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DISPLACEMENTS WITHIN THE FRAMEWORK OF ENVIRONMENTAL AND CLIMATE JUSTICE:
CONCEPTS, DEBATES, AND CASES

7/8

Jakarta, the City Sinking in the Grip of Environmental Injustice

The capital of Indonesia, Jakarta, is the world's fastest "sinking" city. While the city is constantly subsiding below sea level, it has to cope with devastating flood disasters of, increasing numbers every year. The city being submerged also brings forth social and economic collapse. The "precautions" taken in the face of this situation cause an environmental injustice which gradually expands and deepens. Far from eliminating environmental injustice, the climate change adaptation (mega) project in Jakarta is a telling example of how such a project can increase injustices specific to displacements.

Jakarta is one of the biggest metropolises in the world. As of 2022, 11 million 75,000 people live in the center of Jakarta, which underwent a rapid urbanization process; the population of the broad metropolitan area, also called *Jabodetabek*, is estimated to be more than 33 million.[1] The city continues to grow swiftly with the effects of national and international policies of integrating with capitalist globalization and creating a global city. It is possible to understand the city's growth rate by looking at the population increase in the metropolitan area: the population, which was 17.14 million in 1990, increased to 20.63 million in 2000; 28 million in 2010, and 31.62 million in 2015.[2] In addition to its rapidly increasing population, Jakarta —just like all across Indonesia[3]—is a city which has witnessed class and ethnicity-based spatial segregation and inequality, a longstanding issue since colonial times, which has deepened in the recent neoliber-

al eras when unplanned growth and economic and policy implementations were put in place the trio of profit—investment—growth at their center. On the one hand, there are regions where work and wealth are concentrated. These regions where the upper and middle classes reside and work are constituted by modern buildings and protected building complexes, have an advanced infrastructure and are connected to global networks. On the other hand, there are *kampung*s, neighborhoods consisting of slum houses of the poor. *Kampung*s, concentrated in the central region encompassing the coastline located in the north of Jakarta, are neighborhoods where the infrastructure is weak and access to health, education, and other essential services in the city are limited. *Kampung*s, where work and social life operate through informal relations and practices, are slum house type dwellings informally built by the poor with their own efforts; and the housing conditions are pretty insufficient.[4]

Jakarta is also one of the cities where people are most frequently and intensely exposed to environmental disasters.[5] Jakarta, which faces several environmental problems, such as air and water pollution, and food shortages altogether, is also highly vulnerable in the face of the climate crisis. The immediate environmental risk that the city is exposed to is being submerged. The first reason for this is rising sea levels. The fact that the rate of increase of sea levels all across Southeastern Asia is higher than the glob-

al average exposes several cities to risk in this region, including Jakarta. The increase in the sea level in Jakarta is calculated as a minimum of one cm per year.[6] In addition, the area where the city is located is constantly sinking. Jakarta is overall sinking every year on average between 7.5 to 11 cm; the annual sinking of some places in the city reaches 17 cms.[7] The city is among the 15 cities in the world threatened the most by the rising sea levels.[8] 40% of the north of Jakarta is below sea level.[9] If climate change continues at its present rate, it is estimated that a total of 110-square-kilometer area will be submerged; around one million 800,000 people will lose their houses, properties, and jobs; and the economic damage that all these will cause will reach 68 billion dollars.[10]

The city is also threatened by floods and spates, which are short-term but frequent and have considerably devastating results. In Jakarta, located on an expansive water network constituted by a total of 13 rivers and human-made canals, lives are lost due to floods and spates every year; the urban dwellers are obliged to abandon their houses. It is possible to understand the extent of flood risk the city is facing by looking at some of the disasters that the city has experienced in the past: During the flood disaster in Jakarta due to heavy rains in 2007, 79 people lost their lives, and 430,000 people, most of whom are those living in *kampung*s located primarily on the river banks, had to aban-

January 18, 2014, the flooding street in Kampung Melayu, Jakarta. iStock.com/danikancil

During the floods occurring in 2013, 256 people lost their lives, thousands of people had to leave their houses, and the economic damage reached three billion dollars. In the flood disaster due to heavy rains in February 2020, nine people lost their lives, and 30,000 people had to abandon their houses.

don their houses. In the city, 75% of which was submerged, the economic damage was calculated at around 900 million dollars. During the floods occurring in 2013, 256 people lost their lives, thousands of people had to leave their houses, and the economic damage reached three billion dollars.[11] In the flood disaster due to heavy rains in February 2020, nine people lost their lives, and 30,000 people had to abandon their houses. In the flood disaster occurring in February 2021, during which approximately 176,000 people were affected, five people lost their houses, and more than 30,000 people temporarily abandoned their living places.[12]

A series of factors play into this adverse situation in Jakarta, among which are the city's alluvial soil quality, being close to the seacoast, the tectonic movements in the region, and the pressure the buildings are applying as a result of excessive construction. The city's historically unorganized and unplanned urbanization processes are also important factors that cause Jakarta to be both temporary and permanent submerged. In the uncontrollably growing city located on an extensive water network;[13]

- the settlements on the riverbanks block the flow of the water,
- the water discharge canals are insufficient due to poor infrastructure,
- the discharging canals, which are already insufficient because of solid waste dumped into the rivers due to a lack of disposal infrastructure and system, are deadlocked,
- the reserve areas where water naturally accumulates are allocated to construction.

It would be insufficient to explain the issue solely based on geological and geographical causes or technical mistakes and deficiencies in urban planning. Inasmuch as the roots of the unequal distribution of the emergent risks and results should be sought in social, economic, and political factors. Emplacing the poor in more risky regions that

are closer to the sea and riverbanks and areas that are at lower levels in the post-colonial period—in a way that reproduces ethnicity-based spatial segregation and inequalities constituted in colonial times under the control of the Netherlands—and expansion of the city with non-holistic and unequal planning contribute to the city being submerged. On the other hand, the cost of this situation is paid by the poor, who are portrayed as the actors creating the problem.[14]

The decrease in underground water availability, which is the primary reason for the land subsidence in Jakarta, turns into the manifestation of the socio-economic injustice that penetrates the city. In addition to the increasing population and construction, one of the primary pressures on the underground waters is that clean water services in the city are privatized. The military dictator Suharto's regime privatizing the water distribution operation in the city in 1998 caused increases in water prices.[15] The price of one cubic meter of water in Jakarta is 2.7 times higher than in Surabaya, the second largest city in Indonesia, where the public sector owns the water operation.[16] Another effect of the privatization is that there are no infrastructure investments to improve the city's already insufficient clean water supply network. In addition, several poor urban dwellers who live in informal settlements do not legally have the right to access the water supply network.[17] In short, Jakarta's water supply network only meets the clean water need of 35% of the households. The remaining 65%, the majority of whom are constituted by the poor, are providing their clean water needs directly from the underground water resources as they cannot use the rivers in the city due to the rivers being polluted with solid wastes, heavy metals, and chemical materials.[18] On the other hand, underground water is not only used by the poor but also by the upper-income class. The rich of the city do not use the water supply network in the city either, and they provide their clean water needs from the underground waters, which they draw in massive amounts thanks to robust and highly productive pumps. This prevents the implementation of specific policies such as differential billing, which can contribute to supporting the poor's water usage and renewing the city's infrastructure. More importantly, high-income groups consume much more underground water than the poor. In other words, the high-income class of the city has a pretty significant share in the ground subsidence and submergence of the city, whereas the devastating results of this situation are suffered by the poor.[19]

The devastating effects of the submerging of Jakarta predominantly affect the disadvantaged groups living in *kampung*s, where poverty and discrimination is pervasive.[20]

*Kampung*s, which already face the risk of displacements due to gentrification and renewal projects in the city, are highly vulnerable regions in the face of disasters, primarily floods, which are increasing in severity and number with climate change.[21] While most life and property losses during floods occur in *kampung*s, those who lose their houses, jobs, livelihoods, and living spaces due to floods and rising sea levels are also the poor living in *kampung*s. In addition, *kampung*s are the neighborhoods where people are most intensely exposed to public health risks during floods. For example, it is recorded that during the flood in 2007, 63% of the underground waters, which provide nearly all of the clean water needs of the poor, was polluted with Escherichia colibacteria. Besides, in the normal flow of everyday life, the pollution in the rivers due to heavy metal intensity and chemical materials constantly threatens the health of people living in *kampung* settlements on the riverbank.[22] In short, it would not be wrong to define *kampung*s as the manifestation of environmental injustice in Jakarta.

The flood in 2007 was a turning point in Jakarta, already laden with all these ecological and social risks. The Indonesian government decided to start a comprehensive project to prevent Jakarta from being submerged and carried out efforts with the Netherlands government, which has technical know-how and experience, and also with

The "Great Garuda" project.
Image: KuiperCompagnons

experts and companies from the Netherlands. In 2014, the National Capital Integrated Coastal Development (NCICD) project was announced, and its first phase was put into effect the same year. "Great Garuda" project constitutes the backbone of NCICD, which also involves the previously implemented projects across the city such as excavating soil from the sea and rehabilitation of river/stream beds. The primary purpose of the mega project is to save the city from submerging in the face of rising sea levels and big waves. For this purpose, the plans involve building a 25-meter high and 40-kilometre-long giant seawall, one-third of which will be above water, and 17 artificial islands that will be constructed by riprap, connection roads, and other infrastructures. The bird's eye view of the project will take the form of the legendary "Great Garuda," a bird which is a national symbol of Indonesia. Portrayed as the symbol of "national interest" and "national pride," the project's name is derived from the bird. The total cost of the giant project, propounded with the claim that it will "save" Jakarta, is expected to be around 40 billion dollars. According to the plans, the artificial islands built in the sea will contain offices, luxurious housing and shopping malls, and accommodate 1.5 million people. The Indonesian government is planning to finance the project, which they are jointly carrying out with the predominantly Netherlands and partially South Korea based engineering, architecture, and consultancy firms, by selling the built real estate properties on the islands to high-income groups and companies. The expectation is that the project will thus serve the central government and local governments' long time aim of transforming Jakarta into a "global city" and the gentrification and renewal of the impoverished

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historical center in the north which is located on the coastline of the city whose center has shifted to the south.[23]

The "Great Garuda" project has been the target of criticism due to the ecological problems, displacements, and environmental injustices it will cause. First, the role of land subsidence in the physical sinking of Jakarta is more substantial than the rising sea levels. The NCICD that the project is a part of, on the other hand, does not foresee the measures and infrastructure work against excessive consumption of the underground waters. Furthermore, there are also arguments that the seawall will not be effective for controlling big ocean waves. In short, the mega project will not save Jakarta from being submerged, which is the project's primary purpose.[24] Meanwhile, among the several ecological problems that the "Grate Garuda" project will create, there is also pollution of the Jakarta Gulf. The area between the built seawall and the coastline is designed as the catchment area for the river and rain waters. Yet, due to insufficient sewage and disposal systems, domestic waste is also being poured into Jakarta's waters, which are already polluted with chemical materials, heavy metals, and solid wastes. The accumulation of river waters, which contain high levels of biological and chemical pollution, in the area between the seawall and the coast will lead to seawater pollution and constitute added new public health and hygiene risks for the city. When the pollution in catchment areas is combined with the destruction that will result from the project's construction, the sea flora and fauna in the Jakarta Gulf are under considerable threat.[25] Besides, the remaining segments of the mangrove forests along the seacoasts, which continue to constitute a natural barrier against extreme weather events such as storms and hurricanes and rising sea levels, function as a carbon sink and are a habitat for several species. These will also face extinction with the project.[26] Also the "Great Garuda" project, which is a mega project, will lead to a high amount of carbon footprint and thus further the growth of the climate crisis since a significant amount of energy and material will be used during its construction.[27]

When all of the above-listed ecological problems are combined with the social and economic inequalities in Jakarta, it is expected that the "Great Garuda" will add new en-

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vironmental injustices to the existing ones. The foremost are direct and displacements of the poor and the destruction of their social, economic, and cultural living spaces due to ecological destruction. The poor who live in *kampung*s located on the river and canal coasts have already been facing displacements for a long time. Displacements constantly take place to expand the investment areas of the middle and upper classes in the city and to reorganize *kampung*s as work and living spaces within the scope of making Jakarta a global city. Although *kampung*s are made up of slum house type of dwellings that are informally built through the poor's own efforts, they have been legally acknowledged over time. Yet, with the law introduced in 2007, the houses located in areas closer to less than 10 meters to the river, canal, and water catchment areas were declared illegal.[28] The fragmented ownership structure in the *kampung*s leads to displacements in different forms. Some *kampung* dwellers who are title owners are displaced with a process that proceeds with negotiations and mostly ends with monetary compensation. On the other hand, those who are not officially title owners are displaced mainly with the use of physical force despite neighborhood organizations' resistance.[29] Consequently, thousands of urban poor are losing their houses and livelihoods based on several justifications such as "public order" and "creating green spaces" within the scope of the plan and projects of preventing floods and rehabilitating rivers. There is a proposal to evict 24,000 families living in *kampung*s located in the north of Jakarta from

their houses due to the construction of the planned green space aiming to allow for rain waters to penetrate the soil.[30]

The relocation projects, on the other hand, apply to only a small segment of the displaced people due to bureaucratic reasons, such as the evicted people not having ownership of their houses or, in case of such ownership, they have missing official documents. Besides, attention is drawn to a series of problems, such as the housings built in different locations in the city being scarce; being small; and having low construction quality, designed in a way that would not provide the environment and the conditions for traditional livelihood activities.[31] The displaced urban poor are not only losing their housing and livelihoods. Like many other informal settlement regions in cities all around the world, *kampung*s are spaces where, alongside conflicts and competitions taking place, solidarity relations that are shaped by various collective practices and social networks from food sharing to pooling resources for health expenditures and forming social help groups through reciprocity, prevail as part of survival strategies and activities.[32] Those forcefully kicked out of *kampung*s are also devoid of all these informal solidarity networks and relationships. The rehabilitation and creation of green space in scope of the "Great Garuda" project displaced thousands of urban poor; it is expected that this project will increase the extent of environmental injustices and inequalities that people are already exposed to.[33]

It is possible to anticipate the social, economic, and ecological destruction that the "Great Garuda" project will cause by looking at the fishery sector in the city in detail. Fishery is one of the primary livelihood sources for the poor of Jakarta. The number of fishing boats in the city—over 80% of them small boats—is over 4000. The number of people engaged in the fishery in the city is around 24,000. When all other subsidiary activities of the fishery sector are calculated, this number amounts to 50,000.[34] These people who live in *kampung*s or similar poor fishery settlements face the risk of direct displacement and losing their livelihood resources due to the "Great Garuda" project. Some households living off fishery are already displaced and have lost their essential livelihood resources with the excavating of soil from the sea works starting. For example, those who were evicted from their houses in the fishery settlement called Muara Angke due to the project's construction are having difficulties in maintaining their fishery jobs since the housing provided for them is located far away from the seacoast.[35] It is predicted that as the project's construction progresses, most fishers living in the

coastal regions will be forcefully sent away from their living spaces. 5% of the areas on the artificial islands under construction are planned to be reserved for shelter and working spaces for fishers. Yet, it is hard for fishers who have insufficient income to live in the social housing planned to be built on the artificial islands in scope of the "Great Garuda" project, which can be defined as a real estate project oriented toward the middle and upper class in the city, as life will be expensive in these places. Decreased fish population with the expansion of the destruction in the sea ecosystem that the project has caused will also mean the disappearance of the livelihood resources of fisher communities. Furthermore, the seawall and the artificial islands built on the routes the fishers regularly use during their hunt interrupts fishery activities as it makes the fishers' access to fish difficult. It is recorded that way before the project is completed, only due to its construction, the fishers have already lost tree-fourth of their monthly incomes.[36] It is calculated that if fishery in the Jakarta Gulf is disrupted due to the "Great Garuda" project, the total economic loss will be around 57 million dollars.[37]

The fisher communities, together with other poor *kampung* dweller project victims and several NGOs, have mobilized against the "Great Garuda" project as the Save Jakarta Bay Coalition (KSTJ). The fishers and poor *kampung*s dwellers, who indicate that due to the project, their rights to work, shelter, and cultural existence are violated, and they are to be driven out of these regions, continue their protests while also carrying out legal struggles through cases brought to court. They are also trying to put an alternative participatory project they developed on the public agenda.[38] In short, the "Great Garuda" is a centrally governed technology-based mega project and centrally developed by the politicians, bureaucrats/technocrats, and the private sector. Although its purpose is defined as preventing Jakarta from submerging, this adaptation project is shaped through policies oriented toward transforming the city into an investment area and making it a part of capitalist globalization. The poor living in *kampung*s, who are the real victims of the city being submerged but who are also shown as the primary "misdemeanant" of the floods, are entirely excluded from the project development and implementation processes. The exclusionist, discriminative, and unjust political preferences and applications, which underlie the ecological and socio-economic problems that the mega project is causing, are being ignored.[39] Thus, the "Great Garuda," presented as the project to "save" the "sinking" Jakarta, deepens and reproduces the already existing environmental injustices with all aspects, distribution, recognition, and participation.

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