

Jokowi's two-pronged approach to floods

Floods have been a problem for Jakarta since the early 17th century. The Dutch devised various networks of canals, waterways, dams and reservoirs to mitigate the effects of flooding in the city, but unfortunately, flooding has continued. Today, Jakarta still struggles with the same problem, which now comes with much bigger social and economic impacts. The Indonesian Chamber of Commerce and Industry (Kadin) estimated that losses associated with the 2013 floods reached at least Rp 20 trillion (US\$1.75 billion), an increase on the Rp 5 trillion of seven years ago, based on the National Development Planning Board's estimation, and at least 41 were killed, while tens of thousands were displaced.

In flood risk management literature, there are two viewpoints that are not always applied together as a policy. The first holds that human beings have the capacity to tame floods through the modification and engineering of flood defenses. This view, the structural approach to flood risks and the management of flood plains, has traditionally focused on the development and maintenance of various flood protection mechanisms, such as dikes, levees, dams, reservoirs or other man-made structures.

And while structural flood risk mitigation can reduce the likelihood of floods in the short-term for the area nearest to the levees, they can have ancillary effects on the water table or nearby wetlands that actually lead to a long-term increase in flood likelihoods and severity. In short, no engineering structure can guarantee protection for people living on a flood plain. Alternatively, managing flood risks needs to be associated with human behavior and how the human occupancy of flood plain areas alters those risks.

Gilbert White, an American scholar, pioneered the research that links human behavior to flooding. White argued human beings should work with floods rather against them, and that human behavior needs to be adjusted in flood plain management. He was one of the first to argue that a non-structural approach needed to be incorporated into efforts to reduce flood risks, instead of relying heavily on structural flood mitigation approaches. These non-structural approaches range from land zoning or land use regulation, the development of flood warning systems, home or community modifications to better withstand floods, or population relocation.

Flood risk management in Jakarta under the leadership of Governor Joko "Jokowi" Widodo contrasts with the approaches of his predecessors. He has worked to balance structural with non-structural approaches and has been showing the results of his determination. With 40 percent of Jakarta's 10 million population living below the sea level, it is obvious that structural flood risk mitigation efforts are a priority. The governor has been revitalizing various dams, such as in Pluit or Ria Rio. The results are showing an impact. The Pluit Dam has enlarged its catchment area after families living around the dam were relocated. The budget for various flood-related projects has also increased two-fold this fiscal year to Rp 5.5 trillion.

It should be emphasized that while budgets are not the only indicator of an organization's capacity to respond to its environment, they show the organization has a strategic plan. However, it is not Jokowi's structural flood risk mitigation approach that should be the focus here. The structural flood risk mitigation policy that Jokowi has pursued does not differ much from his predecessors. It is his effort to emphasize the modification of human behavior living in flood-prone areas that makes him stand out from his predecessors. Jokowi has been working to relocate and resettle thousands of families living in watershed areas (around several dams and families living on the riverbanks) and this should put those watersheds back to their original function. It should be noted that his efforts to relocate thousands of families from flood prone areas, without substantial resistance and conflict, shows his ability to balance structural and non-structural flood risk mitigation efforts.

Such an approach is important because people's development choices often further produce hazardous conditions. The settlement of hazardous areas has destroyed local ecosystems that can provide protection from natural perils. In addition, the governor has been working on a campaign to increase people's awareness of the effects of treating the rivers as places to dump trash, along with a proposed stiff penalty for those who continue to do so. This broad and comprehensive view of flood risk mitigation is critical. Various research has shown that in order to be effective, a flood risk mitigation approach is to be produced through a combination of physical, technological, social and institutional variables.

However, challenges remain. Jokowi's novel two-pronged approach is not a panacea to the laundry list of problems that Jakarta has. We have to remember and accept the fact that Jakarta will always live with floods. Its position compared to the sea level, the rivers that crisscross the city, its population density, and global climate change are only a few of the causes of floods in the city. The biggest challenge is building the political will to affect policy not only at the provincial level, but more importantly at the national level. The change of policy at the national level would impact on resource allocation, policy coordination and more importantly, citizen participation in improving communities and lives.

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