

5.4 Initial Environmental Examination

The objectives of Initial Environmental Examination (IEE) are to examine and identify the necessity of Environmental Impact Assessment (EIA), and to identify potentially significant adverse environmental impacts by analyzing the present situation of environmental conditions in relation to the master plan study for the coastal channels and ports development.

The procedure of this IEE was carried out by the following steps;

- 1) Examining the outline of the proposed project,
- 2) Examining and identifying the natural and social conditions of the proposed sites,
- 3) Identifying the necessity of environmental consideration for EIA,
- 4) Selecting potentially significant adverse environmental impacts,
- 5) Evaluating significant adverse environmental impacts finally and proposing future study requirements.

5.4.1 Project Description

During formulation of a master plan for the coastal channels and ports development in the study area, the following sites were selected as objective areas for the successive feasibility study:

1. Songkhla Port/Channel
2. Sichon Channel
3. Bang Ra Pha Channel

Table 5.4.1-1 shows the project description about above-mentioned three sites.

5.4.2 Site Description

The site description obtained from the observation on site survey is shown in Tables 5.4.2-1 to 5.4.2-3 for Songkhla, Sichon and Bang Ra Pha, respectively.

Table 5.4.1-1 Project Description

Item	Description		
Project Name	The Master Plan Study for the Coastal Channels and Ports Development in the Kingdom of Thailand		
Background	In order to promote the social and economic growth in the Southern Seaboard, the development of the coastal transport networks including the establishment of an effective planning for the channels and ports results in improvement of the regional economy and opportunities.		
Objectives	To formulate a master plan for the channel and port development and their maintenance/management plan and to conduct a feasibility study for the selected channels and ports		
Location	Southern Seaboard facing the Gulf of Thailand		
Executing Agency	Harbour Department, Ministry of Transport and Communications		
Beneficiaries	Not clear		
Project Components	Songkhla	Sichon	Bang Ra Pha
Type of Project	Construction and Improvement	Improvement	Sand Bypassing
Type of Port	International and Domestic Fishing, Commercial and Cargo	Domestic Fishing	Domestic Fishing
Demand/Vessels	Cargo : 5,000 DWT & 2,500 DWT		
Moorings	Jetty/Wharf: Coastal Berth Ro/Ro Berth Water Depth : -6.5 m Length : 130 m & 150 m		
Fringe Facilities	Transit Shed : 3,000 m ² Seawall : 600 m		
Water Facilities	Water Depth : -9 m	One Jetty : 700m	
Dredging/Reclamation	Dredging : 22,400 m ³ Reclamation : 183,600 m ³		Sand Bypass : 5x10 ⁴ m ³ /y
Related Facilities	Container Yard Access Bridge & Road Shoreline Protection		Bridge/Road
Others	Sand Bypassing		

Note: The project components will be discussed in chapter 9.

Table 5.4.2-1 Site Description of Songkhla Port/Channel

Item	Description
Project Name	The Master Plan Study for the Coastal Channels and Ports Development in the Kingdom of Thailand
Social Environment	
Inhabitants	Not clear
Land Use	<p>The port area is almost occupied by communities, agricultural area, shrimp farm and etc.. Coastal industrial zone is very rare and limited in urban areas.</p> <p>The coastal area and waterways are common areas for public utilization. Within Songkhla lake and lake entrance, however, areas are illegally occupied with about 1,063 set bag nets/mullet life nets. Most of these fishermen are Muslim. And this issue is very sensitive.</p> <p>Not only the water rights problem but also illegal land occupation around the port is another serious difficulty. The designated area for port expansion was issued in the degree since Dec. 28, 1981 to acquire the area of about 0.3 km² for this purpose. The compensation money was already paid. There were 594 families with more than 4,000 members by the recent survey.</p>
Economy/Recreation	<p>Major occupations are agriculture based and dominant cash crops are rubber, rice, oil palm, coconut and durian. Fisheries are also important. There are coastal and in-land fisheries. Aquaculture is also observed along the shoreline and within Songkhla Lake and dominant fish species are white sea bass, tiger prawn and cod.</p> <p>Two famous and attractive beaches of Hat Samilla and Hat Kao Seng are situated to the east side of the entrance to the port.</p>

(to be continued)

Item	Description
Natural Environment	
Topography/Geology	Songkhla Port is located on the west side of the Songkhla Lake entrance. Khao Daeng mountain is situated near the port.
Coastal & Marine Zone	Sandy beach is prominent on the both sides of the lake entrance. Serious erosion is occurred around Had Sai Kaeo on the west of the entrance.
Fauna, Flora & Their Habitats	High density mangrove forests can be seen in two sites as mangrove forest conservation area at Hua Khao sub-district and Tinnasulanonda Fishery College. White-chested Bables is the only one species of animals found in this area which is defined as near threatened species.
Environmental Pollution	
Complains	The existing environmental conditions have negative aspects such as wastewater, loss natural resources, sedimentation and air pollution.
Measures taken	Not clear
Others	There are important historical and archaeological sites near the project site. According to research documents, there are at least 12 historical and archaeological sites, such as fortress, ancient city wall, ancient city moat and religious monuments.

Table 5.4.2-2 Site Description of Sichon Channel

Item	Description
Project Name	The Master Plan Study for the Coastal Channels and Ports Development in the Kingdom of Thailand
Social Environment	
Inhabitants	Not clear
Land Use	The study area is utilized mostly for residential and agricultural purpose. The coastal zone in the area is composed of sandy beaches. Shrimp farms are widely distributed in this area.
Economy/Recreation	Agriculture and fisheries are main occupations. Shrimp-farming is highly important in this area. Small coastal fishing is operated in the whole area. There are no important recreation sites in this area.
Natural Environment	
Topography/Geology	The right side of the river is characterized with Khao Kho Kwang hill and rocky beach. The left side is composed of wet land and sand beach.
Coastal & Marine Zone	Serious erosions are widely distributed in this area.
Fauna, Flora & Their Habitats	No mangrove forests are found in this area. However, some degraded mangrove species are scattered along the river. 32 wildlife species found in this study are not in IUCN red list.
Environmental Pollution	
Complains	Not clear
Measures taken	Not clear
Others	

Table 5.4.2-3 Site Description of Bang Ra Pha Channel

Item	Description
Project Name	The Master Plan Study for the Coastal Channels and Ports Development in the Kingdom of Thailand
Social Environment	
Inhabitants	Not clear
Land Use	The area around Bang Ra Pha river-mouth is small village in the east, coconut orchard along the beach and mangrove forests standing on the island opposite the river-mouth.
Economy/Recreation	Agriculture and fisheries are main occupations. Small coastal fishing is operated in the whole area. There are no important recreation sites in this area.
Natural Environment	
Topography/Geology	The coastal zone is composed of sandy beaches and mangrove forests stand widely on the island opposite the river-mouth.
Coastal & Marine Zone	Serious erosions are widely distributed in this area, Especially in the left side of the existing jetties.
Fauna, Flora & Their Habitats	Large scale of mangrove forests are located in the river-mouth area, which have the area of 40.77 ha and 12 pioneer mangrove species. Three species of White-chested Babbles, Malayan Box Turtle and Fishing Cat were found in this study, which are defined as near threatened species.
Environmental Pollution	
Complains	Not clear
Measures taken	Not clear
Others	

5.4.3 Screening

The result of screening for environmental components such as social environments, natural environments and environmental pollutions is summarized in Tables 5.4.3-1 to 5.4.3-3 for Songkhla, Sichon and Bang Ra Pha, respectively.

Potential types of significant adverse environmental impacts are: resettlement due to land occupation, damage to historical and archaeological remains, sedimentation due to changes of coastal line by reclamation, obstruction of breeding by change of habitat conditions and contamination of waters in the port area caused by reclamation and/or oil spills etc. for the Songkhla Port/Channel project. Other components will have no significant impact at the present time.

For the projects in Sichon Channel and Bang Ra Pha channel, all components are not significant as adverse environmental impacts because of the project component and size, and the location of project site.

In conclusion, some adverse environmental impacts are expected in Songkhla Port. Therefore, Environmental Impact Assessment (EIA) for Songkhla Port is required after formulation of a master plan of coastal channels and ports development.

5.4.4 Scoping

Tables 5.4.4-1 to 5.4.4-3 show the checklist of scoping to select potentially significant adverse environmental impacts after investigation for the matrix of scoping shown in Tables 5.4.4-4 to 5.4.4-6 for Songkhla, Sichon and Bang Ra Pha areas, respectively.

Table 5.4.3-1 Screening of Environmental Components for Songkhla Port/Channel

Environmental Components	Potential Negative Impacts	Adverse Environmental Impact			Remarks (reason)
		Potentially Significant	No Significant Impact	Insufficient Information	
Social Environments					
1. Resettlement	Resettlement due to land occupation (transfer of rights of residences/land owner ship)	○			
2. Economic Activities	Loss of bases of economic activities such as land & fishing ground, change of economic structure		○		
3. Traffic & Public Facilities	Impacts on schools, hospitals & present traffic conditions		○		
4. Split of Communities	Community split due to interruption of area traffic		○		
5. Cultural Property	Damage to or loss of value of cultural assets & archaeological remains	○			
6. Water Rights & Rights of Common	Obstruction of fishing rights, water rights & right of common		○		
7. Public Health Condition	Deterioration of public health & sanitary conditions due to generation of garbage &		○		
8. Waste	Generation of construction waste, debris, waste oil & general waste		○		
9. Hazards (Risk)	Increase in danger from landslide, accidents, etc.		○		
Natural Environments					
10. Topography & Geology	Changes of valuable topography & geology due to excavation or filling work		○		
11. Soil Erosion	Top soil erosion by rainfall after reclamation & deforestation		○		
12. Groundwater	Depression caused by extraction during excavation & contamination by leachate		○		
13. Hydrological Situation	Change of river discharge & riverbed condition by land fill & drainage inflow		○		
14. Coastal Zone	Coastal erosion & sedimentation due to changes of hydrology & shoreline	○			
15. Flora & Fauna	Obstruction of breeding & extinction of species by change of habitat conditions	○			
16. Meteorology	Change of temperature & wind by large-scale reclamation & new building		○		
17. Landscape	Deterioration of aesthetic harmony by reclamation & structures		○		
Environmental Pollutions					
18. Air Pollution	Air pollution exhaustion from harbor facilities, ships & vehicles		○		
19. Water Pollution	Contamination of waters in river & within port caused by drainage, oil spills & siltation etc.	○			
20. Soil Contamination	Soil contamination caused by dust from stockpiles & herbicides etc.		○		
21. Noise & Vibration	Excessive noise & vibration generated by vehicles & ships to nearby residents		○		
22. Land Subsidence	Land subsidence due to lowering of groundwater level & deformation of land		○		
23. Offensive Odor	Offensive odor from harbor facilities to nearby residents		○		
Overall Evaluation : Necessity of EIA for the project implementation		Necessary			

Table 5.4.3-2 Screening of Environmental Components for Sichon Channel

Environmental Components	Potential Negative Impacts	Adverse Environmental Impact			Remarks (reason)
		Potentially Significant	No Significant Impact	Insufficient Information	
Social Environments					
1. Resettlement	Resettlement due to land occupation (transfer of rights of residences/land owner ship)		○		
2. Economic Activities	Loss of bases of economic activities such as land & fishing ground, change of economic structure		○		
3. Traffic & Public Facilities	Impacts on schools, hospitals & present traffic conditions		○		
4. Split of Communities	Community split due to interruption of area traffic		○		
5. Cultural Property	Damage to or loss of value of cultural assets & archaeological remains		○		No development on Land
6. Water Rights & Rights of Common	Obstruction of fishing rights, water rights & right of common		○		
7. Public Health Condition	Deterioration of public health & sanitary conditions due to generation of garbage &		○		
8. Waste	Generation of construction waste, debris, waste oil & general waste		○		
9. Hazards (Risk)	Increase in danger from landslide, accidents, etc.		○		
Natural Environments					
10. Topography & Geology	Changes of valuable topography & geology due to excavation or filling work		○		
11. Soil Erosion	Top soil erosion by rainfall after reclamation & deforestation		○		
12. Groundwater	Depression caused by extraction during excavation & contamination by leachate		○		
13. Hydrological Situation	Change of river discharge & riverbed condition by land fill & drainage inflow		○		
14. Coastal Zone	Coastal erosion & sedimentation due to changes of hydrology & shoreline		○		
15. Flora & Fauna	Obstruction of breeding & extinction of species by change of habitat conditions		○		
16. Meteorology	Change of temperature & wind by large-scale reclamation & new building		○		
17. Landscape	Deterioration of aesthetic harmony by reclamation & structures		○		
Environmental Pollutions					
18. Air Pollution	Air pollution exhaustion from harbor facilities, ships & vehicles		○		
19. Water Pollution	Contamination of waters in river & within port caused by drainage, oil spills & siltation etc.			○	
20. Soil Contamination	Soil contamination caused by dust from stockpiles & herbicides etc.		○		
21. Noise & Vibration	Excessive noise & vibration generated by vehicles & ships to nearby residents			○	
22. Land Subsidence	Land subsidence due to lowering of groundwater level & deformation of land		○		
23. Offensive Odor	Offensive odor from harbor facilities to nearby residents		○		
Overall Evaluation : Necessity of EIA for the project implementation		Not Necessary			

Table 5.4.3-3 Screening of Environmental Components for Bang Ra Pha Channel

Environmental Components	Potential Negative Impacts	Adverse Environmental Impact			Remarks (reason)
		Potentially Significant	No Significant Impact	Insufficient Information	
Social Environments					
1. Resettlement	Resettlement due to land occupation (transfer of rights of residences/land owner ship)		○		
2. Economic Activities	Loss of bases of economic activities such as land & fishing ground, change of economic structure		○		
3. Traffic & Public Facilities	Impacts on schools, hospitals & present traffic conditions		○		
4. Split of Communities	Community split due to interruption of area traffic		○		
5. Cultural Property	Damage to or loss of value of cultural assets & archaeological remains		○		No development on Land
6. Water Rights & Rights of Common	Obstruction of fishing rights, water rights & right of common		○		
7. Public Health Condition	Deterioration of public health & sanitary conditions due to generation of garbage &		○		
8. Waste	Generation of construction waste, debris, waste oil & general waste		○		
9. Hazards (Risk)	Increase in danger from landslide, accidents, etc.		○		
Natural Environments					
10. Topography & Geology	Changes of valuable topography & geology due to excavation or filling work		○		
11. Soil Erosion	Top soil erosion by rainfall after reclamation & deforestation		○		
12. Groundwater	Depression caused by extraction during excavation & contamination by leachate		○		
13. Hydrological Situation	Change of river discharge & riverbed condition by land fill & drainage inflow		○		
14. Coastal Zone	Coastal erosion & sedimentation due to changes of hydrology & shoreline		○		Positive impact to shoreline
15. Flora & Fauna	Obstruction of breeding & extinction of species by change of habitat conditions		○		
16. Meteorology	Change of temperature & wind by large-scale reclamation & new building		○		
17. Landscape	Deterioration of aesthetic harmony by reclamation & structures		○		
Environmental Pollutions					
18. Air Pollution	Air pollution exhaustion from harbor facilities, ships & vehicles		○		
19. Water Pollution	Contamination of waters in river & within port caused by drainage, oil spills & siltation etc.		○		
20. Soil Contamination	Soil contamination caused by dust from stockpiles & herbicides etc.		○		
21. Noise & Vibration	Excessive noise & vibration generated by vehicles & ships to nearby residents		○		
22. Land Subsidence	Land subsidence due to lowering of groundwater level & deformation of land		○		
23. Offensive Odor	Offensive odor from harbor facilities to nearby residents		○		
Overall Evaluation : Necessity of EIA for the project implementation		Not Necessary			

Table 5.4.4-1 Checklist of Scoping for Songkhla Port/Channel

Environmental Components	Impact	Remarks (reason)
Social Environment		
1. Resettlement	A	Many residents live near project site.
2. Economic Activities	C	Detailed master plan is not decided.
3. Traffic & Public Facilities	C	- ditto -
4. Split of Communities	D	No development on land area
5. Cultural Property	B	Some monuments exist near project site
6. Water Rights & Rights of Common	C	Project area is used as set bag nets etc.
7. Public Health Condition	D	No development on land area
8. Waste	D	- ditto -
9. Hazards (Risk)	D	- ditto -
Natural Environment		
10. Topography & Geology	D	No development on land area
11. Soil Erosion	D	- ditto -
12. Groundwater	D	- ditto -
13. Hydrological Situation	D	- ditto -
14. Coastal Zone	B	Some changes of coastal line
15. Flora & Fauna	C	Depending on water pollution
16. Meteorology	D	Small scale of project
17. Landscape	D	- ditto -
Environmental Pollution		
18. Air Pollution	C	Detailed master plan is not decided.
19. Water Pollution	B	During operation of construction
20. Soil Contamination	C	Detailed master plan is not decided.
21. Noise & Vibration	C	- ditto -
22. Land Subsidence	D	No development on land area
23. Offensive Odor	C	Detailed master plan is not decided.

(Note) Impact Categories

A : Serious impact is expected.

B : Some impact is expected.

C : Extent of impact is unknown.

(Examination is needed. Impact may become clear as study progresses.)

D : No impact is expected. (EIA is not necessary)

Table 5.4.4-2 Checklist of Scoping for Sichon Channel

Environmental Components	Impact	Remarks (reason)
Social Environment		
1. Resettlement	D	No development plan
2. Economic Activities	C	Detailed master plan is not decided.
3. Traffic & Public Facilities	C	- ditto -
4. Split of Communities	D	No development plan
5. Cultural Property	D	- ditto -
6. Water Rights & Rights of Common	D	- ditto -
7. Public Health Condition	D	- ditto -
8. Waste	D	- ditto -
9. Hazards (Risk)	D	- ditto -
Natural Environment		
10. Topography & Geology	D	No development plan
11. Soil Erosion	D	- ditto -
12. Groundwater	D	- ditto -
13. Hydrological Situation	D	- ditto -
14. Coastal Zone	C	Some changes of shorelines
15. Flora & Fauna	D	No development plan
16. Meteorology	D	- ditto -
17. Landscape	D	- ditto -
Environmental Pollution		
18. Air Pollution	C	Detailed master plan is not decided.
19. Water Pollution	C	- ditto -
20. Soil Contamination	D	No development plan
21. Noise & Vibration	C	Detailed master plan is not decided.
22. Land Subsidence	D	No development plan
23. Offensive Odor	D	- ditto -

(Note) Impact Categories

A : Serious impact is expected.

B : Some impact is expected.

C : Extent of impact is unknown.

(Examination is needed. Impact may become clear as study progresses.)

D : No impact is expected. (EIA is not necessary)

Table 5.4.4-3 Checklist of Scoping for Bang Ra Pha Channel

Environmental Components	Impact	Remarks (reason)
Social Environment		
1. Resettlement	D	No development plan
2. Economic Activities	D	- ditto -
3. Traffic & Public Facilities	C	Detailed master plan is not decided.
4. Split of Communities	D	No development plan
5. Cultural Property	D	- ditto -
6. Water Rights & Rights of Common	D	- ditto -
7. Public Health Condition	D	- ditto -
8. Waste	D	- ditto -
9. Hazards (Risk)	D	- ditto -
Natural Environment		
10. Topography & Geology	D	No development plan
11. Soil Erosion	D	- ditto -
12. Groundwater	D	- ditto -
13. Hydrological Situation	D	- ditto -
14. Coastal Zone	C	Some changes of shorelines
15. Flora & Fauna	D	No development plan
16. Meteorology	D	- ditto -
17. Landscape	D	- ditto -
Environmental Pollution		
18. Air Pollution	D	No development plan
19. Water Pollution	D	- ditto -
20. Soil Contamination	D	- ditto -
21. Noise & Vibration	D	- ditto -
22. Land Subsidence	D	- ditto -
23. Offensive Odor	D	- ditto -

(Note) Impact Categories

A : Serious impact is expected.

B : Some impact is expected.

C : Extent of impact is unknown.

(Examination is needed. Impact may become clear as study progresses.)

D : No impact is expected. (EIA is not necessary)

Table 5.4.4-4 Matrix of Scoping for Songkhla Port/Channel

Environmental Components	Port & Harbor Facilities/Supplemental Facilities							Overall Evaluation
	Before Operation			After Operation				
	Alteration of Topography	Spatial Occupancy	Operation of Construction	Spatial Occupancy	Land Traffic (Vehicles)	Coastal & Harbor Traffic (Ships)	Operation of facilities	
Social Environment								
1. Resettlement								
2. Economic Activities								
3. Traffic & Public Facilities								
4. Split of Communities								
5. Cultural Property								
6. Water Rights & Rights of Common								
7. Public Health Condition								
8. Waste								
9. Hazards (Risk)								
Natural Environment								
10. Topography & Geology								
11. Soil Erosion								
12. Groundwater								
13. Hydrological Situation								
14. Coastal Zone								
15. Flora & Fauna								
16. Meteorology								
17. Landscape								
Environmental Pollution								
18. Air Pollution								
19. Water Pollution								
20. Soil Contamination								
21. Noise & Vibration								
22. Land Subsidence								
23. Offensive Odor								

- (Note) : Environmental components to which special attention has to be paid.
They might cause serious impacts that may affect the project formulation depending on the magnitude of impacts and possibility of measures.
: Environmental components which may have significant impacts depending on the scale of the project and site conditions.
No Mark : Environmental components requiring no impact assessment since the anticipated impacts are, in general, not significant.

Table 5.4.4-5 Matrix of Scoping for Sichon Channel

Environmental Components	Port & Harbor Facilities/Supplemental Facilities						Overall Evaluation
	Before Operation			After Operation			
	Alteration of Topography	Spatial Occupancy	Operation of Construction	Spatial Occupancy	Land Traffic (Vehicles)	Coastal & Harbor Traffic (Ships)	
Social Environment							
1. Resettlement							
2. Economic Activities							
3. Traffic & Public Facilities							
4. Split of Communities							
5. Cultural Property							
6. Water Rights & Rights of Common							
7. Public Health Condition							
8. Waste							
9. Hazards (Risk)							
Natural Environment							
10. Topography & Geology							
11. Soil Erosion							
12. Groundwater							
13. Hydrological Situation							
14. Coastal Zone							
15. Flora & Fauna							
16. Meteorology							
17. Landscape							
Environmental Pollution							
18. Air Pollution							
19. Water Pollution							
20. Soil Contamination							
21. Noise & Vibration							
22. Land Subsidence							
23. Offensive Odor							

- (Note) : Environmental components to which special attention has to be paid. They might cause serious impacts that may affect the project formulation depending on the magnitude of impacts and possibility of measures.
- : Environmental components which may have significant impacts depending on the scale of the project and site conditions.
- No Mark : Environmental components requiring no impact assessment since the anticipated impacts are, in general, not significant.

Table 5.4.4-6 Matrix of Scoping for Bang Ra Pha Channel

Environmental Components	Port & Harbor Facilities/Supplemental Facilities						Overall Evaluation
	Before Operation			After Operation			
	Alteration of Topography	Spatial Occupancy	Operation of Construction	Spatial Occupancy	Land Traffic (Vehicles)	Coastal & Harbor Traffic (Ships)	
Social Environment							
1. Resettlement							
2. Economic Activities							
3. Traffic & Public Facilities							
4. Split of Communities							
5. Cultural Property							
6. Water Rights & Rights of Common							
7. Public Health Condition							
8. Waste							
9. Hazards (Risk)							
Natural Environment							
10. Topography & Geology							
11. Soil Erosion							
12. Groundwater							
13. Hydrological Situation							
14. Coastal Zone							
15. Flora & Fauna							
16. Meteorology							
17. Landscape							
Environmental Pollution							
18. Air Pollution							
19. Water Pollution							
20. Soil Contamination							
21. Noise & Vibration							
22. Land Subsidence							
23. Offensive Odor							

- (Note) : Environmental components to which special attention has to be paid. They might cause serious impacts that may affect the project formulation depending on the magnitude of impacts and possibility of measures.
- : Environmental components which may have significant impacts depending on the scale of the project and site conditions.
- No Mark : Environmental components requiring no impact assessment since the anticipated impacts are, in general, not significant.

5.4.5 Overall Evaluation of IEE

The overall evaluation of potentially adverse environmental impacts on this Initial Environmental Examination (IEE) is summarized as shown in Table 5.4.5-1 for Songkhla area and Table 5.4.5-2 for Sichon and Bang Ra Pha areas.

As environmental components to which serious or some impacts are expected in Songkhla area, resettlement, cultural property, coastal zone and water pollution are selected for assessment.

With regard to other environmental components such as social environments of economic activities, traffic and public facilities, and water rights and rights of common, natural environments of fauna and flora, and some components of environmental pollutions such as air pollution, soil pollution, noise and vibration, and offensive odor in Songkhla area, the extent of impact will be clarified in the feasibility study.

In Sichon area, some components of economic activities, traffic and public facilities, coastal zone, air pollution, water pollution, and noise and vibration are confirmed negligible in the feasibility study.

The components of traffic and public facilities, and coastal zone are also confirmed negligible in the feasibility study.

Table 5.4.5-1 Overall Evaluation of Potentially Adverse Environmental Impacts for Songkhla Port/Channel

Environmental Components	Impact	Study Plan
Resettlement	A	Environmental Impact Assessment
Cultural Property	B	Environmental Impact Assessment
Coastal Zone	B	Analysis of shoreline changes by numerical simulation
Water Pollution	B	Analysis of water diffusion by numerical simulation
Economic Activities	C	Environmental Impact Assessment
Traffic & Public Facilities	C	- ditto -
Water Rights/Rights of Common	C	- ditto -
Fauna & Flora	C	Environmental Conditions Survey (2)
Air Pollution	C	Environmental Impact Assessment
Soil Contamination	C	- ditto -
Noise & Vibration	C	- ditto -
Offensive Odor	C	- ditto -

(Note) 1) IEE evaluation results are tentative and final evaluation shall be made by EIA

2) Impact Categories

A : Serious impact is expected.

B : Some impact is expected.

C : Extent of impact is unknown.

(Examination is needed. Impact may become clear as study progresses.)

Table 5.4.5-2 Overall Evaluation of Potentially Adverse Environmental Impacts for Sichon Channel and Bang Ra Pha Channel

Environmental Components	Impact	Study Plan
1. Sichon Port/Channel		
Economic Activities	C	Environmental Conditions Survey (2)
Traffic & Public Facilities	C	- ditto -
Coastal Zone	C	- ditto -
Air Pollution	C	- ditto -
Water Pollution	C	- ditto -
Noise & Vibration	C	- ditto -
2. Bang Ra Pha Area		
Traffic & Public Facilities	C	Environmental Conditions Survey (2)
Coastal Zone	C	- ditto -