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Transport Development and Strategy Institute (TDSI)

**THE STUDY ON THE
NATIONAL TRANSPORT DEVELOPMENT STRATEGY
IN THE SOCIALIST REPUBLIC OF VIETNAM
(VITRANSS)**

**Technical Report No. 11
ENVIRONMENT**

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**ALMEC CORPORATION
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PREFACE

During the period of the Study on the National Transport Development Strategy in Vietnam (VITRANSS), various technical papers have been prepared by different Study Team members in various occasions to facilitate the discussions with counterpart team, concerning subsector agencies and to document major findings and outputs produced in the process of the Study. These papers have been organized into a series of technical reports (See Table A below) which intend to provide more detailed background information for descriptions and discussions made on key study components and issues. These technical reports are working documents of the Study which, however, will be useful for further reference, by the counterpart team and related subsector agencies.

Table A
List of Technical Reports

No. 1	Transport Surveys and Database
No. 2	Main Commodities Analysis and Freight Transport
No. 3	Transport Cost and Pricing in Vietnam
No. 4	Transport Sector Institutions
No. 5	Road and Road Transport
No. 6	Railway
No. 7	Inland Waterway
No. 8	Port and Shipping
No. 9	Air Transport
No. 10	Rural Transport and Cross Border Transport
No. 11	Environment
No. 12	Transport Sector Funding

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APPENDIX A GOVERNMENT DECREE NO. 87/CP (1994)

Glossary

dB	Decibels
DOSTE	Department of Science, Technology and Environment
EIA	Environment Impact Assessment
ITCZ	Intertropical Convergence Zone
MOSTE	Ministry of Science, Technology and Environment
MPI	Ministry of Planning and Investment
MW	Megawatt
NNW	North-northwest
PPC	Provincial People's Committee
SSW	South-southwest

1 INTRODUCTION

1.1 Overview

Vietnam has an S-shaped land that stretches from latitude 23° 30' North to 8° 30' North and longitude 102° East to 110° East and covers an area of 330,363 sq km. It faces the shallow gulfs of Tonkin in the north and Thailand in the south and the sea in the east, with its 3,260-km long coastline. Vietnam shares 3,370 km of land border with China, Laos and Cambodia.

Three-fourth of the land is mountainous, and the rest is plain. The two largest deltas in the plains are Red River and Mekong River.

Vietnam's natural environment is richly diverse. The country can be divided into 10 areas and 38 eco-environmental zones indicated in Table 1.1.1 based on the natural conditions relevant to socio-economic and environmental aspects. The areas are the Mountainous North, the Center, the Central Highlands, the Southeast, the Southern Delta, Hanoi, Ho Chi Minh City, and the islands.

Unfortunately, the abundant natural condition was damaged by the war (1961-1975). The result was not only direct casualties among the people and continuing medical complications, but also widespread disruption and degradation of precious ecosystems. Bombs and herbicides were responsible for most of the environmental damage. These weapons were targeted on upland and mangrove forests and agricultural land. Almost 2.5 decades have elapsed since the war and the country's unification. With the passage of time, it has gotten harder to separate war damages from the pressure of rapid economic development and population growth. But it is undoubtedly true that the war caused massive environmental destruction. However, the resiliency of the environment and successful rehabilitation efforts of the Government of Vietnam have mitigated the effects on the ecosystem.

In spite of the many environmental problems facing Vietnam, it is important that the Vietnamese are able to preserve their traditional culture and lead a peaceful and healthy coexistence with nature.

For the transport sector, the responsibility is to prevent or minimize the adverse impact of transport projects on the environment. This report will thus focus on the current environmental condition in the country and the environmental framework in which the VITRANSS-proposed transport projects will be implemented.

Table 1.1.1
 Ecological Areas and Environmental Zones

Ecological areas	Eco-environmental Zones
1. Northern and North Central Mountains	1. Northeastern mountains 2. Dong Van plateau 3. High mountains between Red River and Black River 4. Northwestern mountains
2. Northern and North Central Midlands	5. Northern midlands 6. North central midlands
3. Northern Delta	7. Coastal flats 8. Wetlands in the North 9. Alluviums 10. Wetlands in the South
4. Central Vietnam	11. Hills and mountains in northwestern central Vietnam 12. Northern central flats 13. Hills and mountains in southwestern central Vietnam 14. South central flats
5. Central Highlands	15. High mountains in northern Central Highlands 16. Southern Central Highlands 17. Middle of Central Highlands 18. Northern Central Highlands 19. High mountains in southern Central Highlands
6. Southeastern Region	20. Hilly sites above 200 m 21. Red basaltic soil in the east 22. Newly created alluviums 23. Old alluviums
7. Southern Delta	24. Coastal mangroves 25. U Mihn Melaleuca forest 26. Dong Thap Muoi paddy field 27. Long Xuyen Quadrangle 28. Low area between Tien River and Hau River 29. Seawater-affected deltas 30. Central deltas
8. Hanoi City	31. Urban areas of Hanoi 32. Hanoi suburbs
9. Ho Chi Minh City	33. Urban areas of Ho Chi Minh City 34. Ho Chi Minh City suburbs
10. Islands along the offshore and sea	35. Bac Bo Bay island 36. Central offshore islands 37. Hoang Sa and Truong Sa islands 38. Phu Quoc

1.2 Objective of the Report

This technical report gives an overview on the environmental conditions in Vietnam, institutional arrangement on environmental protection and preliminary considerations to be given in the VITRANSS.