ICLD Swedish International Centre for Local Democracy

LEARNING CASE

Drainage Politics: Flood Management in Surabaya, Indonesia

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Learning objectives

After the case reading and discussion session, participants will understand:

- how the risk of flooding is affected by polity and policies
- that successful mitigation of extreme weather events depends on the local political ecosystem.
- how digital media can be leveraged to influence political commitment to mitigate the consequences of climate-related hazards

Key lessons

- Flood damages are not merely caused by rain and high water. They are also due to policy. The success or failure of flood protections – reductions in exposure and in vulnerability – depend on the **government's firmness in overcoming inequality** in drainage system management and use. The local government must be fully committed to upholding social justice in flood risk-related interventions; they must provide firm support to those implementing these programs at the street-level so that officials and administrators can enforce rules, even against privileged and influential groups in society.

- A healthy local political ecosystem significantly affects successful reduction of harm by extreme weather events due to climate change. Public flood-risk reduction is most effective when government leaders have strong **political commitment** and are under solid public pressure – by being both **visible and accountable**.

- Digital media can be leveraged to influence city governments to commit seriously to risk reduction of climate-related hazards.

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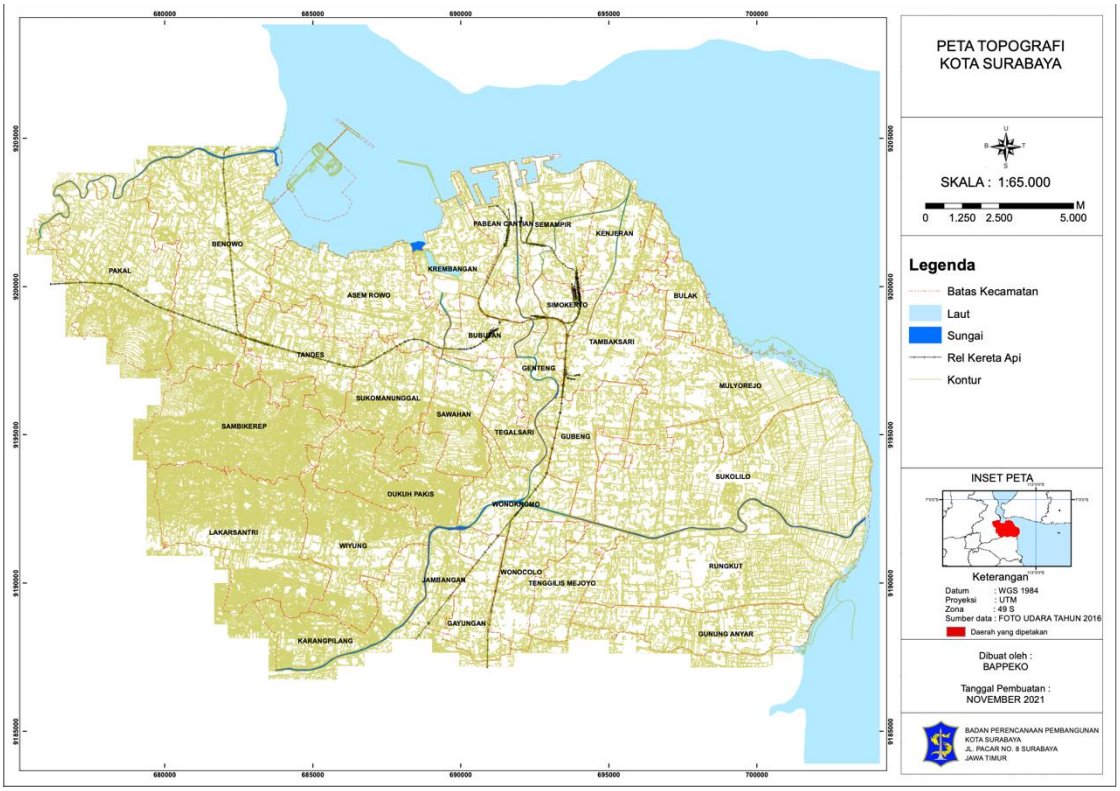
Case description

In 2022, Indonesia was one of the most disaster-struck countries globally, frequently exposed to various geophysical and climate-related hazards. The increasing sea-surface temperature, a result of global warming, contributed to a tropical cyclone intensity (The World Bank Group and Asian Development Bank, 2021: 18), and extreme flood risk and sea-level rise caused by climate change is predicted for the coming decades (The World Bank Group and Asian Development Bank, 2021: 18). Hydrometeorological hazards such as landslides, floods, storms, and tropical cyclones are predicted to be more frequent in the future.

In 2021, flooding was the most frequent type of natural disaster in Indonesia, with a total of 788 cases (Jayani, 2021). Unlike other types of natural disasters such as landslides, hurricanes, drought, forest fires, and earthquakes, flood cases had shown an increase in intensity over the previous decade. From 2011 to 2020, the total flood cases reached 7571, exceeding any other natural disaster (Annur, 2020).

Surabaya, the second biggest city in Indonesia after Jakarta, the state capital, was in 2022 a densely populated city with a population of almost three million people across a 33-thousand-hectares. As a coastal city downstream of the Brantas River Basin, the topography of Surabaya is mostly lowlands between 3 – 6 meters above sea level, while hilly areas are only found in the city's southwest area. This exposed the city of Surabaya to river overflows during the rainy season; such flooding is one of its long-lasting challenges.

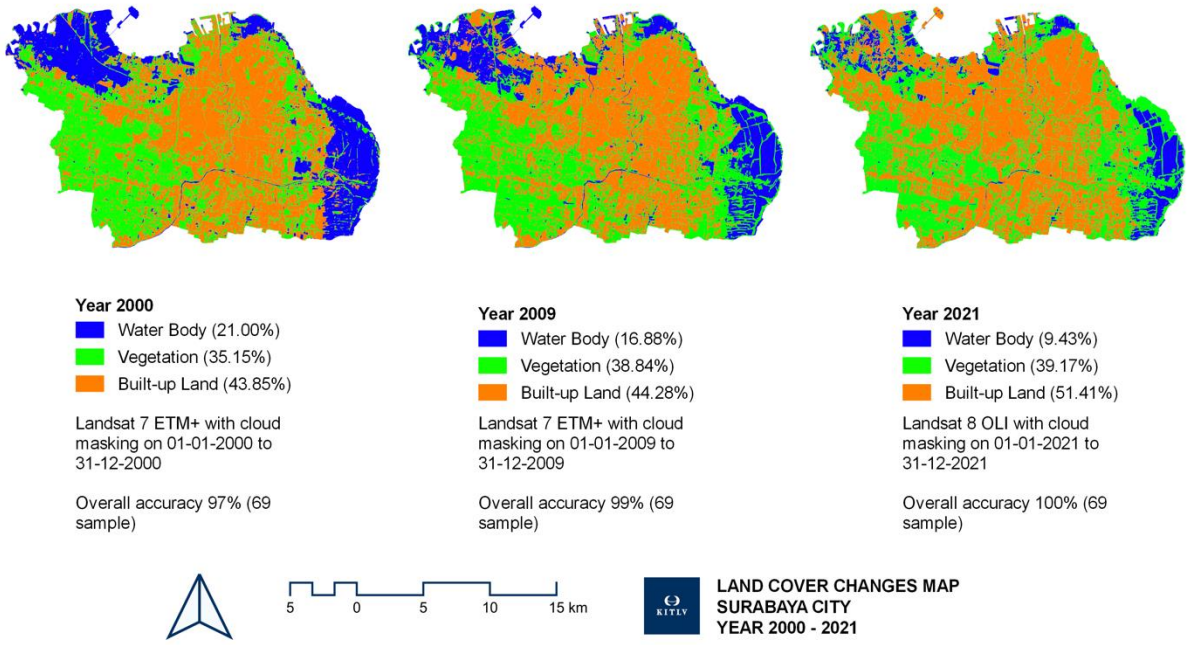
Figure 2. Surabaya Topography Map, 2021



Source: Surabaya City Government

The Surabaya Drainage Master Plan (SDMP) found in the year 2000 urbanization to be the main factor causing flooding in the area by interfering with drainage patterns (Arifa, 2008, p. 18). Replacing vegetation with concrete reduced water absorption in the ground, thereby increasing the surface runoff water. Land conversion from vegetation to constructions also caused erosion that contributed to river sedimentation. The river's capacity was reduced, and it was difficult to contain the overflow water during heavy rain. This land conversion was not managed with an adequate drainage system. Large real estate companies built housing complexes and industrial zones by adding massive soil to the land to increase the elevation – and this elevation increase also did not build in the needed drainage systems.

Figure 3. Land-Use Change 2000 - 2021



Source: Yogi Setya Permana

Tri Rismaharini (Risma), who was elected mayor in the 2010 Surabaya local election, made breakthrough policies for flood management. Risma did not come from a political elite family background. She was previously a career bureaucrat in the Surabaya city government, having started at the lower level of the bureaucracy. Flooding was her priority issue during the electoral campaign – at the time of her election, almost half of the city was frequently flooded (detiknews, 2020).

Mayor Risma perceived that the involvement of the private sector in works on flooding control, such as river and drainage maintenance, was sub-optimal.[2] Rumours circulated that flood-related projects were thick with corruption, because the companies that won bids were people close to politicians or high-rank bureaucrats and officials.[3] These companies bribed politicians and high-rank bureaucrats if they wanted to succeed in

[2] Interview with anonymous informant, 11 November 2021

[3] Interview with anonymous informant, 16 December 2021

getting the project.[4] Once in office, Mayor Risma eliminated the regulation to involve the private sector in such works. Moreover, she issued a policy that removed the privilege for politicians in the legislative body to manage the funds for constituents (Kompas.com, 2011).

In the early years of her leadership, Mayor Risma was targeted with significant political attacks. Politicians in the legislative assembly, including the supporting party in the election, tried to shake Risma's leadership with the threat of impeachment. Knowing she did not have solid allies in the legislative assembly and from the political parties – but that she had won public support – Mayor Risma asked for the support of the digital media company *Suara Surabaya* (The Voice of Surabaya). They would create a channel for public opinion and concerns regarding the city affair, including the public service. In return, Suara Surabaya asked Mayor Risma to have serious commitment to follow up on these public demands.

Discussion questions

Imagine that you were in Mayor Risma's situation, committed to flood mitigation but facing political contestation.

- What would you do to overcome floods amid your contested political position?
- Should you partner with the Suara Surabaya or not? What are the risks and benefits?
- Does the level/quality of democracy in the country factor into your decision?

[4] Interview with anonymous informant, 16 December 2021

Case reflections and potential endings

Mayor Risma followed up to collaborate with *Suara Surabaya* in 2011. She created a system that accommodated public complaints via *Suara Surabaya* to go directly to the government command centre channel. Mayor Risma herself monitored all complaints and then followed up within the bureaucracy. Through the digital application that was developed, the public could complain about city problems by uploading photos, text, and videos directly to the *Suara Surabaya* mobile application. The public could also monitor the follow-up carried out by the city government by reporting it via videos or photos they could upload directly to the app. In the case of flooding, residents could report inundation and directly monitor the follow-up carried out by the street-level official in the field. Public monitoring like this contributed to securing the city government's commitment to serving the public seriously. *Suara Surabaya* then consistently channelled public voices that supported Mayor Risma's leadership. The political attacks by political parties in the Surabaya legislature did not succeed in overthrowing Mayor Risma's leadership. She continued to serve as mayor of Surabaya for maximal terms of leadership (2010 - 2020) as stipulated in the law.

Source: Yogi Setya Permana

Besides synergy with the public via digital media, Risma decided to build a self-management system (*swakelola)* - removing the rules for involving third parties in flood control projects and forming a special unit within the bureaucracy capable of working independently. She formed a street-level bureaucrat unit called "Satgas Banjir", or the Flooding Task Force. The Task Force enables recruiting workforce, conducting river

and drainage maintenance, and even doing modest construction projects. This self-management system could save budget funds.[5] A Surabaya Flooding Task Force member reported that, previously, the contract value to solve river sedimentation for 10 meters could be approximately 300 million rupiah or 18,000 euros but give only minimum impact.[6] After being handled by the Flooding Task Force, the output was of higher quality and could be completed in a shorter time.

The leadership of Mayor Risma was crucial in forming a bureaucracy that was internally responsive to the flood crisis. She committed to allocating sufficient resources during her tenure from 2010 to 2020, such as the budget to capacitate the Flooding Task Force. At its formation in 2010, the Task Force had two heavy vehicles and 60 workers. By 2016, it had a control room containing hundreds of CCTV monitors placed in all sea gates, reservoir ponds, pumping stations, and drainage channels. In 2021, the Flooding Task Force had 1500 members and 88 heavy vehicle units.[7] Therefore, they could monitor and anticipate flood hazards 24 hours a day and seven days a week.

Risma focused on installing a 'sense of crisis' into the members of the Flooding Task Force. This mentality replaced a 'business as a usual' culture with an agile mentality that was responsive to the crisis. Equipping each member of the Task Force with a walkie-talkie radio played a fundamental role in creating a mentality of transformation. Risma monitored the mobility of the Flooding Task Force members, especially during the rainy season. The Task Force members had to be on standby if Risma called via walkie-talkie radio – members called the walkie-talkie radio 'the second wife' because it always had to be on hand. Heavy rains and flood hazards could occur outside of formal working hours. The Flooding Task Force responsible for the sea gate was required to ensure the pumps were well operated and gates opened and closed correctly with the sea tides and rainfall. When the rain fell, the internal communication traffic on the walkie-talkie radio was hectic. Every team leader would check their members to stay alert in critical locations. Before the rain, they operated the pump to drain the river so that the river could contain the water when the rain fell. Every Flooding Task Force member was mobilized when the rain falls at the pump station to clean up the river so the pump could work well. Mayor Risma also insisted that the Flooding Task Force seriously follow up on resident complaints through *Suara Surabaya.*

Summary

Developing a proper drainage system was a requirement for land-use change in Surabaya. However, providing a drainage system is expensive and would not be profitable from the perspective of business actors. The reluctance to build proper drainage systems contributed to floods, especially in settlements that did not have proper protection systems. Mayor Risma leaned on public participation and equipped the Flooding Task Force to enforce the regulation despite upsetting powerful real estate companies and affiliated political figures. Risma ensured political backup for any necessary action the Flooding Task Force would take.

[5] Interview with the former head of Surabaya Flooding Task Force. 9 December 2021

[6] Interview with anonymous informant, 16 December 2021

[7] Interview with the former head of Surabaya Flooding Task Force. 9 December 2021

Reflections – discussion questions

- Which domains/departments in city government influence flood mitigation? And what are the centres of power?
- How important is the local political aspect in determining the success of flood management?
- To what extent is political leadership and vibrant civil society necessary for effective flood management?
- To what extent did the context of a newly democratic country like Indonesia affect the dynamics of flood mitigation in Surabaya?
- Can instances like the Surabaya case also be found in established democracies?
- What enabled this dynamic leader to accomplish such flood management improvement against the will of business elites?
- What lessons are applicable in your own context?

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