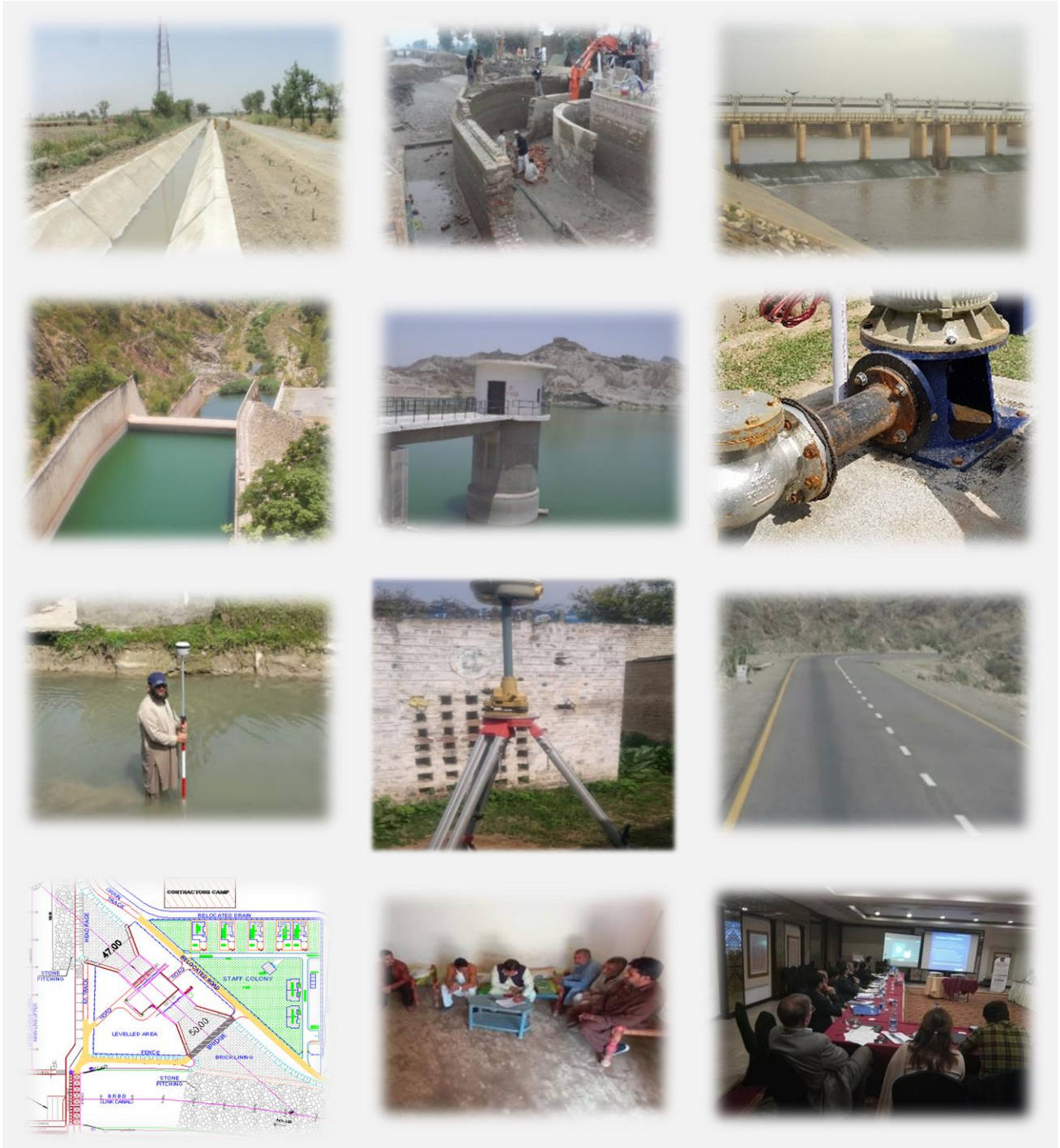




INTEGRATED CONSULTING SERVICES (PVT) LTD.
CONSULTING ENGINEERS



COMPANY PROFILE

DECEMBER 2024

19-G/1 JOHAR TOWN – PAKISTAN
TEL: +92-42-3531 5660 – 61
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CORPORATE DATA

Name of the firm:	Integrated Consulting Services (Pvt.) Limited
Address of the firm:	19-G/1 Johar Town, Lahore Pakistan
Bankers:	Emaan Islamic – Silk Bank – College Road, Lahore. Dubai Islamic Bank, Cavalry Branch, Lahore, Pakistan
Telephone Nos:	+92-42-3531 5660 – 61
Website:	www.ics.com.pk
Email Address:	info@ics.com.pk
NTN	2133667
PEC Registration No.	CONSULT 1122

INTRODUCTION

Integrated Consulting Services (Pvt.) Ltd. (ICS) is a private consultancy firm established in July 2004 for providing Consultancy Services related to the feasibility studies, designs and construction, development of dams, hydropower, irrigation and drainage systems, infrastructure development, buildings, roads, bridges, water supply and sewerage systems, facilities for treatment and disposal of solid and liquid waste. The Company also provides advisory services for institutional strengthening and participatory management in the field of agriculture and agricultural support services; for the protection and conservation of natural areas and reserves; for the collection, treatment and disposal of solid and liquid waste; economic evaluation; and for the social development.

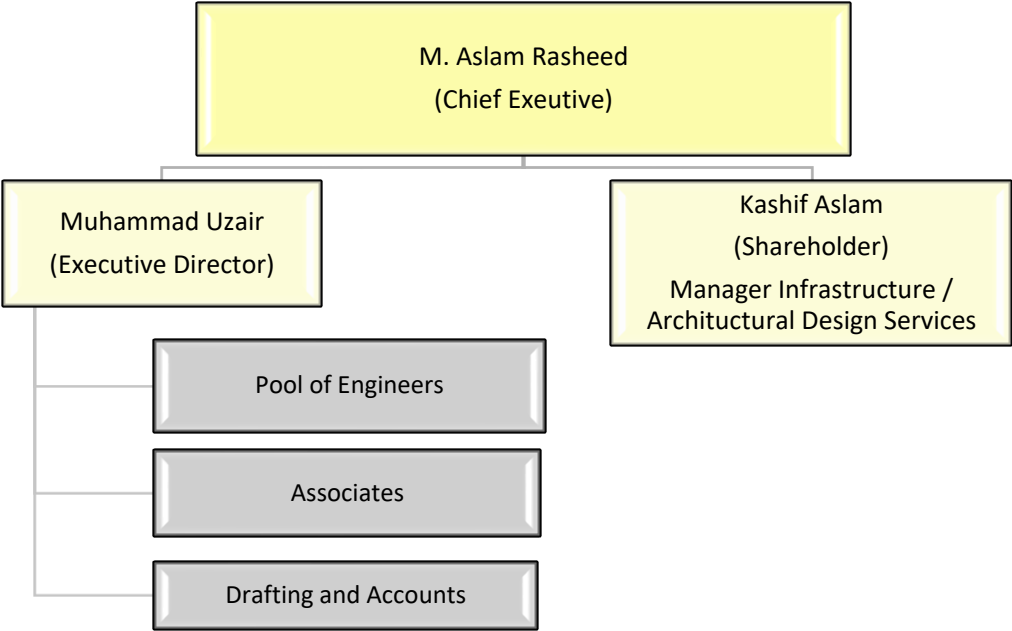
ICS is registered with Pakistan Engineering Council under Categories 1201, 1204(i) & (ii), 1205, 1206 and 1207.

SERVICES OFFERED BY ICS

ICS provides following types of services to Clients.

- (i) Project planning
- (ii) Planning and supervision of topographic and bathymetric surveys
- (iii) Planning and supervision of Geotechnical Investigations
- (iv) GIS based studies
- (v) Climate Change Risk Assessment Studies
- (vi) Design of project components
- (vii) Quantity estimation and bidding (bid preparation, contract preparation, bid evaluation and award)
- (viii) Construction supervision
- (ix) Physical and Mathematical Modelling
- (x) Software Development

ORGANIZATION CHART OF INTEGRATED CONSULTING SERVICES



BRIEF PROFILE OF KEY STAFF & ASSOCIATES

PROFILE OF DIRECTORS AND SHAREHOLDERS



Muhammad Aslam Rasheed

Designation: Chief Executive

Qualification: MSc Civil Engineering (Hydraulics)
Utah State University Logan, Utah,
USA

BSc Civil Engineering (1964)
University of Engineering &
Technology, Lahore.

Experience: More than 58-Years

Countries of Work Experience: Pakistan, Egypt,
Malawi, Vietnam, USA, Indonesia, Saudi Arabia,
Iraq

Relevant Field of Experience

Water resources development and planning,
hydrologic and hydraulic analyses and design

The Chief Executive of ICS, Mr. Muhammad Aslam Rasheed, is a water resources development engineer. He has rich experience in planning, designing, project management, hydraulic model studies and institutional studies of water resources projects. Since 1964 he has worked on more than 150 projects in Pakistan, USA, Iran, Iraq, Saudi Arabia, Yemen, Nepal, Indonesia, Benin, Somalia, Nigeria, Tanzania, Senegal and Kazakhstan.

Mr. Rasheed is currently part of (or has been part of) several **International Panel of Experts (IPoE)** on various projects in Pakistan as well as abroad. In Pakistan he is /has been part of IPoE for Tarbela 4th Extension Hydropower Project, Tarbela 5th Extension Hydropower Project, Mohmand Dam hydropower Project, Dasu Dam and Hydropower Project, Diamer Bhasha Dam Hydropower Project. On **International Projects**, Mr. Rasheed is / has been part of Panel Experts for Diamphwe Multipurpose Dam Project (Malawi), Lunyangwa dam Project (Malawi), Maptamanga Dam Project (Malawi),

Rehabilitation of Kamuzu Barrage (Malawi), Kamuzu Dams (Malawi), Trung Son Hydropower Project (Vietnam) etc.

Mr. Rasheed has also worked on several design and water sector planning projects which include: Disaster Mirigation and Preparedness plans (more than 20) in Pakistan, National Drainage Program (Pakitstan), Institutional reform projects in Pakistan and Egypt, Left Bank Irrigation Tunnel Tarbela Dam; Design of Permanent Remedial Measures for Outlets of Tunnels 3 and 4 of Tarbela Dam; Feasibility Study of 1625 MW Power Station on Tunnel 3 of Tarbela; Design of hydraulic structures of Kalabagh dam; Preparation of O&M Manual for Mosul Dam Iraq; Sediment Control Study for Jizan Dam Saudi Arabia; Planning and detailed design of Euphrates East Drain Project and Rumaitha Irrigation etc.



Muhammad Uzair

Designation: Director

Qualification: MSc Civil Engineering (Water Engineering and Management), Bangkok, Thailand

Experience: More than 20-Years

Countries of Work Experience: Pakistan

Relevant field of experience

Hydraulic and hydrological studies; mathematical and physical modeling for barrages, and dams including sediment transport studies, water resource planning, water supply and sewerage design and analyses etc.

Mr. Muhammad Uzair, Director of ICS specializes in infrastructure and water resources development. He has worked on senior positions of Hydraulic Engineer, Irrigation Design Engineer and as Deputy Team Leader.

Professional experience includes

- Project management and coordination
- Hydraulic design and hydrological assessment of major hydraulic structures (dams, reservoirs, spillways, intake structures and irrigation / power tunnels, stilling basins, flip buckets, submerged roller buckets, barrages, canal regulators, etc)
- Physical hydraulic model supervision and inference of results,
- Hydropower studies (Hydraulic, hydrological, hydropower assessment)
- One Dimensional / semi-two dimensional hydrodynamic and sediment transport modelling
- Flood protection works such as guide banks, dykes, flood protection banks etc (hydrological analyses and hydraulic design)
- Climate change vulnerability assessments
- Urban and Industrial infrastructure development projects (roads, water supply, sewerage, stormwater drainage)
- Tendering, bill of quantities, contracts and claims handling on several projects

Some of the Principal Projects of Mr. Uzair include 870 MW Suki Kinari Hydropower Project, Mirani Dam Project, Chapra Dam Project, Tanda Dam (remodelling) project, Sorra Dam project, Study for Development of Water Resources for Water Supply and Irrigation Development in Azad Jammu & Kashmir, and Disaster Mitigation and Preparedness Plan for Soan Valley Punjab etc.

He has also worked on Jalalpur Irrigation Project, Pehur High Level Canal Extension Project, rehabilitation of Upper Jhelum Canal, Pehur Main Canal, Qadirabad Balloki Link Canal, Balloki Sulimanki Link Canal, rehabilitation of Islam Barrage ; Feasibility study of rehabilitation of Sulemanki and Trimmu Barrages, detailed design of Greater Thal Canal.

Urban sector experience include Design of infrastructure services for Commercial Area (2) of Multan Industrial Estate, Infrastructure design for Bholari Airbase, External Drainage for TEL Coal Plant in Thar, design of Ash Dam for EPTL Coal Power Plant (Thar), Bulk Water Supply from River Jhelum to Murree and New Murree etc..

He is also well versed in use of mathematical modeling softwares such as HEC-RAS, Mike-11, GSTARS3, HEC-HMS, HEC-ResSim, HEC-SSP, SRH1D, CropWat, Modflow, Seep/W.



Kashif Aslam

Designation: Shareholder / Chief Architect

Qualification: Bachelors of Architecture

Experience: 28-Years

Countries of Work Experience: Pakistan, Saudi Arabia, Turkmenistan, UAE etc.

Relevant field of experience

Experienced in Architectural design and contract management of offices, hotels, shopping malls, houses, towns, industrial estates, libraries etc.

Mr. Kashif Aslam, Shareholder of ICS is a renowned Architect. He has rich experience in preparation of feasibilities & planning, designing & project management services of Architectural, Interior Design & Planning of more than 60 projects in Pakistan and abroad. The Projects covered Houses, Commercial Plazas, Office buildings, Hospitals, Housing Schemes, Palaces, Embassies, Banks, Community Centers, Mosques, Schools, Colleges, Clubs, Boutiques, Showrooms, and Beauty Parlors etc.

He has designed more than 60 projects in Pakistan, Saudi Arabia, Qatar, India and Turkmenistan. Some key projects designed by Mr. Kashif Aslam are Royal Embassies of Saudi Arabia, Ambassador's residences and staff housing at Islamabad, Ashkabad and New Delhi, Maternity ward of Jinnah Post Graduate Medical College – Karachi (Pakistan), 99 bed hospital in Jacobabad, technical and residential buildings at airbases such as Aircraft hangers, Maintenance Shops, Logs buildings, Armament Buildings, Avionics buildings, Administration Buildings, Operations buildings, Armament Storage and Maintenance buildings, Barracks and Residential buildings for all type of staff and support facilities such as Officers Mess, Mosques, Shopping Area, Hospital, PAF College, Urdu Medium School, Montessori, School for Special Children, Officers Sports facility, Air Men Mess, DSG Mess, Air Men Sports Facilities, Playing Grounds, Children Parks, Golf Course and Entrance Gateway.

Experience also include 22 storey office building at Doha Qatar, SWCC apartment compound at Shaqeeq Saudi Arabia, SWCC housing compound at Riyadh, Prince Mishaal's palace at Riyadh, Prince Fahad Bin Sultan's Palaces at Riyadh and Jeddah,

Compsi Head office building at Lahore, Sogo commercial plaza at Lahore, Master Planning of OPF housing scheme phase Lahore, Master planning and housing design for eight schemes for Prime Minister's housing program in different cities of Pakistan.

PROFILE OF FULL TIME KEY STAFF



Muhammad Shoaib Khan

Designation: Principal Engineer

Qualification: B.Sc. Civil Engineering / Masters in Project Management

Experience: 13-Years

Countries of Work Experience: Qatar, Pakistan

Relevant field of experience

Planning, scheduling, bidding, bid evaluation, contract management, field supervision, client liaison and coordination,

Various projects in Pakistan and Qatar. Experience includes working on dams, irrigation as well as commercial infrastructure project including Qatar Rail Red Line Elevated and At Grade project, Punjab Irrigation and System Improvement project, KPK Water Resources Development project, PAF Base Bholari and others.

Dr. Asif Mahmood

Designation: Principal Engineer

Qualification: B.Sc. Agriculture Engineering / MSc Water Resources Engineering / PhD Natural Resource Science (Hydrology, Water Resources and Climate Change)

Experience: 14-Years

Countries of Work Experience: China, Pakistan

Relevant field of experience

Climate Change Studies, hydrological studies, flood forecasting and related.

Maham Iftikhar

Designation: Senior Engineer

Qualification: B.Sc. Architectural Design and Engineering

Experience: 7 Years

Countries of Work Experience: Pakistan

Relevant field of experience:

Key experience include designing water supply, sewerage and drainage system for various infrastructure and building projects including PAF Base Bholari, PepsiCo Hattar, Jamia Ashrafia mosque, DHA commercial plaza, Aiwan-e-Quaid e Azam and other projects.

PROFILE OF ASSOCIATES AND EXPERTS AVAILABLE ON-DEMAND BASIS

Experts of Kashif Aslam & Associates, Available to ICS



Muhammad Shafeeq

Expertise: Structural Engineer

Qualification: MSc Structural Engineering
B.Sc. Civil Engineering

Experience: 15-Years

Countries of Work Experience: Pakistan, Saudi Arabia

Relevant field of experience

Structural Design, supervision

Experienced in engineering design, supervision, management and executive works of buildings and infrastructure (including culverts and road bridges). Work expertise include site structure supervision, 3rd party verification, reports preparation etc. The Projects covered are Houses, Commercial Plazas, Office buildings, Hospitals, etc.



Muhammad Rafique Ahsan

Expertise: Quantity Surveying

Qualification: Bachelor of Technology (Hons) in Civil-
2010

Experience: 45-Years

Countries of Work Experience: Saudi Arabia, Pakistan

Relevant field of experience:

Quantity Surveying, Contracts

Vast experience in preparation of contract documents including cost estimates and BOQ`s for various projects in Pakistan and Saudi Arabia. Estimating Civil, Structural, Architectural, Infrastructure, Mechanical, Electrical, Medical and waste Management items as per specifications, drawings & details. Review of Tender Specifications, Drawings and Bill of Quantities.

Other Experts Available on Demand

ICS has following expertise available through experts / associates available on freelance basis:

- (i) Geotechnical Engineers and Geologists
- (ii) Agriculture Development Specialists
- (iii) Water Supply, Sanitation and Wastewater Engineering
- (iv) Economist and Agricultural Economist
- (v) On Farm Water Management
- (vi) Mechanical Engineers (Gates, hoisting, turbines, hydraulic steelworks)
- (vii) Mechanical Engineers (Heating, Ventilation and Air Conditioning)
- (viii) Fire fighting

SOFTWARES AND MATHEMATICAL MODELS

ICS experts utilize following softwares for design and analyses for it's projects.

1. One Dimensional Hydrodynamic Modelling
 - HEC-RAS
 - GSTARS3
2. Hydrological Modelling
 - HEC-HMS
 - SWAT
3. Reservoir Simulation
 - HEC-ResSim
4. Water Supply / Pressure Pipe Designs
 - EPA Net
 - WaterGEMS
5. Sewer System Design
 - SewerGEMS
 - Microsoft Excel Worksheets
6. Structural Design and Analyses
 - STAAD
7. Building systems
 - Revit
8. Road and Urban Infrastructure Planning
 - Civil 3D
 - Revit
9. Groundwater Modelling
 - GMS
10. Geographic Information System / Remote Sensing
 - Googleearth Pro
 - ESRI ArcGIS
11. Geotechnical Engineering / Slope Stability
 - GeoStudio
12. Project Planning
 - Primavera
 - MS Project
13. Word Processing, Spreadsheet
 - Microsoft Word
 - Microsoft Powerpoint
 - Microsoft Excel
14. Drafting
 - AutoCAD
 - Civil3D
 - Revit
 - BricsCAD

PROJECTS UNDERTAKEN BY ICS

TYPE OF PROJECTS UNDERTAKEN BY ICS

Integrated Consulting Services Pvt. Ltd. provides engineering consultancy services for following type of projects:

1. Water Resources Development

- a. Dams and Hydropower
 - i. Hydroelectric Power Plants
 - ii. Earth fill, rock fill and concrete storage dams, spillways, outlet structures,
 - iii. Delay Action Dams / Check Dams
- b. Diversion Weirs / Barrages
- c. Periodic Inspections of Dams / Barrages / Structures
- d. Canals and Related
 - i. Canal head works, canals, canal falls, distribution works,
 - ii. Drains, tube wells, cross drainage works and other related structures;
- e. River Training and Flood Protection
 - i. Guide Banks for bridges / barrages etc
 - ii. Flood embankments/ flood protection dykes
 - iii. Flood diversion channels
 - iv. Flood Bypass Channels
 - v. River / Nullah training works for barrages / bridges etc.
- f. Protection and conservation of natural areas and reserves;
 - i. Watershed Management
- g. Navigation canals, locks and other auxiliary works;
- h. Agriculture and agricultural support services;
 - i. Crop water assessment and needs
 - ii. Possible crop substitution for better economic yields
 - iii. Suitable crop selection for climate change perspective
 - iv. Command area development, water course construction and improvement
 - v. Farmer's capacity building

2. Urban Infrastructure Development
 - a. Stormwater Drainage;
 - b. Water supply and sewerage projects including treatment facilities;
 - c. Highways, rural roads;
 - d. Bridges, culverts and the like;
 - e. All type of buildings, factories, overhead tanks, related infrastructure and like including Architectural and Engineering Designs and supervision
3. Institutional strengthening, participatory management of irrigation, groundwater, canals and drainage systems, agricultural support services, water supply and sewerage systems, and other related works;
4. Education and Social development

LIST OF PROJECTS UNDERTAKEN BY ICS

Type of Project

(UIP) Urban /Industrial Infrastructure (E&S) Environment and Social (WSS) Water Supply and Sanitation (SWD)Storm Water Drainage (CAD) Command Area Development
(D&H) Dam / Hydropower (FP) Flood Protection (I&D) Irrigation & Drainage (RHB)Roads, Highways, Bridges (O) Other

Scope of Services:

(FS) Feasibility Study (PP) Project Planning (DD) Design / Detailed Design (TD) Tender Documents (CS) Construction Supervision (DR) Design Review
(TS) Topo Survey (HS) Hydraulic Survey (GI) Geotechnical Investigations (CC) Climate Change (PI) Periodic Inspection (CA) Condition Survey
(SS) Socioeconomic Survey (WT) Water treatment (ST) Sewage Treatment (HMS) Hydraulic Model Studies

Sr. No.	Start Date/ Complete Date	Name of the project	Client	Location	Project Cost	Fee	Type of Project	Scope of Services
1.	Feb 2024 Oct 2024	Hydraulic Model Study of Sukkur Barrage	Berkeley Associates, Sindh Irrigation Department World Bank	Sindh, Pakistan	To be Estimated	US\$ 9,000	I&D, FP	HMS
2.	May 2024 Dec 2024	Construction Supervision of Optimization of Bunda Water Supply Network and Packaged Treatment Plant and Priority Efficiency Improvement Measures for LWB's Treatment Works I and II	Pamodzi Consulting Limited	Malawi, Africa	To be Estimated	US\$25,000	UIP, WSS	DR, CS, WT
3.	Nov 2023 Jan 2024	Design of Hydraulic Structure for Crossing Irrigation Channel Across the River	Agha Khan Rural Support Program	Chitral, Pakistan	To be Estimated	US\$5,960	FP, RHB,	DD, TD
4.	Sep 2022 Mar 2023	Design and Tendering of Ash Dam in Thar for EPTL	Berkeley Associates	Thar, Pakistan	To be Estimated	US\$2,800	UIP	DD, TD
5.	Jun 2022 Oct 2022	Hubco Thar Energy Limited Coal Fired Power Plant Detail Design and construction drawings for storm water drain and rainwater disposal arrangement	Berkeley Associates	Thar, Pakistan	US300,000	US\$6,400	UIP SWD	DD, TD
6.	Jun 2022 Oct 2022	Hubco Thal Nova Coal Fired Power Plant Detail Design and construction drawings for storm water drain and rainwater disposal arrangement for	Berkeley Associates	Thar, Pakistan	US350,000	US\$4,000	UIP SWD	DD, TD
7.	Dec 2021 Sep 2022	Infrastructure Development for Multan Industrial Estate – Commercial Area 2	Kashif Aslam & Associates; Punjab Industrial Estate Development Management Company	Punjab, Pakistan	US\$1.6 Million	US\$8,000	UIP WSS SWD RHB	PP, DD, TD
8.	Apr 2022 Apr 2022	Development of As-Built Design Report Water Supply and Sewerage Network for New Gosha-e-Ahbab Cooperative Housing Society, Lahore	New Gosha-e-Ahbab Cooperative Housing Society, Lahore	Lahore, Pakistan	To be Estimated	US\$3,000	UIP WSS	DD

Relevant Project details can be checked from Company Website and can be provided to Client if Needed

Integrated Consulting Services (Pvt.) Limited

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9.	Feb 2022 Dec 2022	Development of additional connecting road between US Apparel Unit 3 to Kalamkar Road along with stormwater drain and pumping station	Sub-Consultant to Kashif Aslam & Associates	Punjab, Pakistan	US\$ 28,000	US\$ 1,300	UIP SWD	PP, DD, TD
10.	Feb 2022 Feb 2025	Detail Design of Canals and Link Canals	Punjab Irrigation Department / Asian Development Bank,	Punjab, Pakistan	To be Estimated	To be Estimated	I&D CAD	DD, CC
11.	Feb 2021 Feb 2024	Harnessing of Hill Torrents of DG Khan and Rajanpur Districts	Punjab Irrigation Department / Asian Development Bank,	Punjab, Pakistan	To be Estimated	To be Estimated	D&H I&D CAD	DD, CC
12.	Feb 2019 Feb 2021	Strengthening Integrated Flood Risk Management (ADB TA9634-REG)	Asian Development Bank, Landel Mills UK	Punjab, Pakistan	Not Applicable	US\$37,500	O	CC
13.	Apr 2019 Sept 2019	Preparing Greater Thal Canal Project (ADB TRTA 9458-PAK)	Asian Development Bank, Landel Mills UK	Punjab, Pakistan	US\$ 190 Million	US\$134,980	I&D CAD	PP, FS, DR, SS
14.	Dec 2018 Jan 2019	Detail Design and Tendering for Water Supply Network for New Gosha e Ahbab Cooperative Housing Society, Lahore	New Gosha-e-Ahbab Cooperative Housing Society, Lahore	Lahore, Pakistan	US\$ 40,000	US\$2000	WSS	DD, TD
15.	Jun 2018 Dec 2022	Khyber Pakhtunkhwa Water Resources Development Project (ADB TA 9442 PAK) – Feasibility Studies of: (a) Mulkoh Irrigation Scheme (b) Remodelling of Pehur Main Canal IDS and CAD (c) Raising of Tanda Dam and Rehabilitation of IDS and CAD	Asian Development Bank	KPK, Pakistan	US\$ 110 Million	US\$ 720,000	I&D D&H CAD	PP, DR, FS, CA, CC, SS
16.	April 2017 May 2018	Sixth Periodic Inspection of Tarbela Dam	Water and Power Development Authority, Pakistan	KPK, Pakistan	N./A	US\$ 29,400	D&H	PI, CA
17.	Dec 2011 Jun 2024	Detail Design and Construction Supervision for the Remodelling of WARSAK canal	KPK Irrigation and Power Department	Peshawar and Nowshera District, Pakistan	US\$ 157 million	US\$ 415,000	I&D	DR, DD, TD, CS, CA
18.	April 2016 Oct 2019	Detail Design of Jalalpur Irrigation Project	Punjab Irrigation Department, Government of Punjab	Punjab, Pakistan	US\$ 365 Million	US\$ 265,000	I&D	DR, DD, TD

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Integrated Consulting Services (Pvt.) Limited

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19.	Mar 2015 Mar 2016	Pothohar Climate Smart Irrigate Agriculture Development Project – Assignment A	Punjab Irrigation Department, World Bank	Punjab	US\$ 750 Million	US\$ 147,700	D&H CAD	FS, CC
20.	Aug 2014 Sep 2016	Khyber Pakhtunkhwa Water Resources Sector Project (TA 8488 PAK) – Updating Feasibility Studies of (a) Pehur High Level Canal Extension Project (b) Chapra Dam Project (c) Chamak Mira Dam Project	Asian Development Bank	KPK, Pakistan	US\$ 250 Million	US\$ 687,400	I&D D&H CAD	PP, DR, FS, CC, SS
21.	Apr 2014 Nov 2015	Jalalpur Irrigation Project (TA 8404 PAK)	Asian Development Bank	Punjab, Pakistan	US\$ 150 Million	US\$ 199,599	I&D	PP, DR, FS, CC, SS
22.	Oct 2013 Jun 2014	Identification of Hydropower Potential in Punjab	World Bank (Technical Assistance)	Punjab	US\$ 1500 million	US\$ 48,790	D&H, I&D	PP
23.	Aug 2013 Aug 2015	Infrastructure program management services for Jinnah Post Graduate Medical Maternity Ward Construction	US AID through Kashif Aslam & Associates and Izhar Construction Pvt Ltd	Karachi, Pakistan	US\$ 3.6 million	US\$ 84,000	UIP WSS	DD, TD, CS
24.	Feb 2013 Dec 2013	Infrastructure Design Support Services for Shahbaz Airbase	Sub-Consultant to Kashif Aslam & Associates	Pakistan	US\$ 156 million	US\$ 25,000	UIP WSS, RHB	DD, TD
25.	Aug 2009 Jun 2013	Punjab Irrigation System Improvement Project	JICA / Punjab Irrigation and Power Department, Lahore,	Punjab, Pakistan	US \$ 49.68 million	US \$ 520,960	I&D	DR, CS
26.	Dec 2011 Jun 2012	Household Survey of Flood Affected Areas in Sindh, Pakistan	World Bank	Thatta, Badin, Sindh	NA	US\$ 75,856	E&S	SS
27.	Sep 2011 Apr 2013	870MW Suki Kinari Hydro Power Project Preparation of Project Planning Report and EPC Tender Documents	SK Hydro	Kaghan Valley, Pakistan	US\$ 2100 million	US\$ 182,350	D&H	FS, PP, DD, TD, DR
28.	Jul 2012 Dec 2012	Fourth Periodic Inspection of Simly Dam	DSO, WAPDA	Simly Dam, Pakistan	N.A.	US\$ 8,260	D&H	CS, PI
29.	Mar 2011 Jul 2011	Master Planning of Karachi Education City	Halcrow Pakistan	Karachi, Pakistan	N.A.	US\$ 14,000	UIP O	DD
30.	Jan 2011 Jun 2011	Fifth Periodic Inspection of Chashma Barrage	DSO, WAPDA	Chashma, Pakistan	N.A.	US\$ 8,390	D&H	CS, PI

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Integrated Consulting Services (Pvt.) Limited

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31.	Nov 2010 Dec 2011	Hydrological and Hydraulic Design Services for Damaged Bridges in KPK in 2010 Floods	DFID through Halcrow Pakistan	Khyber Pakhtunkhwa, Pakistan	N.A	US \$ 29,020	FP I&D RHB	HS, DD, CS
32.	Aug 2010 Jun 2011	2 MW Hydropower Project on BRBD at RD0+000	Tarakai Energy (Pvt.) Limited	Bambanwala, Dist Sialkot Punjab, Pakistan	US\$ 14.1 million	US \$ 31,430	D&H E&S I&D	FS
33.	Aug 2010 Jun 2011	Pre-Feasibility Studies for 2.76MW HPP On BRBD Canal at RD 433+768 3.14MW HPP on BRBD Canal at RD 509+712 2.4MW HPP on LCCL Canal within reach RD 140+060 to RD182+960	Tarakai Energy (Pvt.) Limited	Punjab, Pakistan	US\$ 41.3 million	US \$ 6500	D&H E&S	FS
34.	Sep 2010 Oct 2010	Pre-bid Services for Two Hydropower Projects on UCC	Etimaad Engineering (EPC/Turnkey Contractors)	Punjab, Pakistan	N.A	US \$ 4,640	D&H	PP, TD
35.	May 2009 May 2010	Restructuring of Akra Kaur Dam Balochistan	Public Health Engineering Department through OSTKR Consultants Quetta	Gwadar, Balochistan, Pakistan	N.A	US \$ 20,990	D&H	HS, DD, CA
36.	Dec 2009 Jan 2010	4 th Periodic Inspection of Hub Dam Balochistan	Dam Safety Organization WAPDA, Sunny View, Lahore	Balochistan, Pakistan	N.A	US \$ 5,470	D&H	CS, PI, CA
37.	Apr 2009 May 2010	Pre-bid Services for Daraban Zam Dam	Saadullah Khan Brothers (EPC/Turnkey Contractors)	NWFP, Pakistan	US \$ 24.81 Million	US \$ 26,060	D&H	PP, TD
38.	Aug 2007 Jun 2009	Detailed Design of Rehabilitation Works of Islam Barrage	Irrigation and Power Department, Lahore	Punjab, Pakistan	US \$ 24.68 million	US \$ 34,060	I&D	DD
39.	Mar 2008 Feb 2009	Review and Updating of Feasibility Study of 44 MW Hydropower Plant at Tail of C.J. Link Canal.	H K Consortium Fortress Stadium, Lahore	Punjab, Pakistan	US \$ 71.50 million	US \$ 31,780	D&H	FS

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Type of Project

(UIP) Urban /Industrial Infrastructure (E&S) Environment and Social (WSS) Water Supply and Sanitation (SWD) Storm Water Drainage (CAD) Command Area Development
(D&H) Dam / Hydropower (FP) Flood Protection (I&D) Irrigation & Drainage (RHB) Roads, Highways, Bridges (O) Other

Scope of Services:

(FS) Feasibility Study (PP) Project Planning (DD) Design / Detailed Design (TD) Tender Documents (CS) Construction Supervision (DR) Design Review
(TS) Topo Survey (HS) Hydraulic Survey (GI) Geotechnical Investigations (CC) Climate Change (PI) Periodic Inspection (CA) Condition Survey
(SS) Socioeconomic Survey (WT) Water treatment (ST) Sewage Treatment (HMS) Hydraulic Model Studies

Sr. No.	Start Date/ Complete Date	Name of the project	Client	Location	Project Cost	Fee	Type of Project	Scope of Services
40.	Sep 2007 Oct 2007	Pre Tender Services for Winder Dam	Saadullah Khan Brothers, 10-A/3 Gulberg III, Lahore	Balochistan, Pakistan	US \$ 19.73 million	US \$ 7,230	D&H	PP, TD
41.	Jan 2006 Jun 2007	Preparation of Disaster Mitigation and Preparedness Plan* for Soan Valley.	Pakistan Poverty Alleviation Fund	District Khushab, Punjab, Pakistan	US \$ 2.0 million	US \$ 24,230	FP I&D	PP, DD, SS
42.	Jan 2006 Sep 2006	Punjab Irrigated Agriculture Investment Program including feasibility study for rehabilitation of Balloki Barrage and Lower Bari Doab Canal System.	Asian Development Bank, Manila	Punjab, Pakistan	US \$ 235.9 million	US \$ 67,500	I&D RHB	FS, DD, DR
43.	Feb 2005 Jun 2006	Feasibility Study of Water Desalination Plant for Gawadar	Gwadar Development Authority (GDA), Government of Balochistan	Balochistan, Pakistan	US \$ 33.5 million	US \$ 18,000	WSS O	FS
44.	Jun 2004 Oct 2004	Hydrological Studies for Ash Dumping Area of Shoaiba Power Station, Saudi Arabia	Rashid Geotechnical and Materials Engineers (RGME) ;P.O.Box 15833, Riyadh 11454, Riyadh, Saudi Arabia	Western Region, Saudi Arabia	N.A	US \$ 520	UIP	HS, DD

Relevant Project details can be checked from Company Website and can be provided to Client if Needed

SALIENT DETAILS OF PROJECTS UNDERTAKEN BY ICS

Hydraulic Model Studies for Sukkur Barrage

Project Type	: Flood Protection Irrigation & Drainage
Scope of Work	: Hydraulic Model Studies

Sukkur barrage constructed in 1937 is suffering from problems of increased silt entry into right bank canals and also suffers from capacity constraints.



The present flood capacity of barrage is 900,000 cfs which is to be enhanced to 1,500,000 cfs. Hydraulic model studies comprising two dimensional hydrodynamic model of whole barrage (Open Telemac 2D), three dimensional hydrodynamic model of right pocket (Open Telemac 3D) and physical scale model at 1:75 scale of right pocket is constructed to study the phenomenon and recommend suitable measures. The model is developed in laboratory of Artelia, France. ICS was responsible for Client coordination for data collection, processing of discharge and sediment data and assistance in development of physical and numerical models as well as interpretation of results.

Construction Supervision of Optimization of Bunda Water Supply Network and Packaged Treatment Plant and Priority Efficiency Improvement Measures for LWB's Treatment Works I and II

Project Type	: Urban/Industrial Infrastructure WSS & Sewerage System
Scope of Work	: Water Treatment Design Review Construction Supervision

Lilongwe Water Board (LWB) sources water from the Lilongwe River, supported by Kamuzu Dam I and II, to supply a growing population of over 1.2 million. The existing water treatment capacity is 125 MLD, divided among Water Treatment

Works I and II, and the Bunda Plant at Kamuzu Dam II, which serves Bunda College and nearby areas. To enhance water supply efficiency and sustainability by 2031, LWB's Infrastructure Investment Plan includes the Malingunde Water Supply efficiency project and improvements to Treatment Works I and II. The Malingunde project involves constructing a new treatment plant and expanding the water supply network with pumps,



pipes, and storage tanks. Additionally, upgrades to the Bunda Water Supply Network and existing treatment plants aim to increase production from 110,000 m³/day to 125,000 m³/day, addressing issues like algae blooms, high turbidity, and aging infrastructure.

ICS as subconsultants to Pamodzi Consulting Limited, is providing services to oversee and optimize the design, implementation, and operational efficiency of water treatment processes for the Lilongwe Water Board's Infrastructure Investment Plan, by refining the

design of the Bunda Water Supply System, supervising infrastructure installation, addressing inefficiencies to boost treatment capacity from 110,000 m³/day to 125,000 m³/day, and ensuring quality control.

Design of Hydraulic Structure for Crossing Irrigation Channel Across the River

Project Type	: Flood Protection Irrigation & Drainage Pedestrian Bridge
Scope of Work	: Detail Design and Tendering



Agha Khan Rural Support Program (AKRSP) constructed a pipe crossing cum pedestrian bridge over Mastuj River at Miragram in 1998. The bridge cum pipe crossing continued to provide service to local community till 2019 when it got damaged due to floods. The bridge was reconstructed, but was damaged again in 2021. The bridge was then constructed for a wider span, but the bridge got damaged for the third time in 2022.



ICS as subconsultants to Berkeley Associates, is providing services design related to hydrologic studies, hydraulic design, bridge planning and preparation of relevant parts of Tender Documents.

Detail Design and Tendering for Ash Disposal DAM

Project Type	: Urban / Industrial Development Coal Power Plant
Scope of Work	: Detail Design and Tendering

Engro Power Pvt Limited is managing a coal power plant at Tharparkar. As part of processing, burnt coal ash is a waste product which needs to be disposed off into in an environmentally acceptable manner. One such method is an ash-dam. The existing ash-dam was nearing completion so Engro tasked the Consultants to design a new Ash Dam.



ICS as subconsultants to Berkeley Associates, provided services design related to dam planning and design of drainage system for the proposed ash-dam.

Detail Design and construction drawings for storm water drain and rainwater disposal arrangement for Hubco Thar Energy Limited Coal Fired Power Plant

ICS as sub-consultant to Berkeley Associates provided services for design of construction drawings for stormwater bypass drain and rainwater pond for disposal of stormwater generated from coal power plant Plant, site colony and surrounding areas.

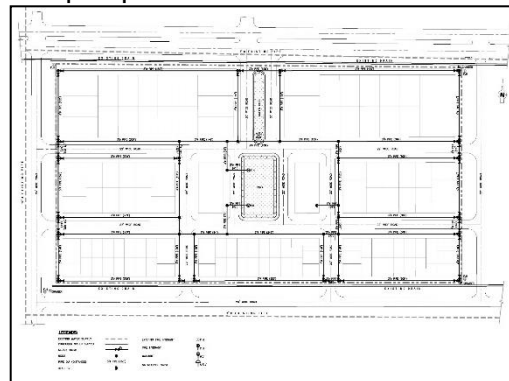
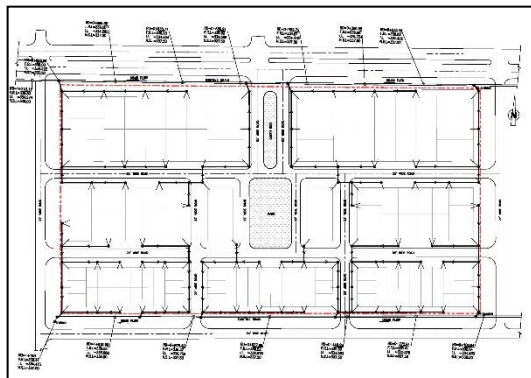
Project Type	:	Urban / Industrial Development Roads Storm Water Drainage
Scope of Work	:	Detail Design and Tendering

Infrastructure Design for Commercial Area 2 of Multan Industrial Estate

Project Type	:	Urban / Industrial Development Roads Water Supply and Sanitation Storm Water Drainage
Scope of Work	:	Detail Design and Tendering



ICS as sub-consultant to Kashif Aslam & Associates provided services for Infrastructure design services (Water supply, sewerage, storm drainage, roads and electricity) form commercial area-2 of Multan Industrial Estate. Services include Conceptual planning, Tender documents and drawings, assistance in tendering process and top supervision.



Development of additional connecting road between US Apparell Unit 3 to Kalamkar Road along with stormwater drain and pumping station

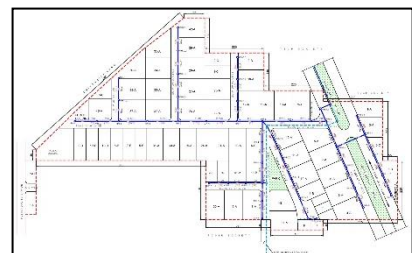
Project Type	:	Urban / Industrial Development
Scope of Work	:	Detail Design and Tendering

ICS as sub-consultant to Kashif Aslam & Associates provided services to US Apparell Unit 3 in Lahore for design, tendering and top supervision of Additional Road connecting with Kalamkar Road and storm water drain and pumping station.

Development of As-Built Design Report for Water Supply and Sewerage Network for New Gosha-e-Ahbab Cooperative Housing Society, Lahore

Project Type	:	Urban / Industrial Development Water Supply & Sanitation
Scope of Work	:	Evaluation

ICS provided services to New Gosha e Ahbab Housing Society for analyses of existing infrastructure of New Gosha e Ahbab Cooperative Housing Society, Lahore



and provided them with an As-built design report which include detailed analyses of water supply, sewerage cum stormwater drainage system for the society.

Punjab Water Resources Management – Detail Design of Canals and Link Canals

ICS as sub-consultant to Joint Venture lead by NESPAK is providing services for “Detail Design of Canals and Link Canals in Punjab” which involves following subprojects:

Project Type	: Irrigation & Drainage Climate Change
Scope of Work	: Project Planning, Detail Design and Tendering

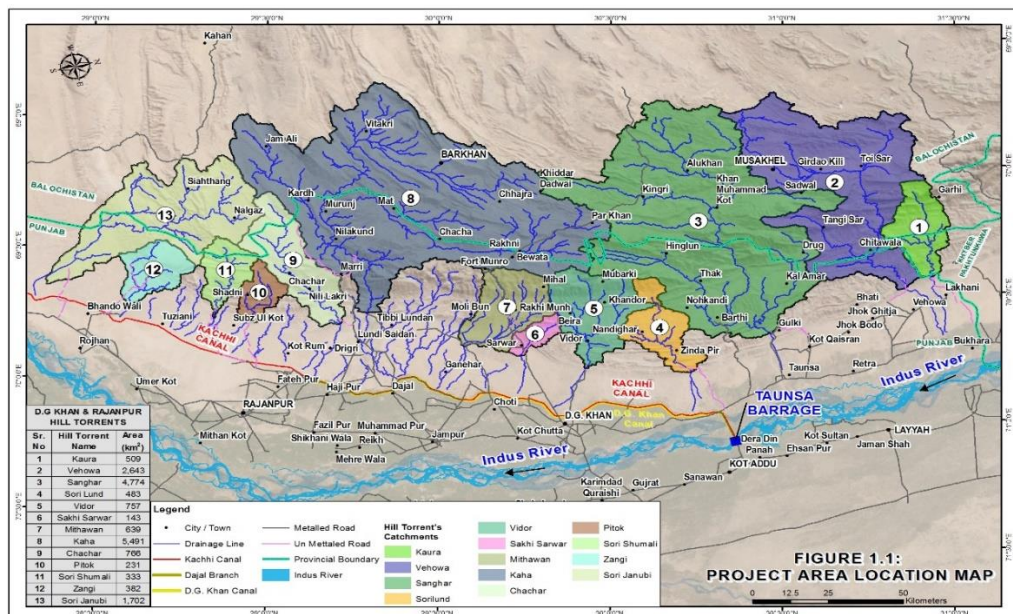
Sr.	Sub-project	Culturable Command Area (ha)
1	Rehabilitation and Upgradation of Upper Jhelum Canal System Project	244,328
2	Remodeling and Upgradation of DG Khan Canal System Project	384,082
3	Greater Thal Canal Phase-III (Dhingana Branch, Noorpur Branch and Mehmood Sub Branch Systems) Project	440,850
4	Remodeling of R-Q, Q-B and B-S Link Canals Projects	1,083,159
Total		2,152,419

ICS is providing services related to Climate Change studies, sediment transport modelling, model studies, agronomic studies, livestock development and range management studies.

Harnessing of Hill Torrents of DG Khan and Rajanpur Districts

ICS as sub-consultant to Joint Venture of NESPAK and ACE is providing services for “Harnessing of Hill Torrents of DG Khan and Rajanpur Districts”.

Project Type	: Irrigation & Drainage Dams & Hydropower Command Area Development
Scope of Work	: Detail Design, Climate Change



The Suleiman Mountainous Range runs in the vicinity of 20 - 30 Kilometers along D.G. Khan and Rajanpur districts. More than 200 Hill Torrents emerge from Suleman mountainous Range out of which 13 are major (7 No. in D.G. Khan District and 6 No. in Rajanpur District). They flow to eastward and inundate/ effect vast area of Districts D.G.Khan and Rajanpur. These Hill Torrents are permanent feature and bring frequent devastation to these two districts. The worst flooding caused by these Hill Torrents were observed in recent past years like 2001, 2008, 2010, 2012, 2013 and 2015.

The objective of the assignment is to identify and recommend feasible interventions in hill torrents in Dera Ghazi Khan and Rajanpur for improved water and agriculture productivity and support project readiness for selected hill torrents for the proposed project "Harnessing of Hill Torrents in Dera Ghazi Khan and Rajanpur".

The output of present assignment would include updated feasibility studies, detailed design, tender drawings, construction drawings, cost estimates, social safeguard documents, PC-Is and bidding documents including technical specifications.

ICS is responsible for Hydraulic Design of Dams, model studies, Climate Change Risk Assessment, Range management studies, livestock development studies and assisting team in development project drawings and cost estimates.

Detail Design for Water Supply Scheme and Tubewell for New Gosha e Ahab Cooperative Housing Society Lahore

Project Type	: Urban/Industrial Infrastructure Water Supply & Sanitation
Scope of Work	: Detail Design

ICS provided services to New Gosha e Ahab Housing Society for Detail Design and

Tender preparation for piped water supply scheme based on direct pumping from tubewell. ICS conducted detail design, prepared cost estimates and provided Bill of Quantities for soliciting quotations from vendors. The construction of the system stand completed.

Khyber Pakhtunkhwa Water Resources Development Project (ADB Technical Assistance)

ICS as lead consultant in JV with Halcrow Pakistan provided services on Asian Development Bank Technical Assistance (TA-9442Pak) for Khyber Pakhtunkhwa Water Resources Development Project.

Project Type	: Irrigation & Drainage Dams & Hydropower Command Area Development
Scope of Work	: Project Planning Design Review Feasibility Study Condition Survey Climate Change ADB Board Documents Socioeconomic Survey Agroeconomic Survey

The project envisages feasibility study of three irrigation schemes namely:

- (i) Mulkoh Irrigation Scheme involving Dam, Irrigation Tunnel and Irrigation System including Command Area Development



- (ii) Raising of Tanda Dam and Remodelling of Irrigation System and Command Area Development
- (iii) Pehur Main Canal – Remodelling / Capacity enhancement



The project involved feasibility level designs, environmental and resettlement studies and support to ADB in preparation of Board Documents.

Strengthening Integrated Flood Risk Management (ADB Regional Technical Assistance)



Project Type	:	Disaster Risk Reduction
Scope of Work	:	Climate Change

ICS as sub-consultant to Landell Mills provided services on Asian Development Bank Technical Assistance (TA-9458Pak) for “Strengthening Integrated Flood Risk Management”. The project will strengthen the design and implementation of IFRM solutions, enhancing knowledge and application of IFRM strategies in DMCs of ADB. The assignment will provide targeted technical support for program and project preparation and promote more holistic IFRM solutions, including basin-wide and NBSs that will deliver greater sustainability and long-term effectiveness, thereby strengthening flood resilience and adaptive capacity to climate change, land-use change, and other human interventions. The project has three outputs:

- Output 1: Knowledge to implement IFRM projects enhanced.
Output 1 will strengthen the knowledge of IFRM in DMCs to build resilience of people and assets through reduced flood risk and impacts. Technical notes and reference guides to existing materials will consolidate key elements of IFRM approaches and project design.
- Output 2: Evaluations of DMC flood risk management and investment strategies conducted.

In collaboration with the ADB operations departments and DMCs, Output 2 will consist of IFRM-based benchmarking evaluation exercises of the selected DMCs (or a portion of a DMC) to analyze their vulnerability and exposure to the full range of floods and possible climate change impacts, in line with their currently adopted flood risk management practice.

- Output 3: IFRM concepts integrated into ADB investments.

Output 3 covers technical support for upstream work to integrate innovative IFRM approaches into the design of at least three integrated flood management investment projects to be selected from the assessment conducted in Output 2. The projects will be identified with the ADB operations departments, based on the demand by the DMCs.

ICS provided services of National Flood Risk Management Specialist for Pakistan, who will assist the international team in achieving the outputs relevant to Pakistan. ICS will liaise with national stakeholders, undertake high level Strengths, Weaknesses, Opportunities and Threats analysis, capacity building, etc.

Preparing Greater Thal Canal Project (ADB Technical Assistance)



Project Type	:	Irrigation & Drainage Command Area Development
Scope of Work	:	Project Planning Design Review Feasibility Study Socioeconomic Survey Agroeconomic Survey

ICS as sub-consultant to Landel Mills provided services on Asian Development Bank Technical Assistance (TA-9458Pak) for Preparing Greater Thal Canal Project.

The central part of Punjab is planned to be irrigated through the Greater Thal Canal irrigation scheme. The project will convert about 704,000 hectares (ha) of unproductive lands to irrigated lands. The scheme was partially constructed or is planned to be constructed by the government's fund. The proposed investment program will support the construction of the remaining parts covering about 440,000 ha to complete the development of the scheme and provide support for on-farm development and management.

The Canal receives water from the existing Chashma-Jhelum link canal which diverts water from the Indus River to eastern areas. The government has completed a feasibility study and detailed engineering design for the entire scheme and constructed the main canal and the first branch called Mankera (65 km) in 2010.

The proposed investment program included construction of three remaining branch canals, i.e. Chaubara (73 km), Dhingana (91 km), Mahmood (54 km) and Nurpur (58 km), and associated structures to provide reliable irrigation water supply to 440,000 ha of the land during the monsoon (kharif) season from around April to October and will provide on-farm command area development support for the entire GTC irrigation scheme to enhance the on-farm and water management capacity of farmers.

ICS provided services related to Agricultural development, On-farm water management, economic analyses, environmental and social safeguards and GIS studies for the Project.

Infrastructure Design Support Services at Bholari Air Base

Project Type	:	Urban/Industrial Infrastructure Water Supply & Sanitation Roads, Highways, Bridges
Scope of Work	:	Detailed Design Tender Documents

ICS as subconsultant to Kashif Aslam & Associates (KAA) provided infrastructure design support services to KAA. KAA was the Architectural and Engineering Design Consultant for the Project and sought services of ICS related to:

- (i) Water Source Identification studies
- (ii) Design of Water Supply System including treatment plant
- (iii) Design of Sewerage System including waste stabilization ponds
- (iv) Design of grey water supply system for irrigation water supply of Project Area.
- (v) Design of Flood Protection System comprising flood bypass drains and embankments, which will divert flood waters away from the Project Area.
- (vi) Design of Storm water drainage system
- (vii) Assist and advise in design of roads, runways and other infrastructure as required.

Sixth Periodic Inspection of Tarbela Dam

Tarbela Dam is the largest Zoned Earth Fill Dam in Pakistan. WAPDA constituted a high level team of experts from various consultants, which was lead by the Chief Executive of ICS as its Team Leader. The team conducted physical inspection of dam. Two inspections were conducted, low reservoir level inspection and inspection at Full Reservoir Level.

Project Type	:	Dams & Hydropower
Scope of Work	:	Periodic Inspection Condition Survey



Principal Findings of Inspection were presented to the authority and a report was been issued to WAPDA after compiling all relevant inputs from various experts.

Detail Design Services of Jalalpur Irrigation Project

Project Type	:	Irrigation & Drainage
Scope of Work	:	Design Review Detailed Design Tender Documents

ICS as sub-consultants / associates to NESPAK is provided detail design services on Asian Development

funded Jalalpur Irrigation Project. The project will benefit a population of more than 300,000 persons. About 168,000 acres of area will come under irrigation.

Major project features include:

- Main Canal – 116 km
- Distributaries / Minors – 210 km
- Watercourses and Command Area Development
- Laser Land Levelling, Farmer’s Capacity Building Activities



ICS is provided services in areas of Agronomy, field surveys and design support to Project Team particularly in the field of Hydraulics, Agronomy and Structural Design. Under the project a PC-I for the project will be prepared, financing modalities will be agreed with ADB and bidding documents will be prepared.

Jalalpur Irrigation Project (ADB Technical Assistance for Preparation of Feasibility Study)

Project Type	:	Irrigation & Drainage
Scope of Work	:	Project Planning Design Review Feasibility Study Climate Change Socioeconomic Survey Agroeconomic Survey

ICS as part of Joint Venture with NESPAK provided services on Asian Development Bank Technical Assistance (TA-8404) for Preparing Jalalpur Irrigation Project. The project envisages feasibility study of an irrigation system, which will irrigate

about 185,000 Acres of Gross Command Area in Pind Dadan Khan and Khushab Tehsil of Punjab, Pakistan.

ICS provided services related to hydraulic design, assistance in project management, agricultural studies, social and resettlement studies for the Project.

Khyber Pakhtunkhwa Water Resources Sector Project (ADB Technical Assistance)

ICS as lead consultant in JV with Halcrow Pakistan provided services on Asian Development Bank Technical Assistance (TA-8488) for Khyber Pakhtunkhwa Water Resources Sector Project.

Project Type	:	Irrigation & Drainage Dams & Hydropower Rural Water Supply Command Area Development
Scope of Work	:	Project Planning Climate Change Design Review Feasibility Study ADB Board Documents Socioeconomic Survey Agroeconomic Survey

The project included feasibility study for three irrigation cum water supply schemes involving small dams, irrigation system and high efficiency irrigation system namely:.

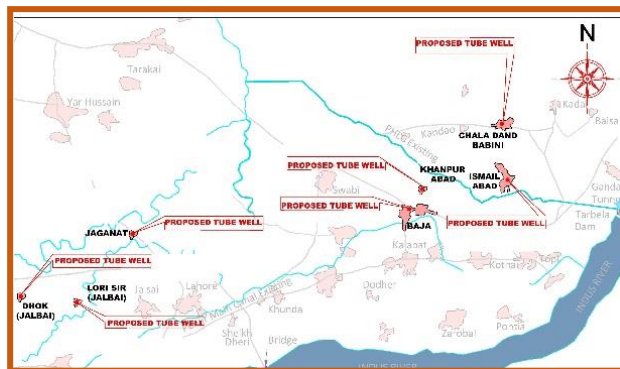
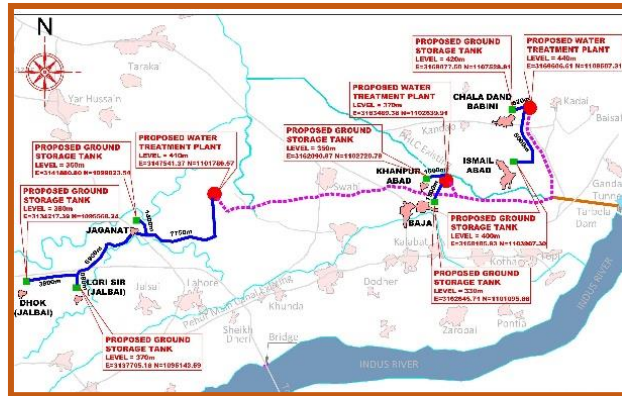
- (i) 42m high Chapra Dam Project and Irrigation System
- (ii) 42m high Chamak Mira Dam Project and Irrigation System

(iii) Pehur High Level Canal Extension Project (PHLCE)

The project involved designs, environmental and resettlement studies, institutional reform and preparation of bidding documents. In addition Integrated Agriculture Water Resources Plan (IAWR) has been prepared for selected rein-fed and arid areas of KPK.

Project also included feasibility of providing rural drinking water supply schemes to Swabi and Haripur districts of Khyber Pakhtunkhwa (which was later on dropped by KP Government due to requirement of treatment of surface water supply).

As a result of the Project, PC-I of the PHLCE was prepared and loan was accordingly signed between GoKP and ADB amounting to US\$ 90 Million. In addition working paper for development of Climate Resilient Water Resources Development Project was prepared which incorporated the two dams studied in details and other dams recommended by KPID. ADB launched a separate TA to prepare a Climate Resilient Water Resources Development Project for KP.

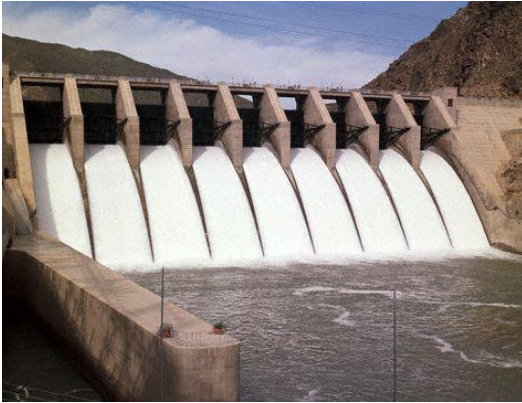


Detailed Design and Construction Supervision for the Remodelling of WARSAK Canal

Project Type	:	Irrigation & Drainage
Scope of Work	:	Design Review Detailed Design Tender Documents Construction Supervision

ICS as part of Joint Venture with NESPAK and Electra provided Consultancy Services for the Detailed Design and Construction Supervision for remodelling of Warsak Canal Project. The project envisages design and construction

of additional irrigation tunnel for obtaining additional discharge from Warsak Dam. In addition, the canal system is to be remodelled for passage of additional discharge through the canal system. ICS provided services related to hydraulic design, geotechnical assessment, quality assurance and construction supervision for the project.



Warsak Dam



Warsak Canal

Pothohar Climate Smart Irrigated Agriculture Project (PCSIAP)

Project Type	:	Irrigation & Drainage
Scope of Work	:	Design Review Detailed Design Tender Documents Construction Supervision Climate Change

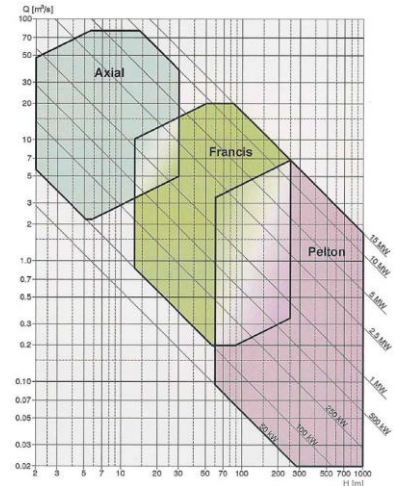
ICS as sub-consultants / associates to Joint Venture of NDC and EGC provided services on World Bank funded PCSIAP. The project involved consultancy services for project preparation, detailed design, bidding documents and construction supervision of dams in Pothohar Region including command area development and High Efficiency Irrigation System Development.

The project involved feasibility studies, bid design, bidding and construction supervision. ICS provided services in areas of Agronomy, field surveys and design support to Project Team

Identification of Hydropower Potential in Punjab

Project Type	:	Irrigation & Drainage Dams & Hydropower
Scope of Work	:	Project Planning

ICS was engaged by World Bank for Technical Assistance for Hydropower Assessment of Punjab. From the list of about 800 sites, ICS is required to screen and rank sites that are developable and need to be pursued for further development. The Project also includes identification of strategies needed for development of these hydropower projects, modes of implementation, incentives and mechanisms needed for involvement of private sector and identification institutional reforms required.



Infrastructure Program Management Services for Jinnah Post Graduate Medical Center - Maternity Ward Construction



Project Type	:	Urban/Industrial Infrastructure Water Supply and Sanitation
Scope of Work	:	Detailed Design Tender Documents Construction Supervision

US AID provided assistance for reconstructing the maternity ward at Karachi in the Jinnah Post Graduate Medical Center (JPMC) and has awarded the Task Order to Izhar Construction Pvt Limited with Kashif Aslam & Associates as Design and Management Consultants. The task involves demolition of the existing old maternity ward and construction of a new 120 bed maternity ward for indoor facility. ICS as subconsultants to KAA provided services related to Project Liasoning, Contracts, Design of Water Supply, Drainage and Sewerage Systems for the Project.

Infrastructure Design Services for Shahbaz Airbase Project

Project Type	:	Urban/Industrial Infrastructure Water Supply & Sanitation Roads, Highways, Bridges
Scope of Work	:	Detailed Design Tender Documents



Shahbaz Airbase, involves design of infrastructure of technical and residential area. The infrastructure include 13.5 km internal roads, water supply, sewerage, storm water network, industrial air-conditioning through centralized cogeneration plant which generates 9 MW of power and exhaust is used to produce air-conditioning for complete airbase through chilled water piping from energy centre to all building facilities. Infrastructure also includes fire fighting piping, underground LT and HT power supply line, data and communication network, street lighting Pavement for Aircraft parking aprons. Culverts and bridges in road networks. The designing also includes water pumping stations and sewerage treatment plant. The Base includes more than 193 types of buildings in the technical area and 27 types of buildings in the domestic Area. The buildings include Technical buildings such as Air craft hangers, Maintenance Shops, Logs buildings, Armament Buildings, Avionics buildings, Administration Buildings, Operations buildings, Armament Storage and Maintenance buildings, Barracks, Residential Quarters, Houses and Flats of different categories, Officers Mess, Mosques, BOQs and VOQS, Auditorium, Shopping Area, Hospital, PAF College, Urdu Medium School, Montessori's, School for Special Children, Officers Sports facility, Air Men Mess, DSG Mess, Air Men Sports Facilities, Playing Grounds, Children Parks, Golf Course and Club Building and Entrance Gateways. The cost of project is approximately 15 billion and area of the site is more than 2600 acres.

ICS as Subconsultant to Kashif Aslam and Associates provided assistance in design of HVAC, plumbing, water supply, sewerage and firefighting facilities for the Project. ICS also assisted in preparation of Contract close out documentation, processing of interim payment certificates, finalization of Contractor claims, bills and escalation for nine (9) packages for the Shahbaz Airbase Project

Household Survey of Flood Affected Areas in Sindh, Pakistan

Project Type	:	Environment & Social
Scope of Work	:	Social Survey

In July and August 2010, almost the entire Pakistan was affected by severe flooding. World Bank has launched a Household Survey in Sindh Province to examine how susceptible rural and urban livelihoods are to environmental changes and degradation as well as to understand the impact of recent floods on livelihoods and factors determining household level livelihood recovery in the post flood period. As part of Joint Venture with International Development Consultants (IDC), ICS was responsible for coordination with the client, overall coordination, conducting field survey and preparation of the household survey report.

	
<p>Agricultural land underwater, highly polluted with toxic chemicals after flood</p>	<p>Stunted growth observed in Shrubs and Plants</p>



Field visit with the WB study Coordinator at the project area.



Household Listing Survey

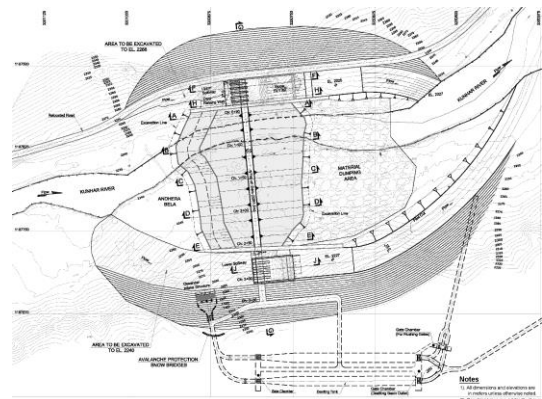


Photograph of Training Session



Household Interview

870 MW Suki Kinari Hydropower Project



Layout Plan

Project Type	: Dams & Hydropower Urban Infrastructure Development Roads and Bridges Environmental and Social
Scope of Work	: Feasibility Study Project Planning Detailed Design Tender Documents Design Review

Suki Kinari Hydropower project is the largest private sector hydropower initiative in Pakistan. The Project is designed to produce over 3000 GWh annually. The run of the river project has a high design head of about 850 m. Supported by internationally renowned

and financially and technically established Sponsors this landmark project is poised to set a new precedent in private sector hydropower development. The feasibility studies recommended an 840 MW project however, based on the consultants design, the capacity of the plant was increased by 30MW to 870 MW.

Principal Project Components include an estimated 54.5m high dam above river bed, two spillways, power tunnel, tailrace tunnel, access tunnel, Desander, Powerhouse and facilities for housing the O&M staff. The ICS is part of Joint Venture with NESPAK in association with Coye et Bellier (France). The key activities of the project include investigations, dam layout studies, power optimization studies, Project Planning study, preparation of basic design and bidding documents, design of employers colony and related infrastructure, evaluation of bids and negotiation of EPC Construction Contract. ICS was responsible for project management, hydraulic design, project planning, assistance in Geotechnical design and ensuring timely deliverables on the project.

Fourth Periodic Inspection of Simly Dam

Simly Dam Project located at 35 km North-East of Islamabad is owned by the Capital Development Authority (CDA) Islamabad. It is a single purpose project, to supply about 42 MGD of drinking water to the city of Islamabad. The Simly Dam Project includes a Main Dam, main Spillway and Auxiliary Spillway a treatment plant and transmission main.

Project Type	:	Dams & Hydropower
Scope of Work	:	Construction Supervision Periodic Inspection

The Dam Safety Organization of WAPDA formed a multidisciplinary inspection team comprising specialists in Geotechnical Engineering, Geology, Instrumentation, Hydraulic and Concrete Structures, Hydrology and Sedimentation and Mechanical works for carrying out the physical inspection of the dam and its appurtenant works and to submit their findings to the Team Leader, who will compile the final inspection report.



ICS was responsible for providing the services of the team leader during the physical inspection and preparation of the final inspection report.



Crack on Dam Crest



Intake Gate Structure



Spillway Stilling Basins

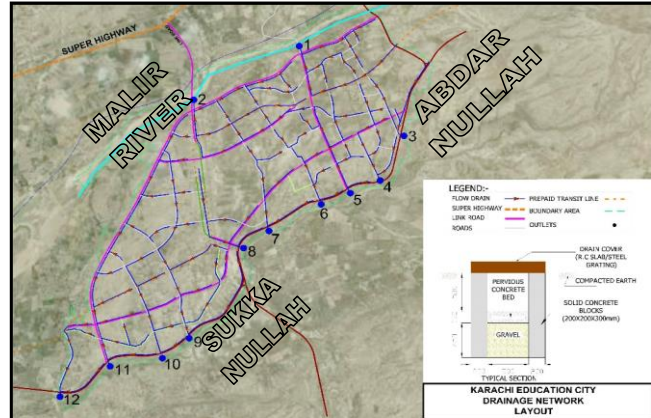


Intake Gate Structure

Master Planning of Karachi Education City

Project Type	: Urban Development Education Project Other
Scope of Work	: Design / Detailed Design

Karachi Education City is proposed to be constructed northeast of Karachi between Malir River, Sukka Nullah and Abdar Nullah. ICS was responsible to carry out studies for water source identification, storm water estimation and management with respect to reuse and disposal.



5th Periodic Inspection of Chashma Barrage

Project Type	: Irrigation & Drainage
Scope of Work	: Construction Supervision Periodic Inspection



View Upstream of the Chashma Barrage



Condition of Concrete Blocks and Stone Apron after 2010 Floods

Commissioned in 1971, the Chashma Barrage is a unique barrage as it has storage for regulated releases for irrigation and now also for power generation (184 MW) and supply of cooling water for CHASNUPP. The barrage has a waterway of 3,120 ft (52 bays each of 60 ft width) including 7 undersluice bays on left side and 4 on the right side and 41 standard bays. Crest level of the under sluice bays is RL617 ft, and the crest level of the standard bays is RL 622.00 ft. The maximum design discharge for the Barrage is 950,000 cusecs through the gates whereas the energy dissipation works are designed for 1,100,000 cusecs (950,000 cusecs + 20% for concentration). An exceptionally high flood of 1,038,873 cusecs passed through the Barrage gates against the design discharge of 950,000 cusecs in August 2010. As such the 5th periodic inspection was significant and concentrated on ascertaining the safety of various components of the barrage after the flood. The Dam Safety Organization of WAPDA formed a multidisciplinary inspection team comprising specialists in Geotechnical Engineering, Geology, Instrumentation, Hydraulic and Concrete Structures, Hydrology and Sedimentation and Mechanical works for carrying out the physical inspection of the barrage and its appurtenant works and to submit their findings to the Team Leader, who will compile the final inspection report. ICS was responsible for providing the services of the team leader and structural design specialist during the physical inspection and for preparation of the final inspection report.

Hydrological and Hydraulic Studies for Damaged Bridges in Khyber Pakhtunkhwa Province During 2010 Floods

Project Type	: Flood Protection Irrigation & Drainage Roads, Highways, Bridges
Scope of Work	: Hydraulic Survey Design / Detailed Design Construction Supervision

ICS provided hydrological and hydraulic design services for restoration of damaged bridges in Khyber Pakhtunkhwa Province that were damaged in 2010 floods.



Responsibilities of the ICS include estimation of 2010 floods at the bridge sites in hand, determination floods corresponding to various return period along with estimation of relevant Highest Flood Levels. In addition, responsibilities also include hydraulic design for scour protection of the bridges including if required necessary nullah training works.

Pre-tender Services for two Hydropower Plants on Upper Chenab Canal

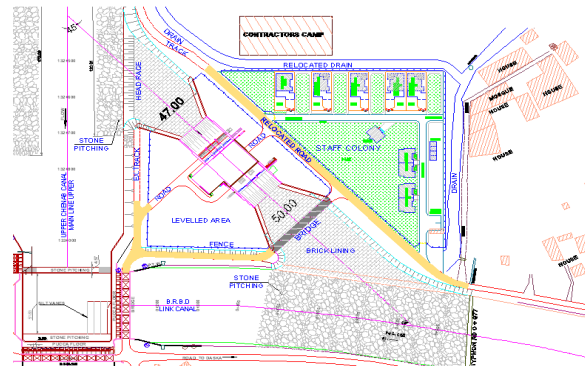
Project Type	: Dams & Hydropower
Scope of Work	: Project Planning Tender Documents

ICS prepared bid level designs for the Bidder (Joint Venture of Etimaad Engineering of Pakistan

and Hunan Allonward of China) for preparing the Technical submissions for EPC bid of two hydropower plants including 4.04 MW plant at Deg Outfall and 5.38 MW Plant at Chianwali comprising power channel, power house, gated spillway, approach road, bridges, retaining walls offices and residences etc . The services included the following for both the plants:

1. Technical Specifications for selected civil works.
2. Hydraulic Design and Head loss calculations.
3. Power and Energy Studies
4. Design Parameters and Methodology
5. Comprehensive list of drawings to be prepared by the Contractor during detailed design.

Feasibility Study 2 MW Hydropower Plant on BRBD Canal at RD 0+000



Project Type	: Dams & Hydropower Environment & Social Irrigation & Drainage
Scope of Work	: Feasibility Study

ICS in association with Pakistan Power Generation Services (PPGS) and Engineering Icon (EI) is carried out the feasibility study develop a 2 MW hydropower plant at RD 0+000 of BRBD Canal in district Sialkot. ICS was responsible for overall project management, optimization study for power and energy generation; sediment modeling, optimization of project layout; preparation of programs for topographic surveys and geotechnical investigations;

supervision of topographic surveys and geotechnical investigations and interpretation of results; design of civil works, infrastructure design, preparation of cost estimates, construction planning, Initial Social and Environmental Examination, Review of National Laws and Regulations and preparation of various Reports including Inception Report, Design Report and Feasibility Report. Hydromechanical studies, Electrical Studies and Financial and economic analyses including tariff are the responsibility of the associates. Feasibility also including planning of O&M Staff Colony including assessment of water supply, sewerage and stormwater drainage needs of the proposed O&M Staff Colony.

Pre-Feasibility Studies for Hydropower Projects

2.76MW HPP On BRBD Canal at RD 433+768 to RD 481+760

3.14MW HPP on BRBD Canal at RD 509+712

2.4MW HPP on LCCL Canal within reach RD 140+060 to RD182+960

Project Type	:	Dams & Hydropower Environment & Social Irrigation & Drainage
Scope of Work	:	Pre-Feasibility Study

The Project involved hydropower development on 3 raw sites, two on BRBD canal and one on LCCL canal advertised by PPDB. The

Client (Tarakai Energy) initially invited proposals for feasibility studies for these sites. However, on preliminary review by ICS, it was conveyed to the Client that the sites will not be feasible and it was decided to conduct pre-feasibility studies to prove the Client's point of view with the department (PPDB). The two sites on BRBD canal are non-perennial, while for LCCL, the actual power potential of the site is very low (0.57 MW), which is neither feasible, nor attractive for the power purchaser to dispatch power. Upon conducting the pre-feasibility, presentations were made and the department returned the Bank Guarantees to the Client.



Aerial View of BRBD Reach RD 433+958 to RD 481+760

Pre-bid Services for Daraban Zam Dam

Project Type	:	Dams & Hydropower
Scope of Work	:	Project Planning Design for EPC Bidder

Joint Venture of EGC and ICS in association with SMEC International and Kashif Aslam and Associates provided pre-tender services to Saadullah Khan Brothers for preparing the Technical submissions including Design Briefs, Technical specifications and tender drawings for the 165 ft high dam. A Power house of 700 KW capacity and irrigation system of 32,000 acres is also included.

An asphalt concrete faced rockfill dam (ACRD) has been designed. An alternate design of a concrete Faced Rock fill

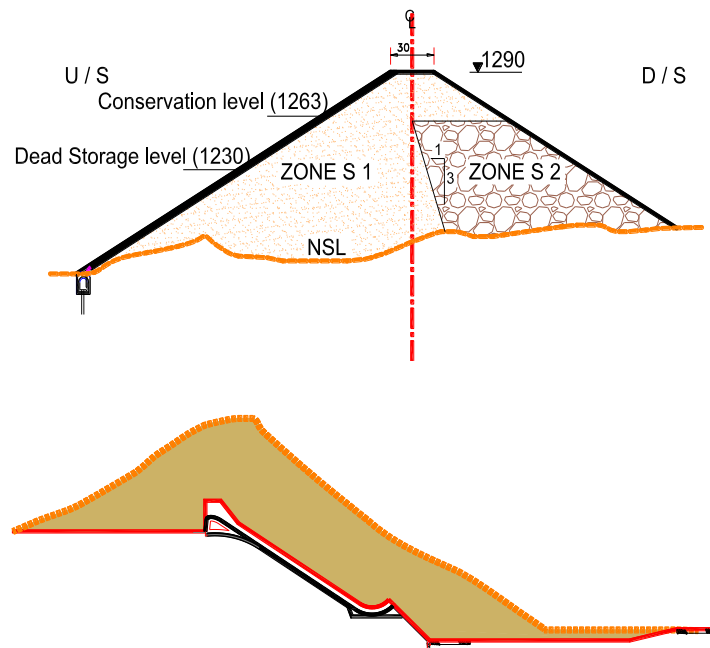
Dam (CFRD) was prepared. An un-gated spillway has been provided to pass 104,000 cfs. Tender designs, drawings, quantities and technical specifications have been prepared. Infrastructure including employers and contractors colonies, roads etc., were also designed.

Design Briefs prepared by ICS included: Project Layout, Topographic Survey Control, River Diversion and Construction Sequence, Hydrology and Sedimentation; Geologic Investigations, Embankment Dam, Hydraulic Design of Spillway and Hydraulic Design of Intake and Diversion/Sediment Sluicing Tunnel.

Submission drawings for these components were prepared.

Following Technical Specifications were prepared: Base Course; Foundation Grouting; Earth and Rockfill; Tunneling; Rock bolts; Cast in Place Concrete; and Shotcrete.

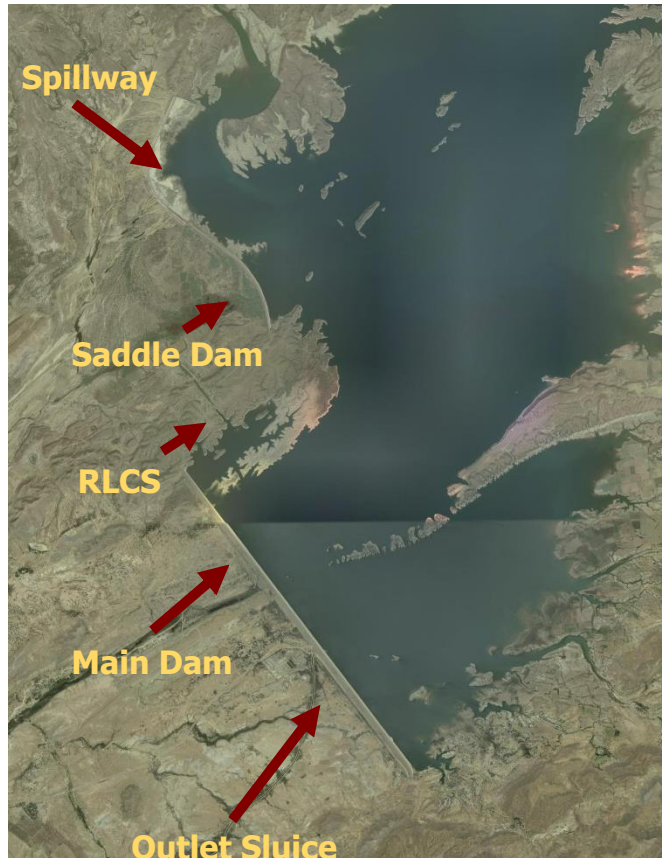
In addition to above, planning of O&M Staff Colony was carried out which included preliminary colony layout and making cost provisions for water supply and sewerage system for the colony.



Fourth (4th) Periodic Inspection of Hub Dam Balochistan

Project Type	:	Dams & Hydropower
Scope of Work	:	Construction Supervision Periodic Inspection Condition Survey

The Hub Dam Project is located 35 km Northeast of Karachi across the Hub River which creates a storage reservoir for regulating the flows for the purpose of municipal, industrial water supply and irrigation releases to Karachi (100 MGD) in Sindh and 15 MGD to Lasbela District in Balochistan besides supplying water for irrigation to 21,000 acres. The Project components include a 15,640 feet long dam with maximum height of 152 ft, a 5742 ft long Saddle dam, a 6,020 ft long spillway designed for a peak discharge of 458,000 cfs and an outlet sluice.



The Dam Safety Organization of WAPDA formed a multidisciplinary inspection team comprising specialists in Geotechnical Engineering, Geology, Instrumentation, Hydraulic and Concrete Structures, Hydrology and Sedimentation and Mechanical

works for carrying out the physical inspection (4th periodic inspection) of the dam and its appurtenant works and to submit their findings to the Team Leader, who will compile the final inspection report. The team conducted inspection during December 14 to 18, 2009. ICS was responsible for providing the services of the team leader during the physical inspection and preparation of the final inspection report.

Punjab Irrigation System Improvement Project

The Punjab Irrigation System Improvement project is being financed through loan of Japanese

Project Type	:	Irrigation & Drainage
Scope of Work	:	Design Review Detail Design Construction Supervision

Yen (¥) 12,832 million from Japan International Cooperation Agency (JICA). The component related to civil works comprise of lining of channels (upto 50 cusecs capacity), rehabilitation/up-gradation of higher capacity channel reaches, repair and construction/replacement of hydraulic structures etc. The Project covers three sub-projects areas located in three Irrigation Zones, viz. a. viz.: Bahawalpur Irrigation Zone covering Bahawalnagar and Bahawalpur districts, DG Khan Irrigation Zone covering Dera Ghazi Khan and Rajanpur districts and Faisalabad Zone covering Hafizabad, Faisalabad, Jhang and Toba Tek Singh districts. In all 236 distributaries and minors will be rehabilitated. About 1,160 km length was lined and another 900 km length was rehabilitated. The Project

cost is estimated at Rs 4,148 million. Total area that benefitted from the project is 655,240 hectares.



ICS as part of joint Venture of NESPAK-HALCROW-ICS provided consultancy services for civil works to produce designs for lining/ rehabilitation and up-gradation of distributaries and minors including all types of structures and buildings as per latest technical standards and specifications. The Joint Venture was also responsible for resident supervision of civil works to ensure correct specifications of materials and execution of works as per design.

Restructuring of Akra Kaur Dam Balochistan

Project Type	:	Dams & Hydropower
Scope of Work	:	Condition Survey Hydraulic Survey Design / Detailed Design

The Akra Kaur dam completed in 1994-95 is located about 27 Km north of the city of Gwadar in Balochistan . It stores water for supplying municipal water to city of Gwadar, and Jiwani, Nigor and severa villages along the route of the water supply pipeline. It is a rolled earth fill dam with a maximum height of 21 m above the natural bed level of the stream. Besides the main embankment, it has two auxiliary dams, intake structure, spillway, water works etc.





Upstream Face of Dam



Main Spillway Flip Bucket



Intake Structure



Damaged Bridge downstream of Dam



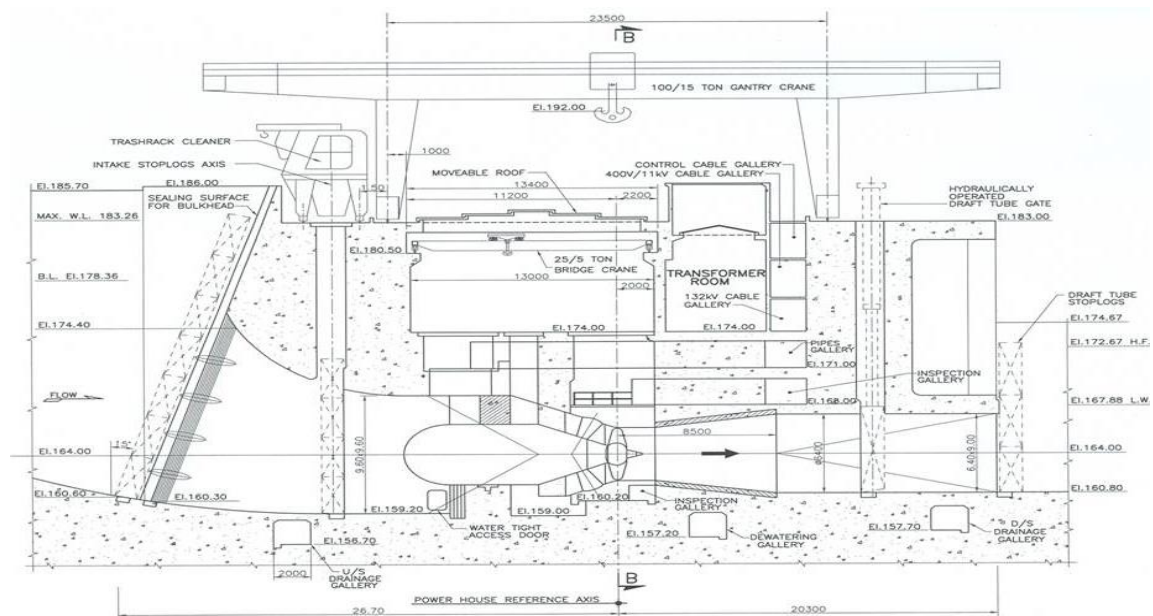
Inspection Team

As sub consultants to Messrs OSTKR Engineering Consultants, Quetta ICS carried out requisite studies including the General Inspection of the dam, propose remedial measures. ICS carried out the inspection of the dam and its appurtenant works jointly with OSTKR. ICS also carried out new hydrological studies for ascertaining the water availability and flood estimates and prepared proposals for restructuring of the dam for increasing the project life, which involves raising the storage level by 3.7m.

Review and Updating of Feasibility Study of 44 MW Hydropower Plant at Tail of C.J. Link Canal.

The proposed site for 44 MW Power Project is located at the tail of C-J Link canal. The scope of services included review of previous Reports and review of the existing data/information and finalize the feasibility study and optimizes power generation. The Feasibility study was based on assessment of flows in C-J Link canal for power generation during project life. The assignment included studies to determine the optimum unit size and configuration of the generating equipment and plant layout and infrastructure requirements,

Project Type	: Dams & Hydropower
Scope of Work	: Feasibility Study



General Arrangement of Proposed Power House

Load flow, short circuit and transmission stability studies to determine the main electrical equipment characteristics and for transmission and interconnection requirements. The scope also included design studies to identify the location, orientation and structural safety of all major structures of the project, Environmental Impact Assessment, construction planning, project cost estimates and operation and maintenance costs and Financial and economic analysis of the project including tariff determination. ICS was responsible for geotechnical studies, construction planning, and infrastructure design of colony and quality assurance.

Detailed Design of Rehabilitation Works of Islam Barrage

Project Type	: Irrigation & Drainage
Scope of Work	: Design / Detailed Design



Islam Barrage - View from downstream side



Aerial View of Existing Barrage

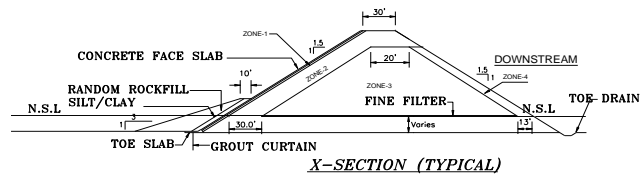
ICS in association with the Joint Venture of National Engineering Services (Pakistan), (NESPAK) and National Development Consultants(NDC), provided services for the detailed design of rehabilitation works of Islam Barrage on river Sutlej.

The scope of work included Detailed review of feasibility study; study and design of emergency spillway for discharging 50,000 cfs; detailed design of project works and preparation of tender documents; construction planning; Social and environmental assessment and development of EIA/EMMP (and RAP as needed). ICS was responsible for construction planning, Geotechnical engineering, structural design, Quality Assurance and compilation of Project Planning Report.

Pre-Tender Services for Winder Dam

Project Type	: Dams & Hydropower
Scope of Work	: Project Planning Tender Documents

ICS in association with Kashif Aslam and Associates provided pre-tender services to Saadullah Khan Brothers for preparing the Technical submissions including



Design Briefs, Technical specifications and tender drawings.

A concrete Faced Rock fill Dam (CFRD) has been designed. A gated spillway has been provided to pass 152,000 cfs. Following Design Briefs were Prepared: Care of Water; Sedimentation Facilities; Reservoir Freeboard; Flood Routing; Tail water rating curve; Design and Construction Considerations for Dam and Spillway; Instrumentation;

Foundation Treatment, Grouting and Drainage; Hydraulic Design of Spillway; Spillway Structural Design, Hydraulic Design of Irrigation Conduit; Hydraulic and Structural Design of Canals; Permanent Access Roads, Spillway Gates; Operation of Gates and Temporary Construction Facilities. Submission drawings were also prepared.

Technical Specifications were prepared for major items including: Base Course; Foundation Grouting; Earth and Rockfill; Tunneling; Rock bolts; Cast in Place Concrete; and Shotcrete.

In addition to the design of dam, spillway etc., ICS also provided services for design of infrastructure (roads, highways, employer and contractors colony).

Hydrological Studies for Ash Dumping Area of Shoaiba Power Station, Saudi Arabia

Project Type	:	Urban / Industrial Infrastructure
Scope of Work	:	Hydraulic Survey Design / Detailed Design

Shoaiba Power Station is a part of a power and desalination project, located about 110 km south of the city of Makkah. The plant operates on thermal energy obtained from petroleum based fossil fuels. The ash generated by the plant is disposed of in a dump area measuring about 1 km². This dump area lies on a sloping ground with NW-SE gradient in the flow path of the run off from the high grounds in the North West. The rainfall on the higher grounds produces substantial runoff directed towards the ash dump site which was a major concern for flooding of the ash dump and consequent environmental degradation. In order to protect the ash dump from the flooding the Project Engineering required design of flood protection and flow diversion system based on the study of hydrology of the area. A comprehensive hydrological study was carried out to establish the magnitude of flood flows and high flood levels expected at the site against which flood protection measures were designed.

The study was initiated through analysis of rainfall data and interpretation of the topographic sheets and satellite images to identify the catchment areas, contributing the inflow to the site. The discharge of storm water runoff for each catchment was determined and its impact on the site was evaluated. The daily rainfall data was analyzed statistically, using a computer model, to estimate maximum flows generated on 50 years and 100 years return period and high flood levels determined. The inferences drawn from these studies were used to plan and design a flood protection system for the site comprising earth embankments and diversion channels

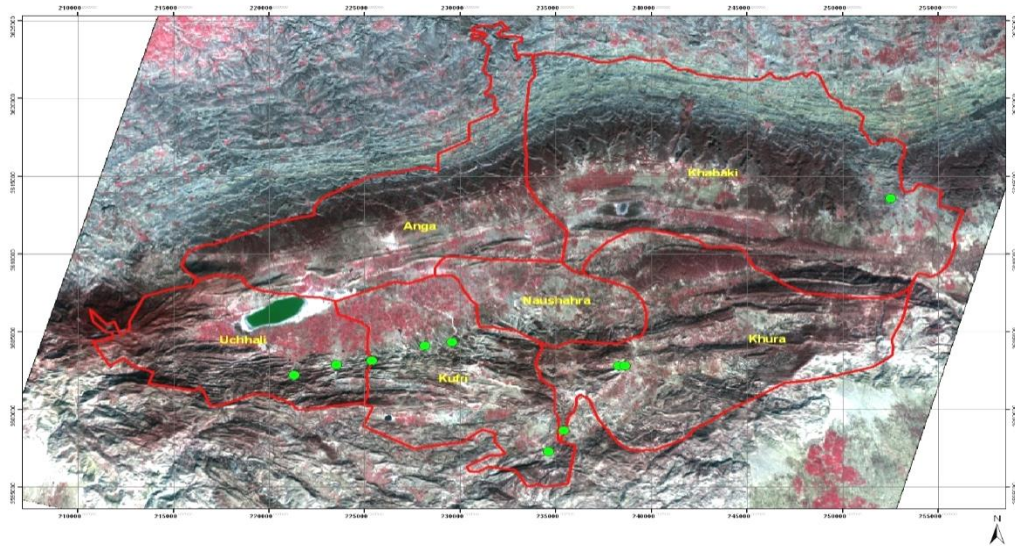
Preparation of "Disaster Mitigation and Preparedness Plan" for Soan Valley.

Project Type	:	Disaster Mitigation Flood Protection Irrigation & Drainage
Scope of Work	:	Project Planning Conceptual Design Socioeconomic Survey Agroeconomic Survey

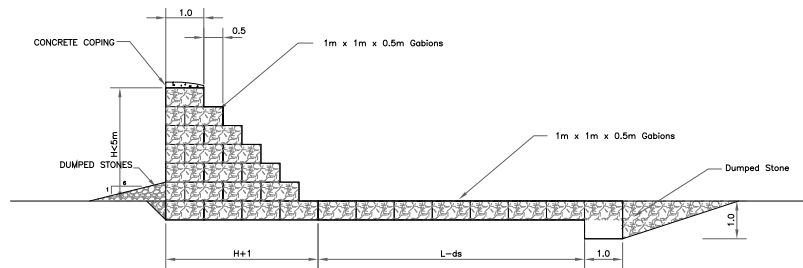
ICS as associate / sub-consultant to the lead company, National Engineering Services (Pakistan), Private Limited (NESPAK) prepared the "Disaster Mitigation and Preparedness Plan" for Soan Valley in district Khushab, Punjab.

The project area includes the entire Soan Valley, covering about 585 Square kilometers (45 km length and 13 km width) and is inhabited by about 277,000 people. The DMPP aims at strengthening the resilience capacity mechanism of communities in case of another

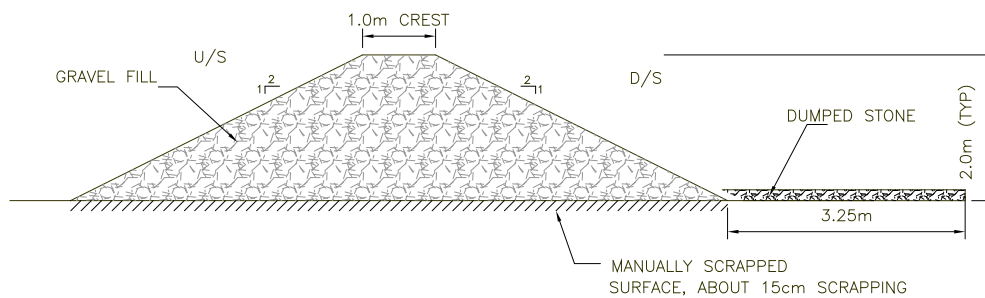
disaster and demonstrates the effectiveness of interventions in reducing the impact, and minimizing the damage associated with natural disasters. The DMPP is being implemented as a Pilot project and provides the required guidelines for implementation of PPAF's Disaster Mitigation and Preparedness Program.



Delay Action Dams sites



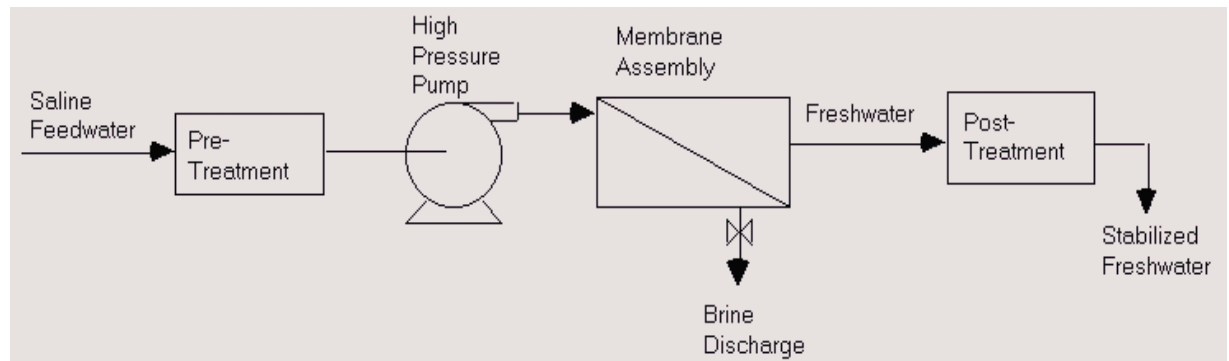
DELAY ACTION DAM (GABION)



CHECK DAM

The DMPP identified sub- projects for protection against flood damage and drought and preparedness to cope with such calamities through adopting water conservation

measures/ practices, early information dissemination, and training of the farming and livestock communities in the valley. The mitigation plan includes identification, design and construction of sustainable infrastructure projects i.e. delay action dams, check dams, irrigation channels, and community/household level water management and water budgeting and conservation initiatives. The plan shall also ensure optimal utilization of water (surface and sub-surface) and other natural resources of the area. ICS was responsible for team leadership, water resources studies, geotechnical studies, design of delay action and check dams and agro economic studies.



US \$ 900 million Punjab Irrigated Agriculture Development Sector Project including feasibility study for rehabilitation of Balloki Barrage and Lower Bari Doab Canal System.

ICS worked on Punjab Irrigated Agriculture Development Sector Project, ADB TA PAK 37231-01 as associates to Halcrow Pakistan (Lead Company) and Halcrow Group of UK.

Project Type	:	Irrigation & Drainage Roads, Highways, Bridges
Scope of Work	:	Design Review Feasibility Study

The objectives of the TA and ensuing project are: (i) improve water resources management at all levels in LBDC command, (ii) strengthen capacity and institutional frameworks to manage irrigated agriculture and water resources for improved productivity and enhanced environmental sustainability, (iii) rehabilitate and modernize irrigation and water resources infrastructure and stimulate sustainable O & M, and (iv) enhance the enabling



LBDC Fall Structure

environment for improved agricultural productivity.

ICS was responsible for provision of services of a Deputy Team Leader; Hydraulic Structures Design and Construction Specialist, Geotechnical Engineer and Agronomist.

Feasibility Study of Water Desalination Plant for Gawadar

Project Type	:	Water Supply & Sanitation Other
Scope of Work	:	Feasibility Study

ICS worked on the planning and design of a 25 MGD Reverse Osmosis Water Treatment Plant for supplying 25 MGD of

desalinated sea water to the port city of Gawadar. The Project is being undertaken in association with Qadri Associates of Quetta and Kashif Aslam and Associates of Lahore. ICS was responsible for process selection and design and engineering design of infrastructure including intake, water reservoirs and pumps etc.

QUALITY CONTROL

The management of ICS places special emphasis on high quality deliverables to the Client. Thus, company has made its operations synchronized so as to reduce and minimize any possibility of mistakes. A system of checks and balances has been maintained and output of one specialist is reviewed by other members of the team before onward submission to the Client. Quality Control of the design concepts, design calculations, design drawings and specifications are primarily exercised by the Design Group Leader and Design Team. In this regard, the company has maintained its internal quality assurance and quality control documents which can be provided to Clients on demand basis.

QUALITY POLICY

We at ICS hold Quality Assurance and Quality Control at high Priority to ensure a high quality and error free document is delivered to Client. The Quality Assurance is maintained by following the procedures outlined in following in-house documents:

1. Quality Assurance / Quality Control Manual
(ref. document - ICS-Q01-0713 July 2013)
2. Design Procedures
(ref. document - ICS-D01-0713 July 2013)

The manual and procedures outline process to be followed for Quality Assurance. At ICS, the Quality Assurance is primarily carried out by Design Group Leaders and Project Team Leader by following a number of systematic procedures to ensure quality output and eliminate any chance of ambiguity among the team. The Company endeavors to develop the projects under a wholistic approach, wherein every team member contributed positively to the Project with final Quality Assurance being carried out by the Team Leader.

If required, QA/QC manual can be furnished to Client.

CONTACT US

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