

Izmir Bayrakli Integrated Health Campus – Turkey

Basic Information

Project name: Izmir Bayrakli Integrated Health Campus Project.

Borrower: İzmir Bayraklı Hastane Yatırım ve Sağlık Hizmetleri Anonim Şirketi

Sector: Infrastructure

Country: Turkey

Financial Product: Project Finance

Intesa Sanpaolo's role: Arranger

Equator Principles category: B

Project rationale

The Ministry of Health (MoH) of the Republic of Turkey has undertaken a program to modernize Turkey's existing hospital infrastructure to bring it up to international standards. The MoH program is one of the world's largest-ever undertakings in upgrading a nation's healthcare infrastructure.

Many existing hospitals in Turkey have limited capacity, outdated technology with some of them poorly maintained. The Project is part of the Turkey's Healthcare Transformation Program ("HTP") which, according to a World Bank report, has already reduced maternal mortality from 28.5 deaths per 100,000 live births in 2005 to 15.9 deaths in 2013. Furthermore, the HTP has also resulted in a sharp decline in infant mortality from 20.3 deaths per 1,000 live births in 2005 to 12 in 2012. In order to address the challenge of cost reduction while at the same time continue to make progress in health care, Turkey has introduced the ambitious health public-private partnership ("PPP") program, aiming at leveraging private funding and efficiencies in the management of integrated new hospital campuses, while redeveloping existing hospital buildings as part of ongoing urban renewal efforts.

The İzmir Bayrakli Integrated Health Campus is part of the first flights of projects in the program.

Project description

The Project is a large urban development comprised of a health complex. It is planned to include 2.060 beds, and (i) Main Hospital, (ii) Physical Therapy and Rehabilitation Hospital, and (iii) High Security Forensic Hospital. The Main Hospital includes a General Hospital, a Women & Pediatric Hospital, a Cardiovascular Hospital and an Oncology Hospital.

The health campus is also planned to feature a natural gas-fed trigeneration plant with an installed capacity of 7500 kVA for supplying electricity (partially), heating and cooling demand of the health campus. Remaining electricity demand will be supplied from the national electricity grid. There will also be a heliport within the boundaries of the health campus in order to provide transportation in emergency cases for patients at distant locations.

The Project site is located in Laka Mahalle in Bayraklı District of Izmir Province. It is near the Bayraklı Tunnels and located in a developed area which can easily be reached by car or public transportation and connected to the city centre via the E87 high way.

The Project site is a 62.3 ha plot and a state-owned land that has been allocated to the Ministry of Health for development of a health campus. It will not only serve people living in Izmir province but also those living in Manisa and Uşak.

Summary of Key Environmental Impacts and Risks

The project was categorized "B" in accordance with Equator Principles, since impacts identified can be readily addressed through mitigation measures and management programs.

The project site was previously used as idle and pastures land. The land is owned by the Ministry of Health and no land acquisition is required. The project site is bordered by a E87 highway from the south, slopes of the Kucukkalete Mound from the north, the Laka stream from the east and similar pasture land from the west. The nearest residential area is the Laka village some 50 m away. The main access to the site will be from the service road along the existing E87 highway. The project area has a very sharp elevation difference (190 m) between the lowest point (127 m) in its south-eastern corner and the highest (317 m) in its north-western corner and will require excavations to depths varying between 0.45 m to 37.14 m.

The due diligence did not identify any significant issues. No biodiversity impacts were predicted and the geological survey indicated that there is relatively low risk of an earthquake. The project's buildings are designed according to Turkish legal requirements and good international hospital design standards.

Mitigation measures for noise, dust and vibration during the construction and operation phases have been developed in the ESMP. Traffic management was assessed during the construction and operation and the project site can be accessed via public municipal bus services. Management system has been developed for both the construction and operation phases. Medical waste will be sent to the regional medical waste sterilization unit. Small amounts of low level radioactive waste during the operational phase, as well as infectious disease control will be strictly handled in accordance with regulations and good international practice.

No significant adverse social issues were identified. Onsite worker accommodations and an occupational health and safety management system will be developed in line with Turkish legislation and international standards. Grievance mechanisms will be provided for workers, including subcontractors.

Construction Phase Environmental and Social Issues

Major activities with potential impacts during construction stage and their environmental implications are presented in the table below.

Aspect	Possible impacts
Geology and Geohazards	Adverse impacts on community and workers' health and safety due to fire and accidents as well as spills, leaks and landslide that may cause soil and water pollution as well as pose health and safety hazards
Soil and Water	Removal of top vegetative soil Generation of excavation debris and its temporary storage onsite Generation and temporary storage of hazardous wastes mainly due to maintenance activities (e.g. waste oil, worn-out tyres, etc.) Consumption of water in drinking, cleaning and concrete preparation Generation of domestic waste and wastewater throughout construction stage Risk of soil and groundwater contamination from leakages and spills of fuel and chemicals stored
Air Quality	Dust emissions from the concrete plant and other construction activities Exhaust emissions from construction vehicles and diesel generators
Noise	Temporary noise throughout construction stage Community exposure to nuisance from dust and noise

Traffic	Increased traffic along the O-30 highway and surrounding roads
Ecology	Vegetation clearing and disturbance of terrestrial top soil Adverse impacts on flora species (e.g. clogging of stomata resulting in population decrease) Temporary nuisance on fauna species
Job opportunities	Employment opportunities for local people, especially for unskilled positions during the construction phase.
Local Economy	Expectation of increase in local economy, mainly benefiting local business. Possible increase in real estate.
Population influx	The peak number of manpower will be approximately 4,000 during the construction period, which might associate with impacts such as traffic noise and congestion. Concern over construction workers causing social problems within the local communities and impacting on safety and security due to worker's camp. Pressure on local infrastructure might cause concerns among the local community.
Community Health, Safety and Security	Issues associated with the poor management of waste and hazardous materials, infectious disease control and impacts associated with emergency events. An increase in traffic is the increased potential for accidents affecting other drivers, passengers or pedestrians. Fire incident that may occur during construction is an important issue that may affect construction staff and possibly a small percentage of the local population. Construction work involves high risk activities with the potential for accidents that may result in injuries and potential fatalities.
Services and infrastructure	Concern of that the increase in traffic associated with the Project will result in increased travel times to reach local services.

Operational Phase Environmental and Social Issues

Major activities with potential impacts during operational stage and their environmental implications are presented in the table below.

Aspect	Possible impacts
Medical services	Generation of medical wastes Wastewater generation from patients, visitors and hospital staff Increased load on municipal infrastructure associated with waste and wastewater Noise from emergency vehicles at operation stage
Geology and Geohazard	Loss of lives due to earthquake Spills and leakage to soil of waste and chemicals including radioactive waste due to earthquake
Soil and Water	Generation of contaminated domestic wastewater, contaminated effluents and wastewater from laboratory containing chemicals Generation and temporary storage of domestic, medical and radioactive waste

	Spills and leakage to soil of waste and chemicals including radioactive waste
Air Quality	Emission of GHG (primarily CO ₂ , CO and NO _x) from the trigeneration plant and backup generators
Noise	Nuisance due to operation of trigeneration plant, cooling fans and pumps Nuisance due to operation of heliport
Traffic	Increased traffic load on the nearby roads due to influx of staff, patients and visitors Adverse impact on community due to increased risk of traffic accidents
Ecology	Adverse impact on flora species due to reduced air quality Nuisance to fauna due to noise and high number of people (healthcare staff, patients and visitors) using the campus
Population influx	It is expected that more than 10,000 people will use the site on daily basis over a 24 hour period. (This figure includes patients, visitors and health employees) Possibility of permanent in-migration to the area.
Local Economy	During operation, approximately 3,000 employees will be required for medical and nonmedical positions. Additional employment opportunities will also be created through the growth of local business trade. Increase trade for local businesses, e.g. the shops in the shopping mall.
Community Health, Safety and Security	Issues associated with the poor management of waste and hazardous materials, infectious disease control and impacts associated with emergency events. An increase in traffic is the increased potential for accidents affecting other drivers, passengers or pedestrians.
Infectious Disease Control	In such a large health campus environment, the spread of infectious diseases has been considered a key impact during the operational phase
Healthcare Service	Access to the healthcare facilities will be improved, regional development will be contributed, efficiency and quality of healthcare services will be improved, new technologies will be used, bed capacities of the Izmir, Bayraklı District will be increased.
Fire Safety	The risk of fire in health care facilities is significant due to the storage, handling, and presence of chemicals, pressurized gases, boards, plastics, and other flammable substrates. As a result of this, life and fire safety was one of the primary concerns in the design process.
Management of Workforce	Grievance from workforce. Health and safety of staff responsible with medical waste collection
Management of visitors	Grievance from patients and visitors at operation stage
Services and infrastructure	Concern of that the increase in traffic associated with the Project will result in increased travel times to reach local services.

Positive Impacts

The Ministry of Health regards integrated health campuses as an essential part of the Turkish healthcare system since they will:

- increase access to healthcare services for the whole country;
- contribute to the regional development of healthcare;
- improve the efficiency and quality of healthcare services;
- ensure cost-effective healthcare service delivery;
- ensure an adequate quantity and higher quality of patient beds;
- utilize the latest technology for healthcare provision;
- adopt and establish new concepts in curative services such as day-surgery etc.;
- ensure a well-qualified workforce and quality healthcare service delivery.