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Creating Common Knowledge about the Causes of Tidal Flooding in Kendal Regency, Indonesia

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Abstract
The process by which "common knowledge" is created via chains of communicative activities is now well understood, especially due to the work of linguistic anthropologists. This paper draws upon this work to examine how "common knowledge" about the causes of tidal flooding in Kendal Regency is created in communiques' published on Kendal's municipal government website over a period of seven years. We argue that there are five particular processes at play in the creation of "common knowledge" about flooding in general and tidal flooding in particular as a "natural disaster" in this social domain. We end by pondering why dire predictions about the impact of future tidal flooding events on hundreds of thousands of Indonesians have not yet produced any sustainable solutions within different levels of the Indonesian government.

Keywords: common knowledge; Indonesia; Kendal; tidal flooding

Introduction

Indonesian civil service social mediascapes are littered with communiques reporting on the involvement of all sorts of government officials, politicians, and authoritive others in development projects of one kind or another. Table 1 has an excerpt from one of these. It was published on the province of Central Java's website at the end of January 2019. It was entitled *Ganjar tinjau korban banjir Pekalongan* "Ganjar [the then governor of Central Java] visits the victims of the Pekalongan floods." This communique clearly sets out some of the major causes of tidal flooding, which is a well-documented and reoccurring problem across the island of Java's northern coastline.

While his address imitates much of the robust scientific literature on the causes of tidal flooding in Indonesia (Marfai and King 2008; Bott 2020; van Bijsterveldt et al. 2023), these fundamental causes of land subsidence are rarely found in government communiques from municipal/regency governments located within the province of Central Java.

Table 1. The Governor of Central Java on the causes of tidal flooding

Menanggapi persoalan normalisasi sungai untuk penanganan rob,
When considering the problem of river normalization as a way of mitigating tidal flooding,
Ganjar menuturkan juga akan melakukan normalisasi kawasan di daerah terdampak rob.
Ganjar said that there will also be a normalization of the areas impacted by tidal flooding.
"Tidak hanya normalisasi sungai, normalisasi kawasan karena cuma"
It isn't only river normalization, normalization of the area [is needed] because [focusing] on
sungai tidak cukup. Karena ini ada rob nya, rob itu penanggulangan
rivers isn't enough. This is because it is tidal flooding, tidal flooding mitigation [requires]
tidak boleh mengambil air tanah, bangunan diatasnya dikurangi,
that [we] don't extract ground water, [we] reduce the buildings on top [of aquifers],
mangrovenya ditambah, jadi pemulihan kembali daya dukung lingkungan
mangroves need to be replenished, so reinvigorating efforts to support the environment,
makanya kita butuh bantuan masyarakat, sampah tidak boleh dibuang sembarangan,
thus, we need the peoples' help, rubbish shouldn't be thrown away willy-nilly,
kurangi plastik mulai sekarang," tutur Ganjar.
reduce plastic [use] starting now" said Ganjar.

In this paper, we examine how politicians, the Indonesian civil service, and the government communication apparatus that mediate messages about tidal flooding often recombine scientific causes with other causes. The result of this recombination is an emerging new form of common knowledge about tidal flooding that can reduce the prospect of sustainable solutions. Our data are communiques about tidal flooding published on the Kendal Regency municipal government (*pemerintah kabupaten* or *PEMKAB*) website between 2016 and 2023. We interpret these communiques through the lens of scholarship on register formation, which we discuss below. Next, we discuss what we already know about tidal flooding in Indonesia, followed by an introduction to Kendal and our methods for gathering and interpreting our data. In the following section, we explore how the messages in these communiques are recombined to lump tidal flooding into the category of flooding in general while also erroneously helping to categorize tidal flooding as a "natural disaster."

Ideology formation

Processes of ideology formation are now well understood within linguistic anthropology, and encompass scholarship on the natural histories of discourse (Silverstein and Urban 1996a), language ideology (Schieffelin, Woolard, and Kroskrity 1998; Kroskrity 2000), enregisterment (Silverstein 2003; Agha 2007a), and voice (Agha 2005; Weidman 2014a; Schäfers 2023). In this section, we synthesize the processes that contribute to the emergence of an ideology. We start by highlighting how the reuse of textual fragments from one communicative event to the next is recombined with new material to contribute to textual reformulations that become part of an emergent ideology. Within this recombination process, there are two other processes at play. The first relates to word

choices that help create a sense of truth, while the second relies upon relationships between the reporting of what others have said and how such reporting creates a sense of authenticity. We end by pointing out how together all of these processes enhance or limit the possibility of voice for a certain population.

Imitation

Ideologies or what is often referred to as "common knowledge" start their life within communicative events, whether writing, everyday talk, or social media posts (Bauman and Briggs 1990; Silverstein and Urban 1996b; Schieffelin, Woolard, and Kroskrity 1998; Kroskrity 2000; Agha 2007a). For an idea to get traction, that is to start to emerge as an ideology, it needs one or more of the following processes to occur and reoccur across time and space or "scale" (Wallerstein 2001; Blommaert 2015; Blommaert, Westinen, and Leppänen 2015). The idea needs to be imitated—that is replicated but not necessarily as a precise copy—in a subsequent communicative event (Lempert 2014). An example of this is an evaluation of the idea. If the evaluation is done by someone with some type of authority—such as a politician, government official, celebrity, or elder—then the chances of the idea being imitated elsewhere increase (Agha 2007a).

We can refer to this group of people more generally as experts who are relied upon for categorizing and defining phenomena (Agha 2007a, 124–132). So, if an expert in natural disaster prevention discursively categorizes a number of phenomena as natural disasters at one scale, then this category can become one that is deferred to or imitated in other communicative chains. This can be done via the creation of manuals, the reading of manuals by disaster prevention novices, conversations by lay persons about natural disasters, etc. (Agha 2007a, 124–132).

The chances of further imitation are also impacted by the channel of communication and the types of participation that it engenders (Agha 2007a). For example, television and radio broadcasts, lectures, and school lessons represent participation frameworks where one person is communicating with many via oral and/or oral/visual channels. In these situations, the opportunity to question or evaluate an idea is less than that afforded in a face-to-face conversation or email exchange. In short, the original idea can potentially gain a bigger audience than found in conversations between a couple of people and without peer review.

Subsequent imitation has many pathways from face-to-face conversations, school curriculum, training workshops, academic articles, comment functions (e.g., text, likes, shares, etc.), and so on. When these ideas receive uptake in state-sponsored bodies, such as education bodies and other government departments, this emergent ideology becomes a state-sanctioned one (Agha 2007a). An example being the representation of precipitation induced flooding as one category of disaster in the Indonesian Infomedia we discuss in our section entitled, "Tidal flooding in Indonesia."

The role of word choice in creating meaning and truth

The work of the linguistic anthropologists Hanks (1992) and Agha (2007a, 38–45) on how words gain meaning is key for our discussion of the first process too. In short, this relates to how the meaning of a word emerges through the presence of other words in

ongoing discursive activity and how the use of certain words can make a text appear like a fact or timeless truth (Agha 2007a, 38; Hanks 1992). This is achieved by lowering the degree of "deictic selectivity" of an utterance (Agha 2007a, 42–43), its degree of deictic anchoring to the time, place, and interpersonal circumstances of its occurrence.

In English, noun modifiers such as *any, every*, and *all* are deictically nonselective because they refer to every member of the class denoted by modified noun, but deictics like *this, that*, and *some* pick out specific members of a class, and are thus much more deictically selective. Accompanying deictic elements in verb configurations can also mark the ways in which utterances are decreasingly anchored to a specific time, place, and participant framework of utterance, and the composite effect is understood by interlocutors as a "timeless truth." Consider, for example, the following five sentences that are adapted from Agha (2007a, 42–43):

(a) Did the rivers flood?
(b) The river flooded.
(c) A river flooded.
(d) A river floods.
(e) Rivers flood.

Text (a) has a specific referent indicated by the determiner "the." Text (a) is also anchored to a specific time, through its discontinuous past tense interrogative—"Did …[x]… flood?" —which presupposes situated interaction with a specific interlocutor to whom a query about a particular set of rivers in a specific time and place is being posed.

As we move through the examples, some of the anchoring to person, place, and time starts to fall away. In text (b) we get a statement, which is still about a specific referent. Text (b) still potentially presupposes a situated conversation, although there is no longer an interrogative that erases any connotation of immediacy. In text (c), there is no longer a specific referent, it could have been any river and those involved in the conversation would not be able to see this referent at the time of this specific interaction. The disappearance of this anchoring is complete in text (e) where the use of a plural form and timeless present co-occur with each other to make this a statement about rivers in general, that does not provide any information about which river is at issue, when such flooding may have (or could, will, etc., occur) when, where, and among whom the statement is made, and so on. In short, the text in (e) represents an apparently "universal fact" or "timeless truth" (Agha 2007a, 43–44).

Representing others' talk to imply authenticity

Another area that has received sustained attention in the field of linguistic anthropology is the representation of what others have said as part of storytelling events (Tannen 1989; Ochs and Capps 2001; De Fina 2003; Bauman 2004; Georgakopoulou 2007). Studies of conversational narrative tell us that storytelling is a relationship-building practice, and more generally a form of sociality where participants try to understand themselves, others, and events in their lives (e.g., Ochs and Capps 2001; Georgakopoulou 2007). This work highlights the tensions between making a story

tellable and making a story believable (Ochs and Capps 2001). To make a story tellable requires the teller to secure an audience and/or co-tellers. In general, storytelling has moral dimensions and regularly involves some form of embellishment, often just enough to keep those involved interested, while keeping the story believable (Ochs and Capps 2001).

The moral dimensions of a story or story-like events typically relate to accounts of the appropriateness or inappropriateness of demeanors and actions of others and involve discourse that positions one or more persons as exemplars of some moral order and those talked about as socially deviant (e.g., Briggs 1996; Ochs and Capps 2001). Interviews have similar dimensions because they often contain multiple stories (De Fina and Perrino 2011). They can afford interviewees opportunities to position themselves as certain types of people to achieve certain goals, such as convincing a researcher about their prowess in a certain activity or their moral sensibilities in relation to other events or discourses (Modan and Shuman 2011; Slembrouck 2011; Wortham et al. 2011). This interactional work can be done through some sort of performance of the event that is reported in the story (e.g., Ochs and Capps 2001). These types of performances, often referred to as reported talk, constructed dialogue, and represented speech (Tannen 1995; Clift and Holt 2007; Agha 2007a), make a story more believable because they create a sense of authenticity to the event being reported by implying that the person reporting the talk was there as a witness (e.g., Silverstein 2005; Agha 2007b; Perrino 2011). Thus, the reported talk becomes constructed as "what was actually said."

Processes of ideology formation and the erasure of voice

Thus far, we have examined three processes that contribute towards the formation or "enregisterment" (Agha 2007a, 84–142) of an ideology, fact, or common knowledge. The emergence of one form of common knowledge can work against the creation of other forms of common knowledge and the possibilities that they engender. This has been demonstrated in scholarship focusing on voice (Blommaert 2008; Weidman 2014b; Schäfers 2023).

In a recent critique of popular understandings of voice, Schäfers (2023) highlights how understandings of rights to having a voice and what constitutes having a voice are rarely shared between those advocating voice for a minority and members of this minority themselves. Her work neatly aligns with work on ideology formation underscoring the importance of looking at voice as a historical dialogue involving all sorts of present and non-present participants rather than a simple question of agency or authorship. In doing so, she draws upon Bakhtin's (1981) work on dialogism highlighting how all voice is made up of fragments of voices from elsewhere that are themselves colored by political and economic tastes from whence they came. She also draws upon Goffman's (1981) delineation of participation frameworks into animator (the person conveying the message), author (the person who formulates the message), principle (the person or institution sponsoring or responsible for the message), and figure (the person or persons described in the message) to further illustrate just how theoretically and methodologically difficult it is to determine whether someone has agency.

In sum, we can say that Schäfers' (2023) work highlights the problem of variation in the sharedness of ideas around voice, the problem of equating voice with agency,

as well as how certain pathways to voice are "erased" (Irvine and Gal 2000) as part of any enregistered form of common knowledge. Thus, work on voice invites us to view voice as a historically constructed language ideology whose social value is only shared and interpretable by populations who have been part of the communicative processes discussed in the previous sections.

Tidal flooding in Indonesia

Sixty percent of Indonesia's 280 million inhabitants live in coastal areas (Warsilah 2021). In these areas, tidal flooding is a well-researched problem with estimates of those impacted ranging from four to twenty-three million (Joseph et al. 2013; Marfai, Bayu Sekaranom, and Ward 2015; Bott 2020; Nirmala 2020; World Bank Group 2021). The reason for the large variation in estimates is unclear at this stage but may relate to the uncertainties around land subsidence rates over time, different sea-level rise projections (Irawan et al. 2021), and projections about climate change induced extreme weather events (Irawan et al. 2021; Triyanti et al. 2021). Those impacted are some of Indonesia's most impoverished and vulnerable whose economic circumstances force them to live close to coastal waterways (Nurhidayah 2021; Utami et al. 2021). For these Indonesians, tidal flooding is a daily occurrence. Even so, the scale of this problem hasn't yet become part of national reporting on disasters. For example, Indonesia's national bureau of disaster prevention (*Badan Nasional Penanggulan Bencana* or *BNPB*) lists 1531 cases of flooding, and just 26 seawater incursion events in its 2022 Infomedia about natural disasters in Indonesia. This under-reporting continued in their 2023 and 2024 info graphics.[1] In other words, tidal flooding has yet to become "common knowledge" among those tasked with creating such reports. In this section, we synthesize what we know about tidal flooding and its effects on Indonesian lifeworlds while pointing to some as yet un-inundated areas of research on this topic.

Throughout the Indonesian archipelago, tidal flooding is caused by both climate induced sea-level rise and land subsidence (Bott 2020; Irawan et al. 2021; Nurlatifah, Martono, and Suhermat 2021). In places like the northern coastline of Java, subsidence is the main reason for settlements sinking by between 6 and 26 cm per year (Marfai and King 2008; Bott 2020; Ley 2021; Widiyaningtyas 2022). The main reason for this subsidence is the excessive extraction of ground water which reduces water pressure in artesian systems and reduces water in soil pores contributing to soil compaction (Marfai and King 2008, 99).

This extensive water extraction is undertaken by citizens (typically who don't have access to clean water), public water companies, and industry. There are other reasons for this subsidence, including the compacting of alluvial soils via building loads, such as the construction of roads and buildings (Marfai and King 2008; Bott 2020; Ley 2021); coastal erosion which itself is caused by the destruction of mangrove forests for ports, seawalls, land reclamation, and fish ponds (van Bijsterveldt et al. 2023); changed river pathways and depths due to upstream damming, sand mining, and

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[1]These images were still available on the 10th of February 2025 on the official government site: https://www.bnpb.go.id/infografis/.

deforestation (Suyarso and Diah Setiawati 2023); and (failed) technological solutions to tidal flooding since colonial times (Ley 2021).

Indonesian municipal governments are often reported as ineffective or contributing to the problem (Bott 2020; Ley 2021), and the lack of mention about tidal flooding in Infomedia suggests some sort of communication blockage. If we look at the group of participants consulted and the methods used in Bott's (2020) and Ley's (2021) studies, there is actually little evidence of the accuracy of claims about municipal governments. For example, participants were not municipal workers who dealt with daily reporting and record keeping, but rather locals impacted by daily tidal flooding, neighborhood heads, NGO workers, policymakers, and academic experts. In this paper, we thus want to start to get an understanding of how municipal governments communicate about tidal flooding focusing on the Kendal Regency municipal government (*pemerintah kabupaten* or *PEMKAB*) website communiques about flooding events.

Data collection and Kendal regency

Our data set consists of 86 short web-based communiques that were published by the Kendal regency level government (*PEMKAB*) between February 2016 and January 2023. We obtained these stories through the search function on PEMKAB's website with the keyword *banjir* "flood." From our initial reading of these stories, we found several themes and we coded the stories for these themes as well as whether those being represented were male or female, their age, their occupation, and their education credentials. In our second reading, we checked these themes coming up with the following themes: the role of locals in flood mitigation; the building and/or maintenance of flood mitigation infrastructure; jurisdiction and interjurisdictional cooperation; government officials seeking input from locals on infrastructure needs; victim blaming; extreme weather and disaster planning; and a tendency to represent locals as passive recipients of aid whose voice was only used to say thanks; and the framing of flooding as a natural event.

Our third reading focused on the last three themes and the texts that were imitated within these communiques, which we reported in Goebel and Dewi (in press). In our most recent re-reading of these communiques, we focused on the theme of natural disasters. We interpreted these texts as speakers of Indonesian and Javanese (one of Indonesia's regional languages). We have each been learning these languages for thirty or so years, with Goebel doing this initially as a student in Australia and then as a researcher of language use in Indonesia, and Dewi doing this as a citizen of Indonesia and researcher of language use in Indonesia.

Located in the province of Central Java, Kendal Regency is primarily an agricultural area with 26 percent of land being used for wet rice farming, another 20 percent for dry land farming, 8 percent for plantations, and 46 percent for other land use (Firdaus et al. 2019). We assume the latter would cover settlements, land used for aquaculture, and the recently established industrial estate, itself a potential pathway to future subsidence. Much of the literature on flooding in Kendal highlights precipitation-induced flooding (Firdaus et al. 2019) without even mentioning subsidence and tidal flooding, or if it does, this is often also linked to the waste disposal practices of locals (Widiyaningtyas 2022). This discursive construction of victims as responsible can also

be found in discourses about tidal flood mitigation interventions, such as *Kota Tanpa Kumuh* (*KOTAKU*) "A city without slums" (Widiyaningtyas 2022, 7250; Diskominfo Kendal/Heri 2022), and in Ley's (2021) work on tidal flooding in Semarang.

Representing voices in times of seawater inundation

According to a 2017 news broadcast (Satu 2017), tidal flooding has been occurring regularly in Kendal since 2007. Even so, the PEMKAB website only hosted one communique directly reporting on tidal flooding in 2018, one in 2021, and five further communiques in May 2022. In addition, flooding and tidal flooding were framed as examples of natural disasters (*bencana alam*) in twenty-seven communiques, while a further four communiques blamed extreme weather (*cuaca ekstrem*) or weather anomalies for flooding. Appendix 1 summarizes the communiques that had some of the elements required for the formation of common knowledge about flooding as a natural disaster.

In the rest of these communiques, just four linked flooding to human causes such as the construction of a toll road and global warming. In the remaining communiques "disaster" (*bencana*) was used to categorize flooding. While flooding was not framed as a natural disaster, it wasn't framed as one caused by humans either. In what follows we provide example analysis of five of the communiques from Appendix 1 by presenting an excerpt from these communiques accompanied by an English gloss. We follow this with our analysis of the text which demonstrates how forms of common knowledge emerge in one social domain. We can start our analysis by noting that all communiques have authority by way of their principle/sponsor being the Kendal local government.

The excerpt in Table 2 is the first communique that mentioned flooding and natural disasters. Excerpt 2 is taken from a communique published on the 17th of February 2016 and is entitled *Kendal punya Bupati baru* "Kendal has a new Regent." It reports on the swearing in of the new regent and vice-regent of Kendal after their direct election by those living in the regency. The communique represents the governor's speech which included an invitation for the Regent of Kendal, her vice-Regent and other regents and mayors to take action in a wide range of areas leading to the development of Central Java as a province. Like almost all the represented speech in the Kendal regency communiques that we examined, their speech is represented as spoken in Indonesian. Indonesian is represented in plain font and capitalization and quotation marks are in the original. Text in square brackets in the right column are meanings that emerge from prior text.

The excerpt in Table 2 is a clear example of an authoritive figure categorizing floods as natural disasters. In the first paragraph of the communique (not reproduced here), the governor's academic qualifications are mentioned, in this case his law degree (*SH, Sarjana Hukum*) which adds educational authority to his political authority. This authority and the authenticity and factualness of the report itself is bolstered through the representation of what the governor said through the use of *menurut Gubernur Jateng* "according to the Governor of Central Java" on line 2, where the governor is represented as the principle and author of this message. Just as importantly, this bit of language use directly ties an authoritative figure with his acts of categorizing floods as a natural phenomenon (line 5). The absence of descriptions of other types of floods

Table 2. The governor framing flooding as a natural disaster

1	… Bupati dan Wakil Bupati Kendal yang telah dilantik tersebut,
	… The Regent and vice-Regent of Kendal who have been sworn in,
2	menurut Gubernur Jateng Ganjar Pranowo yang juga ditujukan kepada para bupati
	according to the Governor of Central Java, Ganjar Pranowo, all Regents
3	dan walikota lain harus segera bekerja dengan cepat untuk membangun daerah
	and Mayors need to immediately and quickly develop [their respective] districts
4	dan menyelesaikan berbagai persoalan yang ada …
	and solve the many existing problems …
5	… Bencana alam antara lain banjir dan tanah longsor yang melanda Jawa Tengah,
	… Natural disasters among other things floods and landslides that impact Central Java
6	para Bupati dan Walikota diminta untuk tanggap bencana dengan tindakan yang cepat
	are hoped to be handled by Regents and Mayors with quick
7	dan tepat dalam penanganannya serta antisipasinya …
	and appropriate actions as well as being anticipated …

and their causes, the anchoring of flooding to a large territory (Central Java on line 5) rather than a specific territory, and the fact that both *bencana* and *banjir* can mean one or multiple floods contribute to the creation of our first instance of a "fact" or "timeless truth" (Agha 2007a).

Many of the conditions necessary for subsequent imitation are thus in place, and these possibilities increase when we look at the participants. There are 16 Mayors, Regents, and their respective second in charge, as well as any interested public. The former all have authoritative status and can thus become origins for future imitations of facts about natural disasters. This large one-to-many participation framework also increases the possibilities of fragments of the governors' speech being imitated at another scale by other social actors.

The emerging fact that all floods are natural disasters is imitated on the 8th of March 2016. This time it is by a high-ranking civil servant, the secretary of Kendal. The communique entitled *Siap hadapi bencana, Kendal gelar gladi menejemen bencana* "Preparing to face disasters, Kendal holds disaster management rehearsals" (Table 3) reports on the District Bureau of Disaster Prevention, Kendal Regency's running of a closed coordination meeting.

As with the excerpt in Table 2, in the excerpt in Table 3 the person who is being represented has authority, this time bureaucratic as well as educational authority. The outlining of his authority is done in the opening paragraph (not reproduced in Table 3) where his education (Ir. "engineer" and MT "Masters of Technology") and civil service rank (*sekretaris* "secretary") are mentioned in the phrase *Sekretaris Daerah Kabupaten Kendal Ir. Bambang Dwiyono MT* "the Secretary of Kendal regency Engineer Bambang Dwiyono, Master of Technology." The authenticity and factualness of the report itself is bolstered through the representation of what the secretary actually said through indirect and direct quotation. As with the excerpt in Table 2, there are principles/sponsors, authors and animators. In the first instance, sponsorship and authorship is achieved

Table 3. The Kendal area secretary framing flooding as a natural disaster

1	Dengan kondisi wilayah Kabupaten Kendal yang masih dilanda musim hujan
	With Kendal regency's current condition of currently being impacted by the wet season
2	dengan curah yang cukup tinggi, menurut sekda, perlu disiapkan
	that has significant rainfall, according to the Secretary of the regency requires preparation
3	langkah-langkah antisipatif yang tepat dan cepat ketika terjadi bencana alam.
	of anticipative steps that is both appropriate and fast whenever there is a natural disaster.
4	Hal tersebut perlu dilakukan untuk meminimalisir korban jiwa, kerusakan lingkungan
	These actions need to be done to minimalize deaths, the destruction of the environment,
5	dan kerugian berupa jiwa dan harta benda …
	and the loss of life and valuables …
6	… "Kabupaten Kendal harus memiliki mitigasi dan menejemen bencana yang baik
	"Kendal regency needs to have good management and mitigation
7	sebagai antisipasi sewaktu—waktu terjadi bencana alam baik itu banjir, tanah longsor
	that anticipates natural disasters whether they be floods, landslides,
8	dan puting beliung, "jelas Sekda Bambang.
	or tornadoes," clarified Secretary Bambang.

through the use of *menurut sekda* "according to area secretary" (line 2), while sponsorship, authorship and animation is achieved through the use of quotation marks on lines 6–8, where Bambang is directly tied to his acts of categorization.

Significant rainfall is categorized as a natural disaster on lines 1–3, as is *banjir* "floods" on line 7. Note too, that in the second act of categorizing some of the text that anchors flooding to a particular time and event is no longer present. For example, while the earlier sentence *Kabupaten Kendal yang masih dilanda musim hujan dengan curah yang cukup tinggi* "Kendal regency which is currently being impacted by significant rainfall" includes time *masih* "still/in the process of/currently" and *musim hujan* "wet season," and event *curah yang cukup tinggi* "significant rainfall," the second one on lines 6 and 7 only contains the category flooding and the place Kendal. When viewed in relation to the excerpt in Table 2, the presence and absence of certain words helps to create the emerging fact that flooding is a natural disaster.

The participants and participation framework are also important here. The meeting involved representatives from the army, the national police, and presumably representatives of the District Bureau of Disaster Prevention, Kendal Regency, who host the event. As with the excerpt in Table 2, all have authoritative status and can thus become origins for future imitations of facts about natural disasters. Just as importantly, while the participation framework was smaller than that described in relation to Table 2, it was still a one-to-many participation framework. When considered together, we have the construction of another piece of text that can be imitated in the future and potentially figure in the creation of common knowledge about flooding as a natural phenomenon.

There were no more communiques linking flooding to natural phenomena until the 18th of September 2016. On this occasion, Indonesia's National Disaster Prevention Bureau (BNPB) was reported as holding a public forum in Kendal (*Kendal miliki tiga*

Table 4. Reporting the head of daily operations of BPBD Kendal

1	… Terpisah, Plt Kepala Pelaksana Harian (Kalakhar)
	Separately, the head of daily operations (Kalkhar)
2	BPBD Kendal, Slamet SE, mengungkapkan, keberadaan
	of the District Bureau of Disaster Prevention, Kendal, Slamet SE, said the existence of the
3	tiga desa tersebut pembekalan pengetahuan dan persiapan peralatannya, disesuaikan
	three mentioned villages, their knowledge base and equipment is matched
4	dengan bahaya bencana yang diperkirakan berpotensi terjadi di daerah sekitarnya.
	with the disaster threats that are thought to have a chance of occurring in their districts.
5	Misalnya Desa Tangguh Bencana Cening dan Desa Tlogopayung, dipersiapkan untuk
	For example, Disaster Resilient Villages Cening and Tlogopayung are prepared to
6	penanganan bencana longsor. Sementara bagi Desa Kebondalem, disiapkan untuk
	deal with landslide disasters. Meanwhile, Village Kebondalem is prepared to
7	penanganan bencana banjir.
	deal with flood disasters.
8	"Keberadaan Desa Tangguh Bencana dalam rangka membuat masyarakat sekitar menjadi
	"The existence of the Disaster Resilience Villages [program] makes locals be
9	tanggap dan tangguh serta bisa mandiri, dalam menanggulangi bencana alam.
	resilient and be self-reliant in considering and dealing with natural disasters.
10	Sehingga mereka bisa meminimalisir resiko dampak dari bencana yang ada," paparnya.
	With the effect of minimalizing the risk effects from disasters," he explained.

Desa Tangguh Bencana "Kendal has three Disaster Resilient Villages"). The excerpt in Table 4 examines some of the common knowledge being created in this communique.

As with the excerpts in Tables 2 and 3, the persons being represented in this excerpt have authority. The establishment of this authority is achieved in the opening paragraph (not reproduced here) and on lines 1 and 2. This is done by listing their ranks in the civil service (head of the district level disaster prevention bureau, and head of daily operations in the same bureau), education (Slamet *SE* "Slamet Economics Graduate"), and area of expertise (disaster prevention). Slamet's speech is indirectly quoted on line 2, *Slamet SE mengungkapkan* "Slamet SE said" making him principle and author of the message, but not its animator who is the author of the communique. Slamet is directly quoted later, on lines 8–10 making him author, principle and animator of the message. Both instances contribute to the authenticity and factualness of the account by directly tying Slamet as an authoritive figure to his acts of categorization. In this case *banjir* "flooding" is initially categorized as a *bencana* "disaster" (line 7), but then disasters are (re)categorized as natural disasters (*bencana alam*) on line 9.

There are other linguistic mechanisms at play too which contribute to the construction of an emerging fact that floods are natural disasters. In this case, the erasure of place and actors. For example, while Village Kebondalem is constructed as one prone to flooding disasters in lines 6 and 7, in the next paragraph this anchoring to this specific village and its inhabitants falls away (lines 8 and 9). This is achieved by first referring

to the program and villages that participate in general (line 8) rather than a specific village, and then referring to *masyarakat sekitarnya* "locals" or the "public who live nearby" (line 8) rather than the inhabitants of a specific village.

The meeting was a relatively small one-to-many participation framework that was attended by around 20 participants including two capacity building specialists from BNPB who had been working in two villages in Kendal for the last six months implementing BNPB's its *Desa Tangguh Bencana* "Disaster Resilient Village" program. Even so, as with the prior excerpts, each of these participants are potential origins for subsequent imitations of the emerging fact that floods are natural disasters.

The following Thursday (22/09/2016) the BNPB, and their provincial and regency level peers (BPBP and BPBD) held an open forum disseminating the Disaster Resilient Village program. This was reported in the communique entitled *BNPB Kendal gelar sosialisasi DESTANA* "The National Bureau of Disaster Prevention Kendal holds a forum on the Disaster Resilient Villages program." In addition to two representatives from the provincial government, there was a subdistrict head and representatives from three villages. In comparison to the participation frameworks discussed in relation to the excerpt in Table 4, here the number of participants increased as did the potential for the imitation of fragments of this discourse in their respective villages. On this occasion, the head of daily operations of BPBD, Kendal opened the forum by animating a speech by the Kendal Regency Secretary (*Sekda*). In this speech, landslides, drought, earthquakes, and floods were all categorized as natural disasters common to the Kendal Regency. No specific villages were mentioned nor actual flooding events. As with the last few extracts, the erasure of contextual information about a specific flood in a particular place and the use of direct quotation helps construct the factualness of flooding as a natural disaster, while the resultant message, the participants and participation framework afford future imitations.

Tidal flooding only started to be mentioned in a communique published on the 27th of November 2018 (*Hadapi banjir dan longsor, Kendal satukan pemahaman tanggulangi bencana* "Dealing with floods and landslides, Kendal synchronizes understandings of disaster management"). This communique reports on a closed coordination meeting involving authoritative representatives from different levels of government. These included the area secretary (SEKDA) who animated a speech sponsored and authored by the regent, the section head of the emergency and logistics section of the area Disaster Prevention Bureau (BPBD, Kendal), a speaker from the provincial level Disaster Prevention Bureau (BPBD, PEMPROV JATENG), and around 60 representatives from the provincial-level public works, water, and town planning bureaus. In contrast to earlier stories, the area secretary categorized floods as disasters rather than natural disasters. The section head of the emergency and logistics section of the BPBD Kendal also categorized flooding, landslides, and tidal flooding (referred to as *gelombang pasang* instead of *banjir rob*) as the majority of hydrological disasters (90%) in Kendal which were caused by climate change and human activity.

Tidal flooding got no further mention until a story entitled *Kepala DPUPR Kendal bersama Dico kunjungi desa terdampak Ba[n]jir* "" that was published on the 29th of January 2021. As with the communiques described thus far the participants were authoritative, the participation frameworks were one-to-many, and categorization

work was undertaken. In this case, tidal flooding was distinguished from precipitation-induced flooding in a direct quote by the candidate for the Regent of Kendal (Dico), while the head of the Kendal Regency public works department was indirectly quoted when he categorized seawalls as the solution to tidal flooding.

While tidal flooding was a daily occurrence, it got no further mention in communiques until the 23rd of May 2022. In this communique entitled *Pemkab Kendal Fokus Tangani Persoalan Banjir Rob di Wilayah Pesisir*, "The Kendal government is focusing on handling the problem of tidal flooding in the coastal regions" the participants were not listed, so the categorization work being undertaken can be seen as less authoritative (this communique is thus not listed in Table 1). This work described tidal flooding in general as caused by sea levels that were higher than coastal lands.

The following day another communique was published entitled *Kunjungi Lokasi Banjir Rob, Bupati Dico Pastikan Kebutuhan Warga Tercukupi* "Visiting tidal flooding locations, Regent Dico determines whether locals' needs are being met." This communique was in a more familiar format (Table 5).

As with the excerpts in Tables 2-4, in the excerpt in Table 5 the persons being represented have authority, this time bureaucratic, educational, and militaristic. The outlining of this authority is done in the opening paragraph where their post, qualifications, and ranks are listed as they are introduced (lines 1–2 and 4–8). The authenticity and factualness of the report itself is bolstered through the representation of what the regent said through indirect quotation, using the words *menurut* "according to" (line 9) and *mengunkapkan* "said" (line 15). Both these words also serve to identify sponsorship and authorship of the message and in doing so directly tie the regent to his acts of categorization.

Note that the technical authority of the Bureau of Meteorology, Climatology, and Geophysics is invoked too (line 10) as part of his first act of categorization where tidal flooding is accredited to a weather anomaly (line 10), helping to erase any association with human activity or causes. In his second act of categorization, he distinguishes tidal flooding from flooding caused by sedimentation build-up in rivers (lines 15–18). The one-to-many participation framework is also important here. As noted above, the meeting involved many authoritive representatives who can become origins for future imitations of facts about tidal flooding.

Seven months later on the 24th of January 2023, the political and citizenship office (KESBANGPOL) convened a government coordination meeting around the safety of the region in the face of extreme weather. This story entitled *Rakor Pamwil [Pengamanan Wilayah] dalam Rangka Antisipasi Cuaca Ekstrim* "A neighbourhood watch coordination meeting to anticipate extreme weather." involves an important step in the formation of an emergent ideology about tidal flooding.

The excerpt in Table 6 imitates much of the emerging common knowledge found in the excerpts in Tables 2-5. Of note, is the Regent's categorization of tidal floods as part of the general class of floods (Table 6, line 6). This direct quotation of an authoritive figure in a one-to-many participation framework doing categorizing work as a principle, author and animator essentially erases important context about the causes of flooding. At the same time, it lumps tidal flooding into a category of events caused by extreme weather (line 2). Similarly, the listing of just flooding events rather than a figure disaggregated for precipitation induced flooding and tidal flooding as well as their

Table 5. Severe tidal flooding caused by a weather anomaly

1	Kendal—Bupati Kendal Dico M. Ganinduto, B.Sc meninjau
	Kendal—The Regent of Kendal, Dico M. Ganinduto Bachelor of Science, examined
2	langsung Bajir Rob yang terjadi di Wilayah Pesisir Kabupaten Kendal, Selasa
	firsthand the tidal flood that occurred in the Kendal Regency coastline on Tuesday
3	(24/05/2020). Turut hadir mendampingi dalam kunjungan bupati, yaitu
	on the 24th of May 2022. Those who accompanied the Regent included the
4	Kapolres Kendal AKBP.
	Head of the Kendal branch of the national police Adjunct Senior Police Commissioner,
5	Yuniar Ariefianto, SIK.,
	Yuniar Ariefianto, [police academy qualification],
6	Dandim Kendal Letkol Inf Misael Marthen Jenry
	Kendal district military commander Lieutenant Colonel infantry Misael Marthen Jenry
7	Polii, Pj. Sekda Kendal, Ir. Sugino, S.T.,
	[military academy qualifications] Kendal area secretary Engineer Sugiono, Bachelor of
8	M.T, dan para Kepala OPD terkait.
	Engineering, Masters of Technology, and heads of other government departments.
9	… Menurut Bupati Kendal, berdasarkan informasi dari
	According to the Regent of Kendal, based on the information from [the]
10	BMKG terkait anomali cuaca
	Bureau of Meteorology, Climatology, and Geophysics in relation to the weather anomaly
11	yang dampaknya juga terjadi di wilayah Kabupaten Kendal, yaitu banjir rob airnya
	which effects were also felt in the Kendal Regency, namely tidal flooding with water
12	tinggi sekali, dan ada 8 desa dan kelurahan yang terdampak,
	that was very high, and there were eight villages and municipalities impacted,
13	maka dari Pemerintah Kabupaten Kendal membuat dapur umum di
	thus, the Kendal Regency level government has opened a public kitchen in
14	delapan titik dekat lokasi tersebut …
	these eight locations …
15	Bupati Kendal juga mengungkapkan, bahwa ada dua banjir
	The Regent of Kendal also noted that there were two types of flooding
16	di Kabupaten Kendal setelah diidentifikasi, yaitu banjir rob dan
	that had been identified in Kendal Regency, namely tidal flooding and [flooding]
17	sedimentasi dari sungai, yang mana untuk penanganan sedimentasi sudah dianggarkan
	from river sedimentation, with mitigation of river sedimentation being budgeted for
18	pada tahun ini.
	this year.

Table 6. Tidal flooding as a natural disaster

1	Pada Rakor tersebut Bupati Kendal Dico M. Ganinduto menyampaikan beberapa
	In this coordination meeting the Regent of Kendal, Dico M. Ganinduto conveyed several
2	point terkait kewaspadaan terhadap cuaca ekstrim yang telah diprakirakan
	points about vigilance facing the extreme weather predicted by the
3	BMKG. "Kita sekarang memasuki
	Bureau of Meteorology, Climatology, & Geophysics. "We are now entering
4	musim penghujan, kewaspadaan dan kesiagaan perlu untuk dikedepankan dalam
	the wet season, and vigilance and preparation need to be prioritised in
5	menghadapi potensi bencana. Karena letak Kabupaten Kendal yang memiliki potensi
	facing potential disasters. Because Kendal Regency's location has the potential
6	bencana banjir, baik itu ROB, luapan sungai maupun banjir bandang,"
	for flood disasters, whether tidal, river rise, or flash flooding."
7	ujar Dico M. Ganinduto.
	said Dico M. Ganinduto.
8	Sementara berdasarkan data dari Badan Penanggulangan Bencana Daerah (BPBD) Kendal
	At the same time, based upon data from Kendal's Bureau of Disaster Prevention,
9	telah terjadi bencana alam di 66 lokasi dengan rincian 13 pohon tumbang,
	there have already been natural disasters in 66 locations which include 13 fallen trees,
10	tanah longsor dan banjir di 29 desa dengan ketinggian air 30–150 cm.
	landslides and floods in 29 villages with water heights of 30–150 cm.

classification as a natural disaster (lines 9 and 10) solidifies this categorization work, especially because its origins are cited as the Bureau of Disaster Prevention Kendal. In another communique published on the same day, this solidification continued as tidal flooding was categorized as a natural phenomenon by the regent of Kendal in another report about a meeting with all of Kendal's village heads (*Mitigasi dan Penanganan Bencana di Wilayah Kecamatan Kendal* "Mitigation and disaster management in the Kendal Regency area").

Conclusion

We started this paper by highlighting that the causes of tidal flooding in Indonesia were known at the provincial level by at least one politician and by the scientific community. Even so, over time and within a specific social domain (Kendal municipal government web-based communiques), these causes were recombined with other causes through the erasure of context surrounding tidal flooding. These imitations also typically involved the reporting of experts' speech about tidal flooding in large participation frameworks. These frameworks not only made it difficult to question these emergent facts about flooding, but they also made subsequent imitation more likely. The result was emergent knowledge of tidal flooding that lumped together precipitation induced flooding and tidal flooding while categorizing both as a natural phenomenon.

We can argue that this lumping and categorization is not inconsequential. This is so because in constructing flooding as a natural phenomenon, those complicit in its causes are absolved of responsibility. At the same time, those responsible for long-term sustainable solutions (e.g., municipal, provincial, and national governments) can use the excuse that there are limits to what can be done. The logic goes something like this: Tidal flooding is a natural phenomenon, Indonesia faces many natural challenges, as evidenced in the Infogram discussed earlier, all require access to scarce resources. This logic seems to partly explain Ley's (2021) observation that failed solutions used since colonial times (e.g., break walls, pumping stations, and retaining ponds) continue to be drawn upon as evidenced in the ongoing construction of these very same mitigation infrastructures in Kendal.

If we zoom out a little further, we can also observe that the construction of these mitigation infrastructures comes in the lead-up to and after the election of a new regent. We may thus wonder whether the construction of physical infrastructures is visible evidence of a responsible government who care for their citizens, while the effects of such large infrastructure projects on the local economy (typically an election mantra of many regents, governors, and presidents) also don't hurt politicians' (re)election chances. If we zoom out yet further, we may also wonder whether trends in global aid funding, such as those encouraging the reduction in carbon emissions encourage the creation of communiques that start to speak of extreme weather as a cause of tidal flooding rather than an exacerbator of tidal flooding. While there is no evidence of uptake of these communiques (there are no comments or likes under any of the published communiques), they are perhaps imagining future potential donors and their fundable topics. Future ethnographic research into the production processes associated with these communiques may help address these questions.

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Appendix 1. Regimenting Floods as Natural Disasters

Date	Title	Gloss
17/02/2016	Kendal punya Bupati baru	Kendal has a new Regent
08/03/2016	Siap hadapi bencana, Kendal gelar gladi menejemen bencana	Preparing to face disasters, Kendal holds disaster management rehearsals
18/09/2016	Kendal miliki tiga Desa Tangguh Bencana	Kendal has three Disaster Resilient Villages
22/09/2016	BNPB Kendal gelar sosialisasi DESTANA	The National Bureau of Disaster Prevention Kendal holds a forum on the Disaster Resilient Villages program
11/10/2016	BPBP Kendal sosialisasi PERDA tanggap bencanca	The District Disaster Prevention Bureau, Kendal disseminates the District Law on disasters
03/11/2016	Ciptakan KIK asri dan hijau dengan tanam pohon	Create a beautiful and green industrial district by planting trees
16/01/2018	SEKDA tinjau jembatan bambu Rejosari–Tunggulsari	The area secretary visits the bamboo bridge between Rejosari and Tungulsari [villages]
05/06/2018	Bupati Kendal kucurkan bantuan bantuan perbaikan rumah terdampak banjir	The Kendal Regent distributes aid for repairing homes impacted by the flood
11/12/2019	PEMKAB Kendal siaga bencana memasuki musim pancaroba	Kendal Regency government prepares for disasters [as we] enter the transition period from the dry to the wet season
14/01/2020	Jajaran OPD Kabupaten Kendal berkoordinasi tangani bencana alam	Kendal Regency government, subdistrict and district representatives coordinate to handle natural disasters
06/11/2020	Pemkab Kendal gelar apel siaga bencana hadapi musim penghujan	Kendal Regency government holds a disaster preparation meeting in the face of [the coming] wet season
09/01/2021	BPBD Kendal bergerak cepat evakuasi tanah longsor di jalan Kaliwungu-Boja	The Kendal district Disaster Prevention Bureau moves quickly to evacuate [people in the vicinity] of the landslide on Kaliwungu-Boja street.

(*Continued*)

(*Continued.*)

Date	Title	Gloss
19/01/2021	Memasuki musim penghujan, SEKDA Kendal mengimbau warga waspada bencana alam	Entering the wet season the Kendal area secretary urged residents to be prepared for natural disasters
08/02/2021	BPBD Kendal tangani bencana alam dengan cepat	The Kendal District Disaster Prevention Bureau quickly handled natural disasters
06/12/2021	HMPI Tahun 2021, Pemkab Kendal Tanam Pohon di Bekas Lokasi Pertambangan	Indonesian Plant a Tree Day 2021, the Kendal Regency Government plants tree in former mining locations
22/04/2022	Bupati Kendal Pimpin Apel Gelar Pasukan Operasi Ketupat Tahun 2022	The Regent of Kendal chairs an assembly meeting for the corps running the 2022 end of the fasting month operations
24/05/2022	Kunjungi Lokasi Banjir Rob, Bupati Dico Pastikan Kebutuhan Warga Tercukupi	Visiting tidal flooding locations, Regent Dico determines whether locals' needs are being met
03/11/2022	Pemerintah Kendal Gelar Apel Siaga Bencana tahun 2022	The Kendal Government runs the 2022 disaster preparation assembly
10/01/2023	Tinjau Sekolah Terdampak Banjir, Bupati Kendal Akan Segera Perbaiki	Seeing the schools impacted by flooding the Kendal Regent is going to immediately have them fixed
24/01/2023	Rakor Pamwil dalam Rangka Antisipasi Cuaca Ekstrim	A neighbourhood watch coordination meeting to anticipate extreme weather.
24/01/2023	Mitigasi dan Penanganan Bencana di Wilayah Kecamatan Kendal	Mitigation and disaster management in the Kendal Regency area
10/04/2023	Bupati Dico Serahkan Bantuan Warga Terdampak Banjir dan Longsor	Regent Dico gives aid to those impacted by flooding and landslides