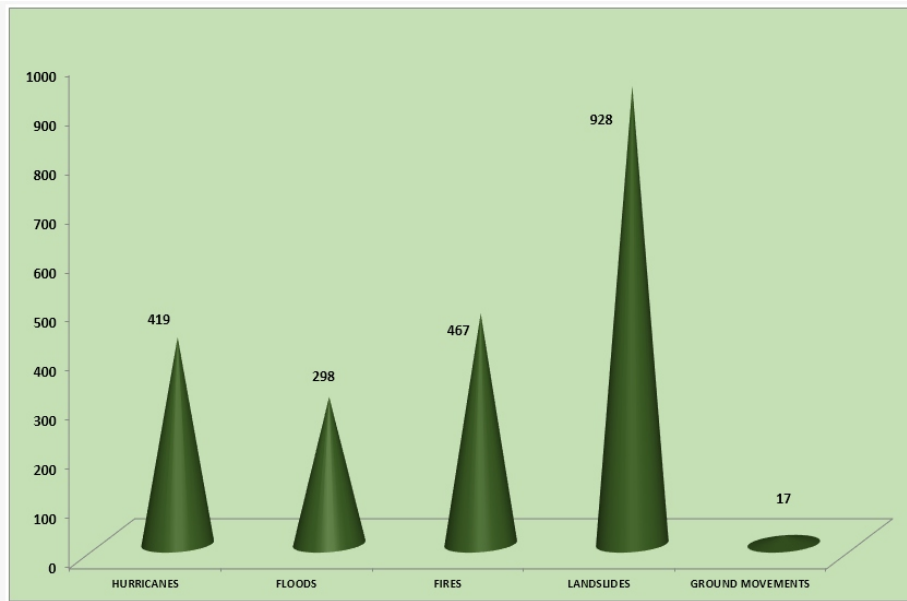


Figure 3. Total of disaster events based on type from 2014 to 2017  
(Source: BPBD, 2017)

The breakdown of disaster events per district/municipality from 2014 to 2017 is shown in Figure 4 below. Districts/municipalities experiencing the most disaster events, i.e. landslide, fire and flood, include Cilacap, Banyumas, Banjarnegara, Semarang, Wonosobo, Magelang Temanggung and Semarang.

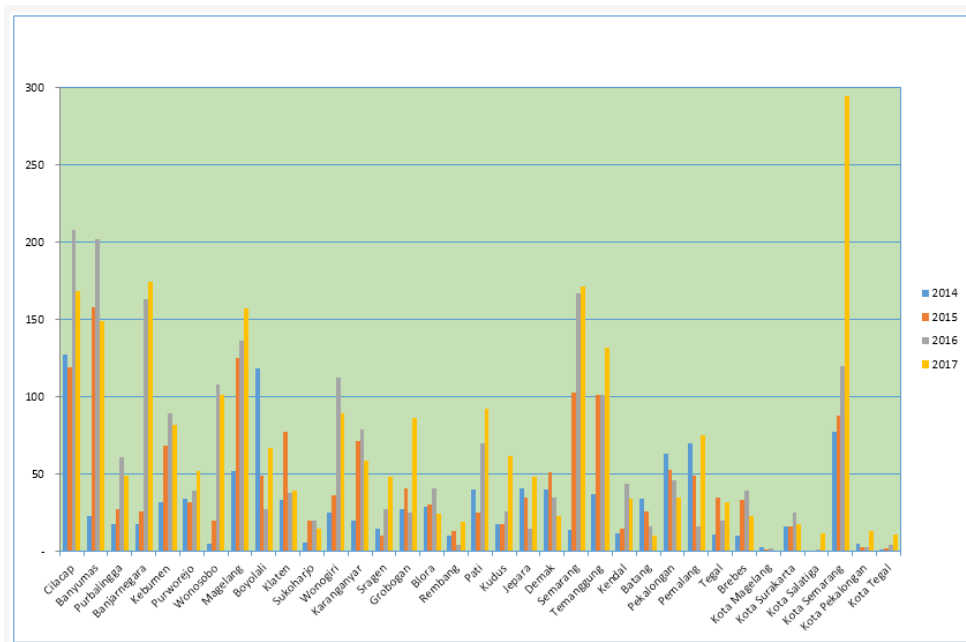


Figure 4. Total of disaster events in 35 districts/city in 2014 – 2017  
(Source: BPBD, 2017)

Figures 5 to 8 exhibit the total number of damage in agricultural sector caused by disaster event which includes farm, plantation, forests, rice fields, embankments and irrigation channels.

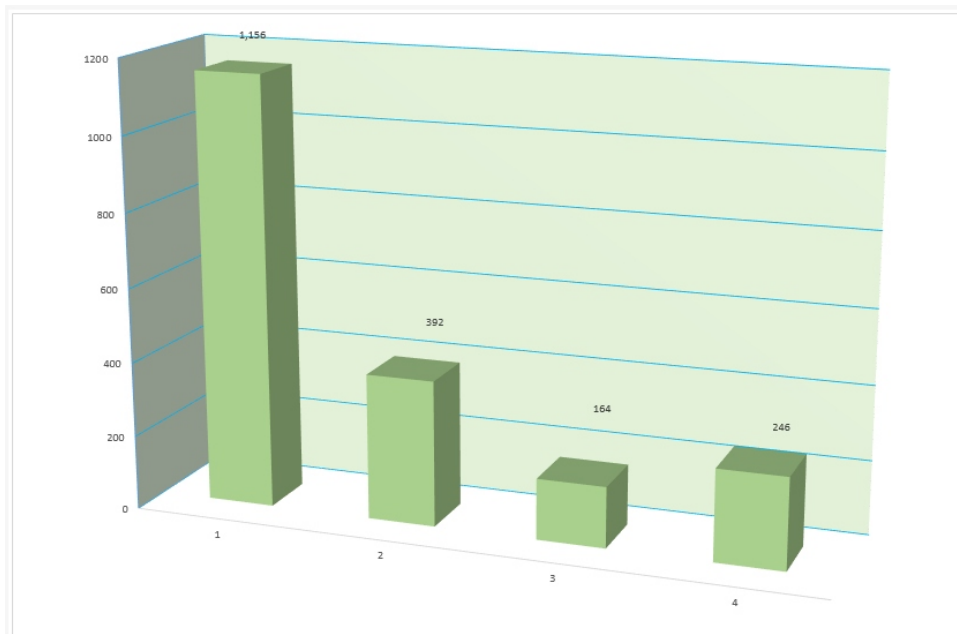


Figure 5. Total damage of farms, plantation and forests (in hectare) due to disaster events in Central Java 2014-2017 (Source: BPBD, 2014-2017)

The largest damage of farms, plantation and forests took place in 2014 covering a total area of 1,156 hectares, while 2016 experienced the least damage. Damages of rice fields due to disaster events in the period of 2014 to 2017 are depicted in Figure 6. The most severe damage, i.e. 113,570 hectares of rice fields, was documented in 2014.

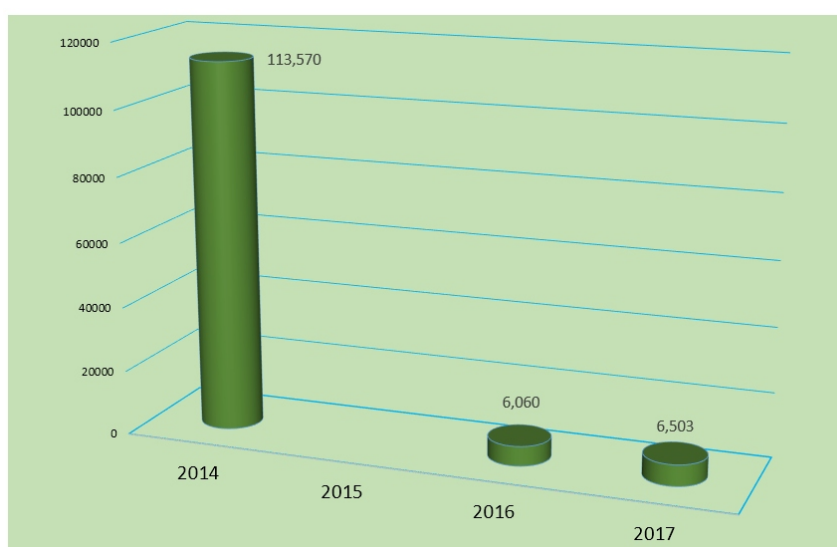


Figure 6. Total damage of rice fields (in hectare) due to disaster events in Central Java 2014-2017 (Source: BPBD, 2014-2017)

Figure 7 shows the total number of dams in Central Java damaged by disaster events from 2014 to 2017. The highest number of damaged dams was documented in 2016, reaching 145 dams. Those damages were mostly caused by landslides and floods.

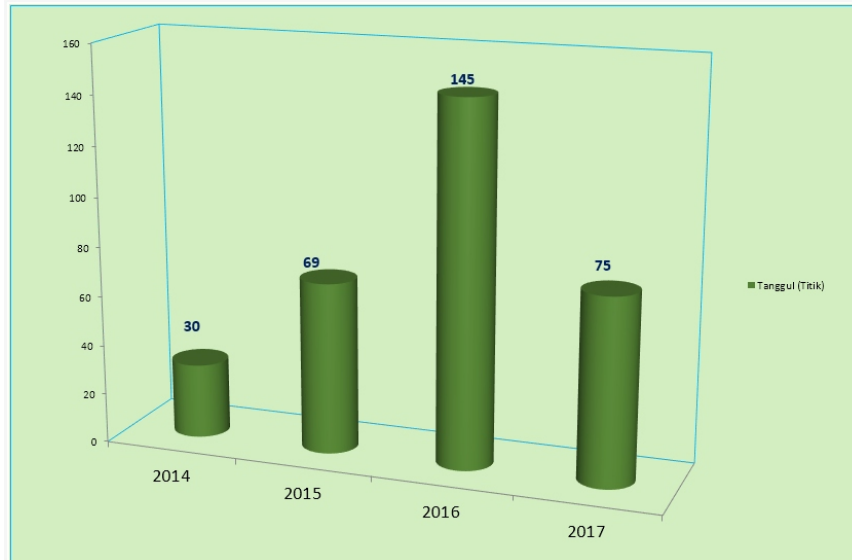


Figure 7. Total number of damaged dams due to disaster events in Central Java 2014-2017 (Source: BPBD, 2014-2017)

Figure 8 displays the total number of irrigation channels in Central Java damaged by disaster events from 2014 to 2017. The highest number of damaged irrigation channels was documented in 2014, reaching 190 cases. Those damages were mostly caused by landslides and floods.

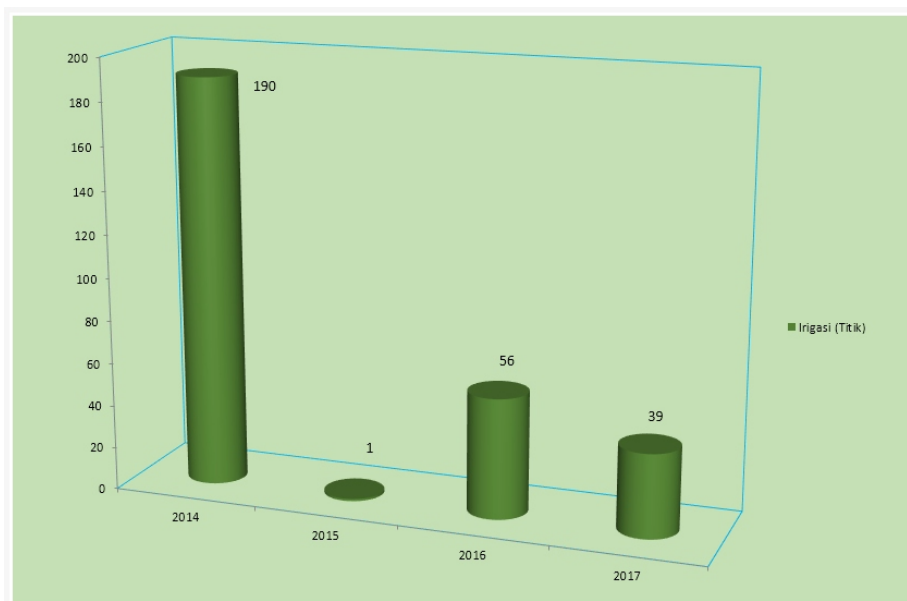


Figure 8. Total number of damaged irrigation channels due to disaster events in Central Java 2014-2017 (Source: BPBD, 2014-2017)

To deal with disasters, the Central Java provincial government has allocated a specific budget for various programs and activities. Programs and activities of disaster management in Central Java are distributed among a number of Regional Agencies (*Organisasi Perangkat Daerah* = OPD) in accordance with their respective duties and functions. The Regional Agency for Disaster Management (BPBD) of Central Java act as a coordinating institution in disaster management. The provincial government of Central Java has allocated specific fund for disaster management in its Regional Budget (*Anggaran Pendapatan dan Belanja Daerah* = APBD).

Table 2 lists the allocation for disaster response as a component of the Regional Budget of the Central Java Province.

This shows that from 2013 to 2017 the budget allocated for disaster management in Central Java has been practically constant at the level of 0.5% of the total regional budget. This allocation certainly is not enough to deal with large magnitude disaster, like the one in 2016.

Table 2. Disaster response allocation in the Regional Budget of Central Java Province from 2013 to 2017 (in IDR)

No	Budget Year	Allocation for Disaster Response	Regional Budget of Central Java Province	Percentage (%)
1	2013	69,932,087, 000	13,343,358,327, 000	0.52
2	2014	84,808,624, 000	15,159,741,864, 000	0.55
3	2015	96,803,315, 585	17,097,686,334, 000	0.56
4	2016	96,207,526, 000	21,155,201,299, 000	0.45
5	2017	134,234,802, 000	23,955,179,003, 000	0.56

Source: BPBD (2013-2017)

As mentioned earlier, Central Java's disaster relief fund is distributed among several agencies (OPD) including: Regional Disaster Management Agency (BPBD), Environmental Agency, Regional Coordinating Board (Bakorwil I, II, III), Food Security Agency, Agency for National Unity, Politics, and Community Protection (Kesbangpolinmas), Social Agency, Educational Agency, Health Agency, Energy and Mineral Resources Agency, Water Resources Management Agency, Human Settlement and Spatial Planning Agency, Public Works Agency, Agency for Agriculture, Animal Husbandry and Animal Service Agency, Forestry Agency, Financial Bureau and Social Bureau of Regional Secretariat. To illustrate the distribution of budget allocated for disaster management among agencies within the Central Java Government, Table 3 and Table 4 provides examples of two fiscal years, i.e. 2016 and 2017.

The economic loss due to disaster events took place in Central Java from 2014 to 2017 is depicted in Figure 9.

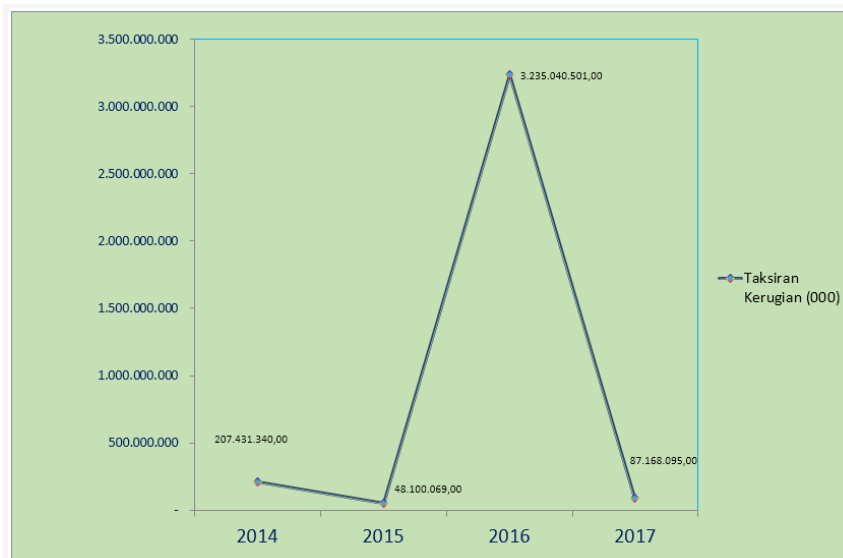


Figure 9. Total loss (in thousand IDR) due to disaster events in Central Java 2014-2017 (Source: BPBD, 2014-2017)

The overall economic losses due to disaster events in Central Java during the period of 2014 to 2017 show a very large variation. The highest loss was reported for 2016, amounted at approximately 3.5 trillion IDR, the main cause of this huge loss was a catastrophic flood. Table 9 provides a more detailed overview of the disasters and their corresponding estimated loss during 2015 to 2017.

Table 1. Total number of disaster events by type and estimated economic losses (in thousand IDR) in Central Java from 2015 to 2017

No	Type of Disaster	2015		2016		2017	
		Total	Loss (000 IDR)	Total	Loss (000 IDR)	Total	Loss (000 IDR)
1	Hurricane	308	3,440, 523	419	7,648, 565	490	8,016, 727
2	Flood	176	2,481, 860	298	1,914,023, 342	270	7,731, 340
3	Landslides	491	6,220, 084	927	185,627, 303	1,091	21,025, 867
4	Drought						
5	Fires	572	35,602, 002	468	1,127,741, 291	600	40,622, 373
6	Earth quake						
7	Volcano eruptions						
8	Others	27	4, 152			12	9,771, 788
		1,574	47,748, 621	2,112	3,235,040, 501	2,463	87,168, 095

Source: BPBD (2017)

Tabel 3. Distribution of allocated budget for disaster management among agencies of Central Java Province in 2016 (in thousand IDR)

<b>Agency</b>	<b>Allocation</b>
<b>Regional Disaster Management Agency (BPBD)</b>	10,472,393
<b>Environment al Agency</b>	2,141,059
<b>Regional Coordinating Board (Bakorwil) I</b>	675,000
<b>Regional Coordinating Board (Bakorwil) II</b>	540,500
<b>Regional Coordinating Board (Bakorwil) III</b>	413,566
<b>Food Security Agency</b>	1,482,000
<b><i>Kesbangpolinmas</i></b>	2,669,300
<b>Social Agency</b>	1,500,000
<b>Health Agency</b>	950,000
<b>Education Agency</b>	127,781
<b>Energy and Mineral Resources Agency</b>	10,387,546
<b>Water Resources Management Agency</b>	12,556,981
<b>Human Settlement and Spatial Planning Agency</b>	50,050
<b>Highways &amp; Public Works Agency</b>	746,655
<b>Agency for Agriculture</b>	1,750,000
<b>Animal Husbandry and Animal Service Agency</b>	1,347,250
<b>Forestry Agency</b>	1,470,000
<b>Financial Bureau of Regional Secretariat</b>	46,667,750
<b>Social Bureau of Regional Secretariat</b>	259,695

Source: BPBD (2016)

Tabel 4. Distribution of allocated budget for disaster management among agencies of Central Java Province in 2017 (in thousand IDR)

<b>Agency</b>	<b>Allocation</b>
<b>Regional Disaster Management Agency (BPBD)</b>	7,621,000
<b>Environment al &amp; Forestry Agency</b>	1,459,700
<b>Kesbangpolinmas</b>	825,200
<b>Social Agency</b>	1,200,000
<b>Health Agency</b>	3,251,946
<b>Education Agency</b>	440,524
<b>Energy and Mineral Resources Agency</b>	6,120,618
<b>Water Resources Management&amp; Spatial Planning Agency</b>	99,877,969
<b>Human Settlement Agency</b>	150,000
<b>Highways and Public Works Agency</b>	11,078,845
<b>Agriculture &amp; Horticulture Agency</b>	2,000,000
<b>Social Bureau of Regional Secretariat</b>	209,000

Source: BPBD (2017)

Notes: there are some changes in the number of agency as well as their names due to a restructurization of regional government took place in 2017.

In addition to the allocation in the regional budget of Central Java Province, there are two other funds available to deal with disaster responses, namely Governor's Aid (*Bantuan Gubernur*) and support from the National Budget (*Anggaran Pendapatan dan Belanja Negara = APBN*) channelled and managed by the BPBD (*Badan Penanggulangan Bencana Daerah*). Supports from the National Budget (APBN) include fund provided by Ministry of Home Affairs and National Agency for Disaster (BNPB). The later aims at institutional capacity building of municipal/district BPBDs, post-disaster rehabilitation and reconstruction, as well as ready-to-use fund for disaster reliefs.

The actual spendings of the Central Java Government for disaster reliefs from 2008 to 2017 are listed in Table 5.

Table 5. Total Fund Spent for Central Java's disaster response 2008-2017

YEAR	Regional Budget (APBD)	Governor's Aid	National Budget <sup>1</sup> (MHA)	National Budget <sup>2</sup> (BNPB)	TOTAL
2008	5,614,000	NA	NA	NA	5,614,000
2009	13,555,227	NA	300	NA	13,555,527
2010	14,355,018	11,154,000	3,000,000	4,753,096	33,262,114
2011	13,727,139	2,423,000	NA	21,594,485	37,744,624
2012	17,226,379	4,883,000	NA	8,946,085	31,055,464
2013	19,916,586	1,451,000	950	1,204,835	22,573,371
2014	26,882,737	5,973,500	1,170,000	4,384,097	38,410,334
2015	32,144,503	8,277,500	641,497	1,116,518	42,180,018
2016	24,586,973	2,710,000	481	466,148	27,763,602
2017	20,023,707	975,000	NA	9,600,000	30,598,707

(in thousand IDR)

Source: compiled from BPBD (2017) & other sources

Note: NA = not available, BNPB = *Badan Nasional Penganggulangan Bencana* (National Agency for Disaster Management), MHA = Ministry of Home Affairs

The annual spending on disaster reliefs from 2013 to 2017 as seen in Table 5 is much lower than the allocated budget (see Table 2), despite the fact that the budget allocation for disaster in Central Java is relatively low, i.e. only around 0.5 % of the Regional Budget (APBD).

Table 6. Comparison between allocated budget and actual spending on disaster response in Central Java Province from 2013 to 2017

No	Year	Actual Spending (IDR)	Allocated Budget (IDR)	Percentage (%)
1	2013	22,573,371,000	69,932,087,000	32.3
2	2014	38,410,334,000	84,808,624,000	45.3
3	2015	42,180,018,000	96,803,315,585	43.6
4	2016	27,763,602,000	96,207,526,000	28.9
5	2017	30,598,707,000	134,234,802,000	22.8

From 2013 to 2017 the allocated budget for disaster responses has never been utilized fully. In 2017, for example, only approximately 30 billion IDR spent out of 134 billion IDR allocated budget. These actual spendings are far below the estimated economic loss of the disasters – which has ever reached 3 billion IDR in 2016. The spending rate of the allocated budget for disaster response is only between 22.8% to 45.3%, as reported in 2017 and 2014 respectively.

#### 4.6. Describing how much funds were earmarked for families/ households including farmers, beneficiaries of various Social Safety Net Programs (e.g., Raskin/Rastra etc)

There is no clear earmark on how much funds for specific target. The classification of the funds covers the type of the disaster, the amount of victims, and the agencies/Units allocating the funds (as they are described in the number 5). Specific beneficiary, namely farmers, can only be seen clearly earmarked from the national stock of rice or agricultural insurance schemes provided by the Agricultural Agency.

# 5 CONCLUSIONS

There are eight conclusions which can be drawn from this analysis, i.e.

- (a). The role of the Governor is central in making the declaration of a disaster event and its corresponding release of support fund. The Governor's decision on disaster is based on rapid assessment by the BPBD to identify the needs and appropriate action to cope with the disaster.
- (b). The budget appropriation involves government agencies at both province and district levels. For disasters impacting the agriculture and farmers, the agencies which might involve in resources deployments are Governor Office and all relevant agencies. If the disaster is of large magnitude the National Agency for Disaster Management (BNPB) can also provide support.
- (c). The funds for disaster response come from the already approved allocation in the Regional Budget of province or municipality/district (APBD). The disaster fund is distributed to relevant agencies, such as Governor Office, BPBD, Food Security Agency, Agriculture Agency, and so on. Additional supports from National Budget (APBN) are also available.
- (d). The disaster fund is centralized at and will flow from the BPBD (*Badan Penanggulangan Bencana Daerah*). In the event of disaster, BPBD has an authority to deploy the resources, including people, equipment, and logistics from any government agencies or units and community.
- (e). Most disasters took place in Central Java during 2014 to 2017 have direct impacts on agriculture, destroying farms, plantation, forests, rice fields, and also dams and irrigation channels.
- (f). The estimated economic losses due to disaster events in Central Java during 2014 to 2017 range from 48 billion IDR to 3.5 trillion IDR.
- (g). The allocated budget for disaster responses is quite low. However, it has never been utilized fully, with spending rates only between 4.2% to 45.3%. The actual spending is far below the estimated economic loss of the disasters.
- (h). There is no clear earmark on how much funds assigned for specific target. Specific beneficiary, namely farmers, can only be seen as clearly earmarked in specific support schemes, i.e. seeds support (from the national stock of rice) or crop insurance.