EXECUTIVE SUMMARY

• Background of the Project

National Highway Authority (NHA) intends to widen the existing carriageway of Indus Highway N-65 from Sukkur to Jacobabad (a length of 68 Km). As per Government of Pakistan regulations, an Environmental Impact Assessment (EIA) Study is required for construction of all new roads worth Rupees 50 million and above. The above EIA Study was assigned to NESPAK by NHA in May 2006.

This EIA Report presents the environmental assessment for the above N-65 Road Section from Sukkur to Jacobabad.

Sukkur to Jacobabad Section of N-65 is a very important Road Section as it passes through three districts i.e. Sukkur, Shikarpur and Jacobabad of Sindh Province and links the province of Sindh with Punjab and Balochistan. The existing 2 lane road is insufficient for the inter-provincial transport needs of present population of the Project Area. Currently, on an average, 6,221 vehicles pass through Sukkur-Shikarpur Section and 4,563 vehicles pass through Shikarpur-Jacobabad Section everyday. It is estimated that by the year 2011, there will be approximately 8,326 vehicles passing through Sukkur-Shikarpur Section and 6,106 vehicles passing through Shikarpur-Jacobabad Section everyday. To meet the requirements of increasing traffic volume, NHA planned to upgrade the existing road into 4 lane dual carriageway. Length of the road section from Sukkur to Jacobabad is 68 Km, including a proposed Bypass at Shikarpur.

The construction and up-gradation of N-65 (including a new bypass at Shikarpur) will provide improved highway route to be utilised by the travellers of Sindh, Punjab and Balochistan Provinces. After the construction of the dual carriageway, the economic and commercial activities of the Project Area will get a considerable uplift.

• Objectives and Schedule

The prime objective of the proposed Project is to facilitate movement of people and goods transport in the Project Area and between Sindh and Balochistan Provinces by providing better access and enhance the efficiency of the existing road network.

The implementation of the proposed Project is expected to start in 2007 and complete in December 2008.

• Project Components

The Project will involve the up-gradation of the existing road section from Sukkur to Jacobabad via Shikarpur, including construction of a new bypass around Shikarpur City. Width of the flexible pavement on each side will be 7.3 metres. Internal and external treated shoulders of width 1.0 metre and 2.0 metres respectively will be provided. The proposed RoW will be 110 ft (34 metres) from the centre of the road 55 ft. (17 metres) on each side).
• Relevant Legislation and Guidelines

To carry out the present EIA Study, the environmental legislation and Guidelines enforced by the Pakistan Environmental Protection Agency and Asian Development Bank (ADB) have been followed.

• Components of the EIA Report

The Report contains the identified environmental impacts and their mitigation measures. Besides, the Report also includes the preparation of Environmental Management and Monitoring Plan to cover the mitigation measures, monitoring requirements and institutional responsibilities (during design, construction and operation phases of the proposed Project).

• Description of the Project

After the completion of this Project, existing two lane road will be replaced by a 26.6 metre wide four lane dual carriageway. Additionally bypass will be constructed around Shikarpur City. Total length of the proposed bypass is about 4.9 Km. Bypass starts at Km 26+100 of N-65 from start point of Project Road (at Sukkur) and ends at Km 379+000. The centreline of improved road coincides with the existing road. RoW of the proposed road will be the same. Major construction work will generally remain confined within the RoW.

• Description of the Environment

Baseline conditions were studied for the physical, ecological resources and for socioeconomic environment. This road/highway passes through Sukkur, Shikarpur and Jacobabad Districts. The terrain is quite flat and levelled. All the three districts have mostly agricultural fields on both sides of the road. The Project Area is one of the hottest regions in the country with extremely severe climate, especially in summer. June and July are the hottest months and December and January are the coldest months. Annual average rainfall in the area ranges from 88 – 111 mm. The Project Area is irrigated by the canals emerging from Guddu Barrage system.

Rice and wheat are the major crops in all three districts. Due to intensive irrigation, water logging is commonly observed along the roadside. Water table is higher in the Project Area and varies from 3 to 20 m at certain locations. Industrial activity in the area is very scarce. One sugar mill, few rice and cotton ginning mills and some brick kilns are located in the district. The only significant source of air pollution is the emissions due to vehicular movement. Large amount of suspended particulate matter is generated when the vehicles move on unpaved shoulders and poorly maintained existing road.

In order to get true picture of the environmental condition of the Project Area, Consultants carried out water, air and noise monitoring with the technical assistance of Global Environmental Laboratory, Lahore.

Socio-economic environment of the Project Area were studied in detail for developing the baseline information about the affectees of the Project. Detailed surveys were carried out for this purpose. Section 3 describes the findings of this exercise in detail.

Sukkur - Jacobabad Section
Environmental Impact Assessment for N-65

- **Project Alternatives**

Different alternatives of the proposed Project were analysed, by considering no Project, alternative transport modes and improvement of the existing carriageway. ‘Improvement of the existing road with widening on both sides one by one and construction of a new bypass’ was considered feasible due to least impacts and more benefits.

- **Environmental Impacts and Mitigation Measures**

Various probable impacts on the existing resources due to the proposed Project and vice versa were studied under the parameters of resettlement/land acquisition, change of land use, dismantling of structures, relocation of existing utilities, soil erosion, water bodies, air pollution, noise, flora and fauna etc.

As a result of the EIA Study, increase in long-term economic activity and uplift of the standard of life of the people was visualised as a major positive impact of the proposed Project. It was also observed that there may be some negative impacts related to the proposed Project. Those are mostly related to the construction stage only and include land acquisition, soil erosion, improper disposal of spoil, loss of vegetation, displacement of population, disturbance to people, disruption of traffic and some possible impacts on the health and safety of general public and workers. Total land to be acquired for the construction of additional carriageway is around 48.1 acres, along the proposed bypass at Shikarpur. Construction activities will result in relocation/rearrangement of various utilities within the RoW, including culverts, gas pipe line, PTCL cable, electrical poles, transmission, telephone poles and optic fibre lines.

Mitigation measures to eliminate/minimize those negative impacts have been proposed to bring them to an acceptable level through implementation of the Environmental Management and Monitoring Plans. Proper compensation will be given to the Project affectees in a judicious manner. Mitigation measures have been suggested for the pre-construction, construction and operational stages of the Project, taking into consideration the environmental impacts of the proposed Project. At Shikarpur, a new bypass is proposed to avoid traffic congestion because of internal city route.

- **Economic Assessment**

The Economic Assessment describes economic benefits of the proposed Project. Economic Internal Rate of Return (EIRR) is also provided. EIRR comes out as 23.55%, which is above 12%, the assumed opportunity cost of capital in Pakistan.

- **Environmental Management Plan (EMP)**

The EMP provides an approach for managing and monitoring environment related issues and describes the institutional framework and resource allocation. An Environmental management and monitoring plan has accordingly been devised to monitor various activities during the construction and operational phases of the Project, considering all the sensitive issues during the execution. The EMP will be implemented by NHA with the assistance of consultants. NHA will depute Deputy Director Environment to deal with the environmental related issues. Total estimated environmental mitigation cost will be around Rs. 127.28 Million
• Public Consultation and Information Disclosure

Consultants' EIA team identified the stakeholders of the proposed Project and discussed the Project with them during the detailed field visits. Their views and concerns were noted and have been incorporated in this Report. After reviewing their concerns, mitigation measures have been suggested for giving them the due compensation.

• Conclusion

The Project for upgrading of a single carriageway into a 4-lane dual carriageway will involve some negative environmental impacts, which are mostly related to pre-construction and construction stages of the Project and are however manageable by properly implementing the EMP. No long-term and significant adverse environmental impacts are however envisaged for the operation stage of the Project. Hence, the Project is environmentally feasible provided that the mitigation measures are properly implemented during the Project execution.