

Urban Resilience and Climate Change Adaptation Strategies in Southeast Asia

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Urban resilience and climate change are two vital factors emerging as a global issue today. In the last 15 years, big cities in Southeast Asia such as Manila, and most particular Jakarta experience a big flood nearly every year, one among other factors is brought about by climate change. In January 2013, Jakarta was 'shrinking' after hit by severe flood, and public tried to link it with the environmental devastation caused by human beings. Facing such of bad phenomenon, scholars establish some frame of thinking, how do people or citizens coping with natural disaster like flood, drought as well as earthquake. Taking Jakarta as an example of the Indonesian capital with around 11 million people, ideally, there are must be a sufficient availability of new infrastructure, policies, strategy, mechanism and cooperation among all stakeholders, such as government and Non-Governmental Organisation (NGO), not simply working together after the disaster caused, but more importantly long time before natural disaster occurred.

Urban resilience is defined as "the capacity of a system to absorb disturbances and recognize while undergoing change, so as to still remain essentially the same function, structure, identity and feedbacks" (Walker, B., et.al. "Resilience, Adaptability and Transforming in Social-Ecological Systems". In. Ecology and Society 9 (2), p. 5.). Examining substantially, the nexus between urban resilience and climate change in Southeast Asia generally and in Jakarta in particular, so that, all stakeholders should be actively participate worldwide to combat these serious problems. To deal with urban resilience and its relationships with climate change adaptation strategies in Southeast Asia, I will focus my presentation on Jakarta with all of these related matters and consequences, as a result of climate change. For achieving this intention, I develop a hypothesis as follows "An urban (like Jakarta) will be able to have a very strong resilience for coping with climate change, if it has strategies, policies, mechanism and knowledge in physical, economic, social and special design".

An overall information of this presentation will be written in the following structure: preface, introduction, a brief history of Jakarta, theories on urban resilience and climate change, Jakarta government's policy on urban design, spatial policy, strategy to cope with climate change's impacts, forms of cooperation among stakeholders, conclusion and recommendation. In addition to this, I will enclose some pictures showing the climate change and its negative consequences in Jakarta and its surroundings.

Jakarta, used to be named Batavia, is a capitol of Indonesia. Jakarta is divided into 5 regions with 13 rivers and population around 15.450.140 in 2015. Density of population reaches 14.500 to 95.000 person per square kilometres in certain sites; where its land surface is situated some centimetres under the sea level. Poor families reside in the slum areas and approximately 3.5.% of total population. Most of the slum areas located in Jakarta Utara (North Jakarta) that possess 2704 smallest village units (Rukun Tetangga/RT). Climate changes cause the sea level rises as well as land subsidence that occurs from 6 to 10 centimetres every year. Volatility for population could be traced in the following issues like: environment, livelihood, health, poverty, unemployment and education sectors. To cope with these problems, the government of Jakarta has set up two major strategies, respectively are: 1) adaptation and 2) mitigation.

Adaptation has its close nexus with how people in the effected areas, is able to

adjust themselves to overcome crisis around them, simultaneously, adopting and using all capacities they have to combat the challenges. In a broader context, adaptation not simply links with capacities but also opportunities, to what extent the affected people are aware; that they have capacities within the community to settle down problems they confront with. Besides adaptation, mitigation should be translated as a human intervention to reduce negative condition caused by pollution, including green house effect; as a consequence brought about by Climate Change. In relation to protect the environment of people who live in the coastal areas like people in North Jakarta, such as in Penjaringan, Pluit dan Cilincing, an ecological program planned by the government of Jakarta to plant mangrove, finally fails to be executed. Scarcity of land or land availability becomes a major challenge for urban planners, to allocate space for sustaining ecological balance.

Impact to Urban Resilience not only links with Climate Changes, but also the environmental destruction and quality of environment in the coastal sites. One huge threat every year is flood as a consequence of heavy rains and as well as rob. Rob occurs every two weeks in some RT and RW in Penjaringan dan Cilincing. Density of population along the border river, and a lot of garbage piled up into the river has caused flood; that damages people's belongings and infrastructures, like road and public facilities. For the long future, as experts predict, Jakarta and particularly North Jakarta's areas would shrink; because the rise of sea level steadily to be compared with the availability of drainage systems. Developing of coastal areas massively by housing developers, without considering the impact for environment could be considered as one among other push destructive factor. Government of Jakarta is planning to construct what is called "Capital Integrated Coastal Development" (NCICD) Type A designed by the Dutch Consultant along 30 kilometres. One technique to minimize rob is, to build Water Front City along with constructing Polder or Tidal Gate.

Understanding Urban Resilient in local context should focus Urban policy makers and urban planners on some vital aspects like: social capital, mobility of people, food availability (or basic needs), social security and economy with consider substantially about two basic elements namely "shock and stress" factors. Shock relates with flood, diseases, drinking water, electricity, land slides, drought and basic needs. Stress in this particular links with flood, rob, traffic jams, environmental issues, poverty, unemployment, abrasion, economic crisis and availability of electricity. Among various aspects mentioned above, human roles is so important in coping with physical condition and other challenges existing within society. One important element is "social capital", who defined by Francis Fukuyama (1995:10) as "the ability of people to work together for common purposes in groups and organizations, Social capital is also defined as, the existence of a certain set of informal values or norms should showed among members of a group that permits cooperation among them..."

When all elements to uphold and lay down a strong foundation to built or sustain a Urban Resilience has met, thus, a conceptualization that states about what the resilient Urban or City is would be experienced in the following phenomena such as: "Reflective, Resourceful, Robust, Redundant, Flexible, Inclusive and Integrated".

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