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An application of environmental decision making in seaport development in Vietnam

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Mangrove ecosystem in the Thi Vai-Cai Mep estuary, Ba Ria-Vung Tau province, Vietnam, currently is potentially under serious destruction due to implementation of a seaport development strategy. Since the 1990's, due to port construction and operation together with the booming of indusial zones, a significant area of mangroves has been cleared off and marine water pollution has become a concern in the region, resulting in a continuing reduction in fishery and aquaculture as well as salt production of the local people living in the area. As a result, this would lead to conflicts among the sectoral braches and local communities.

Environmental decision makers and port planners are therefore faced with the challenge task of developing an effective environmental decision making process in seaport development in a context where provincial authorities, local communities and environmental regulators simultaneously address a variety of objectives and interests, some of which may be well in conflict with each other. Such multi-criteria decision problems are common in many fields of policy making and over the past two decades have given rise to an extensive literature of both a theoretical and methodological nature.

A sustainable approach to provide a basis for environmental decision making in seaport development is presented. The multi-criteria decision making (MCDM) technique used to assess the different strategic alternatives of seaport development plan in the case study is the Analytic Hierarchy Process (AHP). The method takes into account of the interplay of forces among different stakeholders directly and indirectly involved in port activity and port development. Valuations associated with judgments on the importance of criteria are explored. The ranking of the seaport alternatives is obtained. It is concluded that mangrove, water quality and oil spill are the most important criteria according to the people's judgments. The study also demonstrates that the most preferred option among seaport plans is the "status quo" alternative. This is in contrast to the approved plan, the "all ports" option. It is in common to the similar situation where greater emphasis has been placed on the tendency that the host communities residents often oppose facilities that pollute.

Keywords: Environmental Impact Assessment (EIA); Tropical mangrove; Stakeholder Relations Management (SRM); Environmental decision making; Public participation; Multi-criteria Decision Making (MCDM); Analytic Hierarchy Process (AHP)