



# ENVIRONMENTAL IMPACT ASSESSMENT

## SHIFA MEDICAL CENTER ISLAMABAD

FINAL REPORT  
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## EXECUTIVE SUMMARY

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### Project Title

This document presents the findings of an Environmental Impact Assessment (EIA) carried out by National Cleaner Production Center Foundation (NCPC) for the construction of state-of-the-art health care facility of Shifa Medical Center Islamabad (SMCI) in F-11 Markaz of the capital city. The EIA study aims at the identification of the possible environmental and social impacts of the proposed project on its immediate surroundings on both short and long-term basis, suggesting mitigation measures and identifying the responsible agencies to implement those measures.

### Name of Proponent and Organization Preparing the Report

Shifa Medical Center Islamabad (SMCI) is the proponent of this project while Shifa Development Services (SDS), the Program Manager, is the Healthcare Project Development and Management subsidiary of Shifa International Hospitals Limited. M/s National Cleaner Production Center (NCPC) has carried out this Environmental Impact Assessment (EIA) as the EIA consultant.

### Report Organization

This report has been organized in the following manner:

- **Chapter 1 – Introduction** gives an overview of the proposed project and EIA process along with highlighting the methodology that will be followed during the study.
- **Chapter 2 – Legal and Administrative Framework** gives an overview of applicable national and environmental policies, and legislations with international guidelines relevant to EIA of proposed project.
- **Chapter 3 - Project Description** provides the description of the proposed project, its layout plan and associated activities, and utility requirement.
- **Chapter 4 – Project Alternatives** provides a discussion of the different alternatives considered for the project.
- **Chapter 5 - Baseline of Environment** provides a description of the microenvironment and macro-environment of the proposed project site. This chapter describes the physical, ecological and socioeconomic resources of project area and its surroundings.
- **Chapter 6 - Stakeholder Consultation** provides the details of stakeholder consultation methodology and relevant concerns regarding the project.

- **Chapter 7 – Environment Impacts** describes the potential environmental and social impacts of proposed project on the different features of the micro and macro-environment.
- **Chapter 8 - Environment Management Plan (EMP)** explains the mitigation measures proposed for the project in order to minimize the impacts to acceptable limits. It also describes implementation of mitigation measures on ground and monitoring of environmental parameters against likely environmental impacts.
- **Chapter 9 (Conclusion)** deduces the EIA study and is followed by series of Annexes for provision of supporting information.

## Project Location

The site of proposed Shifa Medical Center is located on Plot No. 05, F-11 Markaz Islamabad and it can be located on satellite imagery at 33° 41'01.34''N and 72° 59'24.01''E. Earlier, the project site was fenced and was in no use. The selection of the project site is due to the reason that the site is designated for hospital facility in CDA auction; hence, there will be no land use change.



## Outline of the Project

The site for proposed project is Plot No. 05 Sector F-11 Markaz, Islamabad on CDA approved land. Mainly commercial buildings and Plazas are present around the project site. The project site is dedicated for the construction of healthcare facility. There are no wildlife sanctuaries, army installations, canal passing and protected areas near the project.

The project aims to provide a private hospital for middle and high classes in Islamabad with quality healthcare facilities at affordable prices. The proposed healthcare facility will consist of

two basements, ground and six floors. The project design entails necessary features to address the important aspects related to energy conservation, waste management, environmental resource management, firefighting, safety, and compliance of environmental standards.

The project owner has estimated original baseline feasibility and a project target cost estimate (PTCE) of PKR 2.8 Billion inclusive of contingencies and exclusive of land. The project will be completed in duration of two years. The proponent has incorporated following environmental considerations in the project design:

- Energy Conservation
- Minimization of waste generation
- Efficient water consumption
- Sewerage treatment facility
- Solar Energy system

International standards and best practices are considered during designing of the project. Apart from national standards and regulations, the proponent will also comply with

- EDGE Green Building Certification Guidelines by International Finance Corporation (IFC) / World Bank Group
- Environment, Health, Safety & Security (EHSS) Guidelines of IFC
- FGI 2018 Guidelines for Design and Construction of Hospitals & Outpatient Facilities
- JCI (Joint Commission International) Accreditation Guidelines

Description	Requirement	
	Civil Phase	Operation Phase
Manpower	200 - 500	700 - 800
Water	500 GPD	100,000 liters per day
Power (Electricity)	50KW	2.0 MWH per hour Annual Electricity consumption is estimated as 8,600 MWh out of which 275 MWh will be produced by solar system
Fuel	500 litres per day	300 Liters per Hour

### **Environmental Baseline Conditions**

In order to assess and evaluate the impacts and related mitigation measures, at the project area, existing conditions of physical, biological and the socio-economic environment were studied.

Islamabad is located at the northern edge of the Potohar Plateau and at the foot of the Margalla Hills in Islamabad Capital Territory. The Potohar Plateau has an uneven table and land is gradually rising in elevation from 500 to 600 meters above the sea level, and the highest point is 1,600 meters above mean sea level. The land gradually slopes towards the South. The land is composed either of alluvium (clay or silt) or of gravel caps. The plains are formed of alluvial deposits laid by the past and the present river systems of varying thickness. A large part of the area is undulating, and at various places, it is badly dissected by gullies and ravines. The Korang stream has been dammed at a place named Rawal to form the Rawal Lake. Rawal Lake is a man-made water reservoir, located across Korang River at a distance of about 10 km from Rawalpindi. The Soan and Korang Rivers are the main streams draining in Islamabad area.

The groundwater level ranges from approximately 250 - 300 ft. However, the main source of water supply is from CDA. Islamabad has distinct seasons marked by the wide variation in temperature. The climate remains very salubrious from April to October, but the winters get very cold due to snowfall. The coldest months are December, January and February. The hottest months are June and July. Rainfall in April and May is occasional, but the heaviest rain is in July and August.

The temperature of capital territory Islamabad ranges between  $-1^{\circ}\text{C}$  to  $46^{\circ}\text{C}$ . The coldest month is January when the mean maximum temperature is  $18.3^{\circ}\text{C}$  and mean minimum is  $3.8^{\circ}\text{C}$ . From February to May the temperature rises at the rate of  $5.0^{\circ}\text{C}$  per month. The highest temperature reached in May when the mean maximum temperature remains  $39.1^{\circ}\text{C}$ .

There is moderate wild vegetation present at the project site. The vegetation of Islamabad is a representative of dry subtropical scrub forest which is dominated by *Acacia modesta* (Phulai), *Ziziphus mauritiana* (Ber); *Ziziphus nummularia* (Mullah), etc. Other associates existing in varying proportions include *Prosopis cineraria* (Jand), *Melia azadirachta* (Dharek); *Morus alba* (Mulberry-Shahtoot); *Dalbergia sissoo* (Tahli-Shisham); *Acacia nilotica* (Kiker). In the undergrowth *Cannabis sativa* (Bhang), *Calotropis procera* (Desi Ak), *Parthenium hysterophorous* (Gandi Booti) and *Ocimum bacilicum* (Niazbo) are predominant.

Mammals commonly found in the project area are Rat, Wild boar and Pocupine while birds include Quail, House Sparrow and House Crow and reptiles common in the area are Lizard and Spiny tailed lizard.

### Stakeholders Consultation

During the public consultation, meetings were held with the concerned officials at CDA, IESCO, environmental specialist, local vendors, business owners and community living around the project site. The project activities impact on the physical, biological, and socio-economic

environment of the project area were highlighted to them. Stakeholders concerns regarding various aspects, existing environment, and impacts of the project were noted, and mitigation measures are proposed in the EIA report.

Much of the public consultation process has revolved around concerns for the mitigation of construction stage and operational stage impacts. The information obtained from the community was used to identify concerns and issues that have been subsequently mentioned and addressed in the EIA report.

### **Environmental Impacts and Mitigation Measures**

The soil-related issues include soil erosion, stability and soil contamination. The land clearing, levelling and grading, excavation and filling, construction activities and maintenance of equipment/vehicles may cause these issues. The quality of soil would be affected, as soil contamination would occur because of disposal of untreated wastewater or direct disposal of chemicals and onsite preparation of materials.

Construction machinery and project vehicles will release exhaust emissions, containing Carbon Monoxide (CO), Oxides of Sulfur (SO<sub>x</sub>), Oxides of Nitrogen (NO<sub>x</sub>), and Particulate Matter (PM). These emissions can deteriorate the ambient air quality in the immediate vicinity of the project site. Furthermore, construction activities such as excavation, land levelling, filling and vehicular movement on unpaved tracks may also cause fugitive dust emissions. Noise and vibration will be generated by the construction machinery and vehicles. SMCI Project is being developed in an area with a commercial setting. There is very limited vegetation on project site.

Soil erosion can be minimized by adopting appropriate measures suggested in EMP. For domestic sewage from the contractor's camp, a septic tank with soaking pit will be constructed having adequate capacity. The recyclable waste from the project site (such as cardboard, drums, broken/used parts, etc.) will be sold to recycling contractors, or where appropriate to reuse/recycle it. The hazardous waste will be kept separate and handled according to the nature of the waste.

No tree will be cut during any phase of the project. The project area has a limited wild vegetation cover. The site preparation and construction activities may necessitate removal of the natural / wild vegetation. The project site is located in a commercial area of Islamabad, which provides less and minor habitat for wildlife.

Shifa International Hospital Islamabad will have the over-all responsibility to manage waste at their own incinerator or through third party. The incinerator facility at Shifa International Hospital Islamabad will be utilized via a cold storage transport facility so that all hazardous

waste will be incinerated at higher temperature of 1100°C without any compaction of the waste, in order to avoid leakage of toxic substances. All preventive measures will be adopted to control the spill-over of chemicals and other effluents on the ground to protect soil fauna and ensure microbial activity according to the NEQS. The construction crew will be provided with LPG as cooking (and heating, if required) fuel. Use of fuelwood will not be allowed at the contractor camp.

### **Environmental Management Plan (EMP)**

The purpose of the Environmental Management Plan (EMP) is to minimize the potential environmental impacts due to the project. The EMP reflects the commitment of SMCI to safeguard the environment as well as the surrounding population. The EMP provides a delivery mechanism to address the adverse environmental impacts, to enhance the project's benefits and to introduce standards of best practices to be adopted for all phases of the project. The contractor will prepare periodic Environmental Monitoring Report of the project activities carried out during the construction phase of the project. These reports will be submitted to Pakistan Environmental Protection Agency for their review and consideration.

### **Conclusion**

The project construction and operation activities have been shown to have a potential to cause adverse environmental impacts, most of which are of temporary nature. The prevention or minimization of the occurrence of these impacts will be considered early in the project design and construction stages, so that the recommended adverse impact mitigation and monitoring measures can be fully incorporated in the project design, construction and operational stages. Also, the project personnel will be trained and provided with the necessary equipment for preventing any impacts that have a potential to cause human health and safety problems during the project construction and operation stages.

The study therefore recommends that the EIA should be approved with the condition that all mitigation measures recommended in the EIA report, suggestions of the stakeholders and the legal requirements as well as Environmental Management Plan shall be implemented in letter and spirit.