

### **Social and cultural aspect**

In order to anticipate some barrier in community awareness and miss-leading information on reclamation project, socialization and dissemination of positive impact from reclamation project should be highlighted and enhanced. Public consultation meeting (PCM) should be conducted prior to the construction stage and should involve all stakeholders. Furthermore, since those Regulation and Guidelines regarding to coastal protection are relatively new (less than 2 years), their dissemination and socialization to the stakeholders (planner, contractors, and community) is necessary. So that, resistant from the community on the planning to build expensive coastal protection and reclamation could be minimized.

#### **2.3.3.2. Recommended solutions for coastal vulnerability sector**

In order to transfer the technologies, the recommended solutions for coastal vulnerability sector are: 1) conduct dissemination/socialization of these two technologies to stakeholders in priority areas; 2) build and implement those two technologies in areas most potentially affected. Following are some other proposed recommendation solutions for utmost implementation of the two priority technologies:

- a. Coordinated databases—on coastal resources, uses (e.g. farming, fishery, and industry), geo-spatial data, including property lines, and demographic data on coastal residents—are needed both for more effective coastal adaptation planning and can inform the improved allocation of resources in a post-hazard situation.
- b. Building capacity of government and private sector professionals to incorporating climate change adaptation. For instance, conducting training for land use professionals in hazard risk assessment and the physical identification of hazard areas.
- c. Adopting Integrated Coastal Zone Management in Local Government Level as a mean in managing their coastal and marine resources.

#### **2.3.4. Concrete actions plans and ideas for coastal vulnerability sector**

##### **2.3.4.1 Plan for domestic actions and measures for coastal vulnerability sector**

#### **Description**

The real action plan that will be implemented in the framework of the climate change adaptation efforts in coastal vulnerability sector is by developing coastal protection structures and/or beach reclamation. For coastal protection structures, there are two options as priority: seawall and revetment. The implementation of coastal protection structures and/or beach reclamations should be based on priority levels. Therefore, areas with higher vulnerability is become more priority than the less vulnerable coasts. It is considered that shore protection structures will be built on the coasts of Tegal and/or Pemalang Regency (Central Java). As for coastal reclamation, it will be focused on the areas of Jakarta, Tangerang and Bekasi. Period for the implementation of the development is expected to complete within three years. Some other aspects into consideration in the construction of coastal protection structures and coastal reclamation are the resource requirements, regulations, and authorities.

## Timeline

### First year:

- Identify vulnerable coasts/beaches all over the country
- Determine priority/rank; locations having high susceptibility and high economical value or vital object should be prioritized
- Assess which technology is more suitable for each location

### Second year:

- Funding and economic analysis
- Create Master plan
- Conduct Feasibility study
- Conduct Detail Engineering Design

### Third year:

- Constructions
- Monitoring and Evaluation

## Geographic scope

For the construction of coastal protection, the selected regions are the town of Tegal and/or Pemalang Regency (Central Java). For reclamation, the focus coastal areas include Jakarta, Tangerang and Bekasi. Consideration in choosing Tegal and Pemalang as the priority location is because the area located in the north coast of Java that considered having very high level of vulnerability to hazards. Figure 2-11 shows the extend line of coastal flooding in Pemalang based on Quick Bird imagery data, October 12, 2007 (left), and the city of Tegal based on Quick Bird imagery data, 30 June 2004 (right).



**Figure 2- 11 The extend of coastal flooding in Kabupaten Pemalang (left) and Kota Tegal (right)**

(Source: Final Report – Drafting the Strategy Document for Adaptation and Disaster Mitigation in Coastal and Small Islands due to Climate Change, 2008)

In the case of Jakarta, Tangerang and Bekasi, based on the results of simulation, particularly to the North Jakarta, it is estimated that by 2050, about 25 percent of the North Jakarta will drown. The area such as such as Ancol, Pantai Indah Kapuk, Koja, and Tanjung Priok will disappear from the map of Indonesia (final report of Drafting Strategy Document for Adaptation and Disaster mitigation in Coastal and small islands due to climate change, 2008). The predicted sea-level condition of Jakarta in 2050 is presented in Figure 2-12.

### **Resources needed**

Resource requirement for the construction of coastal protection and reclamation includes human resources, equipment, materials and costs. Materials for the construction will be tailored to the availability of local materials in order to reduce the costs. The needs for human resources involved which includes experts in the field of structure modelling, civil engineering, oceanography, and coastal ecology. In addition, the construction works also need heavy equipments. Funds for the construction will be allocated from or funded by grant from donor countries.

### **Regulatory change**

From the regulation point of view, rules and regulations related to coastal protection and reclamation already exist. Currently, the existing regulations related to coastal protection are in the form of Minister's Regulation and Circulars; issued in 2010, these relatively new regulations still need intensive socialisation and dissemination, so that the parties concerned become aware and put the regulations into practice. The current status for regulation in coastal reclamation is that the draft of the President of the Republic of Indonesia's Decree on Reclamation in Coastal area and Small islands, just waiting to be signed.



**Figure 2- 12 Predicted sea-level condition of Jakarta in 2050**

(Source: ITB, 2007; in Final Report of Strategy Document for Adaptation and Disaster Mitigation in Coastal and Small Islands due to Climate Change, 2008)

### **Coordinating/ implementing agency**

Coordination for the implementation of coastal protection and coastal reclamation constructions, from preparation stage to completion, is carried out by the implementing agencies, in this case is the Ministry of Public Work and the Ministry of Marine Affairs and Fisheries. The agency carries out will be adapted to the location or existence of which the coastal protection or in the territory of which the reclamation was built. If it is in the borders region, which includes more than one province, then it will be the responsibility of the Central Government, but if it is in a province or district/city, became the responsibility of the Local Government.