Managing Director's Report 2019

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LIMITED

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"My message to you all is of hope, courage, and confidence."

Quaid-e-Azam Muhammad Ali Jinnah

My Word

The National Engineering Services Pakistan (Pvt.) Limited (NESPAK) was envisioned by its founders as an organisation free from foreign dependence and capable of delivering the highest quality in the field of engineering consultancy. It was envisaged as an institution which had to lead the consultancy market of Pakistan and compete abroad with excellence. Time has proved that NESPAK has succeeded in fulfilling its objectives to a large extent owing to the unprecedented struggle offered by its professional brigade who left no stone unturned to achieve their stated aims. The professionals of NESPAK have been putting up a good show to boost the Company's performance in these testing times when the country's economic indicators are not painting a bright picture.

Like the past, NESPAK managed to secure a handsome number of projects during the financial year 2018-19. The Company acquired 87 projects during the fiscal year, depicting an excellent performance as a result of its robust marketing strategies. Out of these, 76 jobs were domestic and 11 in the foreign countries, i.e., Gabon, Kingdom of Saudi Arabia, State of Qatar, Sultanate of Oman and Federal Republic of Nigeria. NESPAK contracted a fee of Rs. 11.14 billion for these projects, which is 11% more than the last year's (Rs. 10.07 billion).

The major projects acquired by NESPAK during the current fiscal included; 800MW Mohmand Dam Hydropower Project, Balochistan Water Resources Development Sector Project, Solar Water Pumping in Balochistan, Karachi Bulk Water Supply Scheme, Phase-I, K-IV Water Project, Karachi, Kartarpur Corridor Project, Narowal, Wastewater Treatment Plants for Mehmood Booti, Shadbagh, Shahdara and Babu Sabu, Lahore, 300km Hyderabad-Sukkur Motorway on Public-Private Partnership mode, Development of CPEC City, Nowshera, Establishment of Infrastructure in LDA City (Phase-I), Lahore, Port Connectivity Project, Karachi, Khyber Pakhtunkhwa Flood Management Plan, Booue and Tsengue-Leledi Hydroelectric Projects,Gabon, Kano River and Hadejia Valley, Irrigation Schemes, Dams Safety and Rivers Training in Hadejia-Jama'are River Basin, Nigeria and Road between Thumrait Interchange and Mubaila Interchange, Muscat Expressway, Oman.

Japanese historian Shigeru Mizuno has rightly said that quality needs to be constantly improved, but it is just as necessary to make sure that quality never deteriorates. NESPAK closely watches its working mode by undertaking yearly audits. During the year, NESPAK audit officials visited various divisions and offices in Islamabad, Lahore, Karachi and Peshawar to ensure compliance with the Quality Management System (QMS).

A Surveillance Audit was conducted at various NESPAK offices by the Lead Auditor/Technical Expert of TUV Austria Bureau of Inspection and Certification during June 2019. 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.

Recently, we have formed a Research and Development (R&D) Cell at NESPAK. The newly-established Cell has been tasked with developing comprehensive databases, standard design procedures, manuals, specifications, work instructions and documents for various engineering disciplines. An R&D culture shall be instilled in NESPAK through this Cell to bridge the gap between the academia and industry. Preparation of technical papers and arrangement of seminars, workshops, conferences and symposia shall also be planned. The R&D Cell will also introduce state-of-the-art analysis and design tools and venture into collaborative research with other engineering institutions for the provision of modern and efficient engineering services for our Clients.

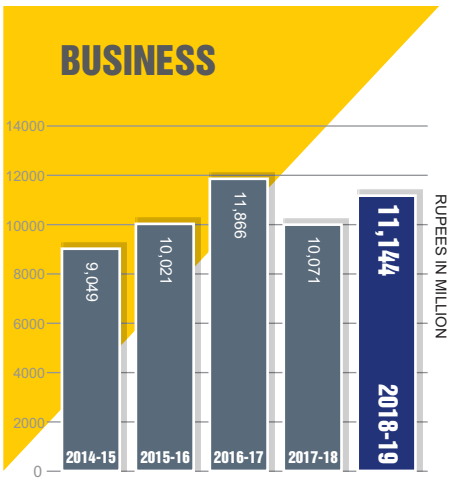
In order to improve NESPAK's internal and external operations, emphasis is being laid on designing and implementing customised softwares. This will soon bring NESPAK closer to a paperless working environment. Human resource development plans like in-house trainings and collaborative learning programmes have been also implemented at NESPAK.

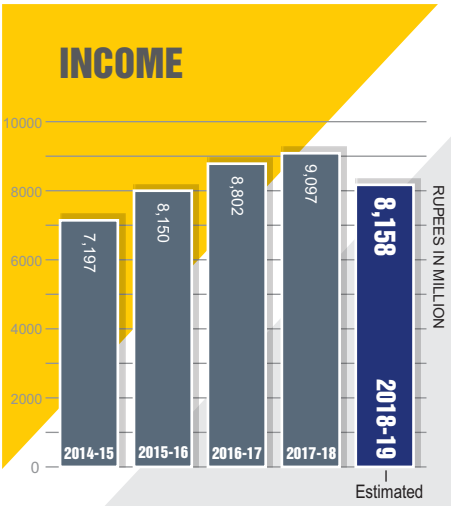
Workforce is the key to the success of an organisation. To quote American businessman and author Harvey Mackay: "Your workforce is your most valuable asset. The knowledge and skills they have, represent the fuel that drives the engine of business - and you can leverage that knowledge." NESPAK attaches great importance to its staff whose dedication has made the Company to stand on its own feet. Currently, 4,633 employees including professionals and technical experts in various engineering disciplines are serving NESPAK.

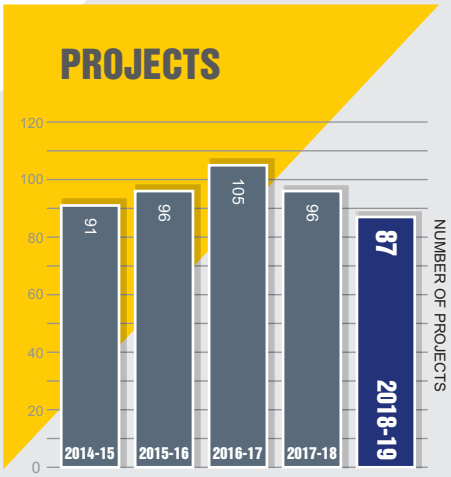
The need of the hour is to identify our drawbacks and take reformative measures to boost the economic condition of this very institution. We have to introspect to put more effort for bringing more business not only from the local consultancy market but also explore ways to win new Clients overseas.

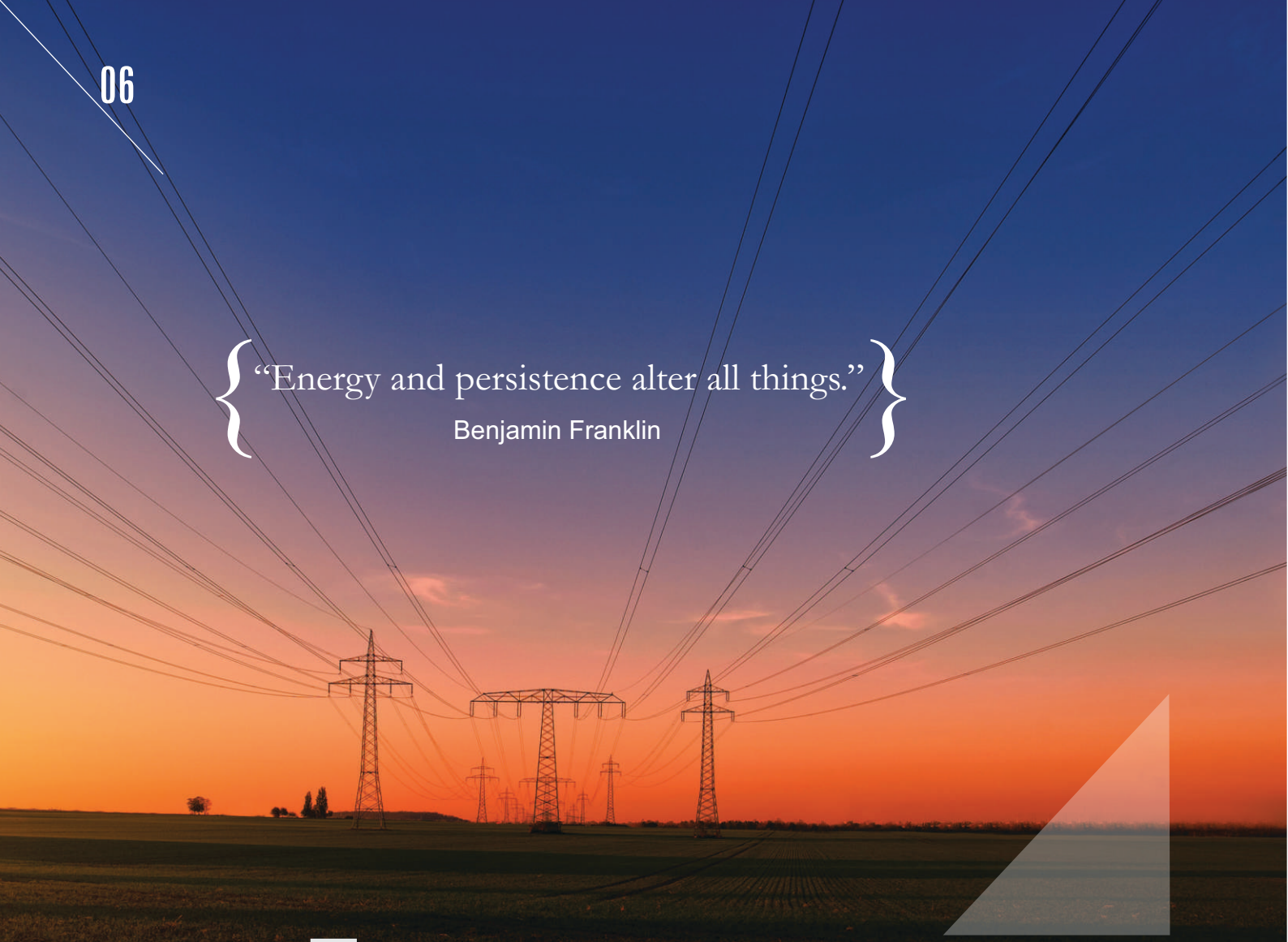
May Allah Almighty help us in using our energies to the fullest in the line of our work and duty for a prosperous future. Amen!

DR. TAHIR MASOOD
Managing Director & President









"Energy and persistence alter all things."

Benjamin Franklin

Energy Sector

NESPAK performed fairly well in the Energy Sector during the financial year 2018-19. It secured 13 new jobs worth Rs. 283 billion including massive Mohmand Dam Hydropower Project, raising the bar for the Company. NESPAK continued to render its up-to-date services for 18 projects worth Rs. 1,016 billion and completed five projects worth Rs. 515 billion during the fiscal year.

Among the fresh projects during the year, NESPAK-led Joint Venture (JV) viz. Mohmand Dam Consultants Group and the Water and Power Development Authority (WAPDA) signed a contract agreement for providing consultancy services for design review, construction supervision and contract management of the 800MW Mohmand Dam Hydropower Project. The NESPAK-led JV comprises six partners and seven sub-consultants having four foreign and nine local firms. The partners along with NESPAK include Associated Consulting Engineers (Pvt.) Limited, Lahore, Mott Macdonald Pakistan (Pvt.) Limited, MWH International, US, SMEC International, Australia and Dolsar Engineering Inc. Co., Turkey. The Rs. 224 billion multipurpose project is proposed to be constructed on the Swat River in Mohmand Agency, 48 kilometres from the Peshawar City in the Khyber Pakhtunkhwa Province. It is located 5km upstream of the Munda Headworks at Abazai near Shabqadar Deri. The Mohmand Reservoir extends upstream to the Mohmand and Bajaur Agencies in the Federally Administered Tribal Areas at a total length of 56 kilometres. The proposed dam will be a 213m high concrete-faced rockfill dam, having a total command area of 6900 hectares. The hydropower project with a gross water storage capacity of 1.29 MAF is scheduled for completion in eight years.

A view of the route for 500kV Transmission Line for power evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects in the Northern Areas of Pakistan

NESPAK and the National Transmission and Despatch Company (NTDC) signed a contract for design and construction supervision services of the 500kV Transmission Lines interconnection arrangement for power evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects in the Northern Areas of Pakistan. This Rs. 53 billion venture is a very unique project which falls in high seismic zones with hilly and mountainous terrain and site altitude of the transmission line ranges from 500m to 1800m above mean sea level. A whole new designing is required for towers' foundation and selection of conductor for the proposed double circuit 500kV transmission line that would ultimately disperse huge hydro-generated-power to major load-centres through the national grid of Pakistan.

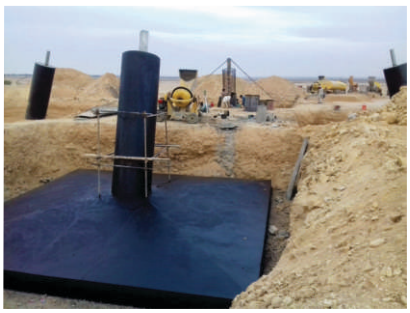
The NESPAK-NEWJEC Joint Venture won a new project, i.e., 220kV Tarbela-Burhan Twin Bundle Transmission Line during the year. This is a one-of-its-kind project where low-loss aluminum conductor steel-reinforced (ACSR) cable will be used in a transmission line system for the first time in Pakistan. The services include detailed design and construction supervision for this Rs. 3 billion project awarded by the NTDC.

NESPAK as a lead partner with Barqaab has been hired by the NTDC for providing services for the 500kV Double Circuit Hubco-Jamshoro Transmission Line (180km). The NESPAK JV will supervise construction for this Rs. 3 billion project. It has been divided into four lots of 45km each to achieve timely power dispersal from the Hubco-II Power Plant.

NESPAK has been entrusted by the K-Electric (Pvt.) Limited with reviewing the Engineering, Procurement and Construction (EPC) bids as independent consultant for its 900MW Bin Qasim Power Station Combined Cycle and Associated Projects. The evaluation is being done by NESPAK, based on the guidelines of the National Electric Power Regulatory Authority (NEPRA) for the selection of the EPC contractor.

A NESPAK-led joint venture has been entrusted by the K-Electric (Pvt.) Limited to provide services as an Independent Engineer for conducting the performance test (Heat Rate and Capacity) of its power plants. The plants include 248MW Korangi Power Complex, 100MW Korangi Gas Engine-based Combined Cycle Power Plant and 100MW Site Gas Engine-based Combined Cycle Power Plant. The tests are being conducted as per requirement of NEPRA for establishing benchmark capacity and heat rate of the plants.

The NESPAK-8.2 OZ International Joint Venture has been engaged by the NTDC for conducting comprehensive feasibility studies to solarise 10,000 grid-connected agricultural pumps in 25 districts of the



Work in progress for 500kV Double Circuit Transmission Line from Hubco Power Plant, Balochistan to existing 500kV Grid Station Jamshoro, Sindh

Balochistan Province. The scope of study includes cropping pattern and suggested interventions, groundwater level and depletion rate; technical, environmental, social and geological aspects related to solarisation of tubewells and financial and economic aspects of the overall project.

Overseas, NESPAK in a joint venture with ISL Ingénierie, France, Office International de l'Eau, France, GIBB (Pvt.) Limited, South Africa and OREADE-BRECHE SAS, France has been entrusted by the Economic Community of Central African States to carry out design works for Booue and Tsengue-Leledi Hydroelectric Projects in Gabon, Central Africa. NESPAK will carry out design services for power plant electrical works and transmission line for the Booue and Tsengue-Leledi Hydroelectric Projects. The Booué and Tséngue-Leledi dams will be constructed on the Ogooué and Nyanga rivers.

Among the ongoing projects, all the four generating units of the 969MW Neelum-Jhelum Hydroelectric Project have been synchronised with the national grid and are providing power to the system after the successful testing and commissioning of this Rs. 506 billion project. However, finishing works for this run-of-the-river project have entered the final stages of completion. Construction on various sections of this landmark project geared ahead under the supervision of NESPAK as the local lead consultants. During the year, civil, electrical and mechanical works for operator`s building, 11kV substation and

The upstream view of diversion dam spillway for the 969MW Neelum-Jhelum Hydroelectric Project in Azad Jammu and Kashmir

drilling/installation and monitoring of different instrumentation at the designed locations progressed well. Major structures of the headworks including installation of intake and under-sluicing gates and spillway gates have already been completed successfully. Concrete-lining and steel lining at the headrace tunnel have been accomplished earlier through the excavation by the Tunnel Boring Machines and Drill and Blast methods. Tunneling system has been set into full operation after successful testing and monitoring before first filling. Lining process and installation of generating units have been completed for the underground powerhouse of this mega project. NESPAK has been also involved in the design review of this project located in Azad Jammu and Kashmir (AJK).

Site for Gulpur Hydropower Project, Azad Jammu and Kashmir

An aerial view of diversion dam for 969MW Neelum-Jhelum Hydroelectric Project

NESPAK in association with the MWH International Inc., USA, continued to provide consultancy services as owner's engineer to M/s Mira Power Limited, a subsidiary of the Korea South East Power Company Limited, South Korea for 102MW Gulpur Hydropower Project. Located on the Poonch River, a tributary of the Jhelum River in the Kotli District of the AJK, the Rs. 50 billion project showed an excellent progress with fast reaching towards completion during the fiscal year. The Build-Operate-Own-Transfer (BOOT) project is being financed by the Korea Exim Bank, the Asian Development Bank, the International Finance Corporation, the Islamic Development Bank and the Ecobank, Nigeria.

Work on the Phase-I of the 20MW Hanzel Hydropower Project, Gilgit-Baltistan progressed at a good speed during the year. The feasibility and design review, preparation of EPC-level tender documents, bid evaluation, revised PC-I cost were completed during the ongoing Phase-I. NESPAK in association with the Technical Resource Services (Pvt.) Limited will also be involved in tender documentation and construction supervision of this project. The Rs. 12 billion project has been awarded by the Gilgit-Baltistan Water and Power Department.

NESPAK continued to provide services on the 1263MW Regasified Liquefied Natural Gas (RLNG)-based Combined Cycle Power Plant, near Trimmu Barrage at Haveli Bahadur Shah, District Jhang. The project costing Rs. 56 billion is also known as the Punjab Power Plant. Awarded by the Punjab Thermal Power (Pvt.) Limited, this project was signed with the China Machinery Engineering Corporation, China on the EPC basis. Most of the design work is already complete and construction works are progressing at a quick speed for this fast-track project. During the year, NESPAK completed detailed design of Simple Cycle and the construction of Simple Cycle is progressing fast. Design of Combined Cycle is nearing completion and construction is underway at a good pace under NESPAK supervision.

The RLNG-based 1223MW Combined Cycle Power Plant at Balloki, Sheikhupura successfully achieved commercial operation during the financial year. The Rs. 55 billion thermal power project is undergoing the Defects Liability Period under the guidance of NESPAK. NESPAK is involved in end-to-end services on this project including feasibility study, tender documents, design review and construction and testing and commissioning.

Work on three more contracts, i.e., Switchyard, Balance of Plant Electrical and Mechanical Works under the Mangla Power Station Refurbishment Project started during the year. Site activities for contract for Generator, Turbine, Excitation and Governor systems for Units 1-6 progressed well under this

A panoramic view of 1263MW Regasified Liquefied Natural Gas (RLNG)-based Combined Cycle Power Plant near Trimmu Barrage at Haveli Bahadur Shah, Jhang

1223MW RLNG-based Combined Cycle Power Plant at Balloki, Sheikhupura

project costing Rs. 52 billion. NESPAK in a joint venture with the MWH International Inc., USA and ACE (Pvt.) Limited is providing services for this modernisation project awarded by the Water and Power Development Authority.

During the year, NESPAK completed another major component of the 3rd Circuit Jamshoro-Moro-Dadu-Rahim Yar Khan Transmission Line (600km) and Moro Substation Project by finalising the 500kV Single Circuit Quad Bundle Jamshoro-Moro-Goth Qazi Mahar-Rahim Yar Khan Substation Transmission Line (365km). Eighteen (18) out of the total 20 components of this Rs. 43 billion project have been accomplished with the completion of the subject transmission line. The remaining two components, i.e., extension works at the 500kV Jamshoro Substation and 500kV Double Circuit Jamshoro-Matiari Transmission Line are nearing completion. The project is being funded by the Asian Development Bank, United States International Agency for Development and the NTDC.

NESPAK as a lead partner with Barqaab is providing consultancy services to the NTDC for its Rs. 22 billion Transmission Scheme for Dispersal of Power from the 969MW Neelum-Jhelum Hydroelectric Project. The scope of services includes tender documentation, design review and construction supervision for this project divided into two phases for the purpose of timely execution. The Phase-I comprises the Neelum-Jhelum Hydroelectric Plant-Domeli Section (145km) and the Phase-II Domeli Section-Gakkhar Substation Section (130km). The Phase-I of the transmission line has already been energised. Under the Phase-II, construction work of tower erection and stringing of conductor and shield wire are proceeding at a brisk pace.

NESPAK started design review of the Faisalabad West 500kV Substation project during the year. The scope of services also includes tender documentation and construction supervision for this project awarded by the NTDC. The Rs. 3 billion project is being financed by the Asian Development Bank.

Among the projects wrapped up during the year, NESPAK

Air Insulated Switchgear Grid Station at Ghazi Road, Lahore

successfully completed services for 220/132kV Air Insulated Switchgear Grid Station at Ghazi Road, Lahore. The project comprised the construction supervision for civil works, erection and testing and commissioning. After the completion of this project, voltage profile of the Lahore Electric Supply Company in the area has improved.

During the year, NESPAK as a lead partner with the SGS Pakistan (Pvt.) Limited accomplished the services as Independent Engineer for conducting the performance test (Heat Rate and Capacity) of the K-Electric's 560MW Combined Cycle Power Plant Bin Qasim-II (BQPS-II).

3rd Circuit Jamshoro-Moro-Dadu-Rahim Yar Khan Transmission Line and Moro Substation Project

{ "No water, no life. No blue, no green." }
Sylvia Earle

Water & Agricultural Development Sector

NESPAK came up with a solid performance in the Water and Agricultural Development Sector during the fiscal year by acquiring three new projects costing Rs. 48 billion. It continued its cost-effective consultancy services for 12 jobs worth Rs. 273 billion, including various mega projects. The Company completed seven projects worth Rs. 193 billion during the year under review.

Among the fresh projects during the year, the NESPAK-led joint venture of Engineering General Consultants and Rehman Habib Consultants signed a contract with the Balochistan Irrigation Department for rendering services for the Balochistan Water Resources Development Sector Project. NESPAK services include feasibility studies of irrigation schemes, detailed engineering design, tender documentation and

Site for the 2nd pumping rising main and forebay at hilltop for K-IV Project, Karachi

Work in progress for the K-IV Project, Karachi

construction supervision of irrigation schemes/Sri Toi Dam under this Rs. 21 billion project. NESPAK will also provide implementation support to fulfil the overall requirements for the project funded by the Asian Development Bank (ADB). The project will support the implementation of the integrated water resources management policy of the Balochistan Government, which provides a comprehensive framework to address the issues of water management and development in the context of basin approach.

NESPAK has been awarded the job of third-party design review/vetting of K-IV Project at a single source basis. The scope of services includes review of overall design of Phase-I and assistance in preparation of revised PC-I of the Phase-I. The project awarded by the Sindh Planning and Development Board has been planned to provide relief to the Karachi City with the provision of 650 million gallons per day of filtered water in three phases. The selected route is around 121km starting from the Keenjhar Lake, District Thatta and ending at Deh Allah Phihai, District Malir.

NESPAK has won the Feasibility Study/Preparation of Comprehensive Flood Management Plan for Khyber Pakhtunkhwa awarded by the Khyber Pakhtunkhwa Irrigation Department. The services include cross-sectional survey of rivers, hydrological assessments for 100-year discharge, hydraulic modelling, flow measurements, sediment sampling, geotechnical investigations, flood inundation mapping and identification of vulnerable reaches along 31 rivers/ streams that require flood protection works.

Overseas, NESPAK in a joint venture with H.P. Guaff Ingenieure GmbH & Co. KG-JBG has won the construction supervision of Kano River and Hadejia Valley Irrigation Schemes, Dam Safety and River Training in Hadejia-Jama'are Basins. The project will be implemented by Nigeria's Federal Ministry of Water Resources and funded by the World Bank with a total project cost of US$ 2.37 million. The objective of the project is to improve access to irrigation and drainage services and strengthen institutional arrangements for integrated water resources management and agricultural services delivery in selected large public schemes in Northern Nigeria. The project is focussed on three river basins with infrastructure investment in selected dam irrigation schemes in Northern Nigeria.

Among the ongoing projects, outstanding progress was reported on the Phase-I of the Kachhi Canal Project with construction activities fast moving towards completion under the supervision of NESPAK. During the year, the Water and Power Development Authority (WAPDA) extended the scope of this mega project by signing another amendment with the NESPAK-led Kachhi Canal Consultants. This enormous venture is one of the priority projects under WAPDA's Vision 2025 Program with a total cost of Rs. 80 billion. The project aims to develop about 288540

Syphon for the Kachhi Canal Project, Balochistan

View of a head regulator constructed on Lala Creek of Indus River under Annual Development Programme Projects

hectares of culturable command area in fertile but barren land of Kachhi Plain in Balochistan.

During the year, the Punjab Irrigation Department entrusted NESPAK with additional works for the Projects under Annual Development Programme (ADP), keeping in view the Company's appreciable performance. Construction work progressed well on different ADP schemes all over the Punjab Province with total outlay of Rs. 75 billion under NESPAK supervision. Major components of the project include rehabilitation of irrigation systems, remodelling/ reconstruction of hydraulic structures (head regulators, fall structures, cross drainage structures, cross regulators, spillways, inlets etc.) and construction of small dams.

The seventh contract package of the Rehabilitation and Upgrading of Balloki Barrage, Lower Bari Doab Canal and its distribution system was carried out under NESPAK supervision during the year. Work on the remaining three packages is nearing completion for this Rs. 30 billion project. The NESPAK-led joint venture with Associated Consulting Engineers (ACE), Mott Macdonald Pakistan (MMP) and Mott MacDonald International (MMI) is involved in design and construction supervision of this project which is jointly funded by the Punjab Irrigation Department and the ADB. A new amendment to the consultancy services agreement was also signed for this project during the year.

Construction activities on seven packages of the Remodeling of Warsak Canal System have been completed. Construction work and mobilisation on three packages are progressing well while the two other packages are under tender evaluation and award of works to the contractors. NESPAK in association with the Integrated Consulting Services and Electra (Pvt.) Limited is involved in detailed design and construction supervision of this Rs. 12 billion project.

NESPAK as a leading partner in a joint venture with the Engineering General Consultants and SMEC International (Pvt.) Limited has been rendering design review and construction supervision services for the Rs. 17 billion Trimmu and Panjnad Barrage Improvement Project. The scope of consultancy services was extended during the year with this project showing an effective progress.

Construction work on the Pakpattan Upper, Pakpattan Lower, Khadir Branch, and Pakpattan Islam Link and Suleimanki Barrage was nearing completion during the reporting period. The Rs. 8 billion project envisages rehabilitation,

An aerial view of Balloki Barrage, gated spillway and canal head regulators

Under-construction drainage culvert for Remodeling of Warsak Canal System Project

An aerial view of Panjnad Barrage

improvement and reconstruction works for various hydraulic structures and channel prisms for four canals. The project was awarded by the Punjab Irrigation Department and funded by the ADB.

NESPAK has been providing consultancy services for the Gomal Zam Dam Command Area Development and On-Farm Water Management for High Value and High Efficiency Agriculture Project. The services include design, tender documentation and construction supervision for this Rs. 3 billion project awarded by the Khyber Pakhtunkhwa Agriculture and Cooperative Department and financed by the United States Agency for International Development. NESPAK has submitted bidding documents for extension works including 265 watercourses, 393 multipurpose earthen ponds, 20km farm-to-market shingle compacted earthen link roads and 7500 precision land leveling. The project covers 77351 hectares of culturable command area in Districts Tank and Dera Ismail Khan in the Khyber Pakhtunkhwa Province.

Among the projects wrapped up during the year, NESPAK completed design review and construction supervision for the Mega Irrigation Projects. The projects under this contract included Irrigation System Rehabilitation Project, Lining of Irrigation Channels under the Public Sector Development Programme (PSDP), Selective Lining of Irrigation Channels under the ADP and all other projects funded by the PSDP including river training works, drainage works, small dams and normal ADP for emergent flood schemes. Spread all over the Punjab, the Rs. 75 billion project was financed by the Government of Pakistan. Under NESPAK supervision, 23 main canal rehabilitation sub-projects were completed and 148 distributaries/minors concrete-lined in a length of 2366 kilometres for this project.

NESPAK completed feasibility study and detailed design for the Jalalpur Irrigation Project awarded by the Punjab Irrigation Department and funded by the ADB. The project worth Rs. 37 billion envisages construction of a new irrigation system and appurtenant structures to irrigate about 70415 hectares of land in the Pind Dadan Khan and Khushab areas. The proposed 116km long main canal will off-take from the right bank of the Rasul Barrage with the design discharge of 1,350 cusecs, benefitting over 225,000 people in 80 villages.

Construction of Mujahid Dam spillway under the Mega Irrigation Projects in Punjab

NESPAK completed project planning, design, design review and construction supervision for Optimising Watercourse Conveyance Efficiency through Enhancing Lining Length Project during the year. This Rs. 9 billion project has been designed to enhance the lining of community watercourses up to 50 percent of their total length in 32 canal-irrigated districts of the Punjab Province. The project was financed by the Punjab Government through the ADP.

A lined channel under Optimising Watercourse Conveyance Efficiency through Enhancing Lining Length Project in Bahawalnagar, Punjab

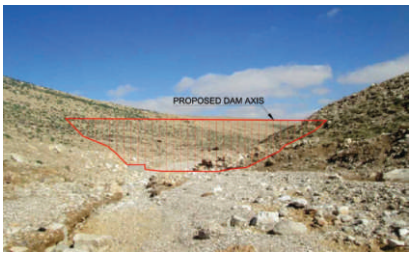
"Dams bring water, power, flood control, recreation, economic possibilities, and many other advantages to people. But people must understand that safe operation and maintenance is key to sustaining these advantages and avoiding potential disaster."

US Association of State Dam Safety Officials

Dam Engineering Sector

NESPAK demonstrated an effective performance in the Dam Engineering Sector during the financial year. The Company continued to provide its worthwhile services for 10 projects and completed services for three projects during the year 2018-19.

Among the ongoing projects, good progress was documented on various dam projects under two separate contracts in the Kingdom of Saudi Arabia during the year. Seven structures for gabions were handed over to the Ministry of Environment, Water and Agriculture, Saudi Arabia after substantial completion. Work on



Wadi Middein Dam Project, Jordan

A view of Qanunah Dam in Saudi Arabia

the remaining projects is continuing. NESPAK is providing design review and construction supervision services for two different contracts, i.e. Dam Projects in Jizan, Aseer & Najran and Qanunah & Yabah Dam Projects. The dam projects having a total cost of US$ 327 million are located in Aseer, Jizan, Najran and Makkah regions of the Kingdom. The dam types are concrete gravity dams, earthfill, roller compacted concrete gravity dams. The purpose of the dams is flood control, supply of drinking water and the construction of gabion structures on upstream of already built dams to restrict sedimentation.

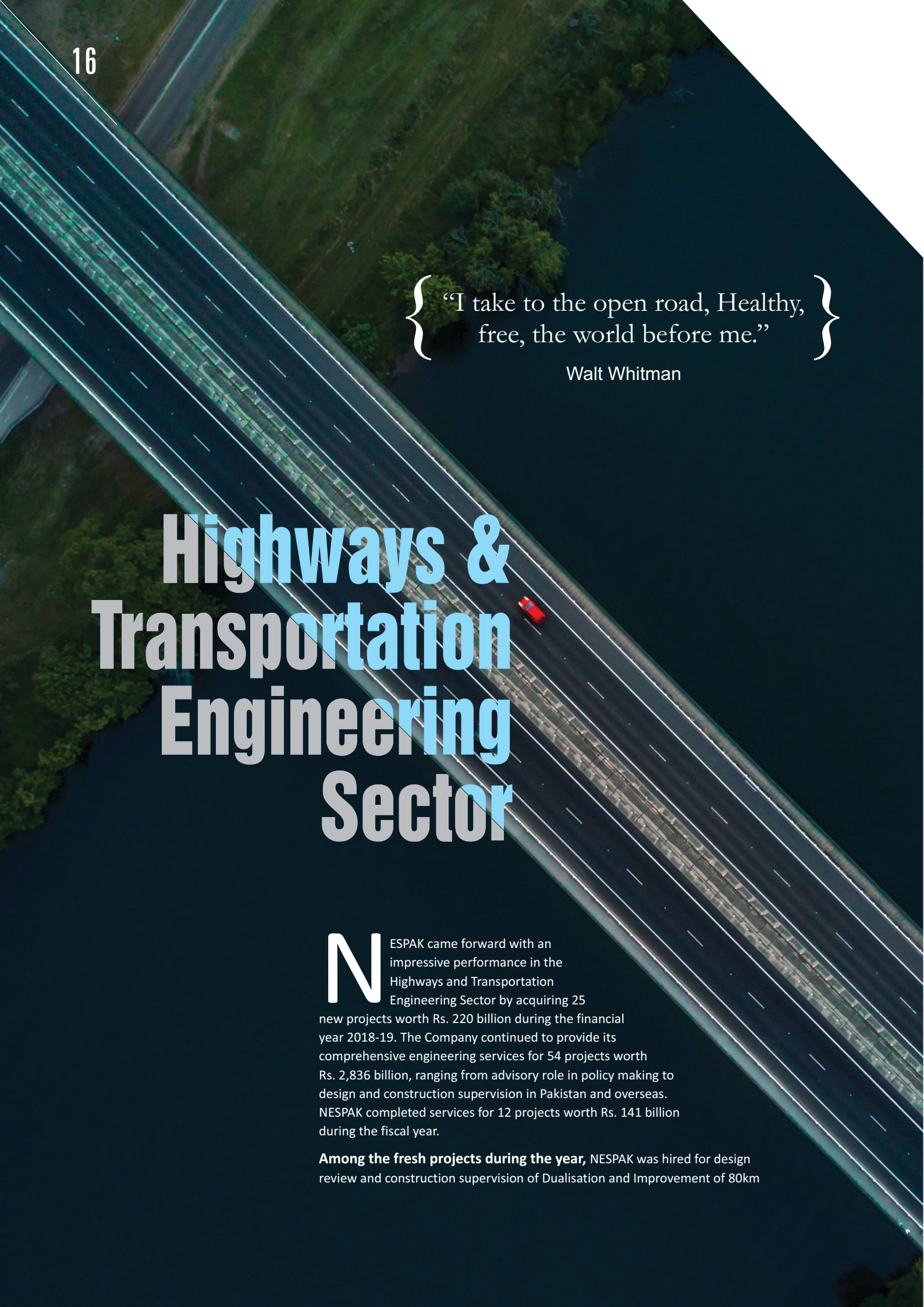
In the Sultanate of Oman, the Flood Protection Dam in Wadi Al-Jufainah is ready for construction after design review has been completed. The project was awarded to NESPAK by the Ministry of Regional Municipalities and Water Resources, Oman. NESPAK scope of services includes design review and construction supervision for this project costing US$ 115 million. The project features a 30-metre high and 2.46 km long plastic concrete core earthfill dam with a gross storage capacity of 15.7 million cubic metres.

Solid progress was reported on the construction work for the Raising of Walla Dam Project in the Kingdom of Jordan. NESPAK in association with the Consolidated Consultants Group, Jordan has been providing design review and construction supervision services for this US$ 35 million project awarded by the Ministry of Water and Irrigation, Jordan Valley Authority, Amman.

Updating of feasibility study and detailed design of the Wadi Middein Dam Project has been executed and report has been submitted to the Client, Jordan Valley Authority. NESPAK is acting as sub-consultant to Consolidated Consultants for Engineering and Environment for rendering services of feasibility study, detailed design, tender documentation and construction supervision for this US$ 30 million dam project in the Kingdom of Jordan.

Among the projects wrapped up during the year, NESPAK as a lead partner with Associated Consulting Engineers has completed Feasibility Study of Dams on Kaha, Chachar, Vidore and Mithawan hill torrents in Dera Ghazi Khan and Rajanpur districts. The inception report for all the four dams and feasibility reports for Chachar and Vidore dams have been submitted to the Punjab Irrigation Department. The project will be executed at an overall cost of Rs. 24 billion.

Site inspection for Raising of Walla Dam Project, Jordan



> "I take to the open road, Healthy, free, the world before me."
>
> Walt Whitman

Highways & Transportation Engineering Sector

NESPAK came forward with an impressive performance in the Highways and Transportation Engineering Sector by acquiring 25 new projects worth Rs. 220 billion during the financial year 2018-19. The Company continued to provide its comprehensive engineering services for 54 projects worth Rs. 2,836 billion, ranging from advisory role in policy making to design and construction supervision in Pakistan and overseas. NESPAK completed services for 12 projects worth Rs. 141 billion during the fiscal year.

Among the fresh projects during the year, NESPAK was hired for design review and construction supervision of Dualisation and Improvement of 80km

Bridge for Kartarpur Corridor

A view of the Kartarpur Corridor connecting Gurdwara Darbar Sahib in the Narowal District of Pakistan to the Dera Baba Nanak in Gurdaspur District, India

Pindigheb–Kohat Road through a competitive bidding by the National Highway Authority (NHA). The scope of Rs. 20 billion project includes the construction of a 4-lane road facility and bridges/culverts as per NHA standards.

NESPAK has been engaged for consultancy services for the construction of a corridor connecting Gurdwara Darbar Sahib in Kartarpur in Narowal District of Pakistan to the Dera Baba Nanak in Gurdaspur District, India. The Government of Pakistan intended to open the corridor in November 2019 on Baba Guru Nanak's 550th birth anniversary. The construction works were initiated by the Frontier Works Organization as a fast-track project under the supervision of NESPAK. NESPAK also provided master planning and design services for this Rs. 14 billion project, considering the Sikh architectural, cultural and religious needs. The phase-I of the project envisages construction of a 7km fenced corridor from the Narowal-Shakar Garh Road to the International Border between Pakistan and India. It includes (a) 772m long bridge over River Ravi, (b) a terminal building near the border to welcome Sikh pilgrims and (c) a magnificent Gurdwara Complex around the existing Gurdwara Sahib. Another 250m bridge would be constructed in the second phase near the International Border.

Work underway for Roads of Rural Accessibility Programme in Highway Circle 1 & 2, Faisalabad

Natural ground compaction for the Circular Bypass Road, Bannu

The Khyber Pakhtunkhwa Highways Authority hired NESPAK for design review and construction supervision of the 65km Circular Bypass Road, Bannu, costing Rs. 7 billion.

NESPAK won the project “Construction of Roads of Rural Accessibility Programme in Highway Circle 1 & 2 (2018-19) Faisalabad.” NESPAK will provide construction supervision of the farm-to-market roads in the rural areas of the

Mushkin-Chilim Road in Gilgit-Baltistan

Faisalabad Division, Chiniot, Jhang and Toba Tek Singh districts under this Rs. 2 billion project assigned by the Punjab Communication and Works Department.

The NHA selected NESPAK for preparing detailed design, traffic studies, commercial feasibility study and bid evaluation for the 300km Hyderabad–Sukkur Motorway Project on the Built-Operate-Transfer (BOT) basis under the Public-Private Partnership (PPP) arrangement. The proposed Rs. 200 billion facility will ensure high-speed connectivity between Karachi City and other parts of the country via the under-construction motorway facilities between Sukkur, Multan and Lahore.

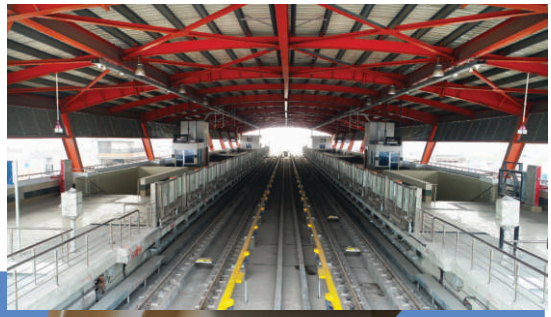
The Multi Donor Trust Fund Project, "Economic Revitalisation for Khyber Pakhtunkhwa" has hired NESPAK for feasibility study and engineering design for 44km Changla Gali-Makhniyal Road in the Galliyat area of District Abbottabad. The construction of project road shall provide an alternative communication link to Galliyat from the Federal Capital, Islamabad.

The Gilgit-Baltistan Works Department entrusted NESPAK with preparing detailed design of Improvement/ Realignment/Metalling and Construction of Road and RCC Bridges from Mushkin to Chilim. The 73km road project also includes the design of RCC Bridge at Ramghat over the Astore River.

NESPAK was awarded Karachi Mobility Project—Bus Rapid Transit (BRT) Yellow Line Project. NESPAK scope of services includes preliminary design, cost estimates and PC-I. The 21km BRT Yellow Line will have 6 underground stations and 22 at-grade stations with two depots, a bridge and two flyovers.

NESPAK has been engaged for providing JICA-assisted Khyber Pakhtunkhwa Emergency Rural Road Rehabilitation Project (Phase-II) by the Japan International Cooperation Agency. The services include condition survey, feasibility and Environmental Impact studies of 623km rural roads in the province.

In the Sultanate of Oman, NESPAK has been engaged for design of a dual carriageway connecting the Thumrait



Different views of Lahore Orange Line Metro Train Project

A portion of the Havelian-Thakot Section under China-Pakistan Economic Corridor (CPEC)

Interchange in the Wilayat Bidbid with the Al-Mubaila Interchange at the Muscat Expressway. Awarded by the Ministry of Transport and Communications, the proposed corridor shall be constructed mostly in the Ad-Dakhiliyah Governorate of Oman at an estimated cost of US$ 325 million.

NESPAK was hired for construction supervision of Dualisation of the Sultan Said Bin Taimur Road in Duqm in Oman. NESPAK has already completed the design of this 13km project road awarded by the Ministry of Transport and Communications, Oman. The road shall be constructed in two and a half years at an estimated cost of US$ 125 million.

Among the ongoing projects, pre-launch activities and finishing works for the Lahore Orange Line Metro Train Project remained in progress during the year under the supervision of a joint venture of NESPAK and the China Railway Engineering Group Co. Limited. The NESPAK joint venture also prepared detailed design for this Rs. 163 billion project awarded by the Punjab Government. The train will run on a state-of-the-art 27km track between Ali Town and Dera Gujran, Lahore.

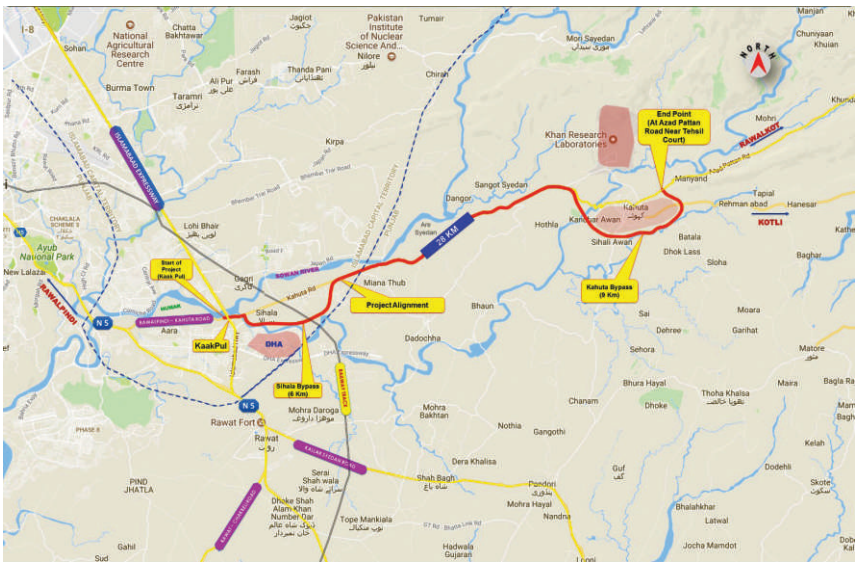
Brilliant progress was made on the construction of the 120km Havelian-Thakot Section under the China-Pakistan Economic Corridor (CPEC). NESPAK in a joint venture with Turkish DOLSAR Engineering Inc. Co. has been providing design review and construction supervision services as Assistant to the Employer's Representative for this Rs. 133 billion project. Awarded by Pakistan's Ministry of Communications, the project is envisaged to be financed

A view of Khurrem Bridge under Hakla on M-I to Dera Ismail Khan Motorway Project for CPEC

A view of Sarai Gambila-Karak Road in the Khyber Pakhtunkhwa Province

under the Chinese concessional loan arrangement. The CPEC infrastructure projects will link the Gwadar City to China's Xinjiang Region through a vast network of highways and railways. The Karakoram Highway Phase-II (Havelian-Thakot Section) of this project connects Havelian to Thakot through a greenfield alignment having four interchanges, 112 bridges, 76 underpasses/cattle-creeps, 491 culverts, 12 flyovers, seven tunnels and two service areas.

Splendid progress was registered on the Packages–II-and-III of the western corridor of the CPEC from the 4-lane Hakla to Dera Ismail Khan Motorway under the supervision of the NESPAK-Zeeruk International Joint Venture. The Package-II starts from Rehmani Khel to Kot Belian Road at Hakla (M-I) to Yarak at the Dera Ismail Khan Motorway. The Package-III starts near Tarap and crosses two major roads i.e., Jand-Tarap Road and Kalabagh-Mianwali Road, crossing River Sawan. The two packages with a combined length of 104 kilometres will be completed at total cost of Rs. 60 billion. The NESPAK joint venture is also involved in the



Rawalpindi–Kahuta Road route map

design review of these two sections assigned by the NHA.

NESPAK started design review and construction supervision services for Dualisation and Improvement of Indus Highway Package-I Sarai Gambila-Karak (61km) in the Khyber Pakhtunkhwa. The scope of work includes the construction of a 2-lane dual carriageway and bridges/culverts for this Rs. 30 billion project awarded by the NHA.

NESPAK has carried out structural design review of 10 selected bridges out of total 30 and site visits for replacement of level crossings in the Lahore-Multan and Kaluwal-Pindor Sections of the Phase-I for Upgradation of Pakistan Railway's Main Line-I (ML-I) and Establishment of a New Dry Port near Havelian by the Pakistan Railways. NESPAK has started initial working on structural design review of major bridges and preliminary studies for replacement of level crossings for the Phase-II of this Rs. 872 billion project. The project will be carried out under the CPEC through an agreement signed by Pakistan's Ministry of Railways and China's National Railway Administration.

A view of the ongoing Karachi-Hyderabad Motorway Project

Excellent progress was documented on the Dualisation of Rawalpindi–Kahuta Road under the supervision of NESPAK. A 4-lane Overhead Bridge at Sihala Railway Pass, Sihala Bypass and Kahuta Bypass is also part of this 33km

Construction work in progress for Abbottabad Bypass Road Project

Work in progress on Khuzdar-Chaman Section of Karachi-Chaman Highway

project awarded by the NHA. NESPAK scope of services includes feasibility study, design and design review for this Rs. 20 billion project.

Construction activities continued at a rapid pace for the Allied Works for Islamabad Metro Bus System (MBS) from Peshawar Morr to the New Islamabad Airport during the year. NESPAK is responsible for design and construction supervision for the Rs. 17 billion MBS facility infrastructure project awarded by the NHA.

Sufficient progress was recorded on the Roads and Flyovers under the Quetta Development Packages, Balochistan. NESPAK is involved in the traffic model study, detailed design and construction supervision of 11 roads/flyovers (144km) under this Rs. 10 billion umbrella project awarded by the Balochistan Planning and Development Department. NESPAK carried out Phase-I of the traffic model study during the year.

Quick progress was reported on finishing works for the Karachi-Hyderabad

Asphalt Road from Biayaiq to Aqir Al-Abriyyin in Wadi Shafan, Wilayat Khaboura, Oman

Motorway (M9) during the year. NESPAK is involved in design review and quality control services for this 136km BOT project costing Rs. 38 billion.

Construction activities remained in full gear for the Rs. 2 billion Abbottabad Bypass Road Project under NESPAK supervision. NESPAK also redesigned this 18km project on the request of the Client, Khyber Pakhtunkhwa Communication and Works Department besides rendering design review services.

Work moved ahead on the Dualisation of Khuzdar-Chaman Section of N-25 (Karachi-Chaman Highway) along with technical study and detailed design of Alternative Route at Lakpass and Tunnel at Khojak Bypass during the year. Awarded by the NHA, the project will be constructed at an estimated cost of Rs.82 billion.

Overseas, good progress was reported on the construction of Asphalt Road from Biayaiq to Aqir Al-Abriyyin in Wadi Shafan, Wilayat Khaboura, Oman under NESPAK supervision. The 26km project costing US$ 44 million is nearing completion at a moderate pace.

NESPAK continued design work for 126km Roads in Al-Sahil Area, Wilayat Quriyat during the year. The design project was awarded by the Ministry of Transport and Communications, Oman.

In the State of Qatar, work continued on concept design of two Interchanges at the Industrial Area and Mubarieak at Salwa Road, Doha during the year. The US$ 69 million project was awarded to NESPAK by the Redco International.

A view of the completed Khanewal–Lodhran Road Project

Among the projects wrapped up during the year, NESPAK completed second phase of the Lahore Ring Road, i.e., Southern Loop Project as independent engineer. NESPAK undertook the entire project right from the feasibility and alignment selection to detailed design, PC-I preparation, tender documentation and construction supervision. The 22km Southern Loop from Kamahan up to Adda Plot SL-I & II has been constructed on the BOT basis at a cost of Rs. 25 billion.

NESPAK completed detailed design, tender documentation and construction supervision for the Khanewal–Lodhran Road. Awarded by the Communication and Works Department, the Rs. 20 billion road project has been dualised to a 4-lane dual carriageway including an interchange and flyover.

NESPAK completed construction supervision of the Khadim-e-Punjab

A view of the Lahore Ring Road

Overhead Bridge at the Depalpur Chowk, Okara

Rural Roads Programme (Phase-IV) in Civil Division, Bahawalpur. Awarded by the Provincial Highway Circle, Bahawalpur, the Rs. 2 billion project included 23 roads in Districts Bahawalpur, Bahawalnagar and Rahimyar Khan, having total a length of 160 kilometres.

NESPAK supervised construction of the Overhead Bridge at Depalpur Chowk, Okara during the year. The Rs. 667 million project was awarded by the Punjab Highway Department (North Zone).

NESPAK has completed feasibility study and detailed design for Rs. 20 billion Basima–Khuzdar Highway Project in the south of Balochistan Province, awarded by the NHA.

Airports

Among the fresh projects during the year, the Pakistan Civil Aviation Authority (PCAA) engaged NESPAK for the Extension of Passenger Terminal Building at the Allama Iqbal International Airport Lahore. The scope of services includes detailed design, bid documentation, bid evaluation and field design support services. The terminal building will be extended towards the southern side of the airport and a new domestic terminal facility with three dedicated passenger boarding gates shall be constructed under the new project. The present 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 other users. The project is estimated to be completed at a cost of Rs. 10 billion.

NESPAK has been selected for Additional Services for the New Gwadar International Airport (NGIA) Project by the Pakistan Civil Aviation Authority.

Bacha Khan International Airport, Peshawar,

These services include design and preparation of bid documents of several components of NGIA such as CAA Residential Complex, Airport Security Force Camp, external utilities and infrastructure works, external telecommunication works and site security system. The estimated cost for these facilities is Rs. 8 billion.

Among the ongoing projects, construction activities to bring the Passenger Terminal Building of Bacha Khan International Airport, Peshawar to a successful closure remained in progress during the year 2018-19. The capacity of expanded and renovated terminal building has increased up to more than double the original size, offering passengers a much higher level of comfort, safety and security. The addition of passenger boarding bridges has enhanced the overall efficiency of the terminal. Design and construction of a new multi-level car park at the airport will be undertaken in the next phase of development. The project shall be completed at an estimated cost of Rs. 3 billion.

After the successful opening of the New Islamabad International Airport (NIIA) in 2018, NESPAK continued providing consultancy services for various ancillary works at the airport such as the development of facilities for the Airport Security Force at the NIIA. The Rs. 100 billion airport 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 the Aéroports de Paris Ingénierie, a leading French consultancy firm, earlier designed the airside and landside infrastructure at the airport including runway and taxiway system, CAT-III airfield lighting system, navigational aids, a state-of-the-art air traffic control tower, fire crash rescue facility as well as road networks and other utility systems.

Design and construction supervision services for various works progressed well at the Sialkot International Airport, Pakistan's first private sector and green-field airport. During the year 2018-19, consultancy services were rendered for construction of a new departure lounge, expansion of SIAL Secretariat, new custom hall and upgradation of

A view of Airport Security Force Camp under New Islamabad International Airport Project

allied infrastructure facilities including the construction of link taxiway with new dumbbell, airfield lighting works and design works for augmentation of power supply system. The master plan of the airport was developed by NESPAK in the early 2000 followed by design of airport facilities. The airport has been operational since 2007 with a phase-wise development plan.

Sialkot International Airport, Pakistan's first private sector green-field airport

Ports & Harbours

Among the fresh projects during the year, NESPAK was engaged for preparing feasibility study for Port Connectivity Project under the Public Private Partnership (PPP) Arrangement of the Karachi Port Trust (KPT). The prime objective of the feasibility study is to review current traffic situation keeping in view the forecasted cargo handling at the Karachi Port. This study will help 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. It will also provide the most feasible solution among the recommended options in terms of its commercial viability for both the KPT and private sector.

Among the ongoing projects, the Phase-I works for 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.5 billion project by the Port Qasim Authority for vetting and construction quality audit works undertaken by M/s Huaneng Fuyun Port and Shipping (Pvt.) Limited, a Chinese sponsor, on the Build-Operate-Transfer (BOT) basis.

Construction work is nearing completion at a fast pace for the Rs. 4 billion Ship Lift and Transfer System project at Karachi Shipyard and Engineering Works under the supervision of NESPAK.

NESPAK has been involved in two ongoing projects for the Karachi Shipyard and Engineering Works (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 security monitoring and control System. The KS&EW appointed NESPAK for design and construction supervision services of the project. NESPAK has successfully completed design works and will shortly commence construction supervision services for this project.

The second project for which NESPAK is working for the KS&EW is related to the infrastructure works, equipment foundations and workshops and multi-storey building. Presently, design, bidding process and construction supervision of different work packages is in progress under this project.

NESPAK has commenced work on the feasibility study for establishing a Multipurpose Dry Bulk Clean Cargo Terminal at East Wharf, Karachi Port. The Terminal, which is part of the Karachi Port Improvement Project, is being planned to handle various bulk commodities in an environment-friendly manner. The objective of study is the selection of the prospective operator of the proposed multipurpose terminal to operate environment-friendly multipurpose dry bulk clean cargo terminal.

Work in progress for Conversion of Marginal Wharf Berths 3 & 4 into Coal Terminal at Port Qasim, Karachi

"Architecture is not based on concrete and steel, and the elements of the soil. It's based on wonder."

Daniel Libeskind

Architecture & Planning Sector

NESPAK performed exceptionally well in the Architecture and Planning Sector during the financial year 2018-19. The Company acquired a good number of jobs, i.e., 30 projects worth Rs. 180 billion due to its prudent and intelligent marketing efforts. NESPAK continued to provide its up-to-the-minute services for 91 projects worth Rs. 699 billion in the fields of education, health and housing. The Company completed consultancy work for 20 jobs worth Rs. 15 billion during the year under review.

Main prisoner barracks constructed for the Central Prison Peshawar, Phase-I

Among the fresh projects during the year, NESPAK has been engaged for master planning, detailed design and construction supervision of the DHA Gujranwala Housing Scheme. The project will have 30,000 residential units with allied high-end commercial, social and physical infrastructure facilities to be executed in multiple construction packages. Spread over 4375 acres of land, the project shall be constructed by the Defence Housing Authority (DHA), Gujranwala at an estimated cost of Rs. 40 billion.

NESPAK has been awarded detailed design/review and construction supervision for establishment of infrastructure in the LDA City (Phase-I) Housing Scheme by the Lahore Development Authority. The LDA City (Phase-I) costing Rs. 15 billion is expected to be completed in three years.

NESPAK has been hired by the DHA Bahawalpur for master planning, detailed design, tender documentation and construction supervision for development of Office Complex, High School and Intermediate College at the DHA Bahawalpur. The project shall be constructed at an estimated cost of Rs. 2 billion.

A conceptual view of Ghazi University, Dera Ghazi Khan

The Frontier Works Organization hired NESPAK for preparing feasibility study, master planning and detailed design for the China-Pakistan Economic Corridor (CPEC) City on the Islamabad-Peshawar Motorway near Nowshera in Khyber Pakhtunkhwa. Spreading over 10000 acres of land, the proposed CPEC City would be a unique state-of-the-art development venture to be executed at an estimated cost of Rs. 144 billion.

NESPAK has been tasked with evaluation of bids/proposals for the Prime Minister's Initiative for 5 Million Affordable/Low Cost Housing. The job has been awarded to NESPAK by the Federal Government Employees Housing Foundation through competitive process. The project shall be launched under the vision of the Naya Pakistan Housing Programme.

NESPAK was selected for master planning, detailed design and construction supervision for the Rs. 2 billion Central Prison Peshawar (Phase-II) by the Khyber Pakhtunkhwa Communication and Works Department. NESPAK has substantially completed the Rs. 1 billion Phase-I of the Central Prison Peshawar.

NESPAK has been awarded master planning, design and construction supervision of HEC Secretariat Building in Islamabad. The project costing Rs. 1 billion has been assigned by the Higher Education Commission.

NESPAK has been hired by Ghazi University, Dera Ghazi Khan for providing master planning, detailed design and construction supervision services for City and New Campus of Ghazi University at Dera Ghazi Khan, costing Rs. 1 billion.

NESPAK was engaged to provide consultancy services for preparation of fire and life safety design and drawings and obtaining authority approvals for the Qatar Museum Cultural District. The project comprises car parking for 880 vehicles, exhibition halls, food

Newly-built schools under the Earthquake Reconstruction and Rehabilitation Project

preparation area, food hall, bridge way, public amenities and associated buildings.

Among the ongoing projects, 145 more sub-projects of Rs. 200 billion Earthquake Reconstruction and Rehabilitation Project saw the light of the day under NESPAK supervision during the year, taking the tally of completed facilities to 2069 in the sectors of health, education, governance and roads. In addition, all 113 sub-projects of Chinese-Funded Urban Development Program amounting to Rs.32 billion have been completed in Muzaffarabad, Bagh and Rawalakot cities of Azad Jammu and Kashmir.

Construction work at two towers under Emaar's Crescent Bay Development Project, Karachi is nearing completion. NESPAK is supervising the construction of these 27-storey towers worth Rs. 6 billion. NESPAK has also provided design service for five additional towers, each of 27 storeys. Currently, NESPAK is providing field design support services for these five towers worth Rs. 20 billion.

Three nine-storey residential towers of the Navy Housing Scheme, Karachi were completed and inaugurated during the year. NESPAK's services for maintaining high quality of design and construction supervision for the project was praised by the client. The remaining three towers of the Navy Housing Scheme have entered the final stages of construction. NESPAK also rendered tender documentation services for this Rs. 5 billion project.

NESPAK's preliminary architectural design of the Jinnah Institute of Cancer and Research Center was approved by the Patients' Aid Foundation (PAF) during the year. NESPAK services include detailed design and construction supervision for this Rs. 5 billion venture to be executed by the Government of Sindh and the PAF at the Jinnah Post-

Towers under Emaar's Crescent Bay Development Project

Elevation view of dormitories under Pakistan Kidney and Liver Institute and Research Center Lahore Hospital, Package-C

Jinnah Institute of Cancer and Research Center for Jinnah Post-graduate Medical Centre, Karachi

A view of residential towers-2 for Navy Housing Scheme, Karachi

graduate Medical Centre (JPMC) under the Public-Private Partnership (PPP) mode. The architectural design of the two-storey Psychiatry and Behavioral Sciences Department has also been okayed by the PAF. NESPAK is involved in master planning and construction supervision for this Rs. 700 million project.

Construction work has been completed on the basement, ground and mezzanine floors of the Surgical and OPD Complex of the JPMC. Work on other five floors is in final stages under NESPAK supervision. The Jinnah Food Complex, a part of the OPD Complex, has also been designed by NESPAK. The Rs. 2 billion project has been awarded by the PAF.

Considerable progress has been recorded on the construction work for the Pakistan Kidney and Liver Institute (PKLI) and Research Center Lahore Hospital, Package-C. The Package-C consists of construction of apartments for patients and doctors, nurses' dormitories and the PKLI Bazaar for this Rs. 3 billion project. NESPAK is involved in the detailed design, tender documentation and construction supervision for this project awarded by the Infrastructure Development Authority Punjab (IDAP).

The 100-bed Mother and Child Care Hospital at the Abu-Dhabi Road, Murree is ready for construction under the supervision of NESPAK after the completion of design and other preliminary works. The Rs. 3 billion project has been awarded by the IDAP.

Construction work for the Kohat Institute of Medical Sciences (KIMS) progressed at a rapid pace under the supervision of NESPAK. NESPAK services also include feasibility study, planning, detailed design, design review, and tender documentation for this Rs. 2 billion venture being executed by the Khyber Pakhtunkhwa Communication and Works Department.

Three construction packages of the Port Allied Structures in Mullah Band Area, Gwadar were completed during the year. The remaining package is undergoing the final stages of completion. NESPAK is involved in the detailed design, tender documentation and construction supervision for this Rs. 2 billion project. The Mullah Band Area serves the starting point of the CPEC adjacent to the Free Development Zone of China, positioning it in a highly strategic setting.

Under-construction Kohat Institute of Medical Sciences

Master plan of Port Allied Structures in Mullah Band Area, Gwadar, Balochistan

Work is nearing completion for the Gwadar Smart Port City Master Plan sponsored by the Ministry of Planning, Development and Reforms with the collaboration of the Chinese Government. The plan aims at updating the city master plan to make it a well-planned, self-sustainable and dynamic city to reflect the new strategic direction of Gwadar's development.

Construction of the Federal Urdu University of Arts, Science and Technology, Islamabad went ahead at an excellent pace during the year. NESPAK is involved in the master planning, detailed designing and construction supervision services for this two-phase project costing Rs. 800 million.

Construction work on four buildings of Tarar Campus at the University of Poonch, Rawalakot, Azad Jammu and Kashmir is being carried out under NESPAK supervision. NESPAK is providing master planning, detailed design, tender documents and construction supervision for this Rs. 800 million project.

Construction for 10 additional blocks of the Islamia College University-Peshawar and the University of Buner at Swari, Khyber Pakhtunkhwa started during the year. NESPAK has also been involved in the feasibility study, design, tender documentation and construction supervision services for the two projects worth Rs.2 billion.

Under-construction girls hostel building at the Tarar Campus of the University of Poonch, Rawalakot, Azad Jammu and Kashmir

An artistic view of Federal Urdu University of Arts, Science and Technology, Islamabad

Works on the Joint Police Training Centre Phase-II at Hakeemabad, Nowshera continued with full vigour during the year. NESPAK has been rendering master planning, detailed designing and construction supervision for this Rs. 800 million project.

In the State of Qatar, NESPAK continued construction supervision of the New Pakistan Embassy Complex at the Diplomatic Enclave, Doha, after it completed detailed design and tender documentation for this project. The US$ 7 million project was awarded by the Embassy of Pakistan.

NESPAK has submitted tender documents to the Al-Meera Consumer Goods after the completion of design work for the Al-Meera New Convenience Stores at Jeryan Junaihat, Qatar. Currently, tender

Hydropower Training Institute, Mangla

evaluation of the documents submitted by the bidders is in progress for this US$ 10 million project.

Among the projects wrapped up during the year, NESPAK completed construction supervision of balanced civil works and design of additional works for the Burn and Trauma Centre, Hayatabad Medical Complex, Peshawar. The Rs. 800 million project was awarded by the Khyber Pakhtunkhwa Communication and Works Department.

NESPAK carried out feasibility study, planning, tender documentation, detailed design, design review and construction supervision for two additional blocks including external developmental works at the Khyber College of Dentistry, Peshawar. The project costing Rs. 600 million was handed over to the Khyber Pakhtunkhwa Communication and Works Department.

NESPAK provided feasibility study, detailed design and construction supervision for the Gajju Khan Medical College, Swabi, which has been concluded with a project cost of Rs. 500 million.

Burn and Trauma Centre, Hayatabad, Peshawar

Islamia College University-Peshawar

NESPAK carried out detailed design, tender documentation and construction supervision for the Hydropower Training Institute, Mangla during the year. The project was awarded by the Water and Power Development Authority and funded by the European Union through a French development agency, AFD.

Overseas, NESPAK completed project management and construction supervision services for the Al-Khor Housing Project in Qatar. Awarded by the Qatar Real Estate Investment Co. (Al-Aqaria), the US$ 42 million project comprised construction of 110 four-bed villas and a Friday Mosque.

NESPAK carried out consultancy services for design review and acquiring statutory approvals for the HBK Labour Camp at Al-Muither, Umm al-Zebar, Qatar. The US$ 25 million project was awarded by M/s Dynamic Management Group WLL, Qatar.

NESPAK completed construction supervision of the Muhammad Ali Jinnah Hospital at Kabul and handed over this Rs. 1 billion 200-bed project to the Afghanistan Government.

Muhammad Ali Jinnah Hospital in Kabul, Afghanistan

"Climate change is happening, humans are causing it, and I think this is perhaps the most serious environmental issue facing us."

Bill Nye

Environmental & Public Health Engineering Sector

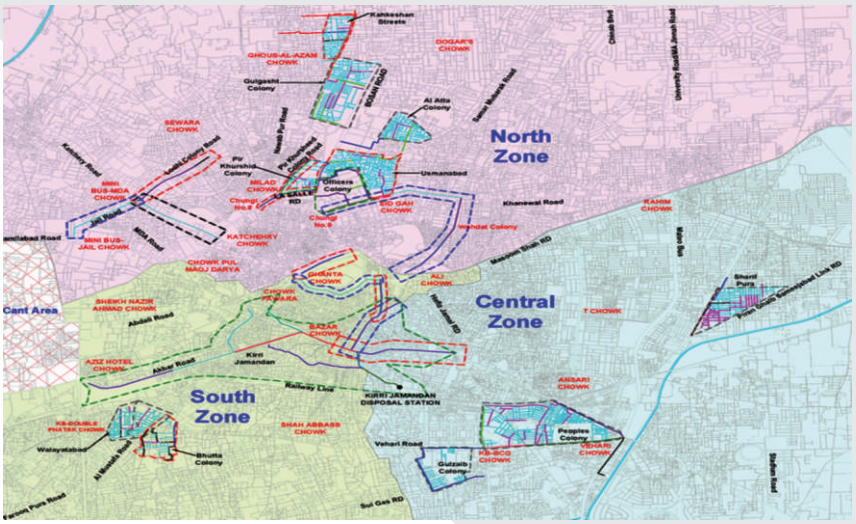
NESPAK emerged as a steady and sturdy performer in the Environmental and Public Health Engineering Sector with the acquisition of six new projects worth Rs. 55 billion during the financial year. The Company continued to provide its world-class services for 32 major projects worth Rs. 340 billion. NESPAK completed 11 projects worth Rs. 19 billion in this sector during the year 2018-19.

Among the fresh projects during the year, the Water and Sanitation Agency (WASA), Multan Development Authority entrusted NESPAK with providing detailed engineering design and resident supervision for Replacement of Outlived Sewer in Multan (Phase-II). The scope of services includes topographic survey, detailed design, updating of Environmental Impact Assessment (EIA) Report and construction supervision of this Rs. 2 billion project.

NESPAK was engaged by WASA, Multan for detailed engineering design and construction supervision for Upgradation and Environmental Improvement of Chungi No. 9 Disposal Station. The scope of services includes topographic survey, geotechnical Investigations, detailed design, updating of Environmental Impact Assessment (EIA) Report and construction supervision of this Rs. 2 billion project.

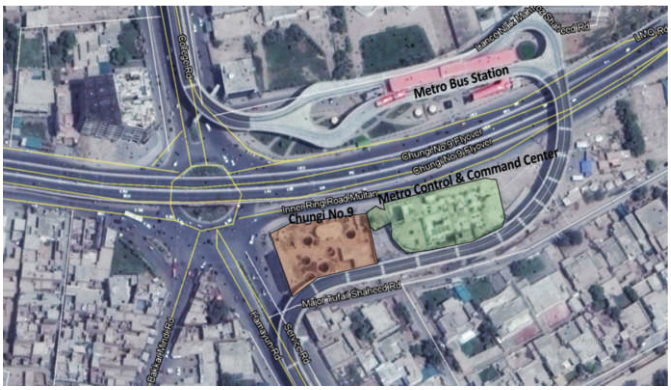
NESPAK has been hired for preparation of design, PC-I and tender documents for the Construction of Wastewater Treatment Plants in Mehmood Booti/Shadbagh, Shahdara and Babu Sabu, Lahore. The scope of work includes surveys and investigations, flood protection works, upgradation of WASA's disposal stations, design of wastewater conveyance system and wastewater treatment plants, Environment & Social Impact Assessment (ESIA) and Land Acquisition & Resettlement Action Plan (LARP) studies. The project shall be executed by WASA, Lahore at an estimated cost of Rs. 40 billion.

NESPAK has been engaged by the Sindh Irrigation Department for feasibility study, detailed design and tender documents for Pre-Treatment System on the Left Bank Outfall Drain (LBOD) water as a feed to Reverse Osmosis (RO) Plant for 1320MW Thar Coal Power Project. The Pre-Treatment System shall be completed at an estimated cost of Rs. 10 billion.



Mapping of outlived sewer in Multan

NESPAK and the Atlas Autos Private Limited signed an agreement for the EIA of Expansion of Casting Unit at Atlas Honda Limited, Sheikhupura during the fiscal year. The services include baseline study, stakeholder consultation and preparation and submission of EIA report to Environmental Protection Agency (EPA), Punjab.

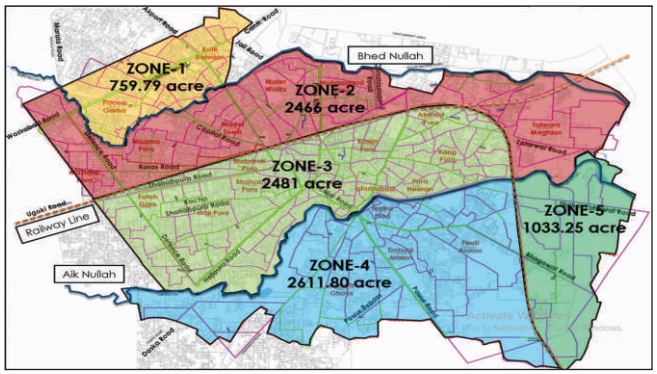


Location of Chungi No. 9 Disposal Station, Multan

Among the ongoing projects, NESPAK submitted water and sanitation master plans of Sahiwal and Sialkot cities under the Punjab Intermediate Cities Improvement Investment Program (PICIIP), Package-II during the year. Work on detailed engineering design, PC-I and tender documents of priority projects for Sahiwal and Sialkot cities has also been initiated after the approval of the master plans by the Punjab Local Government and Community Development Department. NESPAK as a lead in a joint venture with M/s Artelia International SAS (France) shall also carry out environmental studies and construction supervision for Rs. 28 billion PICIIP venture. The main objective of the project is to improve urban sectors including water, sanitation, urban transport and open spaces.

Site visit for Pre-Treatment System on the Left Bank Outfall Drain, Sindh

The revised PC-I for Laying of Sewerage System from Larech Colony to Gulshan-e-Ravi, Lahore on the Engineer-Procure-Construct (EPC) mode has been approved by the Planning and Development Department. NESPAK deliverables for design period included preliminary and detailed design report, EIA Report and tender documents.



Master plan for Sialkot water supply under Punjab Intermediate Cities Improvement Investment Program

Accordingly, NESPAK is preparing bidding documents along with the ESIA report as per Asian Infrastructure Investment Bank guidelines. The services also comprise construction supervision for this Rs. 14 billion landmark project where the entire sewerage network shall be laid through trenchless technology, i.e., tunnel boring machine and pipe jacking.

Good progress has been achieved on the construction work for Stormwater Drainage System from Haji Camp to River Ravi via Lakshmi Chowk, McLeod Road, Nabha Road, Chauburji and Sham Nagar, Lahore. NESPAK is involved in designing, tender documentation and construction supervision for this Rs. 4 billion project.

The construction of Part-I of Prime Minister's Southern Punjab Package for improvement of water and sewerage systems including establishment of sewage treatment plants has entered the final stages. NESPAK is providing supervision services for this Rs. 3 billion project being executed by WASA, Multan.

A pump house at New Shah Shams Colony under Prime Minister's Southern Punjab Package (Part-I) for improvement of water and sewerage systems in Multan

Work is nearing completion on the Provision of Clean Drinking Water, Sewerage System, PCC of Streets and Allied Facilities in Various Areas of Lahore under NESPAK supervision. The project area comprises all the National Assembly constituencies of Lahore. The scope of services also includes EIA Study and design review for this Rs. 6 billion project awarded by WASA, Lahore.

NESPAK submitted design review, tender documents and topographic survey report for the construction of Lakhodair Landfill Site Lot 3 & 4 to the Lahore Waste Management Company (LWMC) during the year. The project costing Rs. 2 billion is ready for the construction supervision stage and will be on track after client's direction in this regard.

Excellent progress has been achieved on the construction work for Five Water Supply, Sewerage/Drainage Schemes in Gujranwala under the supervision of NESPAK. The project worth Rs. 2 billion has been awarded by WASA, Gujranwala Development Authority.

NESPAK completed design review of two and detailed design of three residential sectors of the DHA Housing Scheme, Peshawar during the year. The Defence Housing Authority had engaged NESPAK for detailed designing and tender documentation

Work in progress for Provision of Clean Drinking Water, Sewerage System, PCC of Streets and Allied Facilities in Various Areas of Lahore Project

for road infrastructure, cross-surface drainage, water supply and sewerage system in all the 10 residential and three commercial sectors of the DHA Peshawar. Besides, the infrastructure works, the architectural and engineering design of various building projects have also been awarded to NESPAK under this Rs. 10 billion project.

First-rate progress was registered on the master plan for water supply, sewerage, stormwater drainage and groundwater management system of Sheikhupura, Kasur and Nankana Sahib Districts in the Punjab Province. The scope of work also includes detailed design and costing of priority areas having a population of 10,000 people. The project with the planning horizon up to year 2040 shall be executed by the Lahore Development Authority.

NESPAK has submitted tender documents for Phase-I of the Fazaia Housing Scheme, Gujranwala. The scope of services also includes feasibility study, land-use planning and infrastructure designing for this three-phase Rs. 1 billion project awarded by the Directorate of Estate Projects Air Headquarters, Pakistan Air Force.

In the Kingdom of Saudi Arabia, NESPAK has completed construction supervision for the phase-II of the project, Water Transmission from Khulais and Rabigh

Laying of pipe under Five Water Supply, Sewerage/Drainage Schemes in Gujranwala

A water purification plant for Water Transmission from Khulais and Rabigh Dams to Jeddah Project, Saudi Arabia

Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in al Batinah Region (Phase-I), Oman

Dams to Jeddah Project. Under the phase-II, a water treatment plant at the downstream of the Rabigh Dam was constructed and handed over to the Directorate of Water for Makkah Region, Ministry of Environment, Water and Agriculture during the year. Work on the phase-I of this water transmission project is nearing completion. The total cost of this project stands at US$ 220 million.

In the Sultanate of Oman, work for the Water Distribution Networks for Nakhal, Awabi and Wadi Al-Maawil Wilayats in Al-Batinah Region–Phase-I entered the final stages of construction under NESPAK supervision during the year. The project worth US$ 22 million has been awarded to NESPAK & Partners LLC by the Public Authority for Electricity and Water, Oman.

Work restarted for the Construction of Sewerage Network and Design and Built of Sewage Treatment Plant, Buildings and Access Road for Wilayat Al-Musannah after the change of client during the year. Now, Haya Water has taken over the project from the Ministry of Regional Municipalities and Water Resources. The preparation of tender documents for remaining works is in progress for this Rs. 22 million project in the Sultanate of Oman.

Among the projects wrapped up during the year, NESPAK carried out consultancy services for supervision of Sewerage Schemes, WASA Multan. The project was executed at a cost of Rs. 3 billion.

NESPAK completed construction supervision for Relocation of Various WASA Services to clear 27km long route for Orange Line Metro Train Project, from Dera Gujran to Ali Town, Lahore. Under the project, relocation of water supply lines, sewer lines and drain was carried out. The Rs. 2 billion project also included shifting/ upgradation of three disposal stations.

NESPAK successfully completed consultancy services for Prime Minister's Southern Punjab Package, Part-II for Multan during the year. The Rs. 600 million project was awarded by WASA Multan.

NESPAK has prepared Environmental and Social Safeguard Documents for the Khyber Pakhtunkhwa Integrated Tourism Development Project initiated by the Government of Khyber Pakhtunkhwa and funded by the World Bank.

NESPAK completed Environmental Studies of ADP Schemes (2017-2018) of WASA Faisalabad and submitted final environmental reports to the client after review and approval of draft reports and incorporation of comments by the EPA, Punjab.

NESPAK carried out EIA for Establishment of Autoclave for Treatment of Infectious Hospital Waste at Compost Plant, Mehmood Booti Ring Road, Lahore. The job was assigned by the LWMC.

Wilayat Al-Musannah Sewage Treatment Plant, Oman

"To industry, nothing is impossible."
Latin Proverb

Oil, Gas & Industrial Sector

NESPAK performed well in the Oil, Gas and Industrial Sector during the financial year 2018-19. The Company acquired four new projects and continued to render its inestimable services for 11 projects in the works during the fiscal year.

Among the fresh projects during the year, the Pak-Arab Refinery Limited (PARCO) has appointed NESPAK as consultants for design/design review and construction supervision services for Revamp of MCR Project at Mahmood Kot, Multan. The aim of the project is to upgrade/revamp existing PARCO plant and facilities to meet the requirements of changing industrial trends by enhancing the crude oil processing capacity. The scope of services comprises review of structural design calculations and drawings for foundations/steel structure of new and modified equipment and site supervision services of civil and structural works.

The Frontier Works Organization hired NESPAK services for the establishment of a state-of-the-art cement manufacturing plant of 7500 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. The proposed cement production facility shall be completed at an estimated cost of Rs. 20 billion.

The National Industrial Parks Development and Management Company entrusted NESPAK with the design/review, tender documentation and construction supervision of Combined Effluent Treatment Plant (CETP) at the Korangi Creek Industrial Park (KCIP), Karachi. The Combined Effluent Treatment Plant aims at treating the wastewater generated from different industrial clusters in the KCIP including light engineering, food processing, garments/value-added textiles, packaging and printing, consumer food and

Borehole for coring in limestone quarry site for Haripur Cement Plant

Repair work at Maple Leaf Cement Factory, Iskanderabad, Mianwali

pharmaceutical products, commercial business centres, Information Technology and gems and jewellery. The prime objective of the project is to review the design and tender documents, reproduce biddable tender documents and supervise construction of the CETP.

Among the ongoing projects, NESPAK submitted master plan and feasibility study report to the Client, Khyber Pakhtunkhwa Economic Zones Development and Management Company for approval during the year. The project comprises two phases, i.e., design and construction supervision. The scope of work for design phase includes preparation of master plan, groundwater study, sub-soil/geotechnical investigations, topographic survey, detailed engineering design of infrastructure, business and financial plan and Environmental Impact Assessment (EIA) study. The project costing Rs. 6 billion is ready for the phase-II, the construction phase.

Construction work has started for the Development of Bahawalpur Industrial Estate after the approval of final master plan, preliminary design and EIA report by the Punjab Industrial Estates Development and Management Company (PIEDMC). NESPAK has also submitted final design and draft tender documents to the client for approval. Approach road and boundary wall are now under execution for this project costing Rs. 3 billion.

NESPAK is providing evaluation and rehabilitation design services for the cement silos and continuous feed (CF) Silos of the Maple Leaf Cement Factory (MLCF) Iskanderabad, Mianwali. These silos were damaged by a severe earthquake in 2015. After a detailed structural analysis, an analysis report along with a complete set of remedial measures had been provided to the MLCF. The remedial measures for the damaged silos include application of Carbon Fibre Reinforced Plastic (CFRP) strips and jacketing with reinforced concrete. During the rehabilitation construction, more than 13000 metres of CFRP strips were applied in the three silos, which is a record in Pakistan.

During the year, NESPAK started work on a comprehensive structural design for the rehabilitation of Cooler Tower building for the 450MW Combined Cycle Power Plant, Abdul Hakim, Khanewal. The rehabilitation design phase of the project is currently underway and FE computer models and detailed rehabilitation drawings are being prepared. NESPAK was engaged by the Rousch (Pakistan) Power Limited for this evaluation and rehabilitation assignment.

Work moved fast on the Feasibility Study for the Exploration of Barite-Lead-Zinc Ore Deposit at Gunga, Khuzdar in Balochistan under the supervision of NESPAK during the year. Exploration work involving 12,500-metre drilling through 36 holes for mining resource estimates and geotechnical evaluation for mine slope design along with sampling and testing have already been carried out. On the basis of exploration results, mine planning studies have been completed. Geo-hydrological investigations were also carried out for the evaluation of groundwater availability for the project. Presently, preparation of feasibility report including processing plant and infrastructure design and cost estimates is in progress. This unique project is being undertaken by NESPAK in association with a German firm for the Bolan Mining Enterprises, Quetta.

Among the projects wrapped up during the year, NESPAK completed topographic survey, groundwater study, hydraulic and hydrology study and geotechnical investigations for the Establishment of Special Economic Zone on Motorway M2 at the Kot Sarwar Interchange and submitted the feasibility report to the PIEDMC. The main objective of this proposed Rs. 29 billion Special Economic Zone is to develop an integrated economic zone to create a platform for industries, mass employment opportunities and skill development of the local people.

Rehabilitation of Cooler Tower building for the 450MW Combined Cycle Power Plant, Abdul Hakim, Khanewal for Rousch (Pakistan) Power Limited

Information Technology & GIS Sector

"The Internet in the 21st Century is as important to our future as highways were in the 20th Century. Like a highway, the Internet must remain free and open for all – not determined by the highest bidders."

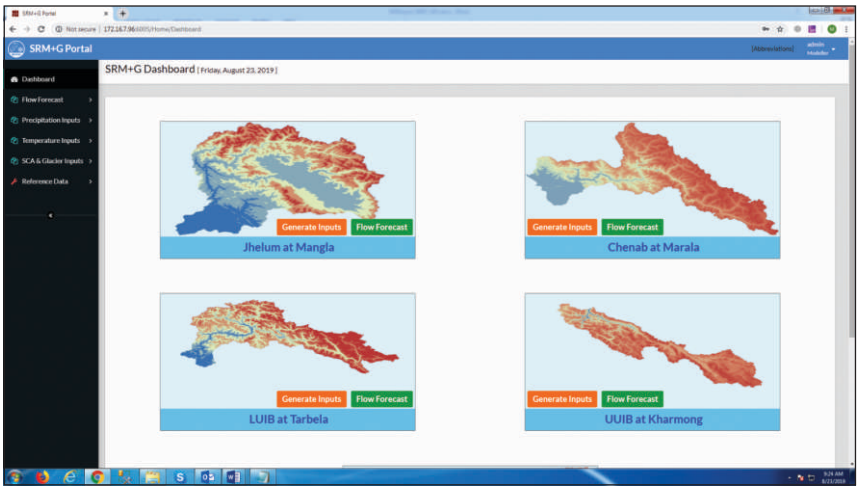
Chuck Schumer

Information Technology Sector

NESPAK went ahead with a reasonable performance in the Information Technology and Geographical Information System Sector during the financial year 2018-19. The Company secured six new jobs and continued providing its high-tech services for 10 ongoing projects during the fiscal year.

Among the fresh projects during the year, NESPAK was engaged for development of integrated customised web application for flow forecasting

of Jhelum, Chenab, Indus and Kabul Rivers at Mangla, Marala, Tarbela and Nowshera Rim Stations under the project, Hydrological Modelling for Flow Forecasting Study of Kabul River Basin. NESPAK services include web-based software design, development and deployment at the Indus River System Authority (IRSA) Data Centre. The project has been awarded by the Water and Power Development Authority (WAPDA) and flow forecasting results will be available online to WAPDA, IRSA, Punjab Irrigation Department and other relevant authorities to carry out their forecasting and seasonal planning.



Hydrological Modelling for Flow Forecasting Study of Kabul River Basin

NESPAK has been hired for the design of Security Systems for Defence Housing Authority (DHA) Scheme Gujranwala Project. A state-of-the-art Internet Protocol-based surveillance system, automated number plate recognition system, under-vehicle scanning system and radio-frequency identification-based vehicle entry system at the entry points are being designed to provide high levels of the security. A central control room shall be established at the DHA Office Gujranwala to monitor all the activities.

Among the ongoing projects, the IT/BMS Works at new Buildings of Punjab Assembly Project has entered the implementation phase wherein contract for microphone conferencing, Information Technology systems and security systems has been awarded by the Punjab Communication and Works Department. Implementation work is proceeding satisfactorily under the site supervision of NESPAK.

NESPAK has successfully carried out designing of IP-based surveillance system for Improvement and Reconstruction of Central Prison Peshawar Project-Phase-I. NESPAK services include designing and resident supervision for this assignment.

NESPAK is actively giving input on design review of Quetta Safe City Project and covering the components including third-party software suits/packages, customised software applications, CCTV-based surveillance, routing & switching and GIS. Two versions of design documents have been reviewed and comments have been raised by NESPAK.

With regard to the third-party software, NESPAK has reviewed the video management software, edge analytics, call centre application, middleware/business intelligence software, IP tetra integration software, etc. On the customised software application side, NESPAK reviewed automated fingerprint identification system, vehicle access control system, integrated decision support system, customer care & ticketing system and portals & intranets.

NESPAK continued inspections of equipment installed for the Lahore Orange Line Metro Train Project during the year. The equipment which were inspected included booking office machines, automatic gate machines, network layer and main servers.

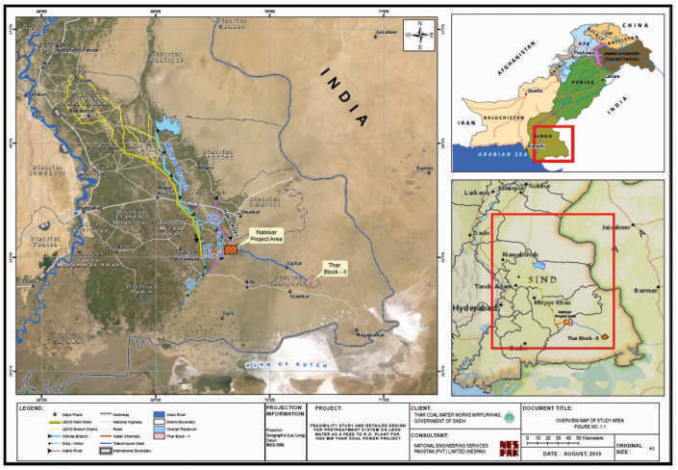
Composite Schedule of Rate 2018 web application

Among the projects wrapped up during the year, NESPAK successfully developed and deployed the “Composite Schedule of Rate 2018”web application at the Data Centre of the Balochistan Communication and Works Department. The main purpose of the application is to provide uniform reference base for preparing cost estimates/PC-I for projects to be executed by the Balochistan Government.

Geographical Information System Sector

Among the fresh projects during the year, NESPAK was engaged by the National Transmission and Despatch Company to provide consultancy services on 500kV Line for Evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects. The scope of work includes selecting an optimised corridor and thereby a route for the construction of a transmission line between the defined start and end points. The Geographical Information System (GIS) activities during the length of the project include field visits, Global Positioning System (GPS) points collection, satellite image preparation and processing, vector data preparation, attribute collection, layout development and environmental maps for the Environmental Impact Assessment studies.

NESPAK was selected by the Pakistan Air Force to render consultancy services for National Aerospace Science and Technology Park. The scope of GIS work includes site suitability assessment study to evaluate and assess all possible constraints to screen out the best suitable site. NESPAK has developed GIS-based screening tools to evaluate the suitability of potential sites based on geomorphology/topography, geology/geotechnical, geo-hazard and seismic factors and infrastructure.



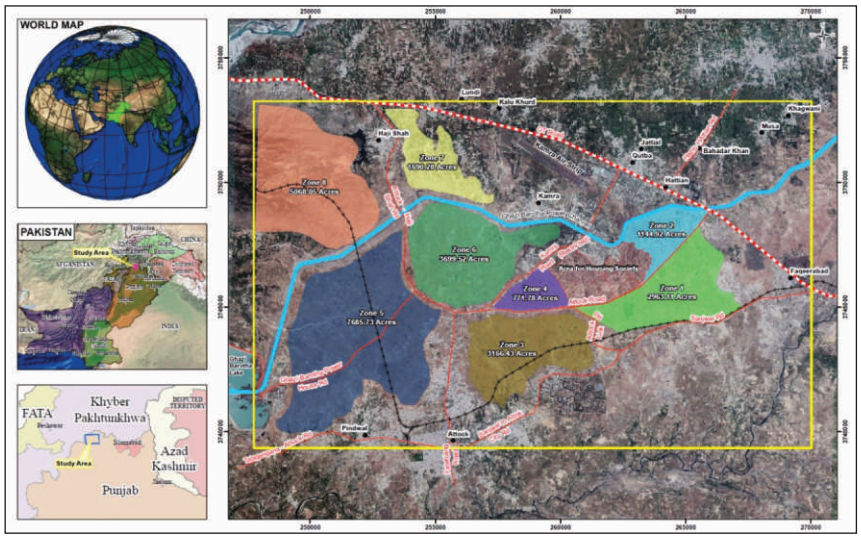
Location map for LBOD drain

NESPAK has signed a contract for providing services for the Pre-Treatment System on LBOD Water for Thar Coal Power Project in Sindh. The scope of GIS work includes demarcation of LBOD network, road network, railway line, location of sugar mills in the vicinity of the Left Bank Outfall Drain (LBOD), Hakro River and catchment and mapping of the project area.

NESPAK was hired to provide consultancy services on Design Review/Vetting of the Greater Karachi Bulk Water Supply Scheme, K-IV Project for the Karachi Water and Sewerage Board, Government of Sindh.

NESPAK is involved in GIS services for executing various spatial analyses such as demarcation of cut-and-fill volume of the K-IV Canal, quadcopter-based aerial reconnaissance, lake volume calculations based on bathymetric data, plan and profile, development of drainage map, catchment area maps etc.

Among the ongoing projects, NESPAK continued GIS services for Field Distribution Network of IESCO. The project was launched with the aim to prepare a web-based enterprise solution for the Islamabad Electric Supply Company (IESCO). The project includes the asset mapping, along with high tension and low tension transmission line network of the company in five circles, i.e., Islamabad, Rawalpindi, Attock, Chakwal and Jhelum. The activity includes the calculation of accurate energy losses and provision of a workflow that spatially handles the

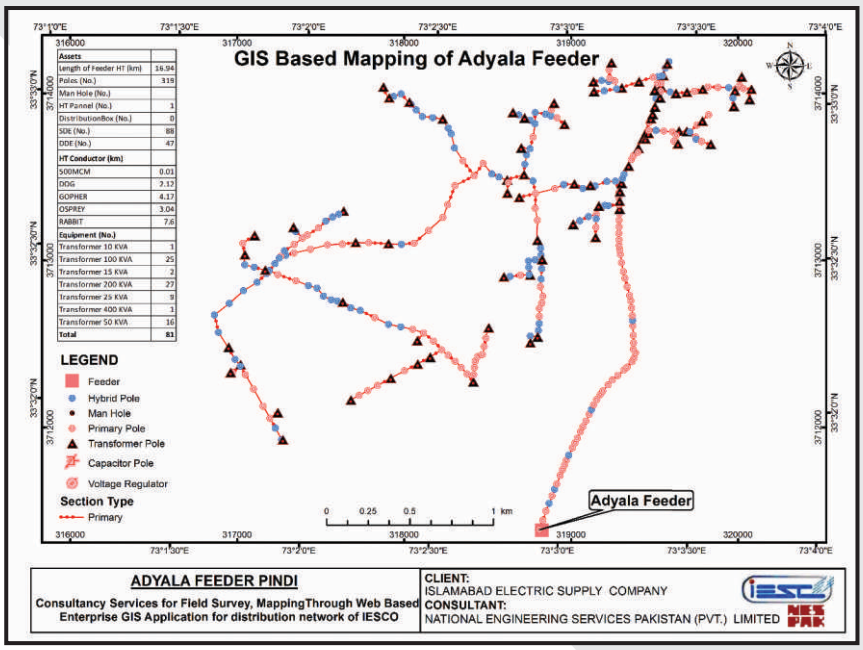


Site suitability and location map for National Aerospace Science and Technology Park

management of new connections with complete data of consumers' meters and transformers. Apart from the implementation of technical solution, system is being developed keeping in view the core requirements of reliability and information security.

NESPAK in association with the MWH International, USA and Associated Consulting Engineers is rendering services for the Development of Detailed Ecological/Biodiversity Management Plans (DEBMP) for the Dasu Hydropower Project awarded by the Water and Power Development Authority. There are eight sub-disciplines involved in the study, i.e., aquatic ecology, terrestrial ecology, avifauna, wildlife conservation, Forestry, watershed, physical cultural resources and GIS. Under DEBMP, NESPAK is providing services for the forestry management plan, integrated watershed management plan and GIS. Study area for the DEBMP is a long and linear 380km stretch from Raikot to Tarbela Dam.

Among all sub-disciplines of the DEBMP, GIS has a cross-cutting role in the project and all tasks essentially require spatial quantifications related to ecological and biodiversity parameters. Apart from providing geo-statistical quantifications and map development, a GIS-based detailed Atlas is being developed for biodiversity, covering all the DEBMP sub-disciplines. GIS has been part of consultations with stakeholders at national and provincial levels. GIS has also been involved in drafting different project reports and three capacity building sessions conducted at Dasu.



Field Survey, Mapping Through web-based Enterprise GIS application for Distribution Network of Islamabad Electricity Supply Company

Fish habitat map for Development of Detailed Ecological/Biodiversity Management Plans for Dasu Hydropower Project

Major New, Ongoing and 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
Energy Sector				
MAJOR NEW PROJECTS				
800MW Mohmand Dam Hydropower Project	Pakistan	Water & Power Development Authority	c e	224,000 1,611
500kV Transmission Lines Interconnection Arrangement for Power Evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects in Northern Areas of Pakistan	Pakistan	National Transmission & Despatch Company	b c d e f	53,000 396
220kV Tarbela-Burhan Twin Bundle Transmission Line, Using Low Loss ACSR Conductor	Pakistan	National Transmission & Despatch Company	c e	3,000 19
Solar Water Pumping in Balochistan	Pakistan	National Transmission & Despatch Company	a	N.A N.A
Booue and Tsengue-Leledi Hydroelectric Projects	Gabon	Economic Community of Central African States	c	N.A N.A
MAJOR ONGOING PROJECTS				
969MW Neelum-Jhelum Hydroelectric Project	Pakistan	Water & Power Development Authority	c e f	404,000 6,273
1263MW Regasified Liquified Natural Gas-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 Regasified Liquified Natural Gas-based Combined Cycle Power Plant at Balloki	Pakistan	National Power Parks Management Company Limited	a d e f	55,000 536
102MW Gulpur Hydropower Project	Pakistan	Mira Power Limited	e f	52,000 333
20MW Hanzel Hydropower Project, Gilgit-Baltistan	Pakistan	Water & Power Department, Gilgit Baltistan	a b d e f	12,000 115
500kV Transmission Line 3rd Circuit Jamshoro-Matiari-Moro-Dadu-Rahim Yar Khan and Moro Substation	Pakistan	National Transmission & Despatch Company	d e f Survey	43,000 517
Transmission Line for Neelum-Jhelum Power Dispersal	Pakistan	National Transmission & Despatch Company	d e f	21,630 258
500kV Faisalabad West Grid Station and Associated 500/220/132kV Transmission Lines	Pakistan	National Transmission & Despatch Company	d e f	6,872 60
110kV Thuwal Substation/Transmission Line	Saudi Arabia	Saudi Electricity Company - Western Operating Area	e	N.A N.A
MAJOR COMPLETED PROJECTS				
220/132kV Gas Insulated Switchgear Ghazi Road Substation, Lahore	Pakistan	1. National Transmission & Despatch Company 2. Water & Power Development Authority	b e	2,000 19
Conducting Heat Rate and Capacity Tests at 560MW Combined Cycle Power Plant at Bin Qasim-II, Karachi	Pakistan	K-Electric Limited, Karachi	1. Report 2. Studies	N.A N.A
Water & Agricultural Development Sector				
MAJOR NEW PROJECTS				
Balochistan Water Resources Development Sector Project	Pakistan	Irrigation Department, Government of Balochistan	a c d e	21,800 157
Preparation of Comprehensive Flood Management Plan for Khyber Pakhtunkhwa	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	a b	N.A N.A

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
Karachi Bulk Water Supply Scheme, Phase-I, K-IV Project	Pakistan	Karachi Water & Sewerage Board	f	25,550 184
Kano River and Hadejia Valley Nigeria Irrigation Schemes, Dams Safety and Rivers Training in Hadejia-Jama'are River Basin	Nigeria	Federal Ministry of Water Resources	Training e	308 2
MAJOR ONGOING PROJECTS				
Rehabilitation and Upgradation of Trimmu and Panjnad Barrages Improvement Project	Pakistan	Irrigation Department, Government of the Punjab	b d e f	17,000 166
Rehabilitation and Upgradation of Balloki Barrage and Lower Bari Doab Canal System	Pakistan	Irrigation & Power Department, Government of the Punjab	c d e	30,000 381
Remodelling of Warsak Canal System in Peshawar and Nowshera Districts	Pakistan	Irrigation Department, Government of Khyber Pakhtunkhwa	c d e	12,000 134
Pakpattan Canal and Suleimanki Barrage Improvement Project	Pakistan	Irrigation Department, Government of the Punjab	e	8,000 78
Projects under Annual Development Programme	Pakistan	Irrigation & Power Department, Government of the Punjab	e f	75,000 902
Kachhi Canal Project	Pakistan	Water & Power Development Authority	c d e	80,000 1,394
Lining of Distributaries and Minors in Sindh Province	Pakistan	Irrigation & Power Department, Government of Sindh	c d e	14,000 231
MAJOR COMPLETED PROJECTS				
Mega Irrigation Projects, Punjab	Pakistan	Irrigation & Power Department, Government of the Punjab	e f	52,000 887
Optimising Watercourse Conveyance Efficiency Through Enhancing Lining Length in Punjab	Pakistan	Agriculture Department, Government of the Punjab	b c e f	9,287 89

Dam Engineering Sector

MAJOR ONGOING PROJECTS

Raising of Walla Dam	Jordan	Jordan Valley Authority, Ministry of Water & Irrigation	e f	3,690 35
Wadi Middein Dam	Jordan	Jordan Valley Authority, Ministry of Water & Irrigation	a c d	3,400 30
Technical Assistance for Dam Safety Assurance and Training of Dam & Reservoir Operation Department and River Basin Development Authority Staff Under the Transforming Irrigation Management	Nigeria	Federal Ministry of Water Resources	Technical Assistance Training	N.A N.A
Flood Protection Dam 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 & Agriculture	e f	40,502 327
MAJOR COMPLETED PROJECTS				
Dams on Kaha, Chachar, Mithawan and Vidore Hill Torrents in Districts of Dera Ghazi Khan and Rajanpur	Pakistan	Irrigation Department, Government of the Punjab	a c	24,245 231

a) Feasibility Study
b) Project Planning
c) Detailed Design
d) Tender Documents
e) Construction Supervision
f) Design Review/Evaluation

Highways & Transportation Engineering Sector

MAJOR NEW PROJECTS

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Development of Kartarpur Corridor	Pakistan	Frontier Works Organization	b c e	14,000 101
Hyderabad-Sukkur Motorway (300km) Project on Build-Operate-Transfer Basis Under Public Private Partnership	Pakistan	National Highway Authority	a c Traffic Studies	182,736 1,314
Awaran-Jhal Jhao Road (55km), Balochistan	Pakistan	Engineer-in-Chief Branch, Pakistan Army	c e	7,785 63
Dualisation and Improvement of Pindigheb-Kohat Road N-80 (80km)	Pakistan	National Highway Authority	e f	20,000 144
Karachi Urban Mobility Project—Bus Rapid Transit Yellow Line	Pakistan	1. Planning & Development Department, Government of Sindh 2. Project Implementation Unit, Karachi 3. Neighborhood Improvement Project, Karachi	c 1. PC-I 2. Geotechnical Investigations 3. Survey	N.A N.A
Road (73km) and RCC Bridges from Mushkin-Chilim including Bridge at Ramghat over Astore River	Pakistan	Public Works Department, Government of Gilgit-Baltistan	c e	N.A N.A
Khyber Pakhtunkhwa Emergency Rural Roads (623km) Rehabilitation Project (Phase-II)	Pakistan	Japan International Cooperation Agency	a 1. EIA Study 2. PC-I 3. Survey	110,400 690
Road Connecting Thumrait Interchange with Mubaila Interchange, Muscat Expressway	Oman	Ministry of Transport & Communications	c	45,188 325
Dualisation of Sultan Said Bin Taimur Road (13km) in Duqm	Oman	Ministry of Transport & Communications	c e	19,625 125
Proposed Metro Station Road at Qatar University	Qatar	Qatar University	c d Bid Evaluation	N.A N.A

MAJOR ONGOING PROJECTS

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Havelian-Thakot Section (120km) under China Pakistan Economic Corridor	Pakistan	National Highway Authority	d e f	133,000 1,277
Quetta Development Package—Roads (144km) Project	Pakistan	Planning & Development Department, Government of Balochistan	c e	10,000 96
Lahore Orange Line Metro Train Project (27km)	Pakistan	Punjab Masstransit Authority, Government of the Punjab	c e f	163,000 1,587
Karachi-Hyderabad Motorway (136km) (M9)	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
Upgradation of Main Line (ML-I) and Establishment of Dry Port Near Havelian Under China-Pakistan Economic Corridor	Pakistan	Pakistan Railways	d f	872,000 8,294
Dualisation of Khuzdar-Chaman Road (425Km) N-25 Along With Alternative Route at Lakpass & Tunnel at Khojak Bypass	Pakistan	National Highway Authority	c Studies	82,000 787
Dualisation and Improvement of Sarai Gambila to Karak Section of Indus Highway N-55 (61km)	Pakistan	National Highway Authority	e f	30,000 216
Karachi Bus Rapid Transit Red Line Project (21km) Package-2	Pakistan	Integrated Transport Planning Limited	b	50,000 480

a) Feasibility Study
b) Project Planning
c) Detailed Design
d) Tender Documents
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f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Asphalt Road (26km) from Biayaiq to Aqir Al-Abriyyin in Wadi Shafan	Oman	Ministry of Transport & Communications	c d e	2,700 45
Roads (126km) in Al-Sahil Area, Wilayat Quriyat	Oman	Ministry of Transport & Communications	c	3,574 34
Industrial Area and Mubaireak Interchanges at Salwa Road, Doha	Qatar	Redco International	c d e	9,594 69
MAJOR COMPLETED PROJECTS				
Dualisation of Khanewal-Lodhran Road (98km), Multan	Pakistan	Communication & Works Department, Government of the Punjab	c e	20,000 192
Annual Development Programme 2016-17 and Khadim-e-Punjab Rural Roads (160km) Programme Phase-IV Civil Division Bahawalpur	Pakistan	Communication & Works Department, Government of the Punjab	e	2,000 19
National Highway N-30 Basima-Khuzdar (110km), Balochistan	Pakistan	National Highway Authority	a c	20,000 192

Airports

MAJOR NEW PROJECTS

Extension of Terminal Building at Allama Iqbal International Airport, Lahore	Pakistan	Civil Aviation Authority	c d	10,000 97
Additional Services for the New Gwadar International Airport	Pakistan	Civil Aviation Authority	c d	8,000 51
MAJOR ONGOING PROJECTS				
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
Expansion of Terminal Building, Taxiways and other Infrastructure Facilities including an Auditorium at Sialkot International Airport	Pakistan	Sialkot International Airport Limited	c d e	N.A N.A

Ports & Harbours

MAJOR NEW PROJECTS

Port Connectivity Project under Public Private Partnership Arrangement of KPT	Pakistan	Karachi Port Trust	a b c d	N.A N.A
MAJOR ONGOING PROJECTS				
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 & 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 & 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	f Quality Audit	5,400 52
Rehabilitation and Renovation of Karachi Fish Harbour	Pakistan	Karachi Fisheries Harbour Authority	e f	N.A N.A

a) Feasibility Study
b) Project Planning
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d) Tender Documents
e) Construction Supervision
f) Design Review/Evaluation

Architecture & Planning Sector

MAJOR NEW PROJECTS

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Development of CPEC City Near Karnal Sher Khan Interchange, Nowshera	Pakistan	Frontier Works Organization	b e	144,000 911
Establishment of Infrastructure in LDA City (Phase-I)	Pakistan	Lahore Development Authority	e f	33,000 237
Evaluation of Bids/Proposals Submitted by the Bidders/JV Partners for Prime Minister's Naya Pakistan Housing Program	Pakistan	Federal Government Employees Housing Foundation, Islamabad	d Bid	N.A N.A
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 and Kashmir	Pakistan	University of Kotli, AJK	c e d	897 7
Higher Education Commission Secretariat Building at HEC H-8 Premises, Islamabad	Pakistan	Higher Education Commission	b c d e Geotechnical Investigations	1,050 7
Central Prison Peshawar (Phase-II)	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	a b c e	2,000 18
Office Complex DHA, Bahawalpur	Pakistan	Defence Housing Authority, Bahawalpur	b c d e	1,533 11
Architect/Engineering of Record and Fire & Life Safety for Qatar Museum Cultural District	Qatar	M/s ALL Design	c f	N.A N.A

MAJOR ONGOING PROJECTS

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
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
Various Facilities and Infrastructure Works on PCB Land	Pakistan	Pakistan Cricket Board	a b c e	2,657 26
Port Allied Structures in Mullah Band Area, Gwadar	Pakistan	Gwadar Port Authority	c d e	2,400 23
Remodelling/Expansion of Expo Center, Karachi	Pakistan	Trade Development Authority of Pakistan	b c e	11,000 89
Establishment of Rangers Wings in Various Cities of Punjab	Pakistan	Pakistan Rangers	b c e	3,000 29
Construction/Upgradation of NADRA Offices at Various Locations	Pakistan	National Database & Registration Authority	c e	1,750 17
Infrastructure Works for DHA Housing Scheme, Gujranwala	Pakistan	Defence Housing Authority, Gujranwala	b c e	40,000 308
Naval Housing Scheme at Karsaz Phase-II, Phase-III and Phase-IV, Karachi	Pakistan	Pakistan Navy	c d e	5,000 58
University of Buner, Swari	Pakistan	University of Buner, Swari	b c d e Geotechnical Investigations	1,305 10
Jinnah Institute of Cancer & Research Center at JPMC (PPP Mode), Karachi	Pakistan	Patients' Aid Foundation Karachi	c e	5,000 44

a) Feasibility Study
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e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Gwadar Smart Port City Master Plan	Pakistan	CCCC-FHDI Engineering Co. Ltd., China	b	N.A N.A
Master Plan for National Aerospace Science and Technology Park, Aviation City	Pakistan	Aviation City, Pakistan (Pvt.) Limited	a b c e	N.A N.A
New OPD and Surgical Complex at Jinnah Post-graduate Medical Centre, Karachi	Pakistan	Patients' Aid Foundation Karachi	c d e	2,250 22
Kohat Institute of Medical Sciences	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	a b c d e f	2,197 21
Multiple Facilities at Tarar Campus University of Poonch Rawalakot, Azad Kashmir	Pakistan	University of Poonch, Rawalakot	b c d e	788 8
Joint Police Training Center Phase-II at Hakeemabad, Nowshera	Pakistan	United Nations Development Programme	b c e	800 8
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
Pakistan Embassy Complex, Doha	Qatar	Embassy of Pakistan	b c d e	955 9
Three Convenience Store Leabaib, Jeryan Junaihat and Al-Saileyah	Qatar	Al-Meera Consumer Goods	c d	2,978 29
MAJOR COMPLETED PROJECTS				
Hydropower Training Institute at Mangla	Pakistan	Water & Power Development Authority	c d e	241 2
Khyber College of Dentistry, Peshawar	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	a c d e	374 4
Gajju Khan Medical College, Swabi	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	a c d e	500 5
Burn and Trauma Centre at Hayatabad Medical Complex, Peshawar	Pakistan	Communication & Works Department, Government of Khyber Pakhtunkhwa	c d e	770 7
Muhammad Ali Jinnah Hospital, Kabul	Afghanistan	Planning Commission, Government of Pakistan	b c d e	1,087 18
110 Villas at Al-Khor Housing Project Package-9	Qatar	Al-Aqaria Real Estate	e	5,845 57
HBK Labour Accommodation at Al-Muither	Qatar	Dynamic Management Group	f	3,514 34

Environmental & Public Health Engineering Sector

MAJOR NEW PROJECTS				
Wastewater Treatment Plants for Mehmood Booti, Shadbagh, Shahdara and Babu Sabu, Lahore	Pakistan	Water & Sanitation Agency, Lahore	c d 1. PC-I 2. ESIA Study 3. LARP Studies	40,000 288
Pre-Treatment System on LBOD Water as a feed to Reverse Osmosis Plant for 1320MW Thar Coal Power Project	Pakistan	Thar Coal Water Works Mirpur Khas, Sindh	a c d	10,000 63
Upgradation and Environmental Improvement of Chungi No. 9 Disposal Station, Multan	Pakistan	1. Multan Development Authority 2. Water & Sanitation Agency, Multan	c e 1. EIA Study 2. Geotechnical Investigations	2,000 13
Combined Effluent Treatment Plant at Korangi Creek Industrial Park	Pakistan	National Industrial Parks Development & Management Company, Karachi	d e f	N.A N.A

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
Replacement of Outlived Sewer in Multan, Phase-II	Pakistan	1. Multan Development Authority 2. Water & Sanitation Agency, Multan	c e	2,000 13
Expansion of Casting Unit at Atlas Honda Limited, Sheikhupura	Pakistan	Atlas Honda (Pvt.) Limited	EIA Study	N.A N.A
MAJOR ONGOING PROJECTS				
Master Plan for Water Supply, Sewerage, Drainage and Groundwater Management System for Sheikhupura, Kasur and Nankana Sahib Districts	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, Chauburji and Sham Nagar, Lahore	Pakistan	1. Lahore Development Authority 2. Water & Sanitation Agency, Lahore	b c e	4,000 38
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
Development Works at various Sectors of DHA, Peshawar	Pakistan	Defence Housing Authority, Peshawar	c e	10,000 88
Provision of Clean Drinking Water, Sewerage System, PCC of Streets and Allied Facilities in various areas of Lahore	Pakistan	1. Lahore Development Authority 2. Water & Sanitation Agency, Lahore	e f EIA Study	6,000 58
Laying of Sewerage System from Larech Colony to Gulshan-e-Ravi, Lahore	Pakistan	Water & Sanitation Agency, Lahore	c d e f EIA Study	14,000 136
Water Supply, Sewerage/Drainage Schemes in WASA, Gujranwala	Pakistan	1. Gujranwala Development Authority 2. Water & Sanitation Agency, Gujranwala	e	2,000 19
Land-use Planning and Infrastructure Designing for Fazaia Housing Scheme (Phase-I), Gujranwala	Pakistan	Pakistan Air Force	b c Topo Survey	1,000 8
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	25,470 248
Water Transmission from Hali, Yabah, Qanunah and Al-Laith Dams to Al-Shoaibah Desalination Plant Jeddah in Makkah Al-Mukarramah Region	Saudi Arabia	Ministry of Environment, Water & Agriculture	e f	69,352 711
MAJOR COMPLETED PROJECTS				
Prime Minister's Southern Punjab Development Package for Water Supply and Sewerage Schemes, Multan City, Part-II	Pakistan	Water & Sanitation Agency, Multan	e	10,000 112
Sewerage Schemes, Multan	Pakistan	Water & Sanitation Agency, Multan	e	1,360 22
Environmental and Social Safeguard Documents for Khyber Pakhtunkhwa Integrated Tourism Development Project	Pakistan	Project Management Unit, Government of Khyber Pakhtunkhwa	ESIA Study	6,377 56
Environmental Studies of ADP Schemes of WASA, Faisalabad	Pakistan	Water & Sanitation Agency, Faisalabad	1. EIA Study 2. IEE Study	N.A N.A
Establishment of Autoclave for Treatment of Infectious Hospital Waste at Compost Plant Mehmood Booti, Lahore	Pakistan	Lahore Waste Management Company	EIA Study	N.A N.A

Oil, Gas & Industrial Sector

MAJOR NEW PROJECTS				
MCR Revamp Project for PARCO-Mid Country Refinery	Pakistan	Pak Arab Refinery Limited	e f	N.A N.A
Review of Structural Evaluation/Retrofitting Reports of Silos and Kiln Pier at Askari Cement	Pakistan	Askari Cement Limited	f Structural Stability	720 5

a) Feasibility Study
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e) Construction Supervision
f) Design Review/Evaluation

PROJECT	LOCATION	CLIENT	SCOPE OF WORK	COST Rs. Million/ US$ Million
Cement Plant, Haripur	Pakistan	Frontier Works Organization	e f	20,000 161
MAJOR ONGOING PROJECTS				
Infrastructure Development of Jalozai Economic Zone, Nowshera	Pakistan	Khyber Pakhtunkhwa Economic Zones Development & Management Company	b c d e	6,000 58
Exploration of Barite-Lead-Zinc Ore Deposits at Gunga, Khuzdar, Balochistan	Pakistan	Bolan Mining Enterprise, Balochistan	a b Investigations	N.A N.A
Bahawalpur Industrial Estate	Pakistan	Punjab Industrial Estates Development & Management Company	b c d	5,200 50
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
Provincial Cold Chain Warehouse at Peshawar	Pakistan	United Nations High Commissioner for Refugees	e	131 1
MAJOR COMPLETED PROJECTS				
Prioritised Special Economic Zone Near Kot Sarwar Interchange (Sukheki-Hafizabad) on Motorway M2	Pakistan	Punjab Industrial Estates Development & Management Company	a b	29,000 276

Information Technology & Geographical Information System Sector

a) Feasibility Study
b) Project Planning
c) Detailed Design
d) Tender Documents
e) Construction Supervision
f) Design Review/Evaluation
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 Digitisation
o) Digital Terrain Model
p) Global Positioning System Survey
q) GIS Database & Model Development
r) Map Analyses
s) Evaluation/Validation

MAJOR NEW PROJECTS				
Hydrological Modelling for Flow Forecasting Study of Kabul River Basin using GIS/RS Technology	Pakistan	Water & Power Development Authority	c f g h i j k l	92 1
Security Systems for DHA, Gujranwala	Pakistan	Defence Housing Authority, Gujranwala	i k	N.A N.A
National Aerospace Science and Technology Park	Pakistan	Aviation City, Pakistan (Pvt.) Limited	n q r	N.A N.A
500kV Transmission Lines for Evacuation from Suki Kinari, Kohala and Mahl Hydropower Projects	Pakistan	National Transmission & Despatch Company	h l m n o p q s	N.A N.A
MAJOR ONGOING PROJECTS				
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 & Information Technology Department, Government of Balochistan	f s	N.A N.A
Topographic Survey and Geotechnical Studies for Landslide Hazard Zonation of Murree Hills	Pakistan	Buildings Department, Government of the Punjab	m n o p q r	N.A N.A
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
Detailed Ecological & Biodiversity Management Plans for Dasu Hydropower Project	Pakistan	Water & Power Development Authority	b m n p q	N.A N.A
MAJOR COMPLETED PROJECTS				
Composite Schedule of Rate 2018	Pakistan	Communication & Works Department, Government of Balochistan	c g i j k l	N.A N.A

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