Impacts of Sea Reclamation on the Coastal Ecosystem

ZHANG Zhaohui[1]

SU Weixiao[2]

WANG Zongling[1]

[1] First Institute of Oceanography
SOA, Qingdao 266061

[2] Environment Science and Technology School
Ocean University of China, Qingdao 266100

China has long history of sea reclamation for protection purpose (Dong, 2006). There are more than 12,000 km^2 sea reclamation areas since new China established (Sun, 2005). With the fast economic development and limited lands in the coastal areas, the demand of sea reclamation becomes higher and higher. This paper reviewed the related scientific literatures, and estimated how the sea reclamation impacts on the coastal ecosystem.

In general, the impacts of sea reclamation can be classified in 3 levels on the coastal ecosystem: the habitats, biological individuals and population, and ecosystem services. The sea reclamation will lead habitat loss, degradation, or fragmentation, especially in the ecotone area which is very important for biodiversity in coast (Ilkka Hanski, 2006). For biological individuals and population, they must face a new habitat selection and/or ecological trap (Schlaepfer et al., 2002), which will increase the risk of species extinction. The ecosystem services will alter due to a new structure and dynamic in coastal ecosystem (Ruiz et al., 1997).

However, the impacts of sea reclamation are still unclear, such as the bury effects on benthos, the impacts of soil extraction on planktons. We suggest the related research of sea reclamation impacts on the ecosystem needs to be strengthened in China for scientific decision.

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