



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 25-May-2025 | Report No: PIDDC01353



BASIC INFORMATION

A. Basic Project Data

Project Beneficiary(ies)	Operation ID	Operation Name	
Thailand	P509460	Thailand Resilient Transport Connectivity and Irrawaddy Dolphin Conservation Project	
Region	Estimated Appraisal Date	Estimated Approval Date	Practice Area (Lead)
EAST ASIA AND PACIFIC	23-Jun-2025	17-Sep-2025	Transport
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing (IPF)	Kingdom of Thailand	Department of Marine and Coastal Resources, Department of Rural Roads	

Proposed Development Objective(s)

To improve resilient transport connectivity to Lanta Island and across Songkhla Lake, and to strengthen the Government’s capacity to implement the Dolphin Conservation Plan in Thale Luang

PROJECT FINANCING DATA (US\$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	No
Is this project Private Capital Enabling (PCE)?	No

SUMMARY

Total Operation Cost	214.85
Total Financing	214.85
of which IBRD/IDA	137.51
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	137.51
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Non-World Bank Group Financing



Counterpart Funding	73.34
National Government	73.00
Borrowing Agency	0.34
Trust Funds	4.00
PROBLUE MDTF	4.00

Environmental and Social Risk Classification

High

Concept Review Decision

The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

- Thailand has made remarkable progress in social and economic development and transitioned from low-income to upper-middle-income status in less than a generation.** From 1960-1996, the Thai economy grew at an average annual rate of 7.5 percent up to the Asian Financial Crisis of 1997, and at 5 percent between 1999 and 2005. This growth generated millions of jobs, reducing poverty from 50 percent in the 1990s to 6.8 percent in 2020. Despite past success, the high growth prospects of Thailand's export-led model have diminished since the Asian Financial Crisis. Private investment has fallen from over 40 percent in 1997 to 16.9 percent of Gross Domestic Product (GDP) in 2019. But macroeconomic fundamentals remain prudent. The public debt-to-GDP remained below 45 percent on average for 15 years (2004-2019) and has increased to above 50 percent since the COVID-19 pandemic.
- The World Bank estimates that the Thai economy will grow by 1.6 percent in 2025, below 2.5 percent growth in 2024, as global trade policy shifts and heightened uncertainty weighs on exports and investment.** Tourism may also soften amid a global slowdown. Private consumption will ease with declining earnings and deleveraging, although a fiscal stimulus—especially the Digital Wallet and targeted business support—may cushion the impact. Headline inflation turned negative for the first time in more than a year, falling to -0.22 percent (year-on-year) in early 2025, the lowest among ASEAN countries. Poverty stood at 7.1 percent in 2024.
- Thailand's tourism sector is an economic driver contributing about 20 percent of GDP.** Thailand's beaches and islands are among the most sought-after travel destinations in the world. More than 12.9 million tourists visited Thailand during the first six months of 2023, spending more than THB 262 billion (US\$ 7.7 billion), of which 75 percent was spent in the Southern region of Thailand. Songkhla and Krabi provinces are among the top five tourist destinations in the South. The tourism industry provides 4.3 million jobs and contributes more than 11 percent to total employment in Thailand.
- Thailand's diverse natural resources and significant biodiversity assets are a critical part of its tourist attractions.** In addition to the country's most celebrated species, including the Indochinese tiger and the Asian elephant, the Southern region



boasts a wide array of both terrestrial and marine flagship species, such as the Irrawaddy dolphin. Rapid economic development and increased human activities in the Southern region have intensified pressure on natural resources, calling for a more balanced management of development and conservation tradeoffs.

5. **Thailand is susceptible to many natural hazards, including floods, tsunamis, storms, droughts, landslides, and forest fires.** Droughts, storms, and floods present the greatest risks, threatening sustained economic growth. The frequency of natural disasters has increased over time. Resilient infrastructure and all-season accessibility will be crucial in ensuring that economic activities can be sustained and the well-being of the local population improved.

Sectoral and Institutional Context

6. **Thailand's Transport Development Strategy 2018-2037 outlines the following objectives and priorities:** (i) green and safe transport, (ii) transport efficiency, and (iii) inclusive transport. The first phase of the strategy (2018-2022) focuses on addressing critical transport issues, missing links, and bottlenecks for the main transport corridors as well as for lower income groups. With this strategy, Thailand continues to invest in its transport infrastructure to improve accessibility and promote local economies. Thailand's transport sector investment plan for FY23 amounts to THB 311.5 billion (US\$ 9 billion), or about 1.6 percent of GDP. The Department of Highways, the Department of Rural Roads (DRR), the Department of Airports (DOA), and the State Railway of Thailand (SRT) are among the key implementing agencies to carry out the investment plan.

7. **The DRR's development strategy 2017-2026 covers the far-end of transport network connectivity and transport efficiency, including last-mile connections and missing links.** This includes the proposed bridges for Lanta Islands and Songkhla Lake to resolve transport bottlenecks, improve resilient accessibility, and support tourism development of the Southern region. The Songkhla lake bridge (7 kilometers) aims to address a missing transport link around Songkhla lake and to shorten the travel distance from 80 kilometers to 8 kilometers – benefiting a population of approximately 308,000 on both sides of the lake. The Lanta Islands bridge will connect the islands to Krabi province's mainland via a 2-kilometer bridge over the sea. While last-mile connectivity is currently served by ferry operation, the proposed bridge will provide improved transport accessibility for the local population, tourism activities, waste management, and utilities for the islands.

8. **Songkhla Lake, the largest natural freshwater body in the country, is home to a unique ecosystem, hosting globally significant biodiversity.** The lake hosts an isolated sub-population of Irrawaddy dolphins (*Orcaella brevirostris*) in its upper part (Thale Luang). Due to high mortality rates, the conservation status of the species globally was changed from Vulnerable to Endangered in 2017. The Thale Luang lake sub-population has followed a similar trend, sharply declining from more than 100 dolphins in the 1990s to an estimated 14-20 remaining individuals in 2022, leading the International Union for Conservation of Nature (IUCN) to classify the sub-species as Critically Endangered. The key threats causing this accelerated mortality in Thale Luang are related to fishing activity, with fishing gear entanglement as the largest identified direct cause of mortality.

9. **The proposed bridge construction provides an opportunity to build commitment for conservation of the Thale Luang ecosystem and its Irrawaddy dolphin population.** An Expert Roundtable consultation¹ confirmed the momentum and interest by public and non-government stakeholders to drive conservation efforts of the Irrawaddy dolphin in Thale Luang and confirmed that bridge construction impacts can be adequately managed. Recommendations by the Roundtable for long-term dolphin conservation included better understanding mortality and conservation threats, eliminating fishing-gear entanglement and other bycatch related threats, and implementing mitigation measures to counter and ringfence potential impacts from bridge construction.

10. **A robust conservation program that combines enforcement of dolphin protection measures, provision of alternative livelihoods for fishing communities around Thale Luang, and research to better understand the population and its ecology, is urgently needed.** Existing information and research on the dolphins is limited and the risk of human-

¹23-24 January 2023, Bangkok, Thailand. The Roundtable was composed of representatives from the Department of Marine and Coastal Resources (DMCR), the Department of National Parks and Wildlife (DNP), local and national universities, IUCN/WCS, WWF Cambodia, Lake Chilika Authority (India), US Marine Mammals Commission, and World Bank experts.



induced dolphin mortalities is high, as shown by the declining trend in the population. The World Bank's involvement in the project can be catalytic in terms of convening key stakeholders and in mobilizing global expertise to strengthen conservation measures for the Irrawaddy dolphin in the Thale Luang.

11. **The Government has prepared a long-term strategy in 2023 for the conservation of Irrawaddy dolphins in Thale Luang.** The strategy, prepared jointly by the Department of Marine and Coastal Resources (DMCR), the Department of National Parks and Wildlife (DNP); and Department of Fisheries (DOF), includes short-, medium-, and long-term measures focusing on minimizing threats to the dolphins and their habitat, promoting alternative livelihoods, conducting biological and ecological research, and community engagement and outreach. An action plan for the initial five years of implementation has also been prepared, the Conservation Plan for Irrawaddy Dolphins in Songkhla Lake 2024-2028, or "Dolphin Conservation Plan" (DCP). The DCP is expected to be implemented through close collaboration among DMCR, DNP, DOF, DRR, and the Office of Natural Resources and Environment Policy and Planning (ONEP).

12. **The proposed project integrates the complementary efforts of the Southern provinces to improve transport connectivity in a climate-resilient manner and actively promote the conservation of threatened flagship species.** The improved transport connectivity provides opportunities for the local population to access markets, healthcare facilities, education, and the market price for basic goods and services. The integrated dolphin conservation efforts emphasize the critical importance of biodiversity conservation and provide a vision for development on a livable planet, poverty reduction, and equal economic opportunities.

Relationship to CPF

13. The Project is closely aligned with the World Bank Group Country Partnership Framework (CPF) with Thailand for FY2019-2022 (extended to June 2024).² CPF Objective 3 – Strengthen the quality of infrastructure investments will be supported through the project in improving transport connectivity and its climate resiliency for access to Lanta Island and across Songkhla Lake. The project is also aligned with the 13th National Economic and Social Development Plan (NESDP), which is to invest in infrastructure that can help develop the local economy. The Southern economic corridor is a good example which can serve as trade gateways as well as tourism destinations.

C. Proposed Development Objective(s)

To improve resilient transport connectivity to Lanta Island and across Songkhla Lake, and to strengthen the Government's capacity to implement the Dolphin Conservation Plan in Thale Luang

Key Results (From PCN)

14. Progress will be measured against the following PDO-level results indicators:
- (a) Reduction in travel time (minutes)
 - (b) Number of people that benefits from improved access to sustainable transport infrastructure and services (number)
 - (c) Human-caused mortalities of Irrawaddy dolphins in Thale Luang (number of deaths per year)
 - (d) Area of Thale Luang lake under enhanced conservation and management (hectares)

D. Concept Description

15. The proposed project has three components:

² Report No. 125234-TH



Component 1 – Transport Infrastructure Connectivity to Lanta Island and across Songkhla Lake (Total US\$ 196.43 million; IBRD US\$ 137.50 million and Royal Thai Government (RTG) US\$ 58.93 million). This component has two sub-components:

16. **Sub-Component 1.1: Lanta Island Bridge.** This sub-component supports the construction of a new 2-kilometer bridge connecting Lanta Island (consisting of Lanta Noi Island and Lanta Yai Island) with Krabi province's mainland, including environmental and social mitigation measures. The bridge will also serve as the infrastructure to carry utilities, such as waste, electricity, water, and fiber optic internet, and address the demand for reliable and consistent emergency transportation to mainland medical services which cannot be met by the ferry service during off-hours and during low tide or hazardous wind conditions. The bridge's climate resilient design will accommodate high tides tsunami waves similar to the tsunami that struck the Koh Lanta coast in 2004 (approximately 4 meters), as well as using construction materials resilient to seawater corrosion.

17. **Sub-component 1.2: Songkhla Lake Bridge.** This sub-component includes the construction of a new 7-kilometer bridge across Songkhla Lake, including environmental and social mitigation measures. The two-lane bridge is expected to reduce the travel time and transportation cost for the 308,000 local beneficiaries who live on both sides of the lake. The bridge would save up to 2 hours (or 80 kilometers) of travel by road around the lake, facilitating trade and reduce logistics costs between two sides of the lake. In addition, the bridge will establish an emergency evacuation route in case of natural disasters, especially along the east shoreline (Krasae Sin District and Sathing Phra District of Songkhla Province) to enable rapid evacuation to Phatthalung Province. It will also improve access to healthcare and universities in Songkhla City for the local population. The bridge is designed to be resilient to climate events, such as strong winds, with higher design speeds (161km/h) than those recorded during 'Typhoon Gay' (about 120km/h).

18. Under Sub-component 1.2, key activities to mitigate construction and operation impacts on the Irrawaddy dolphin population include: (i) establishing real-time visual and acoustic detection of dolphins to provide early warning of dolphin presence near the construction site, (ii) establishing a work stoppage protocol, which includes an observation zone and shut down zone, based on international best practices to protect dolphins present near construction activities, (iii) monitoring water quality and other key parameters during bridge construction, and (iv) implementing all in-water bridge pier construction activities (piling, concreting) inside a silt curtain fully enclosing the work site from the surrounding water column to minimize turbidity and pollution.

19. **Component 2: Ecosystem Management and Irrawaddy Dolphin Conservation in Thale Luang** (Total US\$ 12.17 million, PROBLUE Trust Fund US\$ 4 million, RTG US\$ 8.17 million). This component is designed to improve management of the Thale Luang Non Hunting Area (NHA) and support the implementation of the DCP:

20. **Sub-component 2.1: Strengthening the management of the Thale Luang NHA.** This sub-component will address the most significant threat to Irrawaddy dolphins, namely their entanglement in fishing gear. This will be done by supporting the implementation of key elements of the new NHA management plan – new core zone, buffer zone, and transition zone. Successful implementation of this new plan will require a combination of community communications and outreach, and implementation of the new zoning described in the NHA management plan – including clear boundary demarcation and enhanced enforcement and patrolling practices, communication and outreach campaigns with fishers, and capacity building of DNP staff).

21. **Sub-component 2.2: Supporting community conservation of Irrawaddy dolphins and improving access to alternative livelihoods for fishing communities.** This sub-component creates incentives for fishing communities around Thale Luang to avoid fishing practices and gears that pose threats to the dolphins, by facilitating access to livelihoods that are compatible with conservation, enhancing incomes, and reducing dependence on already depleted lake fisheries. Climate resilience will be built at the foundation of alternative livelihoods, thus reducing community vulnerability to climate change and climatic shocks. Grant support will be provided to fishing communities following an "open menu" approach - any type of sub-project would be eligible for funding as long as it falls outside a negative list of activities and items that cannot be implemented or used, as they would jeopardize the achievement of project objectives or have adverse social or environmental impacts.



22. **Sub-component 2.3: Improving knowledge about Irrawaddy dolphins in Thale Luang.** This sub-component will support research and periodic monitoring and surveying to help stakeholders improve their understanding of the Irrawaddy dolphin population in Thale Luang. The research will focus on the different threats to the dolphin population and key ecosystem parameters with long-term implications for the conservation of the sub-species, such as siltation and water quality and the effects of climate change on those. This will inform adaptive conservation and strengthen the implementation of the DCP, enabling prompt corrective action when required. It will also facilitate communication and outreach.

Component 3: Institutional Development and Project Management (Total: US\$5.90 million by RTG).

23. This component will provide technical support for the construction implementation of the two bridges, including monitoring and supervision of construction works (through an independent supervising entity), as well as E&S audits of construction activities, procurement, financial management (FM) and audits, environmental and social oversight, monitoring and evaluation (M&E), training, a communication campaign for citizen engagement, and incremental operating costs for Component 1 (project management costs for agencies implementing Component 2 are included in Component 2).

Legal Operational Policies

Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

24. The overall risk classification is High, driven by the High Environmental risk rating. Under Component 1, most environmental risks and impacts are common to greenfield road bridge construction in a modified rural environment of wet tropics and include: clearing of vegetation, and small areas of mangrove and forest; benthic habitat disruption; land occupation by disposed dredging material; erosion; pollution (air, noise, water (including silt dispersion), waste); aquatic noise and vibration; visual impacts; accidents; and threats to species like the Irrawaddy dolphin in Songkhla Lake. Based on the government approved EIAs, individual environmental risks are largely low to moderate and are readily avoided or mitigated by the selection of bridge alignment, construction methods, and standard measures prescribed in the environmental and social management plans (ESMPs). There is a risk that the potential construction impacts, if not carefully mitigated, may affect the habitat of the Irrawaddy dolphins. This includes potential impacts of underwater construction (and operation), noise on the dolphins' ability to echolocate, feed and communicate. The high-risk magnitude of dolphin-related activities under Component 2 arises primarily from the small size of the sub-population, which could become non-viable if human-caused mortalities continue. There is also a risk that dolphin conservation measures reduce access or create a perception of reducing access to local fishing livelihoods, leading to resentment of the dolphins by fishing communities. Cumulative impacts on a broad range of valued environmental and social components are expected to be High with respect to the dolphins at Songkhla and the marine environment at Lanta.



25. The social risk rating is Substantial largely due to access restrictions and possible displacement of fishers from Component 1 and 2 activities in the Songkhla bridge. For Component 1, a physical survey conducted along the bridge right-of-way (ROW) and construction safety zone for the Songkhla project in July 2023 revealed three sections of fish-aggregating devices (FADs) owned by about 8-10 fishers. Additional 40-50 fishers were found to be using nets to catch fish. For Component 2, the NHA management plan might cause economic displacement; namely, (i) to fishers owning FADs who are affected by no-fishing regulations inside the proposed new core zone; and (ii) fishers who are affected by gillnet restrictions inside the buffer and transition zones. A rapid assessment of fishing communities in Thale Luang conducted from July to September 2023 suggests use of gillnets, regardless of mesh size, by 40-76% of fishers surveyed in 12 of 15 survey locations, providing an estimate of potentially affected fishers.

26. Social due diligence conducted during project preparation showed adequacy of the land donation processes to national laws and ESS5 requirements. On the Lanta bridge, the closure of ferry operations and the impact on the ferry operator and 100 to 150 workers would be mitigated through project-related transitional support (e.g., commissioning of ferry services for materials sourcing during construction, offering bridge construction as an alternative employment to ferry workers). The risks associated with labor and working conditions are considered low. Community health and safety risks are deemed low to moderate as risks associated with pollution are mitigatable while sexual exploitation and abuse/sexual harassment (SEA/SH) risks are considered low using the Bank's SEA/SH screening tool.

27. A detailed Environmental Impact Assessment (EIA) for the two bridges was prepared and approved by government. The EIA has been reviewed by the World Bank and supplemented with additional studies, to ensure compliance with the Environmental and Social Framework (ESF). These studies, management plans and frameworks form the Supplemental Lenders Information Packages (SLIP) for both bridges. The SLIPs include (i) extended Non-Technical Summaries (NTS) of the EIAs; (ii) Critical Habitat Assessments; (iii) Underwater Noise Assessment; (iv) Dolphin Conservation Plan; (v) Cumulative Impact Assessments; (vi) Environmental and Social Management Plans (ESMPs); (vii) Labor Management Procedures (LMP); (viii) Resettlement Framework (RF); (ix) Process Framework; and (x) Stakeholder Engagement Plans (SEPs). The EIAs were consulted upon through an extensive stakeholder engagement process during EIAs preparation. The SLIPs have been consulted and disclosed during project preparation consistent with the requirements of the relevant environmental and social standards (ESSs). The EIAs and the SLIP documents together comprise the compliance documents for the project. The final package of all SLIP documents have been disclosed on DRR's and the World Bank's websites in May 2024 and will be re-disclosed before project appraisal.

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APPROVAL



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