

Managing Director's

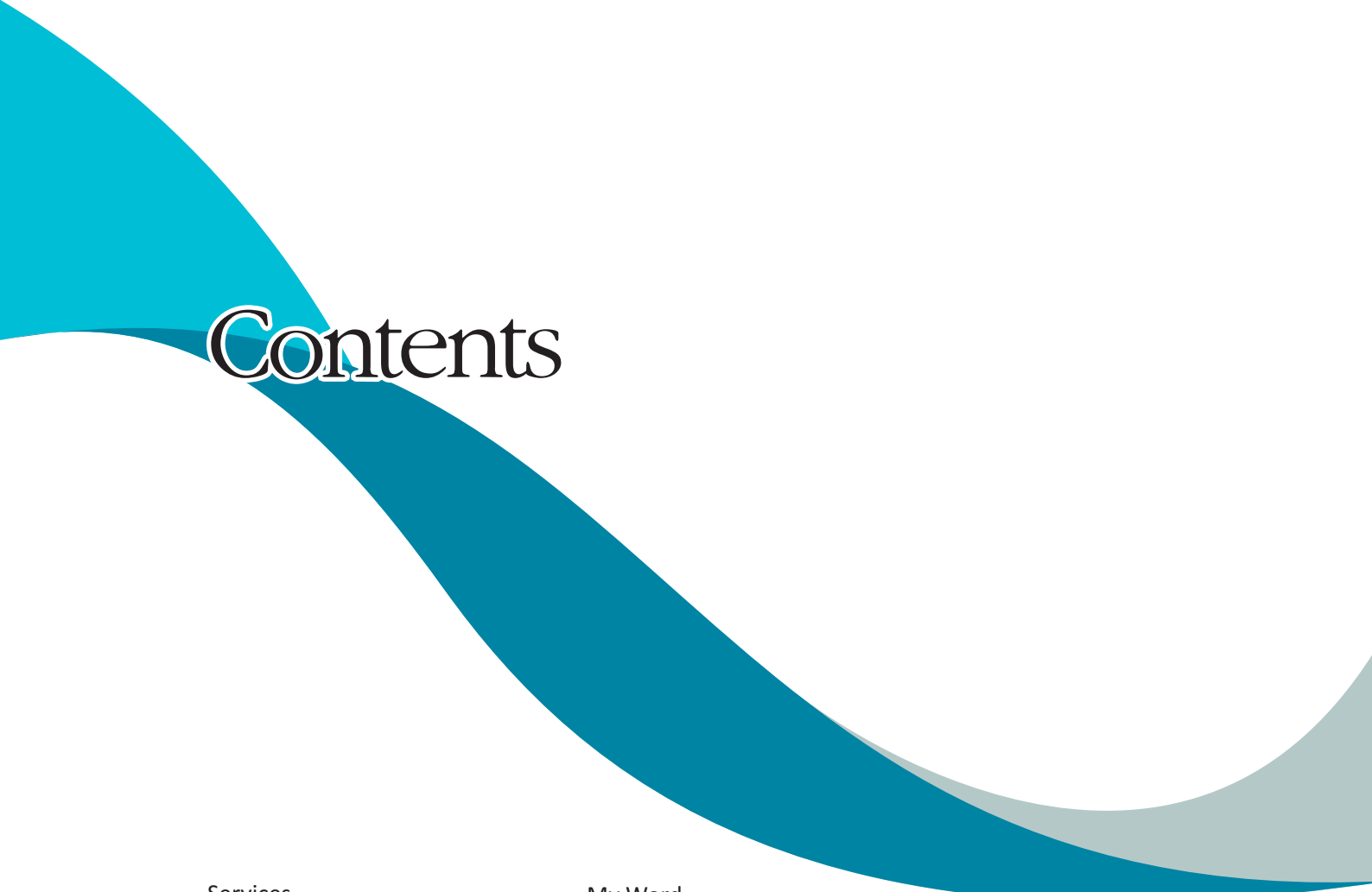
R E P O R T

2020



NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED

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Services

Appraisals, Pre-feasibility and Feasibility Studies

- Reconnaissance Studies
- Preliminary Investigations
- Development of Alternative Proposals
- Outline Designs and Cost Estimates
- Front-end Engineering Design
- Technical and Economic Feasibility Studies
- Site Selection Studies
- Doability Studies

Surveys and Investigations

- Topographic Surveys and Mapping
- Geographical Information System
- Geotechnical and Soil Investigations
- Geological, Geophysical, Hydrological and Environmental Surveys
- Traffic Surveys
- Commercial Surveys
- Socio-economic Surveys
- Instrumentation and Monitoring

Design

- Design Vetting
- Preliminary Designs
- Model Tests
- Computer Simulations
- Detailed Designs and Specifications
- Detailed Drawings
- PC-1 & PC-2

Tender and Contract Documents

- Bill of Quantities, Technical Specifications, Cost Estimates and Schedules
- Tender Documents for Normal/EPC Contracts
- Pre-qualification of Contractors
- Evaluation of Tenders and Recommendations
- Contract Documents

Construction Supervision and Contract Management

- Project Management
- Contract Administration
- Progress Monitoring and Control
- Works Supervision and Quality Control
- Equipment Inspection and Commissioning
- Measurements
- Certification of Periodic Payments to Contractors

Post-construction Services

- Third Party Validation and Monitoring
- Completion Reports
- Operation and Maintenance Manuals
- Routine Maintenance and Safety Inspections
- Retrofitting and Rehabilitation
- Conservation of Structures
- Performance Monitoring

Specialised Services

- Institutional Strengthening and Capacity Building
- Tourism Planning
- Inspection of Dams and Barrages
- Development of Building Codes
- Asset Valuation
- Services for Public-Private Partnership and BOT (Build-Operate-Transfer) Projects
- Trainings
- Building Codes
- Landslide Study and Mitigation
- Deep Excavation Support

Fields of Activity

- ◉ Water Resources Planning, Drainage, Salinity Control and Land Reclamation, Dams and Barrages, Irrigation and Drainage Systems, Water Resources Development and Management, Flood Management and Forecasting/Warning Systems and Institutional and Social Development
- ◉ Power Transmission and Distribution, Substations, Hydropower, Thermal Power, Nuclear Power, Rural Electrification, Renewable Energy, Supervisory Control and Data Acquisition (SCADA) and Telecommunications, Oil and Gas
- ◉ Motorways, Highways, Urban Roads, Rural Roads, Grade-separated Interchanges, Bridges and Flyovers, Subways and Underpasses, Tunnels, Computer Generated Transport Modelling and Planning, Rapid Mass Transit System, Railways, 3D Animation of Highway Projects (Real-life Simulation), Steel Structure Design, Pedestrian Bridges, Bus Shelters and Intelligent Transport System (ITS) Arrangement for Operational Facility
- ◉ Geotechnical, Geo-environmental, Geohazards, Site Investigations, Geological Characterisation, Geophysical Surveys, Construction Materials and Minerals, Dams, Landslide Mitigation, Seismotectonic Studies, Seismic Risk Evaluation, Ground Improvement, Problematic Ground Mitigation and Deep Excavation Support Systems
- ◉ Airport Terminal Buildings, Hangars, Runways, Taxiways and Air Traffic Control Towers
- ◉ Deep Seaports, Fish Harbours, Marine Terminals, Container Terminals, Inland River Navigation and Marine Jetties
- ◉ Architectural and Engineering Design, Healthcare Buildings, Educational Buildings, High-rise Buildings, Corporate Office Buildings, Commercial and Community Buildings, Sports and Recreational Facilities, Industrial Buildings, Low-cost Housing, Residential Communities, Urban/Rural Planning, Slum Upgradation, Landscaping, Interior Design and Rehabilitation and Refurbishment Works
- ◉ Seismic Hazard Microzonation, Disaster Risk Reduction and Management Studies and Trainings, Implementation Strategies, Policy Formulation, Residential Communities, Advocacy Planning, Preparation of Zoning Regulations and Bye-laws, Tourism Planning, Regeneration and Building Codes
- ◉ Water Supply, Sewerage, Stormwater Drainage, Solid Waste Management, Plumbing, Water and Wastewater Treatment
- ◉ Site Characterisation/Baseline Data for Environmental Impact Assessment, Environmental Risk Assessment, Environmental Planning and Management, Environmental Health and Safety, Air and Noise Pollution Control, Contaminated Site Assessment and Mitigation, Environmental Audit and Resettlement Action Plans
- ◉ Steel Mills, Automobile Plants, Cement Plants, Fertilizer Plants, Polyester Plants, Sugar Plants, Chemical Industrial Plants and Textile Units
- ◉ Business Process Re-engineering, Management Information System, IT and Software Development, Database Applications, Web Portals, Data Warehousing, Data Conversion, Networking and Data Centres, Satellite Imagery Processing, Digital Terrain Modelling, Global Positioning System (GPS) Survey, Remote Sensing, GIS (Geographical Information System) Development and Map Digitisation
- ◉ Land Surveying, Cadastral Surveying, Hydrographic Survey, Geodetic Survey, Drone Survey, Monitoring Design and Supervision of Heating Ventilation and Air Conditioning (HVAC), Fire-fighting, Elevators, Escalators, Platform Screen Doors, Building Management Systems and Building Energy Audits
- ◉ Agriculture Development and Management, On-farm Water Management, High-efficiency Irrigation Systems, Soil and Water Conservation, Social and Environmental Institutional Development, Natural Resources Development (Aquatic Life Study, Monitoring and Evaluation Tasks, Horticulture/Floriculture Forestry, Rangeland Management, Livestock and Dairy Development and Wildlife Management) and Socio-economic Project Impact Evaluation

My Word

“Don't let Yesterday take up too much of Today.” **Will Rogers**



04

The National Engineering Services Pakistan (Pvt.) Limited (NESPAK) started its journey from scratch but met with a phenomenal success in the forthcoming years. The rags-to-riches episode did not come about by a stroke of luck rather it speaks of a long struggle, perpetual hard work and persistent teamwork. The team of professionals who sowed the seeds of this organisation deserve accolades for the honesty of purpose and arduous struggle to bring NESPAK to the glorious position it enjoys today in the engineering consultancy world.

Last year was a very unusual time as it brought misery and despair worldwide in the shape of the Corona pandemic. Pakistan was also hit hard by this disease yet the country is struggling with aplomb with this unseen enemy by the grace of Allah Almighty. NESPAK is out to make efforts to face the situation arisen out of this deadly disease by dint of timely plans and right decisions/actions.

By the Mercy of the Almighty, NESPAK managed to get good business during the Financial Year 2019-2020 despite the economy marred by the Corona pandemic. NESPAK secured 85 Projects out of which 83 were domestic. Outside Pakistan, the business was secured in Oman and Qatar. The fee contracted from July 01, 2019 to June 30, 2020 was Rs. 12.1 billion which is 9% more than the last year's business acquisition. This is the highest ever since NESPAK's inception in 1973 despite the prevailing financial crunch.

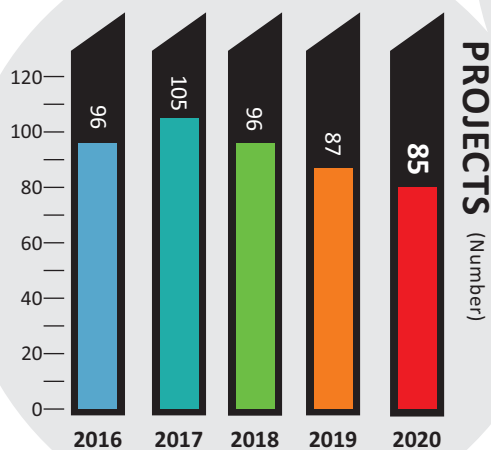
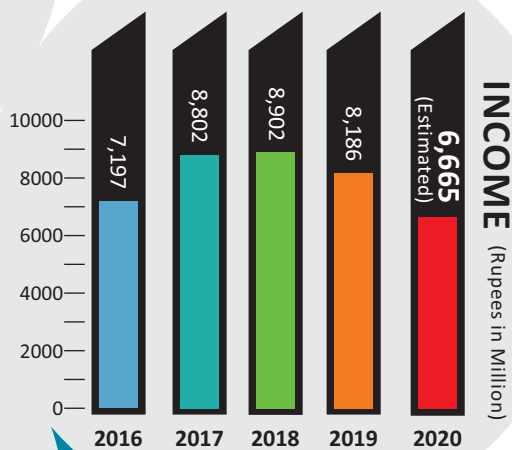
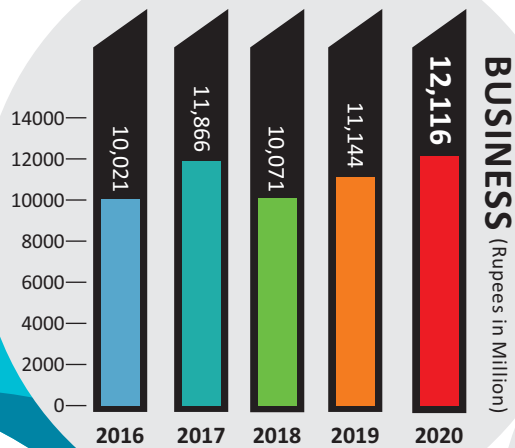
The major projects acquired during the year 2019-20 include Diamer Basha Dam, Murunj Dam Project, 900MW Bin Qasim Power Station (BQPS-III) Combined Cycle & Associated Transmission Projects, Surizai Housing Scheme, Peshawar, JV Project of FGEHA for Construction of Apartments at Faisal Margalla City, Islamabad, Rudn Enclave Housing Scheme, Rawalpindi, Pakistan Digital City, Haripur, Reconstruction/Rehabilitation of Fully Damaged

Schools in Bara, Naval Research and Development Institute Complex, Karachi, Hoshab-Awaran-Khuzdar Section of M-8, Establishment of University Campus for Women at Bannu, Development of Ziarat Town, Al-Meera Five Malls, Qatar and Dual Carriageway Road for NR32 Phase-I Duqm, Oman

NESPAK has won accolades by winning an international ranking. NESPAK was ranked in the year 2020 on the ENR Magazine Top International/Global Construction Management/Program Management Firms' list published in the August 17/24 issue of the Engineering News-Record (ENR), a US-based weekly magazine. NESPAK has been ranked 13th among the top 20 non-US firms in total global construction management and programme management.

Quality of work always ensures increased profits for any business. NESPAK takes care of quality and closely watches its working mode by undertaking yearly audits. During the year, NESPAK audit officials visited various Divisions and Offices to ensure compliance with the Quality Management System (QMS). A Surveillance Audit was conducted at NESPAK House, Lahore by the Lead Auditor/Technical Expert of TUV Austria Bureau of Inspection and Certification during June 2020. The audit was extensive with the objective to measure the conformance of NESPAK QMS to meet the requirements of ISO 9001:2015 Standard. The QMS was found compliant with the requirements of the Standard by the TUV Auditors and NESPAK was recommended for continued certification.

British author Kenneth Robinson says, “Human resources are like natural resources; they're often buried deep. You have to go looking for them, they're not just lying around on the surface. You have to create the circumstances where they show themselves.” NESPAK places a high value on its staff whose dedication and commitment helped the Company in attaining the high status it enjoys today. Presently, 4,351 employees including professionals



and technical experts are serving the organisation with devotion even in the midst of the Corona peril.

Research activities by the recently established Research and Development Cell have started taking root at NESPAK. All technical and non-technical Divisions are participating actively in the Cell's operations. At the moment, 25 research documents have been prepared and almost the same number is in the pipeline. All the Divisions are obliged to comply with the provisions of R & D documents. The benefits of R & D working will be apparent soon.

NESPAK is not only making more efforts to get involved in the Oil and Gas Sector but also exploring the renewable energy sector. In this regard, we are following opportunities in the gas pipeline and oil refinery projects.

NESPAK holds its Clients in high esteem as they are the lifeline of the business. It believes in the value of its customers and tries its utmost to come up to their expectations through available skills and technical experience, expertise, technology base, most

appropriate design solutions and project management in various fields.

Concerted efforts are being made to increase business for the Company. Every avenue is being explored to seek business to improve the financial health of NESPAK. High-level foreign tours to Oman and Qatar during the financial year are a case in point. The visits by dignitaries from various national institutions are taken as an opportunity to raise liaison for the Company's growth. With the virus pandemic becoming a global reality, NESPAK has foreseen the challenges and dealing with them diligently. Having Divine faith as our ultimate guide, we are confident that success and progress will stand by NESPAK in the days to come.

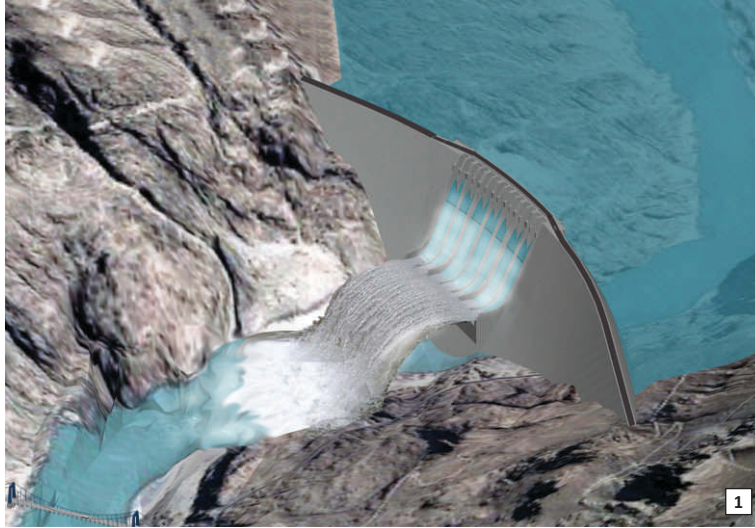
DR. TAHIR MASOOD
Managing Director & President

The Force Behind

ENERGY SECTOR

06

NESPAK came up with a brilliant performance in the Energy Sector by securing 14 new jobs worth Rs. 544 billion including the mega venture of the Diamer Basha Dam during the year 2019-20. This enormous project will produce 4,500 megawatts of electricity when completed. The Company continued to render its state-of-the-art services for 22 projects worth Rs. 1,367 billion comprising the 800MW Mohmand Dam Hydropower Project and completed four projects during the fiscal year. The achievements involve planning, designing and implementation of multiple thermal and hydel power plants, enhancement of NTDC's 500kV networks and their interconnections with the National Grid and power plants.



1. An artistic view of the Diamer Basha Dam
2. Construction works at the site of the Bin Qasim Power Station (BQPS-III), Karachi

Among the fresh projects during the year, NESPAK was engaged for the mega energy project of the Diamer Basha Dam which will add 4,500 megawatts of electricity to the National Grid at its completion. The project has been planned to be constructed on the Indus River in Khyber Pakhtunkhwa and Gilgit-Baltistan, 315 kilometres from the Tarbela Dam and 40 kms downstream of Chilas Town. NESPAK services include project planning, detailed design, tender documentation and construction supervision and environmental and resettlement aspects. The project encompasses a roller compacted concrete-based dam having a height of 272 metres with a gross storage of 8.10 MAF (10 BCM) and live storage of 6.40 MAF (7.9 BCM). The cost for the Phase-I of the Diamer Basha Dam is estimated to be Rs. 442 billion.

NESPAK as part of a consortium of Tractebel Engineering GmbH, Germany (lead firm) and Renewable Resources (Pvt.) Ltd., Pakistan has been engaged by K-Electric Limited (KE) for design review and construction supervision of the 900MW Bin Qasim Power Station (BQPS-III) Combined Cycle and Associated Projects. The BQPS-III project includes two single shaft combined cycle units each of 450MW capacity. The project is a brown field one, having interfaces with the KE's 900MW BQPS-I and BQPS-II Power Stations. The Rs. 100 billion project also includes upgradation and rehabilitation of four associated grid stations at the Korangi Power Complex, Korangi West, Landhi and Qayyumabad.

The National Transmission and Despatch Company (NTDC) signed a contract with the NESPAK-Barqaab Joint Venture for the 220kV Transmission Lines in Lahore. The Rs. 1 billion project is part of the Tranche 3 of the Asian Development Bank (ADB) Second Power Transmission Enhancement Investment Program. NESPAK will supervise the construction and associated activities for three 220kV single circuit transmission lines (40km), interconnecting the Ghazi Road, Kala Shah Kaku and 220kV Ravi Grids with the Lahore North Grid Station under this project.

The NESPAK-Barqaab Joint Venture has been assigned with the consultancy services for the 220kV Double

Circuit Dera Ismail Khan-Zhob Transmission Line by the NTDC. The scope of work includes construction supervision of civil works, installation and testing and commissioning of the 220km transmission line. The main objective of the project is to connect the 220kV Zhob Substation in Balochistan to the National Grid System of Pakistan through the 220kV Dera Ismail Khan Substation. Almost 30 percent of the works progress has been achieved on this project so far.

Among the ongoing projects, major construction activities for the Neelum-Jhelum Hydroelectric Project have been completed. During the year, work on the leftover jobs and the clearance punch list items continued on this project of paramount importance which is generating 969 megawatts and has contributed nearly 9 billion units (kWh) of electricity to the National Grid. NESPAK as a leading partner with the local consultants in a joint venture has been involved in design review and construction supervision for this Rs. 506 billion massive project.

Under the 800MW Mohmand Dam Hydropower Project, preparatory works including temporary accommodation for 3,000 local and 600 Chinese workers were initiated during the year. Residences for 850 workers and temporary access roads to different work sites have been completed. Construction activities on two diversion tunnels have been started after undertaking earthwork for slope stabilisation. An access tunnel to the mid of alignment of the two diversion tunnels of 328m length has been excavated to 85 percent of its total length. Work on project colony and excavation of spillway is in full swing under this Rs. 224 billion multipurpose project. NESPAK-led Joint Venture (JV) viz. Mohmand Dam Consultants Group is involved in design review, construction supervision and contract management services for this mega project awarded by the Water and Power Development Authority (WAPDA).

The 102MW Gulpur Hydropower Project achieved commercial operation during the fiscal year and started to inject power to the National Grid. The project has the capacity to generate an average energy of 455GWh. The NESPAK-MWH International

Inc., USA Joint Venture is rendering services for the Defects Liability Period for this Rs. 52 billion project. Located in Kotli District of Azad Jammu and Kashmir, the project has been financed by the Korea Exim Bank, Asian Development Bank (ADB), International Finance Corporation, the Islamic Development Bank and the ECO Bank. The joint venture designed and supervised the construction of this project as owner's engineer for M/s Mira Power Limited, a subsidiary of KOSEP, South Korea.

The Mangla Dam Refurbishment and Upgradation Project demonstrated good progress during the year as NESPAK In association with the MWH International Inc., USA and ACE (Pvt.) Limited continued services for this Rs. 52 billion project. NESPAK scope of work is to assist WAPDA in contracting process, bid evaluation, engineering and schedule management, technical engineering expertise, construction supervision and commissioning of the equipment. To date, contracts for refurbishment of powerhouse cranes, supply of 220kV main transformers for Units 3-6, supply of new rubber seals for turbine inlet valves for Units 1-6 have been completed. Design review and site activities pertaining to contracts for generator, turbine, excitation & governor systems for Units 1-6 and switchyard, electrical works & mechanical works are gearing ahead. Bidding process for supply of generator step-up transformers for Unit 1-2 is also in progress.

The 1263MW Regasified Liquefied Natural Gas (RLNG)-based Combined Cycle Power Plant (CCPP) near Trimmu Barrage at Haveli Bahadur Shah, Jhang has moved forward at a good pace. Under this Rs. 56 billion project, the simple cycle including all auxiliary systems, 220kV switchyard, fire-fighting and HVAC

systems has been completed and cold commissioning is done. The construction of combined cycle, its auxiliary systems and related balance of plant systems remained in progress. Awarded by the Punjab Thermal Power (Pvt.) Limited, this project was signed with the China Machinery Engineering Corporation, China on the Engineering, Procurement and Construction (EPC) basis. NESPAK had been engaged as lead consultant for tender documentation, design review and construction supervision for this project which is also known as the Punjab Power Plant.

NESPAK continued to render services during Defects Liability Period for the RLNG-based 1180MW CCPP Bhikki, 1223MW CCPP Balloki and 1230MW CCPP at Haveli Bahadur Shah, Jhang. These plants have started commercial operation and providing their share of electricity to the national power network. NESPAK earlier provided end-to-end services on these projects including feasibility study, tender documentation, design review, construction supervision and testing and commissioning. The cumulative cost of the three RLNG-based projects stands at Rs. 167 billion.

The Phase-I of the 500kV Double Circuit Transmission Line from Neelum–Jhelum to Interconnection Point has been successfully energised and for dispersal of power to the National Grid i.e., 969 megawatts, whereas Phase-II i.e., from Interconnection Point Domeli to the 500kV Nokkhar Grid station is at the concluding stage under the supervision of NESPAK. NESPAK is involved in review of design/drawings, construction supervision, verification of contractor's invoices and testing and commissioning of this Rs. 22 billion project.

NESPAK started work for the 500kV Transmission Lines Interconnection Arrangement for Power Evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects in Northern Areas of Pakistan. The Company submitted the Environmental Impact Assessment and Land Acquisition and Resettlement Plan reports for Suki Kinari to Maira to Islamabad



1. The 1263MW RLNG-based Combined Cycle Power Plant near Trimmu Barrage, Jhang also known as Punjab Power Plant

2. A view of the Mohmand Dam outlet portal



1. The 500kV Double Circuit Neelum–Jhelum Interconnection Transmission Line Project
2. A view of Transmission Line from Hubco-II Power Plant to the 500kV Grid Station, Jamshoro
3. A view of the completed extension works at the 500kV Ghakhar and Muzaffargarh Substations

West 500kV Double Circuit Transmission Line as per the ADB guidelines. Tendering process of Lot-I is under process for this Rs. 11 billion project awarded by the NTDC. NESPAK is also responsible for engineering design, detailed survey and routing, bidding documents, design review, contract management and construction supervision for this one-of-its-kind project in Pakistan. The NTDC also entrusted NESPAK with the additional work i.e., interconnection of the IPP Karrot Hydropower Project under the China-Pakistan Economic Corridor (CPEC) with the Neelum-Jhelum Transmission Line.

Work is moving ahead at a good speed on the 660kV HVDC (high voltage direct current) Matiari to Lahore Transmission Line Project under NESPAK supervision. Civil works have been completed and tower inspection is in progress. The project was awarded by the Consultants of China Electric Power Equipment and Technology Company Ltd. of the State Grid Corporation of China under the CPEC. The project, which is being constructed on the Build-Operate-Own-Transfer (BOOT) basis, consists of 878km of 660kV HVDC Transmission line from Matiari Converter Station to Lahore. The converter station traverses through the regions of Punjab and Sindh.

The transmission line segment of the 500kV Faisalabad West Grid Station Extension and Associated 500kV Transmission Lines Project (Phase-II) was energised under NESPAK supervision during the year. The design approval of the substation for of this Rs. 3 billion project is in advanced stage and construction work has been started. NESPAK is involved in the design review and construction supervision for this project awarded by the NTDC.

The project is being financed by the Japan International Cooperation Agency (JICA) and the ADB.

Work started on the 220kV Tarbela-Burhan Twin Bundle Transmission Line using Low Loss ACSR Conductor during the year. The NESPAK-NEWJEC Inc. Joint Venture is providing detailed design, tender assistance and construction supervision including procurement of materials for this Rs. 2 billion project. The NTDC with the support of JICA is using special type of low-loss ACSR conductor for the first time in the NTDC-EHV Network of Pakistan.

NESPAK as a lead partner with Barqaab is providing services for 500kV Double Circuit Transmission Line from Hubco-II Power Plant to the existing 500kV Grid Station Jamshoro Project to evacuate power from 1320MW the CPHGC– China Power Hub Generation Company (Pvt.) Limited – (HUBCO-II) Power Plant. NESPAK scope of work includes construction supervision, testing and commissioning and allied activities including verification of contractor's invoices.

Among the projects wrapped up during the year, NESPAK completed construction supervision of civil works, installation and testing and commissioning of the Extension Works at 500kV Ghakhar and Muzaffargarh Substations for the NTDC. NESPAK as a lead partner with M/s 8.2 OZI completed feasibility study for solar water pumping in Balochistan during the fiscal year. After finalisation of the report, go-head was given for the implementation of the project. The study was awarded the NTDC on behalf of the Ministry of Energy (Power Division) as an initiative towards Energy and Agricultural Sectoral Reforms in Balochistan.

Sowing and Sweat Go Together

Water & Agricultural Development Sector

NESPAK has been offering matchless professional expertise and skills in the Water and Agricultural Development Sector. The Company continued to render its up-to-date services for 14 projects worth Rs. 297 billion during the year 2019-2020 and completed consultancy work on six projects worth Rs. 331 billion.

NESPAK plays an unparalleled role in planning, designing and management of water and agricultural development projects at national and international level. During the year NESPAK performed well in the Water and Agricultural Development Sector with the acquisition of two new projects worth Rs. 5 billion.





1. Kachhi Canal flowing in full capacity near Dera Bugti, Balochistan
- 2&3. Different views of rehabilitation works at the Panjnad Barrage

Among the fresh projects during the year, a

NESPAK-led joint venture signed a contract with the Punjab Agriculture Department for rendering consultancy services for Command Area Development Component of the Jalalpur Irrigation Project. NESPAK scope of services includes review of survey, design and cost estimates of watercourse construction/development, laser land levelling, installation of high efficiency irrigation system and construction of water storage ponds with solar pumping stations in addition to inspection of material quality and verification of completed works. The Project costing Rs. 4 billion is scheduled to be completed in four years. The NESPAK Joint Venture comprises the National Development Consultants (Pvt.) Ltd. (NDC), Associated Consulting Engineers (Pvt.) Ltd. (ACE) and Waterman Consulting Engineers (Pvt.) Ltd.

Among the ongoing projects,

work progressed at a good pace on the Phase-I of the Kachhi Canal Project during the year under the two new amendments to the original consultancy services contract. The Kachhi Canal Project aims to develop a new fertile area of 288,540 hectares in the Kachhi Plain in Balochistan through a supply of 6000 cusecs from Indus waters. The works for design, tender documentation and construction supervision were

entrusted to the Kachhi Canal Consultants, a joint venture of NESPAK, NDC, ACE and Barqaab in association with the Engineering General Consultants (Pvt.) Ltd. (EGC). The Rs. 80 billion mega project has been initiated by the Water and Power Development Authority (WAPDA) under its Vision 2025 Program.

NESPAK has been providing consultancy services for the Punjab Irrigation Department for Projects under Annual Development Program (ADP) through a time-based contract since September 2009. Under the project, work on different ADP schemes is currently in progress all over the Punjab Province with a total outlay of Rs. 80 billion. Major components of project include rehabilitation of irrigation systems, remodelling/reconstruction of hydraulic structures, bridges, flood protection and river training works as well as construction of small dams. The quality of works for ongoing schemes, being monitored by NESPAK, is outstanding and the schemes are being completed in accordance with the standard specifications.

During the year, the eighth contract package of the Rehabilitation and Upgradation of Balloki Barrage and Lower Bari Doab Canal Improvement Project was completed under the supervision of NESPAK. Out of 10, eight contracts have been handed over to the Punjab Irrigation Department whereas work on the remaining two packages is fast nearing completion. Major works completed under this project include rehabilitation & upgrading of barrage & construction of a new gated flood spillway, raising/strengthening of 2,285km embankments, 1,066km canal lining, 1,265 structures and 2,180 outlets of Lower Bari

Doab Canal System. NESPAK is also involved in design and tender documentation for this Rs. 30 billion project jointly financed by the Punjab Government and the Asian Development Bank (ADB).

The Trimmu and Panjnad Barrage Improvement Project demonstrated brilliant progress under the supervision of a NESPAK-led Joint Venture. Construction activities are continuing at a brisk pace on this Rs. 17 billion project awarded by the Punjab Irrigation Department. NESPAK has also been rendering design review services for this modernisation project.

Quick progress on various packages has been reported on the Remodelling of Warsak Canal System (RWCS) Project under the supervision of NESPAK in a joint venture with the Integrated Consulting Services (Pvt.) Ltd. (ICS) and Electra (Pvt.) Ltd. The scope of services also comprises detailed design and tender documentation for this project awarded by the Khyber Pakhtunkhwa Irrigation Department. Construction Warsak Gravity Canal (9 packages), two

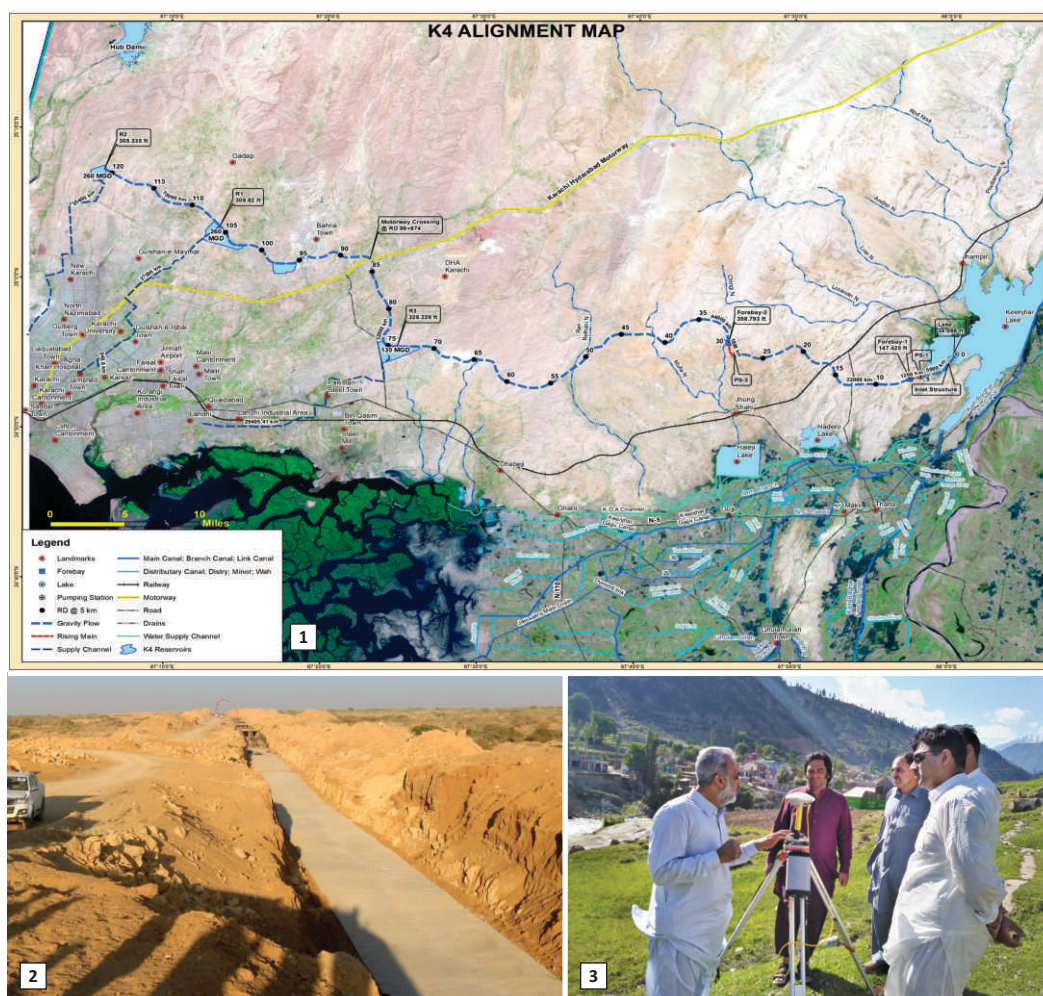
special arterial road bridges and aqueduct structure were completed during the year. Construction activities on the packages RWCS-2 and 3 (Phase-I) are in full gear under this project which will now be completed at a revised cost of Rs. 17 billion.

The NESPAK-led joint venture of Rahman Habib Consultants and Engineering General Consultants is providing consultancy services for the Balochistan Water Resources Development Sector Project (BWRDSP). During the year, feasibility Study, detailed design and tender documents of Ahmad Zai dam and Karich Irrigation Scheme were submitted to the Client, Balochistan Irrigation Department. Design and tender documents for construction of water resources building has also been submitted. Detailed design and bidding documents are in progress for the Siri Toi Dam under the BWRDSP. The BWRDSP is funded by the ADB with an estimated cost of Rs. 16 billion spanning over the duration of 5 years.

Construction activities on the Lining of Distributaries and Minors in Sindh Province Project have proceeded ahead with the completion major works under NESPAK supervision. The completed 56 channels in the command areas of Guddu, Sukkur and Kotri Barrages have considerably reduced seepage losses and brought additional land of 63,815 hectares under cultivation. NESPAK is also responsible for design and



1. A completed aqueduct under the Warsak Canal System Project, Khyber Pakhtunkhwa
2. 3D view of Balochistan Water Resources Development Sector Project office building
3. Geotechnical investigations in progress at the Siri Toi Dam site under the Balochistan Water Resources Development Sector Project
4. Lined channel of Bhambha Distributary at the Sukkur Right Bank under the Sindh Lining of Distributaries and Minors Project



1 & 2. The K-IV Project layout & view of a 3.75 km long siphon under the K-IV Project

3. Survey verification in progress under the Khyber Pakhtunkhwa Flood Management Plan

tender documentation for this Rs. 14 billion project awarded by the Sindh Irrigation Department.

Good progress was reported as work continued on the Gomal Zam Dam Command Area Development and On-Farm Water Management (OFWM) for High Value and High Efficiency Agriculture Project under NESPAK supervision during the year. The Rs. 3 billion project has now entered the advanced phase of implementation after completing the procurement of 305 watercourses, construction of 110 watercourses has been carried out for which final completion reports have been handed over to the water user associations after successful test-runs. Work on 7.5 km farm-to-market road is also in progress while contract of remaining 12.5 kms has been awarded through competitive bidding. The project financed by United States Agency for International Development (USAID) covers 77,351 hectares of cultivable

command area in the security risk districts of Tank and Dera Ismail Khan in the Khyber Pakhtunkhwa Province.

Work on Master Plan/Feasibility Study of Comprehensive Flood Management Plan for 31 rivers moved forward during the year. NESPAK is carrying out this study for the Khyber Pakhtunkhwa Irrigation Department.

Among the projects wrapped up during the year, NESPAK in association with Deltares and Turkish firm Tumas has completed the job of third-party design review/vetting of K-IV Project on a single source basis. The total cost of approved PC-1 for K-IV Project is Rs. 26 billion. The scope of services includes review of overall design of Phase-I i.e., civil, electrical and mechanical works. Design review report has been submitted to the Client for this project.



Guarantee to Growth

Dam Engineering Sector

NESPAK demonstrates unique professional experience in the Dam Engineering Sector. Keeping to its traditional work ethics, it continued its up-to-the-minute services for nine ventures including Diamer Basha Dam and Mohmand Dam Hydropower Projects mentioned earlier in the Energy Sector. NESPAK wrapped up services for two projects and bagged two projects in the Dam Engineering Sector during the year 2019-20.

14



Among the fresh projects during the year, the NESPAK-led Joint Venture with Associated Consulting Engineers and AAB (Pvt.) Limited entered into an agreement with the Water and Power Development Authority for preparing feasibility study, detailed design and tender documents for the Murunj Dam. The consultancy services are scheduled to be completed in two years. The Murunj Dam Project is planned to store flows of Kaha Nullah which is one of the major hill torrents of Dera Ghazi Khan Division in the Punjab Province. The proposed dam will help reduce flooding hazards in the project area. The stored water will be released to meet irrigation water requirements of the downstream cultivable area. The power generation will be a by-product of this project.



1



3



2

1. The signing ceremony of the Murunj Dam Project
2. A view of the Aradah Dam site, Saudi Arabia
3. A view of the completed left protective wall for the Raising of Wala Dam Project, Jordan

Among the ongoing projects, NESPAK

continued to supervise the construction of the dam projects in the Southern part of the Kingdom of Saudi Arabia under two separate job contracts during the financial year. The purpose of these dams is to control the floods and supply drinking water. The scope of work also includes the construction of gabion structures on upstream of already built dams to restrict sedimentation, installation of flood warning system downstream of large dam projects and installation of additional instrumentation and security/vigilance cameras at the selected dam sites. The total construction cost of these projects is US\$155 million. The consultancy services are being provided to the Client, Ministry of Environment, Water and Agriculture, under two contracts i.e., "Construction Supervision of Dam Projects in Southern Region" and "Qanunah & Yabah Dam Projects." The projects are located in Aseer, Jizan, Najran and Makkah Regions of the Kingdom. The dam types are concrete gravity, earth-fill and roller compacted concrete gravity dams.

In the Sultanate of Oman, the Flood Protection Dam in Wadi Al-Jufainah is ready for the second phase as its first phase i.e., design review, has already been accomplished by NESPAK. The second phase of the project i.e., construction supervision, is expected to be started in the financial year 2020-2021. The

project costing US\$ 115 million has been awarded by Oman's Ministry of Regional Municipalities and Water Resources. The project features a 30 metres high and 2.5 kilometres long plastic concrete core earth-fill dam with gross storage capacity of 16 million cubic metres.

Brilliant progress was reported on the Raising of Wala Dam under the supervision of the NESPAK-Consolidated Consultants Group (CCG) Joint Venture, Jordan in the Kingdom of Jordan. The NESPAK-CCG Joint Venture is responsible for design review and construction supervision for this US\$ 35 million project. The project awarded by the Ministry of Water and Irrigation, Jordan Valley Authority, Amman is in the final stages of execution.

NESPAK is providing consultancy services for Technical Assistance for Dam Safety and Training of Dam and Reservoir Operation Department and River Basin Development Authority Staff, Nigeria. The working is shared in a joint venture with Gauff Consultants, Germany. So far, inception, baseline, first & second year assessment and draft final reports covering dam safety regulation framework and dam safety guidelines have been submitted to the Client. As part of scope of work, experts from NESPAK have conducted a workshop and technical training on Dam Safety in Nigeria for the capacity building of government officials of the relevant departments.

Path to Progress

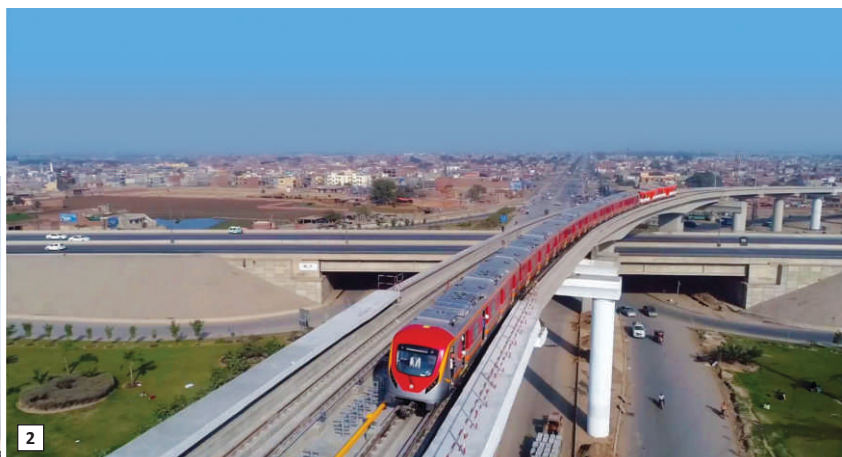
Highways & Transportation Engineering Sector

NESPAK's Highways and Transportation Engineering Sector emerged as a brilliant performer with the acquisition of 19 projects worth Rs. 389 billion. The Company continued to render its modern and up-to-date services for 66 ongoing projects worth Rs. 2,360 billion. NESPAK completed 13 projects worth Rs. 132 billion including mega CPEC project of Havelian-Thakot Road during the Financial Year 2019-2020.





1. Work underway for dual carriageway road for NR-32, Phase-I, Duqm Town, Oman



2



3

2&3. Two views of the Orange Line Metro Train Project, Lahore

Among the fresh projects during the year, the Punjab Communication and Works Department engaged NESPAK to provide construction supervision for roads in the Highway Circle Bahawalpur under the Annual Development Programme. The scope of work involves rehabilitation, reconstruction and widening/strengthening of existing rural and urban roads in the Bahawalpur Division. Under this Rs. 2 billion project, a total of 170 roads ((1,125km) have been planned to be constructed in the districts of Bahawalpur, Rahim Yar Khan and Bahawalnagar.

The National Highway Authority (NHA) entrusted NESPAK with the feasibility study and detailed design for the construction of Hoshab-Awaran-Khuzdar Section of 400km Sukkur-Larkana-Gwadar Motorway (M-8). This two-lane road will be a motorway facility between Hoshab, Awaran and Khuzdar in Balochistan, which is the missing link of Gwadar-Ratodero Motorway. The 313km project worth Rs. 58 billion is connected to the China-Pakistan Economic Corridor, (CPEC).

NESPAK won the Duallisation of Multan-Vehari Road Project in an open competition during the year. The scope of work includes feasibility study, engineering design and cost estimates for this Rs. 18 billion project awarded by the Punjab Communication and Works Department on the Public Private Partnership (PPP) mode. The project road from Vehari Chowk, Multan to Vehari City will be dualised by widening and re-strengthening. This 90km road will provide an important linkage to the Faisalabad-Multan Motorway (M-4) on its completion.

NESPAK was awarded feasibility study and transaction advisory services for the Urban Road Initiatives in

Karachi by the Sindh Local Government and HTP Department. Under this project, three major urban roads in Karachi will be constructed at an estimated cost of Rs. 15 billion.

NESPAK has been engaged by the Punjab Communication and Works Department for Duallisation of 60km Faisalabad-Chiniot-Sargodha Road. The scope of services includes feasibility study, detailed design and cost estimates for this Rs. 12 billion PPP mode project which was won by the Company in an open bidding. The project road starts from Faisalabad City and ends in Sargodha traversing through the city of Chiniot.

The Punjab Communication and Works Department hired NESPAK for Rehabilitation of 37km Wazirabad-Sambrial-Sialkot Road during the year. The scope of work includes feasibility study, engineering design and cost estimates for rehabilitation of existing dual road. This Rs. 6 billion project, which is planned to be executed on the PPP mode, will provide an important connection to Sialkot with the Karachi-Torkham Highway.

NESPAK has been entrusted by the Punjab Communication and Works Department to prepare feasibility study, engineering design and cost estimates for Dualisation of 15km Gujrat-Jalalpur Jattan Road. The project costing Rs. 3 billion will be constructed under the PPP mode.

In the Sultanate of Oman, NESPAK has been engaged by the Ministry of Transport and Communications for a dual carriageway road for NR-32, Phase-I at Duqm Town. The scope of services comprises detailed design of 15km dual carriageway along with four



1. Compaction of asphalt base course in progress for the Kot Belian-Tarap Road (Package-3) under the China-Pakistan Economic Corridor (CPEC)
2. Fencing for the Islamabad Metro Bus System underway
3. Work in progress for the Dualisation and Improvement of Old Bannu Road Project

intersections. The project also includes design of bridges, box culverts, service ducts, road lighting system, protection/relocation of utilities etc.

Among the ongoing projects, finishing works for the handing over/taking over phase of the Lahore Orange Line Metro Train Project progressed fast after successful completion of integrated testing and commissioning during the year. NESPAK teams carried out civil and electrical and mechanical works for the handing over of this mega project worth Rs. 163 billion to the Punjab Government. NESPAK in association with the China Engineering Group provided design and construction supervision services for this 27km train track project which has been constructed from Ali Town to Dera Gujran, Lahore.

Construction work showed good progress on the Kot Belian-Tarap Road (Package-3) under the CPEC. The 52km road is the section of the Hakla (M-I)–Yarak at Dera Ismail Khan Motorway. NESPAK in association with M/s Zeeruk (Intl.) is the supervisory consultant on the Tarap-Kot Belian Road Project worth Rs. 28 billion. The scope of work includes design review and construction supervision for this project of prime importance.

Satisfactory progress was recorded on the Dualisation and Improvement of Pindigheb-Kohat Road under NESPAK supervision during the year. The scope of work includes construction of a four-lane road facility and bridges/culverts. Awarded by the NHA, the Rs. 20 billion project is divided in two sections i.e., package –I and package II for the purpose of execution. NESPAK is also responsible for the design review of this 80km project.

The Gandhi Chowk-Sarai Naurang Section of the Dualisation and Improvement of Old Bannu Road Project has been accomplished. The construction work on the remaining two sections i.e., Domail-Khurram and Khurram-Krapa of this Rs. 18 billion project continued during the fiscal year under the supervision of NESPAK. NESPAK is also involved in the design review of this 83km project awarded by the NHA

Construction activities moved fast for the Infrastructure including Allied Works for the Islamabad Metro Bus System from Peshawar Morr to New Islamabad Airport during the reporting period. The project has entered the final stages of completion, showing quick progress. NESPAK has been providing design and construction supervision services for this Rs. 17 billion project.

Moderate progress was demonstrated on the Dualisation and Improvement of Sarai Gambila–Karak Road — Package-I of the Indus Highway Road Project — during the year. Awarded by the NHA, the project will now be completed at a revised cost of Rs. 11 billion. The NESPAK scope of services includes design review and construction supervision for this project located in the Khyber Pakhtunkhwa Province.

Construction work for the Circular Bypass Road, Bannu started during the year under the supervision of NESPAK. The 65km road project has been awarded by the Pakhtunkhwa Highways Authority (PKHA). The project shall be completed at an estimated cost of Rs. 7 billion.

Work on the Improvement and widening of Nizampur-Kohat Road (64km) progressed forward during the year under NESPAK supervision. The Rs. 3

billion project was awarded to NESPAK by the PKHA. The scope of work includes earthworks, pavement works, structural works and drainage & erosion protection works in six packages.

NESPAK continued construction supervision services for the "Bus Rapid Transit (BRT) Orange Line Karachi Project and "Construction of Roads in Landhi Industrial Area, Karachi." Both the projects are expected to complete in the third quarter of the financial year 2020-21.

Overseas, construction activities for Dualisation of Sultan Said bin Taimur Road in Duqm Town, Oman are moving ahead at a good pace under the supervision of NESPAK. The 13km project has been awarded by the Ministry of Transport and Communications. NESPAK has also carried out the design of this project costing US\$ 63 million.

NESPAK is rendering design services for the Road connecting Thumaid Interchange in Wilayat Bidbid with the Al-Mubaila Interchange at the Muscat Expressway, Oman. The scope of works comprises design of 25km dual carriageway from the Thumaid Interchange to the Mubaila Interchange under this US\$ 131 million project. The proposed corridor is situated mostly in the Ad-Dakhiliyah Governorate which occupies a distinctive location on the western slopes of Al-Hajar Mountains (the slopes of Al-Jabal and Al-Akhdhar) towards the desert in the south of Oman.

Among the projects wrapped up during the year, NESPAK in a joint venture with DOLSAR, a Turkish Consultancy Company, carried out design review, contract management and construction

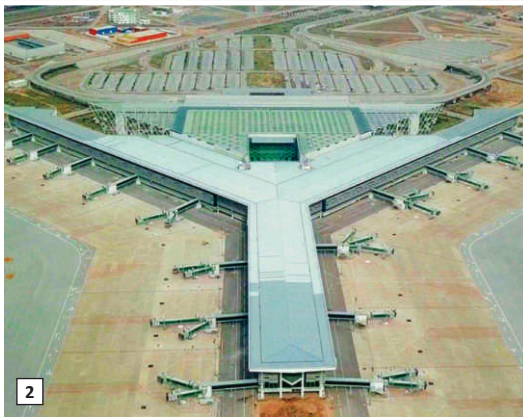
supervision as assistant to the employer's representative for the 120km Havelian-Thakot Section (Korakoram Highway Phase-II) under the CPEC. The Rs. 134 billion project road is divided into two segments i.e., 40km Havelian-Mansehra Expressway and 80km Mansehra-Thakot Class-II Highway. Both segments of the project were formally inaugurated by the Prime Minister of Pakistan and Chief Minister of the Khyber Pakhtunkhwa during the year. Four interchanges, 112 bridges, 76 underpasses cattle-creeps, 491 culverts, two service areas, 12 flyovers and seven tunnels have been constructed under this mega project.

The Kartarpur Corridor Project was inaugurated by the Prime Minister of Pakistan during the year. The Kartarpur Sahib Corridor connects Gurdwara Darbar Sahib in Kartarpur area of Narowal District in Pakistan to Dera Baba Nanak in Gurdaspur District in India. NESPAK carried out master planning, design and construction supervision for this fast-track project initiated by the Frontier Works Organization. The Gurdwara Complex, Terminal building and the Bridge on River Ravi have been completed under this Rs. 20 billion project.

NESPAK completed traffic model study, detailed design and construction supervision for 11 Roads and Flyovers under the Quetta Development Packages, Balochistan during the year. The Rs. 10 billion project was awarded by the Balochistan Planning and Development Department through a competitive bidding.

1. A view of the Abbotabad Interchange under the Havelian-Thakot Section for the CPEC
2. An overhead bridge under the Havelian-Thakot Section
3. Construction of a bridge over the Ravi River for the Kartarpur Corridor Project





1. A view of the asphalt road between Wilayats of Shinas and Madha, Oman
2. The Bacha Khan International Airport, Peshawar
3. The aerial view of the New Islamabad International Airport

The NESPAK-Mott MacDonald Pakistan Joint Venture supervised the construction for the Rehabilitation and Widening of 82km Chakdara–Fatehpur Road, Swat. The Rs. 3 billion project is part of the NHA's rehabilitation programme for the major roads of the Khyber Pakhtunkhwa.

NESPAK has completed construction supervision for the Dualisation and Improvement of 66km Sohawa-Chakwal Road Project for the NHA. The project worth Rs. 7 billion is located in the districts of Jhelum and Chakwal.

NESPAK in association with M/s China Railway Eryuan Engineering Group Co. Limited has carried out consultancy services for Upgradation of Pakistan Railways' Main Line-I (ML-I) and Establishment of a New Dry Port near Havelian under the CPEC. NESPAK completed review of the design submissions and Bill of Quantities for accuracy of the cost estimates. The PC-I was submitted to the Ministry of Planning and Development and Special Initiatives and the project was approved with an estimated cost of Rs. 1,100 billion. The project shall be executed in three phases.

NESPAK accomplished preliminary design, PC-I and cost estimates for the Karachi Mobility Project — BRT Yellow Line Corridor (21km) under the Karachi Neighbourhood Improvement Project funded by the World Bank.

Overseas, NESPAK completed construction supervision of Asphalt Road between Al-Wajaja, in Wilayat Shinas and Al-Fai in Wilayat Madha. The two Wilayats are located in the North Al-Batinah and Al-Buraimi Governorates of Oman. The US\$ 8 million project comprised construction of 10km Main Road and 4km Link Road to Timit Village.

Airport Sector

Among the ongoing projects, NESPAK continued to render consultancy services for various ancillary works at the New Islamabad International Airport (NIIA) such as the development of facilities for the Airport Security Force. The Rs. 100 billion airport became operational in 2018. The NIIA is Pakistan's largest and has been built for handling all types of aircraft including the Airbus A-380. NESPAK in a joint venture with a leading foreign consultancy firm earlier designed the airside and landside infrastructure of the airport.

Design work for the Extension of Passenger Terminal Building at the Allama Iqbal International Airport, Lahore progressed at a fast pace during the year. Architectural concept design has been approved by the Pakistan Civil Aviation Authority (PCAA) while PC-I document with cost estimates have been finalised by NESPAK. Presently, preliminary design is in progress for this Rs. 10 billion project. The terminal building will be expanded on the southern side and a new domestic terminal facility with three dedicated passenger boarding bridges will be installed at the airport. The existing terminal building will be converted into an international terminal with suitable

changes in the existing layout, which will vastly improve the passenger experience and also offer enhanced service levels for users.

PC-I documents and preliminary design for various components of the New Gwadar International Airport (NGIA) under the Additional Services Contract has been finalised by NESPAK. The PC-I document and preliminary design have been submitted to the Planning Commission by the PCAA. The components for this Rs. 8 billion project include CAA Residential Complex, Airport Security Force Camp, infrastructure works and external utilities including external telecommunication works and site security system. Remaining services comprise finalisation of detailed design and preparation of bidding documents.

Construction activities are in progress on the Expansion and Renovation works of the Bacha Khan International Airport (BKIAP) and the project is substantially completed. After the expansion in the terminal and augmentation of various allied services, the capacity of the terminal building, which includes domestic and international blocks, has been increased considerably. Boarding bridges have been introduced for the first time at the BKIAP in order to boost the level of service. The Bacha Khan International Airport can now handle 3.5 million passengers and 15,000 metric tonnes of cargo per year. Landscaping work has also been initiated by the PCCA under the Prime Minister's Clean Green Pakistan Programme which will further improve the ambience of the airport.

Ports & Harbours

Among the fresh projects during the year,

NESPAK was awarded consultancy services for designing and tendering of the Connectivity Bridge Between East and West Wharf at the Karachi Port. The prime objective of the construction of this project is to ease the port traffic. Severe congestions and delays are observed on the Jinnah Flyover due to non-availability of alternate link road. Therefore, a

separate alternate route is required to ensure quick evacuation of port traffic. Hence, a six-lane two-way bridge over the China Creek will be constructed parallel to the existing Railway Bridge that will connect the East and West Wharf of the Karachi Port for easy handling of heavy traffic.

Among the ongoing projects, the Phase- I works for the Conversion of Marginal Wharf Berths 3 & 4 into Coal Terminal at Port Qasim have been substantially completed for handling of 4 million tonnes per annum of imported coal for the Sahiwal Power Plant. NESPAK was awarded this Rs. 6 billion project by the Port Qasim Authority for vetting and construction quality audit works undertaken by Chinese firm M/s Huaneng Fuyun Port and Shipping (Pvt.) Limited on the Build-Operate-Transfer basis. The Phase-I of the project has been substantially completed and operations have been started.

The Ship Lift and Transfer System (SLTS) Project has entered the final stage of completion. Construction supervision services are continuing for the installation of mechanical and electrical systems and associated civil works for this Rs. 4 billion project at the Karachi Shipyard & Engineering Works (KS&EW).

NESPAK has been involved in two ongoing projects for the KS&EW. The KS&EW is upgrading its existing infrastructure to meet the requirements of changing industrial trends. The first project includes repair/replacement of steel roof trusses, refurbishment of south quay wall, procurement of mobile/gantry and luffing cranes and upgradation of security monitoring & control System. The KS&EW has appointed NESPAK for design and construction supervision services of the project. Design works have been completed and the project is ready for construction. NESPAK is also working on another KS&EW project related to the upgradation of Karachi Shipyard. The project scope includes construction of equipment foundations and workshops & multi-storeyed buildings. Presently, design, bidding process and supervision of different work packages are in progress under this project.

NESPAK commenced work on the feasibility study for establishing a Multipurpose Dry Bulk Clean Cargo Terminal at East Wharf, Karachi Port. The Terminal is part of the Karachi Port Improvement Project which is being planned to handle various dry bulk clean commodities in environmentally friendly manner. The main objective of feasibility study is to review current traffic situation keeping in view the forecasted cargo handling at the Karachi Port. This study will address the traffic congestion issues and recommend options for the improved port connectivity to evacuate cargo from the Karachi Port to upcountry via road and rail in an efficient way.



1. Train loader for the Conversion of Marginal Wharf Berths 3 & 4 into Coal Terminal at the Port Qasim, Karachi



The Mother Art

Architecture & Planning Sector

22

NESPAK's Architecture and Planning Sector took the lead by securing maximum number of projects during the Financial Year 2019-20. The Company bagged 41 new jobs worth Rs. 281 billion and continued to render its invaluable services for 91 projects worth Rs. 717 billion in the fields of housing, education, health and disaster management. The Company completed as many as 31 projects worth Rs. 356 billion of different nature during the year under review. As another testimony to the provision of best services by NESPAK, the Federal Government Employees Housing Authority (FGEHA) and the Pakistan Engineering Council (PEC) have selected the Company as Consultants for their three projects each.

Among the fresh projects during the year, NESPAK entered into an agreement with the Pakistan Housing Authority Foundation for the development of Housing Scheme at Surizai, Peshawar, spreading over an area of 8,500 kanals. NESPAK scope of work includes feasibility study, master planning, detailed design of grey structured houses, apartments, commercial and public amenities, tender documentation and construction supervision for this Rs. 101 billion mega project.

The FGEHA Islamabad has entrusted NESPAK with engineering consultancy services for its three new

launched projects. The very first project awarded to NESPAK by the FGEHA is a joint venture of the Federal Government Employees Housing Foundation for construction of apartments at Faisal Margalla City B-17, Islamabad. NESPAK services include review of master plan, detailed design and construction supervision for this Rs. 8 billion project. NESPAK won two more FGEHA projects including the infrastructure development works at Mauve Area G-13, G-14 and Sub Sectors G-14/1 and G-15/3, Islamabad. NESPAK will provide design and construction supervision for these ventures.



1. Work in progress for the Rudn Enclave Housing Scheme, Rawalpindi
2. A conceptual view of the Naval Research Development Institute Complex, Karachi
3. An artistic view of the Club House Building, Islamabad



NESPAK won master planning, engineering design and construction supervision for the NWS Housing Scheme Project in the Attock District. Awarded by the NDC Welfare Society, the project shall be developed on a land area 10,000 kanals.

NESPAK has been engaged by the RMRSCO (Pvt.) Limited for the development of Rudn Enclave Housing Scheme at Adyala in District Rawalpindi. NESPAK's scope of work includes seismic hazard microzonation, master planning, detailed design and tender documentation for this Rs. 8 billion venture.

NESPAK has been hired for concept design and feasibility study of the New Balakot City Development Project and Tourism Hub at Bakriyal, District Mansehra by the Earthquake Reconstruction and Rehabilitation Authority (ERRA)/National Disaster Management Authority (NDMA). The scope of services for this Rs. 1 billion project includes feasibility study, master plan and designs/drawings of various tourist facilities of the New Balakot City.

The Balochistan Government has hired NESPAK for a 20-year master plan of the Ziarat Town, a tourist hill station in the outskirts of the Quetta City. NESPAK won this project in an open bidding. The PC-I cost of the approved projects under this venture is Rs. 1 billion. NESPAK in association with the Rehman Habib Consultants also signed an agreement with the Balochistan Department of Culture, Tourism and Archives for the master planning/development of Shaban Valley as a major tourist site.

Pakistan Navy has awarded NESPAK design and construction supervision of the Naval Research Development Institute Complex at the PNS Johar, Karsaz, Karachi. The Rs. 1 billion Complex comprises two blocks connected with the pedestrian bridges on alternate levels.

Pakistan Navy has selected NESPAK for the master planning, design and construction supervision of the Club House Building at Islamabad (Phase-I). The Rs. 1

billion project includes main club house building, services apartments (building-I), health club at the existing swimming pool, services block and a Masjid.

The PEC has entrusted NESPAK with three projects. The first project awarded to NESPAK by the PEC is third party validation for review of design and architectural submission of the PEC Regional Office Building at Phase-V, Hayatabad, Peshawar. NESPAK won two more PEC Projects including Construction of Additional Block and Renovation/Rehabilitation Works of PEC Head Office Building at Islamabad. NESPAK services include detailed design, tender documentation and construction supervision. The cumulative cost of all the projects is more than Rs. 1 billion.

NESPAK has been awarded master planning, detailed design and construction supervision of "Uplifting of academic and infrastructure facilities at Hazara University, Mansehra." The scope of services includes master planning, design and construction supervision of building and infrastructure development works under this Rs. 1 billion project.

NESPAK has been appointed as consultant by the University of Kotli, AJK for the development of academic infrastructure at an area of 220,000 sq. ft. The services include master planning, designing and construction supervision for this Rs. 1 billion project.

NESPAK has been awarded design and construction supervision of 29 Schools in Khyber Pakhtunkhwa and Gilgit-Baltistan." The schools are located in Mansehra, Upper Chitral and Lower Chitral Districts of Khyber Pakhtunkhwa and Skardu, Ghanche, Gilgit and Hunza Districts of Gilgit-Baltistan.

NESPAK has entered into an agreement with the Embassy of the People's Republic of China for providing engineering consultancy services. The scope of services includes assisting the Client in getting approvals from the Capital Development Authority for consideration of residential apartments worth Rs. 545 million.



1. The view of a school building in District Bagh, Azad Jammu and Kashmir under the Earthquake Reconstruction and Rehabilitation Project
2. A view of Residential Towers under the Crescent Bay Development Project, Karachi
3. Work in progress for the Establishment of Infrastructure in LDA City Housing Scheme, Phase-I



Overseas, NESPAK Qatar was awarded design and construction supervision services for US\$ 10 million Al-Meera Five Malls owned by the Al-Meera Consumers Goods in Al-Faroosh, Umm Al-Amad, Al-Muaither, Al-Luqta and Al-Thumama areas in the State of Qatar.

Among the ongoing projects, NESPAK is involved in project planning, designing, tender documentation and construction supervision for various projects under the Rs. 200 billion mega venture, Earthquake Reconstruction and Rehabilitation Project (ERRP) awarded by ERRP. The reconstruction projects were started in the wake of the October 2005 earthquake which devastated major parts of Khyber Pakhtunkhwa and Azad Jammu and Kashmir. As many as 204 sub-projects have seen light of the day under the ERRP during this year, putting the number of completed facilities at 2,273 in health, education, governance and road sectors. Under the Rs. 30 billion Chinese-funded Urban Development Program, 113 facilities have been completed in Muzaffarabad, Bagh and Rawalakot in the AJK

Construction activities for two 27-storey towers worth Rs. 6 billion under Emaar's (UAE) Crescent Bay Development Project, Karachi has entered the finishing stage at a fast pace under the supervision of NESPAK. NESPAK has also rendered design services for five additional towers worth Rs. 20 billion under the same project located in the DHA, Karachi.

The Gujranwala DHA Housing Development Project, Phase-I has entered the construction stage after NESPAK completed master planning, designing and tender documents during the year. Master planning and design remained in progress for the phase-II of the Rs. 40 billion project, comprising 30,000 residential units. NESPAK is in the process of detailed designing and tender documentation for the Phase-II

i.e., the finishing stage of the DHA Bahawalpur Office Complex.

Notable progress was observed on newly launched packages 1, 4 and 6 under the Establishment of Infrastructure in LDA City (Phase-I) Housing Scheme and the pace of work on Packages 2, 3 and 5 for this Rs. 15 billion project is satisfactory. NESPAK is rendering detailed design/review and construction supervision services for this project awarded by the Lahore Development Authority.

Construction of remaining three out of six ground plus nine-storey residential towers for the Naval Housing Scheme progressed at a rapid speed under the supervision of NESPAK during the year. Three towers have already been completed under this Rs. 5 billion project awarded by the Pakistan Navy.

Construction on 52 schools (Component-I) is nearing completion while work on remaining schools (Component-II) under the project, "Standardisation of 124 Higher Secondary Schools in the Khyber Pakhtunkhwa" is in progress. NESPAK is rendering design and construction supervision for this Rs. 4 billion project assisted by the Department for International Development.

Brilliant progress was achieved on the construction of the Kohat Institute of Medical Sciences (KIMS), Khyber Pakhtunkhwa. NESPAK is providing feasibility study, planning, detailed design, design review, tender documentation and construction supervision services for the Rs. 2 billion KIMS. The project was revised with the inclusion of a Common Facility Centre.

Work on the ground plus four-storey building for the Department of Psychiatry and Behavioural Sciences, Karachi started during the year. The Rs. 700 million building comprises departments namely Psychiatry

and Neurology. Units for heat stroke patients and drug rehabilitation are also proposed in the building.

NESPAK is supervising construction for the Girls Cadet College at District Mardan through the Khyber Pakhtunkhwa Communication and Works Department. The Rs. 2 billion project is the first-ever women's cadet college not only in Pakistan but in the whole of Asia.

NESPAK is giving final touches to the design of the University of Buner, Swabi after which it will also supervise construction of this Rs. 2 billion project. Construction activities for the Rs. 1 billion Upgradation of the Mirpur University College of Engineering and Technology Project have entered the final stages of completion.

The Rs. 1 billion Uplifting of Academic and Infrastructure facilities at the Malakand University is fast nearing completion under NESPAK supervision. NESPAK has finalised design phase of the Ghazi University at Dera Ghazi Khan and the Rs. 1 billion venture has entered the construction phase. The Federal Urdu University of Arts, Science and Technology, Islamabad is nearing completion.

Design work by NESPAK for the Central Prison Peshawar (Phase- II) entered the finishing stage during the year. This Rs. 2 billion project awarded by the Khyber Pakhtunkhwa Communication and Works Department is now ready for construction.

Construction work on the Expo Centre, Peshawar moved ahead at moderate pace during the year. NESPAK is involved in master planning, tender documentation, detailed architectural/landscaping design and

construction supervision for this Rs. 3 billion world-class exhibition centre owned by M/s Pakistan Expo Centres (Pvt.) Limited.

Among the projects wrapped up during the year, NESPAK completed design and construction supervision services for the Rangers Wings in various Cities of Punjab. The project was completed at a cumulative cost of Rs. 3 billion.

NESPAK has completed the Pakistan Cricket Board Projects as per the agreement signed with the PCB and in association with Integrated Equities Ltd. The scope of work comprised feasibility study, master planning, design and construction supervision for the development of various sports facilities including stadiums, hotels and shopping arcades in various cities of Pakistan. The PCB projects were completed at a cumulative cost of Rs. 3 billion.

NESPAK wrapped up design, tender documentation and construction supervision for the Rs. 3 billion Port Allied Structures in the Mullah Band Area, Gwadar, Balochistan during the year.

NESPAK has supervised construction of the Airport Security Camp and various additional works at the New Islamabad International Airport at a cumulative cost of Rs.3 billion.

NESPAK carried out design and construction supervision of Rs. 1 billion new academic block in the Ghulam Ishaq Khan Institute, Swabi, Khyber Pakhtunkhwa.

In Qatar, NESPAK completed construction supervision services for the MKM Tower Office Building Project in Doha owned by Dr. Mansoor Khalil M. Al-Shahwani. The magnificent 18-floor MKM Tower is believed to be one of the most iconic achievements of NESPAK with its 108 offices and three parking basements. The project with a built-up area of 15,774 sq. ft. was completed at a cost of US\$ 17 million.

NESPAK completed planning, designing and construction supervision for the New Pakistan Embassy Complex Project, Doha, Qatar. The US\$ 7 million project comprises embassy office, ambassador's residence, ancillary buildings and external works. The project has been handed over to the Client.

1. The newly constructed academic block at the Ghulam Ishaq Khan Institute, Swabi, Khyber Pakhtunkhwa
2. A view of the MKM Tower Office Building Project in Doha, Qatar
3. Refurbishment of the National Stadium, Karachi under the Pakistan Cricket Board Projects



A large-scale construction project is shown, featuring the installation of massive black corrugated metal pipes into a deep earthen trench. A blue hydraulic crane is positioned on the left, lifting a section of the pipe. Several workers in high-visibility vests and hard hats are visible along the trench. In the background, more cranes and distant hills are visible under a clear sky. A stylized line drawing of a worker inside a pipe is overlaid on the bottom left.

Going Green

Environmental & Public Health Engineering Sector

26

NESPAK presented a solid and sturdy performance in the Environmental and Public Health Engineering Sector by obtaining five projects worth Rs. 14 billion during the year. The Company continued to provide its dedicated services for 26 major projects worth Rs. 369 billion and completed 11 projects worth Rs. 25 billion during the fiscal year.

Among the fresh projects during the year,

NESPAK and the Water and Sanitation Agency (WASA), Multan Development Authority signed an agreement for Upgradation and Environmental Improvement of Chungi No. 9 Disposal Station, Multan. NESPAK scope of services includes topographic survey, geotechnical investigations, detailed design of disposal station and force main, updating of Environmental Impact Assessment (EIA) Report and construction supervision of the this Rs. 3 billion project.

NESPAK has been hired by the Azad Jammu and Kashmir (AJK) Physical Planning and Housing Department PWD (South) to prepare feasibility study, detailed engineering design, tender documents/preparation of PC-I for Greater Water Supply Scheme, Kotli (Phase-II), AJK. The main objective of the project is to provide potable water for the entire population of the project area up to the design horizon, year 2050. The scope of work comprises identification and development of water

sources, water quality sampling & testing; design of water treatment plant, water transmission system, distribution network(s) and design of wastewater treatment plant for the Kotli City.

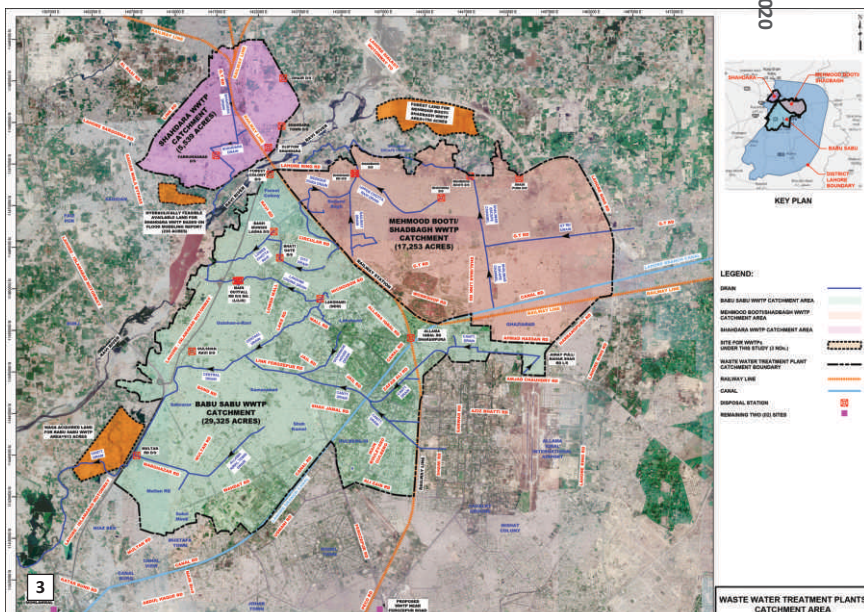
NESPAK has been engaged for 47 Mitigation Infrastructures Project in Khyber Pakhtunkhwa and Gilgit-Baltistan. NESPAK scope of work comprises geotechnical, hydrologic & geohazard assessments designing and construction supervision of 47 Mitigation Infrastructure Schemes in Mansehra and Chitral Districts of Khyber Pakhtunkhwa and Gilgit, Hunza, Skardu and Ghanche Districts of Gilgit-Baltistan. The designing of mitigation infrastructures will be in compliance with the social and environmental impacts set forth in the Environmental and Social Management System by the Client, Aga Khan Building Services Pakistan. The project is funded by the National Disaster Risk Management Fund.

NESPAK has been entrusted with carrying out EIAs and Land Acquisition and Resettlement Assessment Action Plans (LARPs) of the Ghotki-Kandhkot Bridge, Malir Expressway, and Link Road between Karachi-Hyderabad and Multan-Sukkur Motorways. NESPAK has won the project through a competitive bidding arranged by the Sindh Finance Department. The project is funded by the Asian Development Bank.

Among the ongoing projects, the PC-I and detailed design report for Rehabilitation of Water Supply and Sanitation (WATSAN) and Wastewater Treatment Plants (WWTPs) for Sahiwal and Sialkot Cities under the Punjab Intermediate Cities Improvement Investment Program (PICIIP), Package-II, have been approved by the Punjab Local Government and Community Development



1. Work in progress for the Greater Water Supply Scheme, Kotli, Azad Jammu and Kashmir
2. Construction work underway for the Punjab Intermediate Cities Improvement Investment Program
3. Map for the Wastewater Treatment Plants for Mehmood Booti/Shadbagh, Shahdara and Babu Sabu Project, Lahore



Department. Both components of the project in Sahiwal and Sialkot have entered the construction stage under the supervision of NESPAK. NESPAK as a lead partner in a joint venture with a foreign firm has already prepared master plan for this Rs. 28 billion project.

First-rate progress was recorded on the Stormwater Drainage System from Haji Camp to River Ravi via Lakshmi Chowk, McLeod Road, Nabha Road, Chauburji and Sham Nagar, Lahore during the year. NESPAK is involved in the designing and construction supervision for this Rs. 3 billion project awarded by WASA, Lahore.

NESPAK has made substantial progress on design of all the three WWTPs for Mehmood Booti/Shadbagh, Shahdara and Babu Sabu, Lahore. It completed preliminary designs of alternative technology options and flood modelling study for all the WWTPs. Geotechnical investigations of Babu Sabu WWTP site have also been completed. Currently, approval of technology option is in progress after which detailed design and tender documents of the WWTPs shall be prepared and submitted to the WASA Lahore for this Rs. 40 billion project.

NESPAK started supervision of the construction for the Replacement of Outlived Sewer in Multan, Phase-II after completing the design phase of the project. The project costing Rs. 2 billion has been awarded by WASA, Multan.

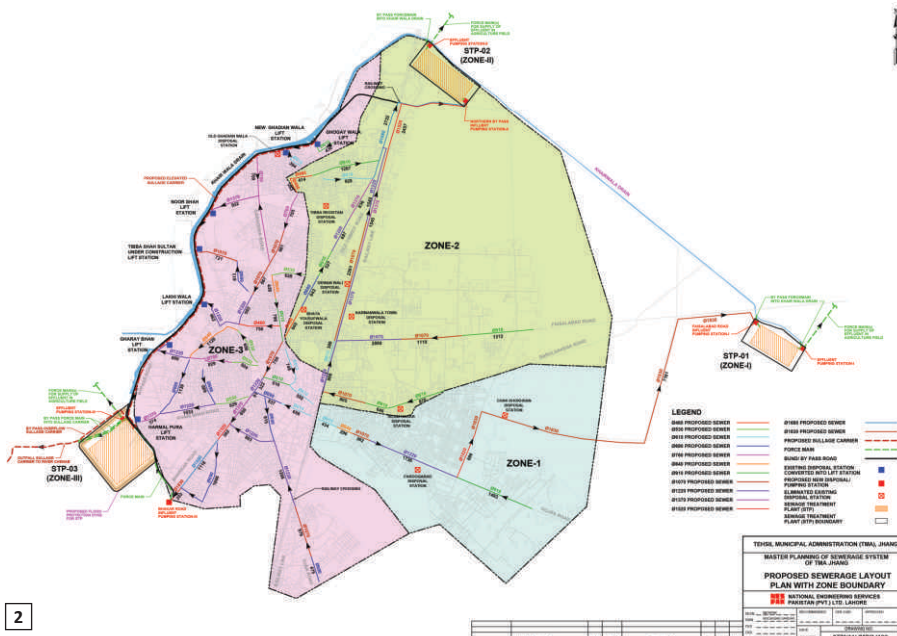
Construction work on Five Annual Development Programme (ADP) Schemes of WASA Multan for Financial Year (2017-2018), Multan proceeded at a brisk pace during the year under NESPAK supervision. The scope of the Rs. 1 billion project includes installation of three tubewells, 51 water purification plants and three overhead reservoirs along with 210,000 ft. water supply lines. In addition, sewerage lines from 12" to 36" dia will be extended/replaced in the un-served/served areas with the construction of disposal station

Good progress was achieved on the land use planning and infrastructure designing for the Fazaia Housing Scheme, Gujranwala during the year. NESPAK has submitted tender documents for the Phase-I and Phase-II of this project to the Directorate of Estate Projects Air Headquarters, Pakistan Air Force. Designing of Phase-III of the project is in progress. NESPAK will also provide construction supervision services for this Rs. 1 billion venture.

Among the projects wrapped up during the year, NESPAK successfully completed EIA study, design review and construction supervision for "Provision of Clean Drinking Water, Sewerage System, P.C.C. of Streets and Allied Facilities in Various Areas of Lahore." The scope of this Rs. 6 billion project comprised replacement of defective and outlived water supply, sewerage system and provision of P.C.C. in congested areas of all the National Assembly constituencies in Lahore.



1. Work in progress under the Five Annual Development Programme Schemes of WASA Multan
2. Newly installed water filtration plants in Lahore
3. Provision of Clean Drinking Water, Sewerage System and P.C.C. of Streets Project, Lahore



1. A view of the Rabigh Water Treatment Plant under the Water Transmission from Rabigh and Khulais Dams Project, Saudi Arabia
2. Master plan of TMA Jhang Sewerage System
3. A fire hydrant installed under the Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in Al-Batinah Region, Oman

NESPAK carried out construction supervision of Five Water Supply, Sewerage/Drainage Schemes in Gujranwala. The schemes were executed in the areas of Jinnah Road, Raj Colony, Gulzar Colony, Satellite Town, Model Town; Silakot Bypass Aroop, Lohianwala and Mandiala Warraich; Rakh Kikran Wali, External Khiali Shahpur, Kohluwala, Eminabad Gharbi, Green Town, Kangniwala, Rana Colony, Asghar Colony, Peoples Colony and allied areas. This Rs. 2 billion project was awarded by WASA, Gujranwala.

NESPAK reviewed design and supervised the construction for installation of 105 Water Filtration Plants (Arsenic and biological contamination removal) during the year.

NESPAK completed "Preparation of Master Plan of Sewerage System of TMA Jhang." The scope of work of this Rs. 22 Billion project comprised preparation of Geographical Information System-based maps, master planning and design of sewerage system for the urban area of Jhang. The Punjab Planning and Development Department has approved project's PC-I submitted by NESPAK.

NESPAK has submitted EIA Report of the Mohmand Dam Hydropower Project to the Water and Power Development Authority (WAPDA). The report was prepared by the Mohmand Dam Consultants. The services include baseline study, stakeholder

consultation and preparation and submission of EIA report to Pakistan Environmental Protection Agency, Islamabad.

NESPAK in association with M/s MWH international inc., USA (Lead consultants) prepared Detailed Ecological/Biodiversity Management Plans for the Dasu Hydropower Project funded by the World Bank. The scope of project involved eight sub-disciplines including aquatic ecology, terrestrial ecology, avifauna, wildlife conservation, forestry, watershed, physical and cultural resources and Geographical Information System (GIS). All the deliverables including inception report, baseline information reports and management plans for all the sub-disciplines were submitted to WAPDA.

In the Kingdom of Saudi Arabia, M.H. Aitah–NESPAK completed construction supervision for Water Transmission from Khulais and Rabigh Dams to Jeddah Project (Completion Phase I & Phase II Projects). The project costing US\$ 711 million has been handed over to the Client, the Ministry of Environment, Water and Agriculture, Saudi Arabia. The project was also titled Water Transmission from Hali, Yabah, Qanunah and Al-Laith Dams to Shoaibah, Jeddah (All Phases) for the purpose of execution.

In the Sultanate of Oman, NESPAK & Partners L.L.C. supervised the construction of Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in Al-Batinah Region–Phase I during the year. The project costing US\$ 248 million was awarded by the Public Authority for Electricity and Water, Oman.

Keeping the Wheel Going

Oil, Gas & Industrial Sector

NESPAK performed moderately well in the Oil, Gas and Industrial Sector during the year 2019-2020. The Company continued to render its efficient and productive services for nine projects worth Rs. 42 billion and obtained one project during the reporting period.

30

Among the fresh projects during the year,

NESPAK undertook assessment of ash usability for Engro's Thar Power Project awarded by the Engro PowergenThar Limited (EPTL). The challenging task was completed within three weeks by NESPAK and the final report has been approved by the EPTL.

NESPAK has been engaged for inspection, evaluation and rehabilitation design of Raw Meal Homogenising Continuous Feed (CF) Silo of the Gharibwal Cement Limited (GCL) in District Chakwal. The CF silo is a 67m tall cylindrical structure having 23.4m diameter with a central inverted cone to support material loading and seven air-sildes with extraction openings. The material blending and storage capacity of silo is 20,000 Ton and is capable of generating upto 450TPH (tonne per hour) of blended material supply.

During the rigorous yearly operations, environmental and vicinity effects (nearby salt mines of Khewra), the silo structure has been affected. In April 2020, a number of inner wall surface delamination with exposed rebars of blending zone were reported by the site staff. The GCL management hired NESPAK to investigate the extent of damages in the silos, provision of short-term repair and to provide a long-term structural rehabilitation design solution including retrofitting remedial measures.



Among the ongoing projects, NESPAK achieved moderate progress on the work for establishment of a state-of-the-art cement manufacturing plant of 7,500 TPD (Tonnes per day) production line at Bandi Muneem, Haripur in the Khyber Pakhtunkhwa Province. NESPAK scope of work includes assistance in the Engineer-Procure-Construct (EPC) bid evaluation, water and environmental studies and supervision of quarry investigations for this mega industrial project. During the year, Investigations over 3,300 acres were executed for Limestone rock quarry site and 550 acres for clay quarry site. The Environment Impact Assessment (EIA) report, geological mapping and site investigations for availability of raw materials for cement were completed. The proposed cement production facility shall be constructed at an estimated cost of Rs. 30 billion for the Frontier Works Organization.

After the approval of final master plan, preliminary design and EIA report; NESPAK submitted final design and draft tender documents for the Development of Bahawalpur Industrial Estate to the Punjab Industrial Estates Development and Management Company (PIEDMC). Currently, administration building, approach road and boundary wall are under construction, whereas bidding documents of infrastructural works shall be floated after the approval of the final design report. The project shall be completed at a cost of Rs. 3 billion.

NESPAK is rendering consultancy services for evaluation and rehabilitation design of CF and Cement Silos, Askari Cement (Pvt.) Limited (ACL). The ACL currently operates two plants; one is located in Wah (Punjab) and the other is in Nizampur (Khyber Pakhtunkhwa) with a combined cement production

capacity of 8,800 TPD. The silos were damaged due to environmental effects and NESPAK was engaged to investigate the extent of damages in the silos and to provide a structural rehabilitation design solution including retrofitting remedial measures. The rehabilitation work is fast nearing completion under the consultancy of NESPAK.

Work on a comprehensive structural design for the rehabilitation of Cooler Tower building for the 450MW Combined Cycle Power Plant, Abdul Hakim, Khanewal has entered the final stages of completion. NESPAK is currently busy in providing rehabilitation design services for this project. NESPAK was engaged by the Rousch (Pakistan) Power Limited for this evaluation and rehabilitation assignment.

Among the projects wrapped up during the year, NESPAK completed design review and construction supervision services for the MCR Revamp Project for PARCO-Mid Country Refinery during the year. NESPAK provided the requisite consultancy services for PARCO to enhance the crude oil processing capacity. Six existing units were revamped and two new units were installed under the supervision of NESPAK. In addition, nine vessels, 35 pumps, 16 heat exchangers, five column intervals, six furnaces, compressor, four air cooled exchangers etc, were replaced/modified along with allied civil, mechanical, piping, electrical and instrumentation works by NESPAK.



1. Trench excavation work in progress for the Haripur Cement Plant, Khyber Pakhtunkhwa
2. CF Silo and kiln structures at the Askari Cement Plant
3. Inspection of the Gharibwal Cement Plant underway

Towards a New Era

Information Technology & Geographical Information System Sector

NESPAK showed a satisfactory performance in the Information Technology (IT) and Geographical Information System (GIS) Sector during the Financial Year 2019-20. The Company clinched four new projects and continued to provide its sophisticated services for three ventures during the reporting period. NESPAK wrapped up services for two projects in the Information Technology and GIS Sector during the fiscal year. NESPAK won another honour by getting first position for the Enterprise Applications in P@SHA ICT Awards-2019 for the project, "Field Survey and Mapping of HT/LT Distribution Network of the Islamabad Electric Supply Company (IESCO)."



Among the fresh projects during the year,

NESPAC was hired by the Khyber Pakhtunkhwa Information Technology Board to provide master planning and design services for the Rs. 406 million Pakistan Digital City, Haripur, Khyber Pakhtunkhwa.

NESPAC was engaged for design, development and implementation of eDMS — Documents Management System for Diamer Basha Dam Project awarded by the Water and Power Development Authority (WAPDA). NESPAC services include development of web-based software solution along with Android and iPhone Mobile Apps for digitised documents. NESPAC has been developing customised web-based .NET application along with Android and iPhone Apps for maintaining digitised documents for any of the Project(s). The application is role-based with interactive interfaces and is managed through a client-server architecture with the centralised database. A comprehensive dashboard with quick navigations and summary of documents is also part of the eDMS.

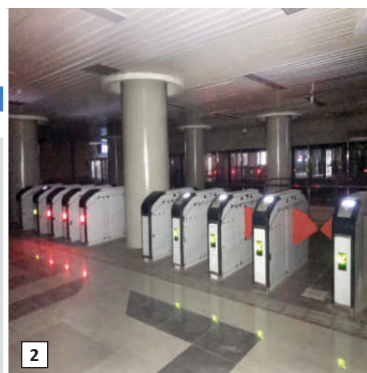
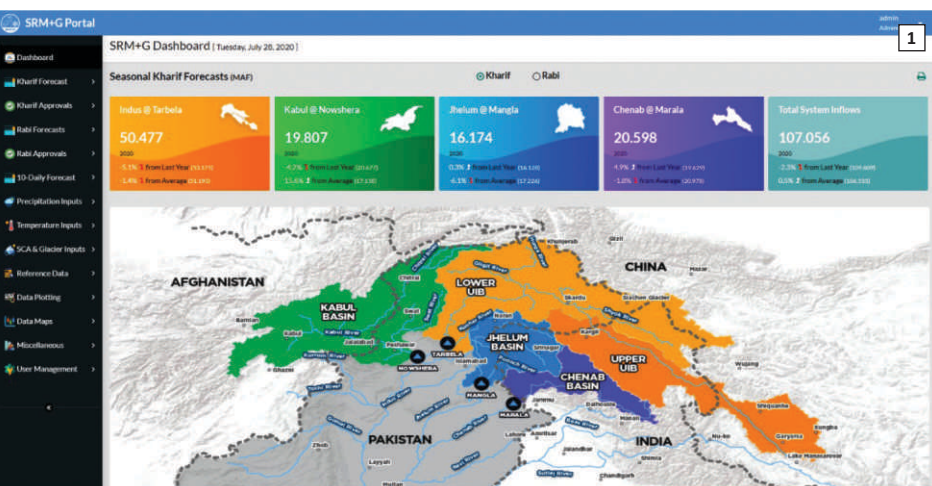
NESPAC has recently developed NESPRO – NESPAC Project Management Information System (Phase-I) for updating and monitoring of financial status of projects based on the forecasted and actual values of billing, receipts, salary and direct costs. NESPRO is a centralised, web-based software solution that is round-the-clock accessible to the Management, Division Heads and to Project Managers for Projects' financial status visibility in real-time. NESPRO is integrated with NESPAC Financial Management System for direct cost component. In the next phase of NESPRO, it is planned that billing/ invoices shall be generated from within software and receipts from Clients will be updated in NESPRO that will generate receivables and receipts in the Financial System directly.

Among the ongoing projects, NESPAC has been providing input on the development of Android

Application and Web-based MIS Portal under the project, “Field Survey and Mapping of HT/LT Distribution Network of IESCO.” This project required field survey of complete IESCO and has been equipped with positional (high accuracy) and attribute (mobile application based) survey of HT (high tension) and LT (low tension) lines along with single interface for maintaining MIS/GIS as well as third party software (SynerGEE) interoperability for line losses. It is for the first time that the point and line features through database scripting is developed for the power distribution companies (DISCOs).

During the year, the IT/BMS Works at New Building of Punjab Assembly Project entered the final stages of completion under the supervision of NESPAC. The project awarded by the Punjab Communication and Works Department. Work is proceeding at a moderate pace. All the passive equipment has been installed and installation of all active equipment will be started once civil work is completed.

NESPAC remained involved in design review along with other project activities for the Quetta Safe City Project throughout the year. The design was reviewed by NESPAC thrice and the final comments have been presented to the Client, the Balochistan IT and Science Department, for incorporation. The project components include third party software suits/packages, customised software applications, CCTV-based surveillance, routing & switching and GIS. The third party software side comprises video management software, edge analytics, call centre application, middleware/business intelligence software and IP tetra integration software. On the customised software application side, the modules such as automated Fingerprint Identification System, vehicle access control system, integrated decision support system, customer care & ticketing system,



1. Dashboard for Hydrological Modelling for Flow Forecasting Study of Kabul River Basin
2. Automatic Gate Machines for the Lahore Orange Line Metro Train Project

and portals & intranets constitute the IT scope for the Quetta Safe City Project.

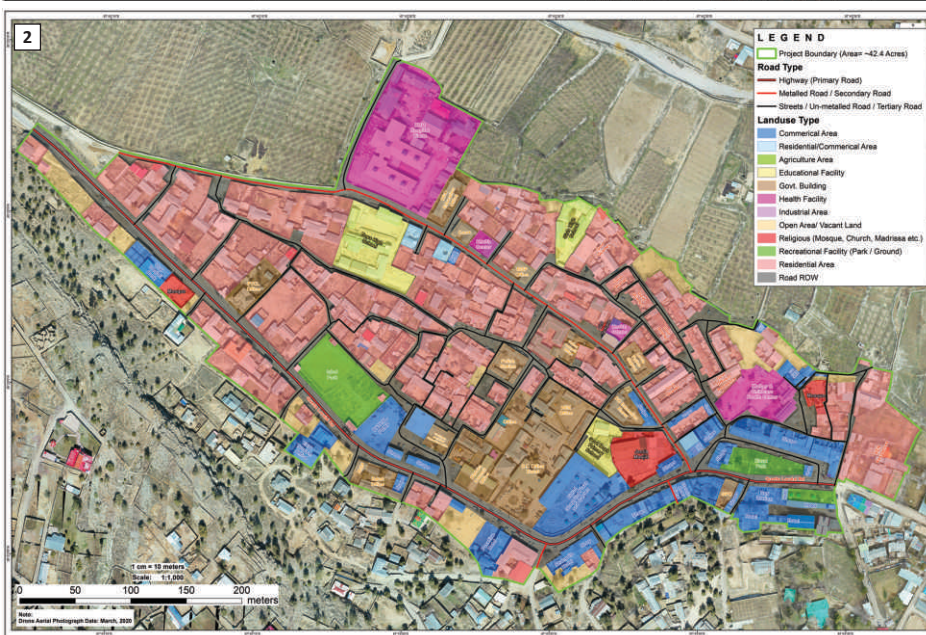
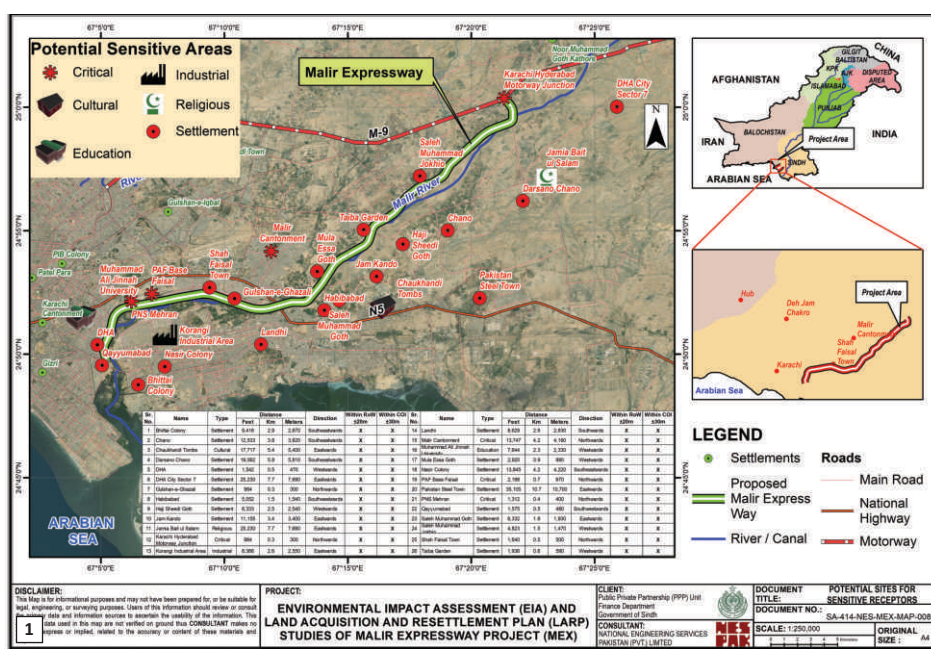
Among the projects wrapped up during the year, NESPAK successfully developed and deployed the Integrated Customised Web Application for Seasonal (Rabi and Kharif) and Ten-Daily Flow Forecasting of Jhelum at Mangla, Chenab at Marala, Indus at Tarbela and Kabul at Nowshera Rim Stations under the project, “Hydrological Modelling for Flow Forecasting Study of Kabul River Basin of WAPDA.” NESPAK services included web-based software design, development and deployment at the Indus River System Authority data centre. NESPAK developed customised web-based .NET application for Jhelum, Chenab, Kabul and Indus Rivers' seasonal flow forecasting models (Rabi and Kharif seasons) under this project. The application is role-based with interactive interfaces and is managed through a client-server architecture with a centralised database.

NESPAK has successfully completed designing and implementation supervision of Internet Protocol (IP)-based Surveillance System for Improvement and Reconstruction of Central Prison Peshawar Phase-I. An IP-based Surveillance System with state-of-the-art technology has been successfully deployed in the new blocks of Central Prison, Peshawar to provide high-level security and round-the-clock monitoring to record live footage of the installed cameras.

NESPAK carried out inspections of equipment installed for the Lahore Orange Line Metro Train Project during the year. The inspected equipment include booking office machines, automatic gate machines, network layer-2 switches and main servers. NESPAK executed testing and commissioning of the Automated Fare Collection System (AFC), integrated testing of AFC System and inspection and testing of the specialised AFC equipment.

Geographical Information System Sector

Among the fresh projects during the year, NESPAK was engaged to provide consultancy services on Ziarat Master Plan. The scope of work includes



acquisition of ultra-high-resolution imagery of the project area using drone technology, development of detailed base map using drone image and existing land use mapping of proposed expansion zones, derivation of Digital Elevation Model and Digital Terrain Model. GIS activities include field visits for drone mapping, GCPs collection, drone image preparation and processing, spatial data development, attribute data collection, layout development and future expansion zones mapping.

NESPAK has been engaged for in the Environmental & Social Impact Assessment and Land Acquisition and Resettlement Plan (LARP) studies of critical road infrastructure projects in Sindh Province including the Malir Expressway. All the environmental constraint mapping, sensitive receptors, land use, surface water resources, ecology and biodiversity profile have been executed using GIS Environment. Moreover, quantification and geo-statistics have also been determined using GIS.

Major New, Ongoing & Completed Projects

a) Feasibility Study
b) Project Planning

c) Detailed Design
d) Tender Documents

e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
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Energy Sector New

4500MW Diamer Basha Dam	Pakistan	Diamer Basha Development Company (Pvt.) Limited	b c d e 1. Bid Evaluation	442,000 2,815
900MW Bin Qasim Power Station (BQPS-III) Combined Cycle and Associated Transmission Projects	Pakistan	K-Electric Limited, Karachi	e f	100,219 638
220kV Dera Ismail Khan-Zohb Transmission Line	Pakistan	National Transmission and Despatch Company	e	N.A. N.A.
220kV Transmission Lines included in Tranche 3 of Second Power Transmission Enhancement Investment Program	Pakistan	National Transmission and Despatch Company	e	1,228 8
Loop-in-Loop-Out Scheme of 500kV Transmission Line and Recommendation of Land for 500kV Grid Station	Pakistan	K-Electric Limited, Karachi	a Survey	N.A. N.A.

Ongoing

800MW Mohmand Dam Hydropower Project	Pakistan	Water and Power Development Authority	c e f	309,600 2,227
969MW Neelum-Jhelum Hydroelectric Project	Pakistan	Water and Power Development Authority	c e f	506,808 7,870
Upgradation and Refurbishment of Generating Units (1-6) of Mangla Power Station	Pakistan	Water and Power Development Authority	e f	52,224 497
102MW Gulpur Hydropower Project	Pakistan	Mira Power Limited	e f	52,000 333
20MW Hanzel Hydropower Project Gilgit-Baltistan	Pakistan	Water and Power Department, Gilgit-Baltistan	a b d e f EIA Study	6,274 60
1263MW Re-gasified Liquefied Natural Gas (RLNG)-based Combined Cycle Power Plant near Trimmu Barrage in Jhang District	Pakistan	Punjab Thermal Power (Pvt.) Limited	a d e f	56,000 533
1223MW RLNG-based Combined Cycle Power Plant at Balloki, District Kasur	Pakistan	National Power Parks Management Company Limited	a d e f	55,000 536
1180MW RLNG-based Combined Cycle Power Plant at Bhikki, District Sheikhupura	Pakistan	Quaid-e-Azam Thermal Power (Pvt.) Limited	a d e f	54,000 535
1230MW RLNG-based Combined Cycle Power Plant Haveli Bahadur Shah, Jhang	Pakistan	National Power Parks Management Company Limited	a d e f	58,900 583
500kV Transmission Lines Interconnection Arrangement for Power Evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects in Northern Areas of Pakistan	Pakistan	National Transmission and Despatch Company	b c d e f h l m n o p q s 1. EIA Study 2. LARP	11,737 88
Transmission Line for Neelum-Jhelum Power Dispersal	Pakistan	National Transmission and Despatch Company	d e f 258	21,697
500kV Double Circuit Hubco-Jamshoro Transmission Line	Pakistan	National Transmission and Despatch Company	e	3,000 24

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
500kV Faisalabad West Grid Station and Associated 500/220/132kV Transmission Lines	Pakistan	National Transmission and Despatch Company	d e f	7,000 61
600kV HVDC Transmission Line from Matiari to Lahore (Lot 2-3)	Pakistan	China Energy Engineering Group Hunan Electric Power Engineering Consulting Co. Ltd., China	e	N.A. N.A.
220kV Tarbela-Burhan Twin Bundle Transmission Line Using Low Loss ACSR Conductor	Pakistan	National Transmission and Despatch Company	c e	2,019 13
Extension Works at 500kV Yousafwala and Jamshoro Grid Station	Pakistan	National Transmission and Despatch Company	e	N.A. N.A.
500kV Faisalabad West Grid Station, Extension and Associated 500kV Transmission Lines Project (Phase-II)	Pakistan	National Transmission and Despatch Company	d e f	3,000 22

Completed

220/132kV Gujrat Substation along with Allied Transmission Lines	Pakistan	National Transmission and Despatch Company	d e f	3,730 44
Solar Water Pumping in Balochistan	Pakistan	National Transmission and Despatch Company	a	N.A. N.A.
Heat Rate and Capacity Tests of KPC 248MW, SGTPS 100MW, KTGTPS 97MW	Pakistan	K-Electric Limited, Karachi	Testing	N.A. N.A.

Water & Agriculture Development and Dam Engineering Sector

New

Command Area Development Component of Jalalpur Irrigation Project	Pakistan	Agriculture Department, Government of the Punjab	c d e f	4,000 24
Murunj Dam Project	Pakistan	Water and Power Development Authority	a c d	N.A. N.A.

Ongoing

Rehabilitation and Upgradation of Trimmu and Panjnad Barrages Improvement Project	Pakistan	Irrigation Department, Government of the Punjab	b d e f	18,316 178
Rehabilitation and Upgradation of Balloki Barrage and Lower Bari Doab Canal System	Pakistan	Irrigation and Power Department, Government of the Punjab	c d e	30,000 381
Remodelling of Warsak Canal System in Peshawar and Nowshera	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	c d e	17,000 190
Projects under Annual Development Programme	Pakistan	Irrigation and Power Department, Government of the Punjab	e f	80,000 962
Kachhi Canal Project	Pakistan	Water and Power Development Authority	c d e	80,000 1,394
Lining of Distributaries and Minors in Sindh Province	Pakistan	Irrigation and Power Department, Government of Sindh	c d e	14,000 231
Balochistan Water Resources Development Sector Project	Pakistan	Irrigation Department Government of Balochistan	a c d e	14,000 101
Gomal Zam Dam Command Area Development and OFWM for High Value & High Efficiency Agriculture Project	Pakistan	Government of Khyber Pakhtunkhwa	c d e	3,000 29
Preparation of Comprehensive Flood Management Plan for Khyber Pakhtunkhwa	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	a b	N.A. N.A.

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
Raising of Wala Dam	Jordan	Jordan Valley Authority, Ministry of Water & Irrigation	e f	3,690 35
Kano River and Hadejia Valley Irrigation Schemes Dams Safety and Rivers Training in Hadejia Jama'are River Basin	Nigeria	Federal Ministry of Water Resources	e Training	308 2
Flood Protection Dam (B6) in Al-Jufainah, Muscat Governorate	Oman	Ministry of Regional Municipalities & Water Resources	e f	11,896 116
Dams in Southern Region	Saudi Arabia	Ministry of Environment, Water and Agriculture	e f	19,198 155

Completed

Karachi Bulk Water Supply Scheme, Phase-I, K-IV Project	Pakistan	Karachi Water and Sewerage Board	f	26,000 187
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Highways & Transportation Engineering Sector

New

Conducting Environmental Impact Assessment and Land Acquisition and Resettlement Plan Studies for (i) Ghotki Kandhkot Bridge;(ii) Malir Expressway; (iii) M9-N5 Link Road	Pakistan	Government of Sindh	1. EIA Study 2. LARP	8,000 51
Construction of Hoshab-Awaran-Khuzdar (313km) Section of Motorway-M-8	Pakistan	National Highway Authority	a c	58,000 352
Dualisation of Multan-Vehari Road (90km)	Pakistan	Deputy Director Road Assets Management System	a b c d 1. Inspection 2. Evaluation 3. EIA 4. Transaction	18,000 115
Urban Roads in Karachi	Pakistan	Local Government and HTP Department Sindh	a Transaction Advisory	15,000 90
Roads under Annual Development Programme in Bahawalpur, Rahimyar Khan and Bahawalnagar (1,125km)	Pakistan	Communication and Works Department, Government of the Punjab	e	2,400 14
Dual Carriageway Road for NR32 Phase-I Duqm Town	Oman	Special Economic Zone Authority at Duqm	c d	N.A. N.A.

Ongoing

Lahore Orange Line Metro Train Project (27km)	Pakistan	Punjab Masstransit Authority, Government of the Punjab	c e f	163,000 1,587
Hyderabad-Sukkur Motorway (300km) Project on Built Operate - Transfer basis Under Public-Private Partnership	Pakistan	National Highway Authority	a c 1. Bid Evaluation 2. Traffic Studies	182,736 1,314
Karachi-Hyderabad Motorway - M9 (136km)	Pakistan	Frontier Works Organization	e f	38,000 370
Permanent Reconstruction Works in Federally Administered Tribal Areas	Pakistan	Temporarily Dislocated Persons Support and Management Secretariat	c e	8,000 77
Infrastructure including Allied Works for Islamabad Metro Bus from Peshawar Morr to New Airport (27km)	Pakistan	National Highway Authority	c e	17,000 163

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
Bus Rapid Transit Orange Line Karachi and Construction of Roads in Landhi Industrial Area, Karachi	Pakistan	Transport & Mass Transit Department, Government of Sindh	c d e	1,800 18
Kot Belian Road to Tarap Package-3 (52km), Section of Hakla (M-1) Yarak (Dera Ismail Khan) Motorway	Pakistan	National Highway Authority	e	28,000 269
Circular Bypass Road (65km), Bannu	Pakistan	Pakhtunkhwa Highway Authority	e f	7,000 50
Dualisation and Improvement of Sarai Gambila to Karak Section of Indus Highway N-55 (61km)	Pakistan	National Highway Authority	e f	11,000 79
Dualisation and Improvement of Old Bannu Road Project N-55 Gandhi Chowk-Sarai Naurang (8km) and Domail-Khurram (75km) Sections	Pakistan	National Highway Authority	e f	18,000 158
Dualisation and Improvement of Pindigheb-Kohat Road N-80 (80km)	Pakistan	National Highway Authority	e f	20,000 144
Karachi Bus Rapid Transit Red Line Project (21km) Package-2	Pakistan	Integrated Transport Planning Limited, Sindh	b l	50,000 480
Improvement/widening of Nizampur-Kohat Road (64km), Districts Nowshera & Kohat	Pakistan	Pakhtunkhwa Highway Authority	e	3,000 19
Road (73km) and RCC Bridges from Mushkin-Chilim including Bridge at Ramghat over the Astore River	Pakistan	Public Works Department, Government of Gilgit-Baltistan	c e	N.A. N.A.
Road Connecting Thumaid Interchange with Al-Mubaila Interchange, Muscat Expressway	Oman	Ministry of Transport and Communications	c d	20,960 131
Dualisation of Sultan Said Bin Taimur Road (13km) in Duqm	Oman	Ministry of Transport and Communications	c e	9,891 63

Completed

Development of Kartarpur Corridor Project	Pakistan	Frontier Works Organization	b c e	20,000 144
Havelian-Thakot Section (120km) under China Pakistan Economic Corridor	Pakistan	National Highway Authority	d e f	134,000 1,286
Quetta Development Package - Roads (144km) Project	Pakistan	Planning and Development Department, Government of Balochistan	c e Traffic Studies	10,000 96
Improvement and Widening of Chakdara-Mingora-Fatehpur Section of National Highway (82km)	Pakistan	National Highway Authority	e f	3,000 29
Asphalt Road between Al-Wajaja, Wilayat Shinas and Al-Fai, Wilayat Madha	Oman	Ministry of Transport and Communications	e	1,280 8

Airports

Ongoing

New Islamabad International Airport	Pakistan	Civil Aviation Authority	c d e	100,000 1,190
Extension of Terminal Building at Bacha Khan International Airport, Peshawar	Pakistan	Civil Aviation Authority	c e	2,900 37
Additional Services for New Gwadar International Airport	Pakistan	Civil Aviation Authority	c d	8,000 51
Extension of Terminal Building at Allama Iqbal International Airport, Lahore	Pakistan	Civil Aviation Authority	c d	10,000 97

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
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Ports & Harbours

New

Connectivity Bridge Between East and West Wharf at Karachi Port	Pakistan	Karachi Port Trust	c d	N.A. N.A.
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Ongoing

Multipurpose Dry Bulk Clean Cargo Terminal at East Wharf of Karachi Port on BOT Basis	Pakistan	Karachi Port Trust	a b d	50,000 480
Upgradation of Shipyard for Project 313	Pakistan	Karachi Shipyard and Engineering Works	e f	20,000 176
Marine and General Civil Works for Ship Lift and Transfer System at KS&EW, Karachi	Pakistan	Karachi Shipyard and Engineering Works	e	4,000 39
Dedicated Coal Terminal at Marginal Wharf Berths 3 & 4 at Port Qasim on BOT Basis	Pakistan	Port Qasim Authority Quality Audit	f	6,000 58
Port Connectivity Project under Public Private Partnership Arrangement of KPT	Pakistan	Karachi Port Trust	a b c d	N.A. N.A.
Rehabilitation and Renovation of Karachi Fish Harbour	Pakistan	Karachi Fisheries Harbour Authority	e f	N.A. N.A.

Architecture & Planning Sector

New

Development of Housing Scheme at Surizai, Peshawar	Pakistan	Pakistan Housing Authority	a b c d e 1. PC-I	101,000 612
Construction of Apartments at Faisal Margalla City, B-17, Islamabad	Pakistan	Federal Government Employees Housing Authority, Islamabad	c e f	8,000 51
Rudn Enclave Adyala Road, Rawalpindi	Pakistan	M/s. RMRSO (Pvt.) Limited, Rawalpindi	b c e	8,000 51
NWS Housing Scheme, Rawalpindi	Pakistan	NDC Welfare Society, Rawalpindi	c e Master Planning	N.A. N.A.
Standardisation of Higher Secondary Schools in Khyber Pakhtunkhwa Province (DFID Assisted)	Pakistan	Elementary and Secondary Education Department, Govt. of Khyber Pakhtunkhwa	e f	2,689 17
Naval Research and Development Institute Complex at Greater Karsaz, Karachi	Pakistan	Pakistan Navy	b c d e	1,593 10
Reconstruction/ Rehabilitation of Fully Damaged Schools in Bara, Tribal District Khyber, Khyber Pakhtunkhwa (Package I, II & III)	Pakistan	Works and Services Department, Government of Khyber Pakhtunkhwa	c e	1,348 8
Club House Building at Islamabad (Phase-I)	Pakistan	Pakistan Navy	c e	1,450 9
Uplifting of Academic and Infrastructure Facilities at Hazara University, Mansehra	Pakistan	Hazara University, Mansehra	c e Master Planning	1,096 7
Master Plan of Ziarat Town. Shaban Valley as a Major Tourist Site	Pakistan	Department of Culture, Tourism and Archives, Govt. of Balochistan	a b c 1. Investigations 2. PC-I 3. Topo	N.A. N.A.
Expansion of the Embassy of People's Republic of China at Islamabad	Pakistan	Embassy of the People's Republic of China, Islamabad	f	547 3

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
New Balakot City Development Project and Tourism Hub at Bakriyal, District Mansehra	Pakistan	1. Earthquake Reconstruction and Rehabilitation Authority 2. National Disaster Management Authority	a c Master Planning	1,000 6
Al-Meera Five Malls (Al-Froosh, Umm Al-Amad, Al-Luqta, Al-Thumama and Al-Muaither)	Qatar	Al-Meera Consumer Goods Company	c d	N.A N.A

Ongoing

Reconstruction and Rehabilitation of Earthquake Affected Areas	Pakistan	Earthquake Reconstruction and Rehabilitation Authority	b c d e f	200,000 3,324
Crescent Bay Development Project (27-Storey), Karachi	Pakistan	Emaar Giga Karachi Limited	e	246,000 2,395
Establishment of 100-bed Mother and Child Care Hospital at Abu Dhabi Road, Murree	Pakistan	Infrastructure Development Authority Punjab	c e	3,100 30
Pakistan Kidney and Liver Institute and Research Centre (Package-C), Lahore	Pakistan	Infrastructure Development Authority Punjab	c d e	3,400 33
Development of CPEC City Near Karnal Sher Khan Interchange, Nowshera	Pakistan	Frontier Works Organization	b c	144,000 911
Establishment of Infrastructure in LDA City (Phase-I)	Pakistan	Lahore Development Authority	e f	33,000 237
Naval Housing Scheme at Karsaz Phase-II, Phase-III and Phase-IV, Karachi	Pakistan	Pakistan Navy	c d e	5,000 58
Infrastructure Works for DHA Housing Scheme, Gujranwala	Pakistan	Defence Housing Authority, Gujranwala	b c e	40,000 308
University of Buner, Swari	Pakistan	University of Buner, Swari, Buner	b c d e Geotechnical	2,000 15
Establishment of Zoo in Peshawar	Pakistan	Forest and Wildlife Department, Government of Khyber Pakhtunkhwa	a c d e f	2,104 20
Kohat Institute of Medical Sciences	Pakistan	Communication and Works Department, Government of Khyber Pakhtunkhwa	a b c d e f	2,197 21
Development and Improvement of Academic Facilities at Ghazi University, Dera Ghazi Khan	Pakistan	Ghazi University, Dera Ghazi Khan	b c d e	1,000 7
Academic and Research Facilities at University of Kotli, Azad Jammu & Kashmir	Pakistan	University of Kotli, AJK	c d e	1,000 8
Joint Police Training Center Phase-II at Hakeemabad-Nowshera	Pakistan	United Nations Development Programme	b c e	800 8
Central Prison Peshawar (Phase-II)	Pakistan	Communication and Works Department, Government of Khyber Pakhtunkhwa	a b c e	2,000 18
Establishment of Girls Cadet College, Mardan	Pakistan	Communication and Works Department, Government of Khyber Pakhtunkhwa	e f 21	2,395
Permanent Campus of Federal Urdu University of Arts, Science and Technology, Islamabad	Pakistan	Federal Urdu University of Arts, Science & Technology	b c d e	420 4
Office Complex DHA Bahawalpur	Pakistan	Defence Housing Authority, Bahawalpur	b c d e	1,533 11

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
Neurology and Psychiatry Project at Jinnah Post-graduate Medical Centre, Karachi	Pakistan	Jinnah Post Graduate Medical Center, Karachi	c e	700 6
Completed				
Various Facilities and Infrastructure Works on PCB Land	Pakistan	Pakistan Cricket Board	a b c e	3,000 29
Port Allied Structures in Mullah Band Area, Gwadar	Pakistan	Gwadar Port Authority	c d e	3,000 29
Establishment of Rangers Wings in various Cities of Punjab	Pakistan	Pakistan Rangers	b c e 1. PC-I 2. Topo Survey	3,000 29
Consultancy Services at Ghulam Ishaq Khan Institute of Engineering Sciences and Technology Swabi	Pakistan	Society for the Promotion of Engineering Sciences and Technology in Pakistan	b c e	1,000 10
Airport Security Force Camp (Phase-I) at Islamabad International Airport	Pakistan	Civil Aviation Authority	c e	3,000 29
Pakistan Embassy Complex, Doha	Qatar	Embassy of Pakistan	b c d e	730 7
MKM Office Tower	Qatar	MKM Real Estate Investment Contracting and Trading	e	1,746 17

Environmental & Public Health Engineering Sector

New

Upgradation and Environmental Improvement of Chungi No. 09 Disposal Station, Multan	Pakistan	1. Multan Development Authority 2. Water and Sanitation Agency, Multan	c e 1. EIA Study 2. Geotechnical Investigations	2,000 13
Greater Water Supply Scheme, DHQ Kotli (Phase-II), Azad Jammu & Kashmir	Pakistan	Public Health Engineering Division, Kotli, AJK	a c d	N.A. N.A.

Ongoing

Punjab Intermediate Cities Improvement Investment Program	Pakistan	1. Punjab Intermediate Cities Improvement Investment Program 2. Local Government & Community Development Department, Punjab	b c d e	28,000 246
Master Plan for Water Supply, Sewerage, Drainage and Groundwater Management System for Sheikhpura, Kasur and Nankana	Pakistan	Lahore Development Authority	b c EIA Study	148,928 1,450
Stormwater Drainage System from Haji Camp to River Ravi via Lakshmi Chowk, McLeod Road, Nabha Road, Chuburji and Sham Nagar, Lahore	Pakistan	1. Lahore Development Authority 2. Water and Sanitation Agency, Lahore	b c e	3,000 29
Development Works at various Sectors of DHA Peshawar	Pakistan	Defence Housing Authority, Peshawar	c e	10,000 88
Wastewater Treatment Plants for Mehmood Booti, Shadbagh, Shahdara and Babu Sabu, Lahore	Pakistan	Water and Sanitation Agency, Lahore	c d 1. PC-I 2. ESIA Study	40,000 288
Pre-Treatment System on LBOD Water as a feed to Reverse Osmosis (RO) Plant for 1320MW Thar Coal Power Project	Pakistan	Thar Coal Water Works Mirpur Khas, Sindh	a c d	10,000 63

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
Combined Effluent Treatment Plant at Korangi Creek Industrial Park, Karachi	Pakistan	National Industrial Parks Development and Management	d e f	N.A. N.A.
Replacement of Outlived Sewer in Multan Phase-II	Pakistan	1. Multan Development Authority 2. Water and Sanitation Agency, Multan	c d e 1. EIA Study 2. Investigations	2,000 13
Laying of Sewerage System from Larech Colony to Gulshan-e-Ravi, Lahore	Pakistan	Water and Sanitation Agency, Lahore	c d e f 1. EIA Study	14,000 136
Land Use Planning and Infrastructure Designing for Fazaia Housing Scheme, Gujranwala	Pakistan	Pakistan Air Force	c d e	1,000 8
Assessment of Ash Usability for Engro's Thar Power Project	Pakistan	Engro PowerGen Thar (Pvt.) Limited	EIA Study	N.A. N.A.

Completed

Provision of Clean Drinking Water, Sewerage System, P.C.C of Streets and Allied Facilities in various areas of Lahore	Pakistan	1. Lahore Development Authority 2. Water and Sanitation Agency, Lahore	e f EIA Study	6,000 58
Water Supply, Sewerage/Drainage Schemes in WASA, Gujranwala	Pakistan	1. Gujranwala Development Authority 2. Water and Sanitation Agency	e	2,000 19
Master Plan of Sewerage System for Tehsil Municipal Administration, Jhang	Pakistan	Tehsil Municipal Administration, Jhang	a b c	22,000 214
Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in Al-Batinah Region Phase-I	Oman	Public Authority for Electricity and Water	e	26,072 248
Water Transmission from Hali, Yabah, Qanunah and Al-Laith Dams to Al-Shoaibah Desalination Plant Jeddah in Makkah Al-Mukarramah	Saudi Arabia	Ministry of Environment, Water and Agriculture	e f	69,352 711

Oil, Gas & Industrial Sector

Ongoing

Cement Plant at Bandi Muneem, Haripur	Pakistan	Frontier Works Organization	e f EIA Study	30,000 242
Bahawalpur Industrial Estate	Pakistan	Punjab Industrial Estates Development and Management Company	b c d	3,000 29
Evaluation and Rehabilitation of CF Silos and Topographic Survey at Grey Cement Plant	Pakistan	Maple Leaf Cement Factory Limited	c d e f	350 3
Review of Structural Evaluation/Retrofitting Reports of Silos and Kiln Pier at Askari Cement	Pakistan	Askari Cement Limited	f Structural Stability	720 5

Completed

MCR Revamp Project for PARCO-MID Country Refinery	Pakistan	Pak Arab Refinery Limited (PARCO)	e f	N.A. N.A.
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a) Feasibility Study
b) Project Planning Survey
c) Detailed Design Development
d) Tender Documents
e) Construction Supervision
f) Design Review
g) Software Requirement Specification

h) Functional Specifications Document
i) System Study Design
j) Software Development
k) Testing, Debugging & Implementation
l) Documentation & Training
m) Satellite Imagery
n) Map Digitization

o) Digital Terrain Model
p) Global Positioning System
q) GIS Database & Model
r) Map Analyses
s) Evaluation/Validation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million US\$ Million
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Information Technology & Geographical Information System Sector

IT Projects

New

eDMS - Document Management System for Diamer Basha Dam	Pakistan	Water and Power Development Authority	j	N.A. N.A.
Pakistan Digital City, Haripur	Pakistan	Khyber Pakhtunkhwa Information Technology Board	b c 2	406

Ongoing

IT/BMS Infrastructure at New Punjab Assembly Building, Lahore	Pakistan	Provincial Assembly of the Punjab	c d e f i k	348 4
Quetta Safe City Project	Pakistan	Science and IT Department, Government of Balochistan	f s Bid Evaluation	1,500 14

Completed

Automated Fare Collection System for all Stations of the Lahore Orange Line Metro Train Project	Pakistan	Punjab Masstransit Authority, Government of the Punjab	f i k	N.A. N.A.
Hydrological Modelling for Flow Forecasting Study of Kabul River Basin using GIS/RS Technology	Pakistan	Water and Power Development Authority	c f g h i j k l	92 1
Improvement and Reconstruction of Central Prison, Peshawar	Pakistan	Communication and Works Department, Government of Khyber Pakhtunkhwa	i j k	1,408 10

GIS Projects

New

Critical Road Infrastructure Projects including Malir Expressway	Pakistan	Government of Sindh	m	N.A. N.A.
Ziarat Master Plan	Pakistan	Ziarat Development Package, Government of Balochistan	o	N.A. N.A.

Ongoing

Field Survey and Mapping of HT/LT Distribution Network of IESCO	Pakistan	Islamabad Electric Supply Company Limited	d g h i j k l p q Survey	N.A. N.A.
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