

Effectiveness of Integrated Coastal Management towards Climate Change Adaptation in Danang

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Climate change is a global issue that deeply affects development and even threatens the existence of human beings unless there are big changes in action of the global community. In recent years, natural disasters occurred with increasing intensity and frequency and caused serious consequences for Danang City in Viet Nam. These incidents have been linked to the effects of climate change.

Danang, which has a coastline of nearly 100 km, is usually affected directly by typhoons and tropical low pressures that form in the East Sea and make a direct landfall. Danang also receives heavy rainfall especially in rainy months. Danang has many rivers and streams although their channels are narrow and the drainage capacity is limited. The watershed also has lost its function of water regulation. Residents and important works are also concentrated at the coastal area. These are the conditions that increase the vulnerability of Danang to the impacts of climate change.

The signs of climate change in Danang are consistent with the general trends in the world and in the region. The clearest manifestations are the changes in temperature, rainfall, and salinity, and occurrences of droughts and typhoons, among others. Typhoons and tropical low pressure, which form year-round in East Asia, affect the weather in Danang and cause bad consequences. The increasing salinity of rivers in Danang is also being a cause for concern. Evidently, the negative changes in climate are becoming more complex and are directly affecting the life of residents. Many lives have been lost; houses and infrastructures have been destroyed, waterborne diseases have been prevalent, and poverty and unemployment have increased. These problems have led to some disorder in society such that the serious consequences of climate change have been greater than any economic crisis.

The important role of integrated coastal management (ICM) in addressing risks to the sustainable development of Danang, including natural disasters, was recognized even before climate change became a global issue. In the Danang Coastal Strategy, although climate change was not specifically mentioned, natural disasters were identified as one of the threats in attaining the



stakeholders' shared vision for the city. Within the National ICM Demonstration Project in Danang city, many activities relating to natural disaster prevention and mitigation were implemented. In the course of ICM implementation and in the face of the increasing consequences of climate change-related events, the local government confirmed that effective adaptation to the impacts of climate change is a top priority in order to secure the people's safety and the sustainable development of the city. Prevention and reduction of damages due to natural disasters is the main focus of climate change adaptation in Danang.

Climate change is a critical global concern and Danang will be one of the most affected places. In recent years, Danang had many actions towards climate change adaptation. However, those were not enough. As the catastrophes caused by climate change may occur with even greater intensity and frequency in the future, Danang needs to undertake more actions. The National ICM Demonstration Project in Danang city contributed a lot to the actions to adapt to the impacts of climate change in the city. The activities of the project in the second phase will be integrated into the city's plan for climate change adaptation.