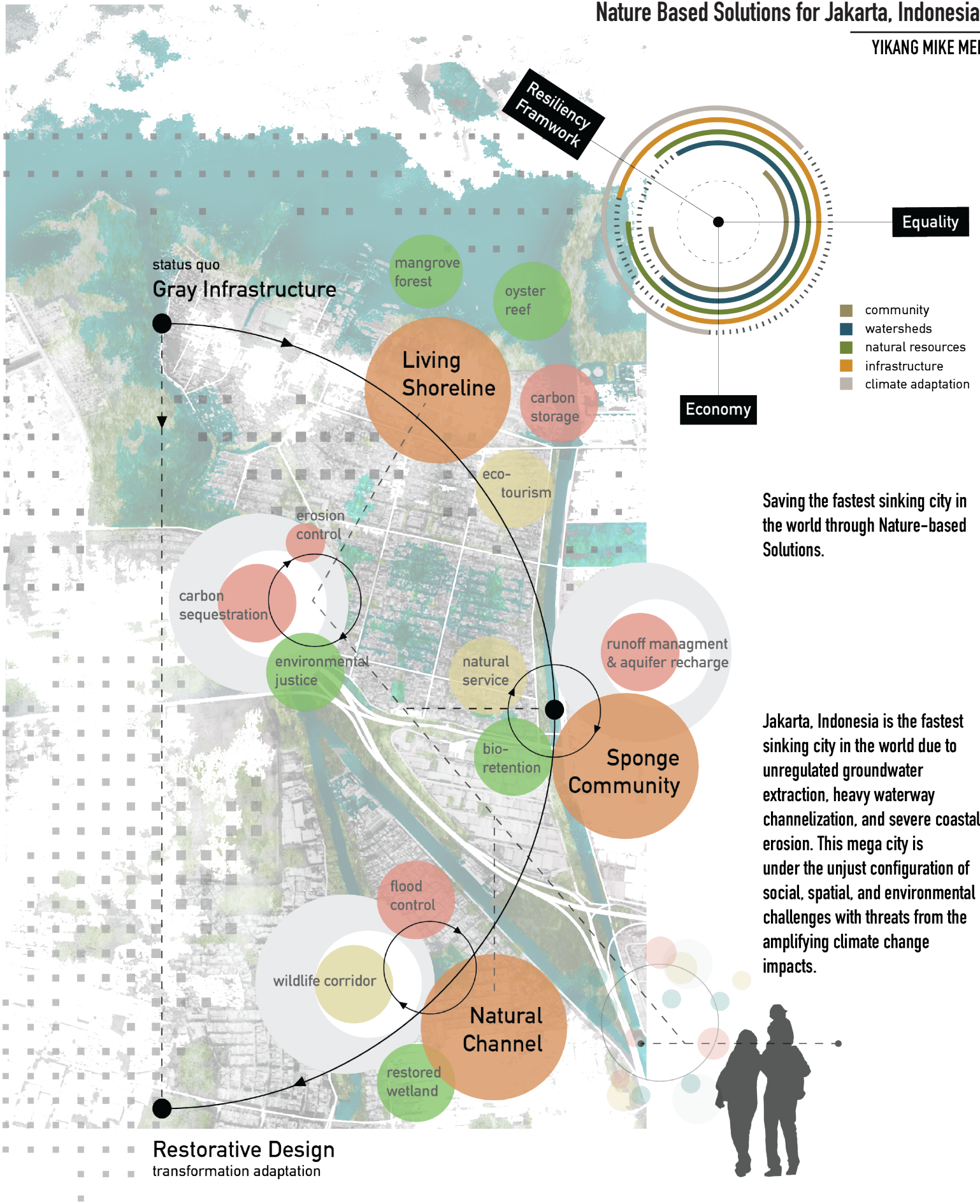
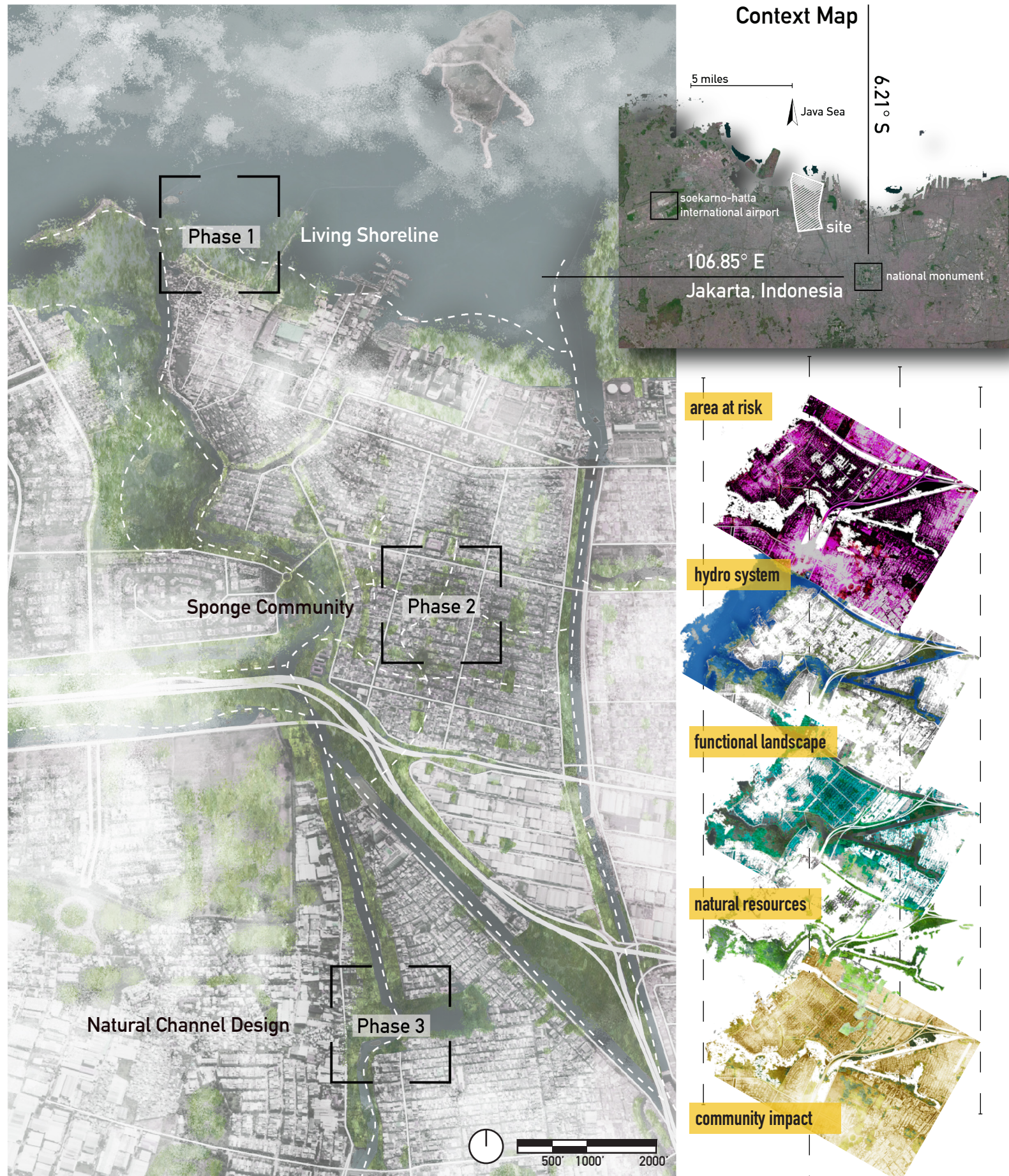


Nature Based Solutions for Jakarta, Indonesia

YIKANG MIKE MEI





Jakarta, Indonesia (6.21° S, 106°.85 E)

Jakarta, Indonesia is the fastest disappearing city on the planet, the biggest environmental threats to Jakarta are related to flooding due to unregulated groundwater extraction, land subsidence, and erosion; plus the amplifying climate change impacts are causing more severe precipitation. In addition, 8 million Jakartans don't have access to piped water in their household, they have no choice but extracting groundwater illegally to fulfill their daily tasks.

In the last 50 years, rapid urbanization transformed the city landscape making it the most impermeable surface in Indonesia. Jakarta has a long history of natural hazards exposure, and remains highly vulnerable to rapid climate change. The megacity of Jakarta is under the unjust configuration of social, spatial, and environmental disparity. Government insufficiencies are causing more displacement after each disaster. The current climate adaptation plan includes concrete seawalls to protect vulnerable communities from flooding; such gray infrastructure can only protect communities temporarily with no additional environmental benefit. Such gray infrastructures lack the flexibility to infiltrate, absorb or release water like natural landscapes as environments evolve.

Nature-based solutions are the actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits. For instance, by installing nature-based solution infrastructure, it meant creating a systematic restorative infrastructure framework to construct a more climate resilient urban environment for all.

Different approaches to nature-based solutions such as Living Shoreline, Sponge Community, and Natural Channel Design will provide flood protection, erosion mitigation, and ecological restoration through adaptive designs. This systematic interruption of the urban environment can provide not only nature services for both human and natural inhabitants, but also creates a long-term climate adaptation framework protecting the city of Jakarta, Indonesia.