RECEP TAYYIP ERDOGAN HOSPITAL (RTEH)

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CEO'S MESSAGE

Infrastructure Development Authority of the Punjab (IDAP) is advancing healthcare delivery by revamping, upgrading and modernizing hospitals in Punjab. IDAP aims to provide the best healthcare possible by offering medical facilities that combine advanced and contemporary infrastructure with the newest medical technologies. We have dedicated teams with the complete capability to execute projects efficiently in the lowest cost and time.

RTEH is one of our flagship projects and our teams have worked day and night to deliver a modern facility with the best medical amenities. We have successfully delivered the first phase of this project in May 2018 and in May 2019 the second phase has also been completed. We hope that the hospital is the first in many world-class hospitals to cater to the healthcare needs of the people of Punjab.

Mujahid Sherdil

PROJECT SUMMARY

Total Covered Area **400,000** **Square Feet**	Total Population of Muzaffargarh District **4,322,009** (According to 2017 census)	Commencement Date **January 21, 2017**
Total Cost of the Project **PKR 5 Billion Approximately**	Safety Hours Completed **2,496,112**	Completion Date **May 2019**

RECEP TAYYIP ERDOGAN HOSPITAL (RTEH)

PROJECT STAKEHOLDERS

Recep Tayyip Erdogan Hospital Trust
Sponsoring Agency

Government of the Punjab
Sponsoring Agency

Infrastructure Development Authority of the Punjab
Executing Agency

Recep Tayyip Erdogan
President, Turkey

Sardar Usman Buzdar
Chief Minister, Punjab

Dr. Yasmin Rashid
Minister, Specialized Healthcare & Medical Education Department

Yousaf Naseem Khokhar
Chief Secretary, Punjab

Habib ur Rehman Gillani
Chairman, Planning & Development Board, Punjab

Momin Agha
Secretary, Specialized Healthcare & Medical Education Department

RECEP TAYYIP ERDOGAN HOSPITAL (RTEH)

MISSION OF RECEP TAYYIP ERDOGAN HOSPITAL TRUST (RTEHT)

The principal objective of the Recep Tayyip Erdogan Hospital Trust (RTEHT) is to alleviate the suffering of the poor and needy through provision of medical facilities by establishing and managing hospitals; especially provision of free of cost healthcare with the application of modern methods of curative and palliative therapy, without any discrimination of caste, creed, color, socio-economic status, gender, religion and political association.

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ABOUT RTEHT

Recep Tayyip Erdogan Hospital Trust (RTEHT) is a public private partnership registered in Pakistan under the Societies Registration Act 1860, in April 2014. Initially, a 60-bed state-of-the-art hospital was gifted by the Turkish Government, located on DG Khan Road, Muzaffargarh. The hospital was handed over to the Trust under an agreement between the Government of Punjab and the Trust. The Trust received and took complete control of the hospital, including management and operations. Soon thereafter Government of the Punjab expanded the capacity to 100 beds.

In 2015, Government of the Punjab announced and funded the expansion of the hospital by an additional 500 beds.

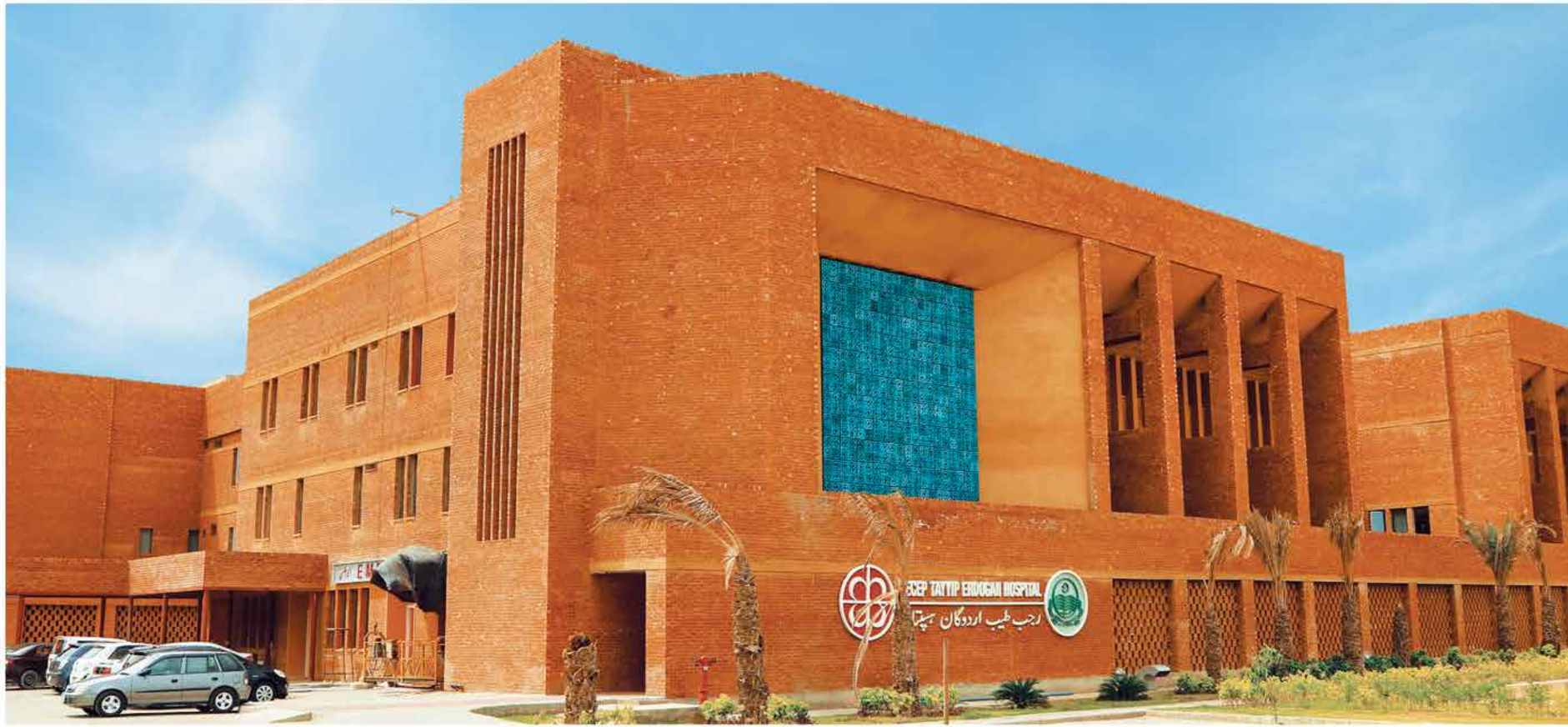
RTEH EXPANSION PROJECT

IDAP aims to provide efficient and effective healthcare facilities to the population around Muzaffargarh by upgrading RTEH. The RTEH expansion project includes building a teaching hospital, medical college, nursing college and other amenities on 113 acres of land next to the existing hospital.

In the first phase, IDAP has expanded the hospital by 250 beds and has constructed an energy center. The project was fully funded by Government of the Punjab. The first phase of the hospital was inaugurated on May 26, 2018. The first phase expansion project included provision of innovative infrastructure coupled with the latest health technologies and equipment to ensure that the public receives medical care of the highest quality. The hospital provides free of cost medical services to all patients who are also provided with free meals during their stay.

RTEH is outfitted with cutting-edge medical equipment including technologies and tools for anesthesia, dialysis, monitoring, laboratory, sterilization, dental procedures, endoscopy, waste management, refrigeration, radiology, and cardiac and neuro surgeries. Machines for the ICU and urology departments have also been added for the benefit of those seeking healthcare services in the area.

IDAP will continue to work untiringly to provide projects and services of the highest standards to contribute to the betterment of the lives of the people of Punjab.



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SCOPE OF WORK

HOSPITAL INFRASTRUCTURE

The hospital building at RTEH has been constructed on the latest standards of quality and infrastructure. The building includes 4 floors that are outfitted with the latest medical equipment and cutting-edge technology. Each floor is designed keeping in view the requirement and accessibility of patients and hospital procedures. All the floors of the hospital have waiting areas to accommodate attendants that accompany the patients.

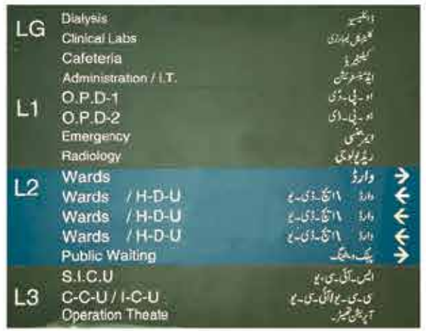
The lower ground floor of the hospital has a dialysis unit, clinical labs, blood bank, bio-medical office, dispensary, histopathology and screening centers. The prayer room and cafeteria for patients attendants and visitors are also present there. The data center, bin center, medical gases, storage areas, loading dock, and dry and high-value goods storage is also located on the same floor. Provision for the employees like seminar room, common room, meeting rooms, a faculty lounge, and employee's entrance is from the lower ground floor.

The ground floor of the hospital is designed to accommodate patients for outdoor and emergency. It also includes information kiosk, fixed seating, hospital street, waiting area, pharmacy, administration, and outdoor waiting facility. Examination rooms, tests and medical procedures like Welfare RM/Vitals, Endoscopy, Mammography, Lithotripsy, X-rays, CT scan, MRI, Fluoroscopy, Radiology, Resus, and Ultrasound are also present on the ground floor. The floor also accommodates nurse station, observation bay, holding bay and faculty lounge.

The first floor majorly includes wards for patients. It also constitutes isolation rooms, staff rooms, pharmacy, nursing office, meeting room, and department offices.

The second floor is designed for patients before, during and after operations. It includes modular operation theaters, holding/observation bay, CCU, SICU, ICU, Cath labs, anesthesia office, recovery, equipment store, staff lounge, and department office.

The roof of the hospital is utilized for mechanical and electrical equipment. It has the CSSD, AHU rooms, OHWT, IT room, IV and MV room, server room, UPS room, BMS and security surveillance.



STATE-OF-THE-ART FACILITIES

DESIGN BASIS

Recep Tayyip Erdogan Hospital (RTEH) is planned keeping in view both functional requirements of the hospital and human needs. The hospital layout is designed with a focus on the services available, potential user community, micro, and macro socio-economic factors and geographical factors. Procedural innovation, modular planning, sustainability, and accessibility have been incorporated in the overall hospital infrastructure.

EFFICIENCY AND COST-EFFECTIVENESS

RTEH is established with a keen focus on efficiency and cost-effectiveness. The careful planning at the pre-design phase has allowed the presence of all necessary spaces and routes that reduce distance and saves time of the staff. The space allows the visual supervision of patients by lesser staff. It also allows an efficient logistics system for supplies and food with minimal disturbance on the floor.

FLEXIBILITY AND EXPANDABILITY

The hospital space is flexible and includes open-ended spaces for any future expansions. The mechanical and electrical systems are deployed in the energy center which can be modified in the future for any developments. These spaces will help in the future extension and transformation of the hospital.

THERAPEUTIC ENVIRONMENT

Hospitals should provide a sense of comfort and tranquility to patients to make their stay pleasant and accelerate their recovery. The interiors at RTEH are deliberated to include provisions that create a soothing atmosphere. Gardens are present around the hospital to enable a greener and therapeutic environment. The choice of lights and colours for the hospital are made to maximize the comfort of patients.

CLEANLINESS AND SANITATION

Health and cleanliness standards of the highest quality are maintained at the hospital. To ensure a clean environment, special focus is given to the finishing of each functional area. The tiles, door frames, and caseworks are chosen to avoid crevices and dirt accumulation. Sufficient provisions of housekeeping are made to ensure cleanliness at every time.

ACCESSIBILITY

Accessibility of patients to hospital space is of primary importance. The spaces at RTEH are designed to allow easy access to everyone. All areas allow easy movement of wheelchairs and stretchers. It is also ensured that the grades are flat enough to aid movement. An efficient way finding system is deployed to help people find directions.

CONTROLLED CIRCULATION

The hospital areas are designated to control patients movement. Outpatient, check-up, and diagnosis are easily accessible at entry. The hospital plan allows the segregation of patients into various categories according to their illness. Access controls are present at areas for inpatient and severely ill patients. The logistical routes for waste disposal are separate from those for food and clean supplies.

SECURITY AND SAFETY

The hospital systems ensure complete safety and security. There is a complete surveillance system in place at the hospital to avoid any unpleasant activity. Access to sensitive areas is controlled and is only accessible by authorized personnel.

SUSTAINABILITY

At RTEH a keen focus is kept on sustainability. The hospital has its own energy resource center to ensure the efficient utilization of energy. All electro-mechanical facilities are present at a centralized location for ease of maintenance, control of use, less redundancy of facilities and noise control. Waste from the hospital is treated properly to reduce the impact on the surrounding environment.

PAPERLESS ENVIRONMENT

All records of the hospital are managed through HMIS to ease availability of patient record to medical staff, increase efficiency of time and resources, easy cross references for quick diagnosing, automated reporting, improved patient tracking, increased data security & retrieveability and precise resupply of medicines. It also improves patient care by providing improved access to patient data which leads to better and faster clinical decisions.

With automation, all departments in the hospital are inter-connected and faster information access further improves the quality of patient care and resultant bed turn over in the hospital.

INFECTION CONTROL

Controlling the spread of disease and minimizing the number of healthcare associated infections are primary concerns of all the hospitals. Environmental cleaning and disinfection are key components of a comprehensive plan at RTEH. Cross transmission in the hospital environment has been linked to contamination of hospital surfaces, contaminated medical devices and other fomites, and contamination of healthcare worker's hands and clothing. In order to stop this, routes for various areas of the hospital are separated to control flow of patients.

Special attention is being given to wastewater disposal through incinerators, spate disposal and disposal through Sewage Treatment Plant (STP). Rigorous cleaning methods are being used round the clock to ensure safe environment for the patients. Furthermore, there is an open-air flow circuit and laminar air flow in Modular Operation Theatres (MOTs). HEPA filters are also regularly revised to minimize the danger of infection. The hospital is also equipped with reverse osmosis plant for availability of clean drinking water.

WASTE MANAGEMENT

RTEH is outfitted with microwave waste management technology to treat biohazardous waste, including material from healthcare facilities. The main benefit of microwave energy is the direct delivery of energy to microwave absorbing materials, which allows the volumetric heating of samples. It is free of storage, transportation and external treatment of clinical waste and will provide a hands-on response to dealing with contaminated, regulated medical waste. Microwave medical waste treatment sterilizes to maintain safety standards and processes all liquids and solids including sharp needles and surgical utensils.

With no consumables other than an adequate power supply and no dangerous emissions produced at any stage of the sterilization process based on microwave technology, system will be easy to operate and respects the environment while reducing risk of contamination along with minimal handling of biohazardous material.

OPERATIONAL INNOVATION & QUALITY MANAGEMENT

RTEH is fully equipped with tools to improve organizational processes that are needed for effective and seamless interactions among medical staff, administrators and patients that allows consistent service quality and patient's safety. RTEH is continuously seeking new opportunities for customer value by process improvements such as paperless working environment and advanced medical IT systems.These systems can support medical staff in their efforts to improve quality of care services. We are continuously innovating for increasing customer value by process improvements through enhanced efficiency, cost savings, safety, and service quality.

Furthermore, the medical staff at RTEH is trained in Turkey, there are exchange visits of staff members and specialized training units to monitor the skill requirements.

HEALTH, SAFETY & ENVIRONMENT

Health, Safety and Environment (HSE) conditions are given special attention during the construction of RTEH to minimize accidents and injuries. Our HSE management provides coordination and monitoring to ensure the health and safety of our workers and compliance with HSE construction requirements. Moreover, safety trainings were conducted regularly to reduce the risk of any damage and improve onsite productivity. The HSE teams have completed 2,496,112 safety man-hours at RTEH site.

MEDICAL SERVICES AVAILABLE

Magnetic Resonance Imaging (MRI)

An MRI facility is available at RTEH for efficient diagnosis of disease. MRI is performed to diagnose brain and spinal cord abnormalities, heart and blood vessels disorders, bone and joint disorders and internal organs disorders.

MRI is better than X-ray or CAT Scan because it does not use X-rays for the test. The MRI machine at RTEH has a non-magnetic stainless steel body with a load capacity of 600lbs.

Dialysis

The hospital also houses a complete high-end dialysis facility for patients with renal failure. The facility includes 15 dialysis units to cater to the patients. The dialysis machines have a blood pumping capability for both peads and adult blood tubing lines. The unit has an automatic cleaning and rinsing mechanism. It is powered at 220V, 50Hz and has an automatic battery backup for at least 15-20 minutes.

Computerized Tomography (CT) Scan

RTEH also houses a facility for CT scan, that uses a combination of X-rays and a computer to create pictures of your organs, bones, and other tissues. These scans can help in the diagnosis and location of complex problems in the body.

The system software includes 3D volume rendering, MIP, CT angio (color display), virtual endoscopy, CT perfusion, prospective ECG gated scan, dental and bone mineral study.

X-RAY

Five X-ray machines are also available in the facility to increase the efficiency of diagnosis. X-rays are types of electromagnetic radiation well-known for their ability to see through a person's skin and reveal images of the bones beneath it. The X-Ray facility at RTEH is high frequency, automatically fluoroscopic with a resolution of 2400 x 2800 pixels.

Ultrasound

Seven ultrasound machines are available at the hospital facility. The ultrasound machines have the capacity to scan abdominal, small parts and superficial, pediatric, musculoskeletal, neonatal, urology, obstetrical, gynecological and fertility, vascular, transcranial doppler, cardiac and endocavitary issues.

Fluoroscopy

Fluoroscopy is a type of medical imaging that shows a continuous X-ray image on a monitor, much like an X-ray movie. During a fluoroscopy procedure, an X-ray beam is passed through the body. The image is transmitted to a monitor so the movement of a body part or of an instrument or contrast agent (X-ray dye) can be seen in detail, through the body.

Lithotripsy

Lithotripsy, a non-surgical technique to remove stones from different parts of the body, is available to patients at RTEH. It is a medical procedure that uses shock waves or a laser to break down stones in the kidney, gallbladder, or ureter.

Endoscopy

Endoscopy allows the doctor to view the inside of a person's body. Originally, endoscopy was only used in the esophagus, stomach, and colon. Now, doctors use endoscopy to diagnose diseases of the ear, nose, throat, heart, urinary tract, joints, and abdomen.

RTEH has state-of-the-art endoscopic facility that can provide help in advanced diagnosis to the medical teams.

Mammography

Mammography facility is available for specialized medical imaging that uses a low dose x-ray system. The facility allows digital imaging with the latest technologies in place. The equipment is capable of quick diagnosis with complete precision.

Urodynamics

RTEH also houses a facility for urodynamics test that can display the functionality of bladder and help track any leakages or blockages. Urodynamics machine has the potential to diagnose diseases related to the urinary tract with complete precision.

Bone Mineral Density (BMD) Machine

BMD scans are also carried out at RTEH. The BMD machine is based on fan x-ray beam geometry technology with a precision of 1%. It provides information about bone strength or fragility and the risk of fractures or broken bones. The higher the density, generally, the lower the risk of fracture. The machine has the capability to scan the entire body parts of adults and pediatric patients with precision.

Dental & Orthopantomogram (OPG)

Complete Dental and OPG facilities are present at the hospital for the treatment of patients with dental problems. The dental facility includes a complete diagnostics unit, dental x-ray unit, unit for procedures, electric pulp unit and glass bead sterilization unit.

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MUZAFFARGARH

113 ACRES

400,000
Square Feet
Covered Area

250
Beds (extendable to 500 beds)

29
Beds ICU

15
Beds Outpatient Dialysis Facility

21
Beds Emergency Center

14
Beds CCU

165
Beds General Wards

6
Modular Operation Theaters

PROJECT TIMELINE

JANUARY 2017
PROJECT COMMENCEMENT

MAY 2017

NOVEMBER 2017

JANUARY 2018

MAY 2018

NOVEMBER 2018

MAY 2019
PROJECT COMPLETION

"Your targets can be realized
on the basis of your dreams"

– Recep Tayyip Erdogan
President, Turkey

INFRASTRUCTURE DEVELOPMENT
AUTHORITY OF THE PUNJAB

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