

MUHAMMAD NAWAZ

SENIOR WATER RESOURCES & CLIMATE ADAPTATION SPECIALIST



Islamabad, Pakistan

 nawazyar70@gmail.com |  +92-300-8565086 |

 [LinkedIn](#)

EXECUTIVE SUMMARY

Senior Development Specialist with over 30 years of progressively responsible international and national experience leading climate adaptation, resilient water resources management, glacier-fed river basin development, disaster risk reduction, and climate-resilient infrastructure across Pakistan, Afghanistan and the Hindu Kush Himalayan (HKH) region. Extensive experience advising governments, development partners, and international financial institutions on adaptation investments, climate policy, water security, ecosystem restoration, and institutional strengthening.

Recognized for leading the planning, appraisal, implementation, and oversight of more than US\$500 million in climate adaptation, water resources, irrigated agriculture, renewable energy, livelihood and resilience investments financed by USAID and national governments, and implemented in collaboration with national institutions, multilateral development banks, and international development partners. Proven expertise across the full project cycle, including strategic planning, project preparation, procurement, implementation support, performance monitoring, environmental safeguards, climate risk screening, and adaptive management.

Deep technical expertise in climate adaptation, glacier-fed river systems, integrated water resources management (IWRM), flood risk management, groundwater recharge, watershed management, nature-based solutions, transboundary water cooperation, climate risk assessment, and institutional capacity development. Successfully led multidisciplinary teams, policy dialogue, technical missions, and stakeholder partnerships while supporting governments in translating climate science into resilient investment programs and policy reforms.

Recognized thought leader with an established record of policy research, technical publications, international presentations, and regional knowledge exchange on climate resilience, glacier change, water governance, and sustainable development. Holds a Master's in Water Resources Management, University of Melbourne, Australia, has received 17 performance awards and completed over 20 international trainings.

SELECTED WATER AND CLIMATE ADAPTATION PORTFOLIO

Project	Value	Role	Adaptation Theme
GCF-funded Recharge Pakistan Project	US\$78 M	USAID Lead/Project Manager	Nature-based Solutions/Adaptation/Flood Management
Gomal Zam Dam, Irrigation and Command Area Development Project	US\$130 M	USAID Lead/Project Manager	Water Storage/flood control/Irrigation/Agriculture
Satpara Dam, Irrigation and Command Area Development Project	US\$66 M	USAID Lead/Project Manager	Water Storage/Irrigation/Agriculture
Water Governance Project	US\$7.4 M	USAID Lead/Project Manager	IWRM/Capacity Building/Networking
Third-Party Monitoring	US\$ 2 M	Technical Lead/Project Manager	Monitoring, Verification and Evaluation
KP Telemetry System	US\$1 M	USAID Lead/Project Manager	Early Warning
ADB-funded PHLC Project	\$110 M	Field Team Leader	Irrigation/Agriculture
ADB-funded Swabi SCARP	\$162 M	Field Team Leader	Salinity control/Irrigation

CORE COMPETENCIES

Climate Adaptation & Resilience

- Climate Adaptation Strategy and Investment
- Glacier Resilience and Mountain Ecosystems
- Climate Risk and Vulnerability Assessment
- Disaster Risk Reduction (Floods, Droughts & GLOFs)

- Climate-Resilient Infrastructure
- Nature-based Solutions and Ecosystem-based Adaptation
- Watershed and River Basin Management
- Integrated Water Resources Management (IWRM)

TECHNICAL LEADERSHIP

- Water Resources Planning and Management
- Glacier-fed River Basin Systems
- Hydrology and Irrigation Systems
- Groundwater Recharge and Water Security
- Climate-Smart Agriculture
- Environmental Safeguards and Climate Screening
- Monitoring, Evaluation and Results Management
- Knowledge Management and Innovation

INVESTMENT AND PROJECT LEADERSHIP

- Climate Adaptation Investment Design
- Project Preparation and Quality at Entry
- Technical Assistance Design and Management
- Project Cycle Management
- Climate Finance and Resource Mobilization
- Procurement and Contract Oversight
- Portfolio and Performance Management
- Adaptive Management

POLICY, PARTNERSHIPS AND LEADERSHIP

- Strategic Policy and Sector Dialogue
- Regional Cooperation and Transboundary Water Governance
- Government and Development Partner Engagement
- Institutional Strengthening and Capacity Development
- Multidisciplinary Team Leadership
- Stakeholder Negotiation and Consensus Building
- South-South Knowledge Exchange
- High-Level Communication and Representation

EXPERIENCE

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
 US EMBASSY ISLAMABAD
 SENIOR PROJECT MANAGEMENT SPECIALIST (WATER)
 AUGUST 25, 2024 TO AUGUST 15, 2025 (1 YAER)

Provided strategic leadership for USAID's water resources, climate adaptation, and resilience portfolio, guiding investment planning, policy dialogue, and institutional strengthening to enhance water security, climate resilience, and sustainable development in Pakistan.

KEY ACHIEVEMENTS

- Directed USAID's water resources and climate adaptation portfolio, providing strategic and technical leadership for investments in glacier-fed river basins, irrigated agriculture, flood risk management, groundwater recharge, watershed restoration, and water governance.
- Led the identification, appraisal, design, procurement oversight, implementation, and performance monitoring of complex water and climate adaptation investments exceeding US\$100 million, ensuring high-quality project preparation and effective delivery.
- Served as technical lead in developing four flagship climate adaptation initiatives, including the US\$78 million Recharge Pakistan Project, integrating ecosystem-based adaptation, floodplain restoration, groundwater recharge, nature-based solutions, and community resilience.
- Advised USAID senior management and the Government of Pakistan on climate-resilient water policies, integrated water resources management, adaptation strategies, and investment priorities aligned with national climate commitments and sustainable development objectives.
- Guided climate- and disaster risk-informed investment planning through technical review of hydrological studies, climate vulnerability assessments, environmental safeguards, and resilience strategies for water infrastructure and agricultural systems.
- Strengthened collaboration among federal and provincial governments, multilateral development banks, UN agencies, research institutions, civil society, and the private sector to mobilize and implement resilient water investments.
- Represented USAID in high-level policy dialogue, donor coordination forums, and technical missions on climate adaptation, water security, disaster risk reduction, and resilient infrastructure.
- Led institutional capacity development initiatives that strengthened the capabilities of more than 6,000 government officials, engineers, water professionals, and development practitioners through technical training, knowledge exchange, and policy dialogue.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID), US
EMBASSY ISLAMABAD

MISSION ENVIRONMENT OFFICER/CLIMATE INTEGRATION LEAD
(ADDITIONAL RESPONSIBILITY)

JUNE 2, 2023 TO AUGUST 15, 2025 (2 YEARS+)

Served as USAID Pakistan's principal advisor on environmental compliance, climate integration, and resilience, ensuring that climate risk management and environmental safeguards were systematically incorporated across the Mission's development portfolio.

KEY ACHIEVEMENTS

- Directed climate integration and environmental compliance across USAID's multi-sector portfolio, ensuring alignment with USAID environmental procedures, international safeguard standards, and Pakistan's environmental regulations.
- Led climate risk screening and environmental review processes for infrastructure, agriculture, water resources, energy, and resilience investments, strengthening project quality and reducing environmental and climate-related risks.
- Reviewed and cleared climate risk assessments, Initial Environmental Examinations (IEEs), Environmental Assessments (EAs), Environmental Due Diligence, and environmental safeguard documentation prepared for USAID, ADB, and World Bank-supported operations.
- Advised project design teams on integrating climate adaptation measures, ecosystem protection, disaster risk reduction, nature-based solutions, and environmental sustainability throughout the project cycle.
- Delivered national and international training programs on climate risk management, environmental safeguards, adaptive management, and climate integration for government agencies, implementing partners, and USAID technical staff.
- Produced technical guidance, knowledge products, and policy resources on climate adaptation, flood resilience, environmental management, and sustainable infrastructure development.
- Served as USAID's focal point for climate and environment, facilitating strategic dialogue with development partners, government agencies, and international organizations on climate resilience, adaptation financing, and environmental governance.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID), US
EMBASSY ISLAMABAD

DEVELOPMENT SPECIALIST (WATER)

OCTOBER 23, 2011 TO AUGUST 24, 2024 (13 YEARS)

Served as USAID's senior technical advisor for water resources and climate resilience, leading investment planning, policy reform, project implementation, and institutional strengthening to improve water security, agricultural productivity, disaster resilience, and sustainable management of Pakistan's glacier-fed river systems.

KEY ACHIEVEMENTS

- Led planning, appraisal, implementation, and oversight of seven major water resources and climate adaptation investments valued at approximately US\$170 million, covering dams, irrigation modernization, water governance, watershed management, groundwater development, and climate resilience.
- Managed the complete project cycle, including investment identification, technical appraisal, procurement, implementation support, performance monitoring, risk management, adaptive management, and evaluation of complex donor-funded programs.

- Guided implementation of strategic infrastructure investments including Gomal Zam Dam, Satpara Dam, irrigation modernization programs, water governance initiatives, and independent monitoring programs that improved water security, agricultural productivity, and climate resilience.
- Advanced climate adaptation in Pakistan's glacier-fed Indus River Basin through investments in integrated water resources management, flood resilience, water accounting, watershed management, and institutional strengthening.
- Promoted innovative climate adaptation approaches, including hydrological monitoring systems, telemetry-based real-time water accounting, groundwater recharge, flood forecasting, and early warning systems supporting improved water allocation and disaster preparedness.
- Supported policy reforms that strengthened water governance, climate adaptation planning, transboundary water cooperation, and integrated river basin management through analytical studies, technical advisory services, and evidence-based policy dialogue.
- Coordinated technical collaboration with national and provincial governments, multilateral development banks, UN agencies, research organizations, civil society, and the private sector to strengthen adaptation investments and institutional capacity.
- Led large-scale capacity development initiatives benefiting more than 100,000 farmers, engineers, government officials, and water professionals, strengthening technical capacity in climate adaptation, water resources management, irrigation modernization, and resilient agricultural systems.
- Produced influential policy papers, technical reports, research publications, and strategic analyses on water governance, glacier-fed river systems, climate resilience, flood management, water markets, and transboundary water cooperation, contributing to national policy reforms and regional knowledge exchange.
- Represented USAID at national, regional, and international conferences, technical working groups, and policy dialogues, strengthening partnerships and promoting knowledge sharing on climate adaptation, resilient water resources management, and sustainable development.

GOVERNMENT OF PAKISTAN,
MINISTRY OF PLANNING, DEVELOPMENT AND SPECIAL INITIATIVE
SENIOR WATER POLICY RESEARCH ASSOCIATE
OCTOBER 21, 2007 TO OCTOBER 22, 2011

Served as a senior technical advisor supporting national water resources planning, climate adaptation policy, and public investment programming. Led policy analysis, project appraisal, and strategic planning for water resources, climate resilience, food security, and sustainable infrastructure, contributing to Pakistan's long-term development agenda.

KEY ACHIEVEMENTS

- Reviewed, technically appraised, and provided policy recommendations for more than 100 national and provincial water resources, irrigation, flood management, and climate

resilience investment projects, ensuring technical quality, economic viability, environmental sustainability, and alignment with national development priorities.

- Supported preparation of national investment strategies for water resources, irrigated agriculture, climate adaptation, disaster risk reduction, and food security under Pakistan's Medium-Term Development Framework and Five-Year Development Plans.
- Led analytical work on water security, climate adaptation, integrated water resources management, and sustainable financing to inform national policy reforms and public investment decisions.
- Organized Pakistan's first national policy dialogue on glacier retreat and climate change, bringing together government institutions, academia, research organizations, and development partners to assess implications for glacier-fed river systems, water security, agriculture, disaster risk, and climate resilience.
- Prepared policy briefs and strategic analyses on climate adaptation, water governance, water pricing, institutional reform, and river basin management for senior government leadership.
- Contributed technical inputs to national strategies on climate change, agriculture, food security, and water resources, integrating resilience considerations into long-term development planning.
- Served on inter-ministerial working groups and national task forces on climate change, agriculture, and food security, strengthening coordination across sectors and institutions. Represented the Ministry in national technical forums, consultations, and development partner meetings on climate adaptation, water governance, and sustainable development.
- Authored Pakistan's first comprehensive research report on water pricing and irrigation financing, providing evidence-based recommendations for improving financial sustainability and water governance.
- Strengthened collaboration with development partners, research institutions, and international organizations supporting climate adaptation and water sector reforms.

GOVERNMENT OF KHYBER PAKHTUNKHWA, DEPARTMENT OF AGRICULTURE, PESHAWAR

ASSISTANT DIRECTOR (WATER MANAGEMENT)

JULY 1, 2004 TO OCTOBER 21, 2007

Managed district-level implementation of Pakistan's National Program for Improvement of Watercourses, leading multidisciplinary engineering teams responsible for irrigation modernization, agricultural water management, and institutional strengthening.

KEY ACHIEVEMENTS

- Directed implementation of water management interventions under Pakistan's PKR 80 billion National Program for Improvement of Watercourses, improving irrigation efficiency and agricultural productivity.

- Supervised planning, engineering design, procurement, construction, quality assurance, and commissioning of more than 100 irrigation infrastructure schemes, including watercourse improvement, canal lining, precision land leveling, and farm water management systems.
- Improved irrigation performance across approximately 50,000 acres, benefiting more than 10,000 farming households with improved food security and increased income.
- Established and strengthened over 100 Water User Associations, promoting participatory irrigation management, institutional ownership, and sustainable operation and maintenance.
- Coordinated closely with provincial agencies, local governments, engineering consultants, and farming communities to ensure timely project implementation and effective stakeholder engagement.

GOVERNMENT OF KHYBER PAKHTUNKHWA, DEPARTMENT OF AGRICULTURE,
PESHAWAR
WATER MANAGEMENT OFFICER
OCTOBER 1, 1996 TO JUNE 30, 2004

Implemented large-scale irrigation modernization and agricultural water management projects financed by international development partners, including the Asian Development Bank and the Swiss Agency for Development and Cooperation (SDC).

KEY ACHIEVEMENTS

- Led implementation of irrigation modernization activities under the ADB-funded Pehur High Level Canal Project and the SDC-supported Swabi SCARP Project, supporting improved agricultural water management and rural livelihoods.
- Planned, designed, supervised, and commissioned more than 200 irrigation improvement schemes, serving approximately 100,000 acres of agricultural land, benefiting over 20,000 households with improved food security and increased income.
- Managed engineering surveys, hydraulic design, construction supervision, cost estimation, contractor oversight, and quality assurance for irrigation infrastructure projects.
- Introduced improved irrigation technologies, land leveling, and water management practices that significantly enhanced water-use efficiency and crop productivity.
- Mobilized and strengthened over 200 Water User Associations, promoting community participation and long-term sustainability of irrigation investments.

CHINESE GITEC-RSL JOINT VENTURE SWABI SCARP PROJECT, MARDAN
SITE ENGINEER (IRRIGATION INFRASTRUCTURE REMODELING)
JULY 4, 1995 TO JULY 31, 1996

Provided engineering supervision for major irrigation rehabilitation works under the ADB funded Swabi SCARP Project.

KEY ACHIEVEMENTS

- Supervised construction and rehabilitation of more than 100 km of irrigation canals, including canal lining, hydraulic structures, bridges, falls, regulators, and water outlets.
- Conducted engineering surveys, construction supervision, contractor coordination, quality assurance, and progress monitoring to ensure compliance with technical specifications.
- Supported successful delivery of irrigation infrastructure designed to improve water conveyance efficiency, agricultural productivity, and long-term system performance.

EDUCATION

- Master of Engineering Science (Water Resources Management)
University of Melbourne, Australia (Jan 2006 – June 2007)
- Bachelor of Science (Agricultural Engineering)
University of Engineering and Technology Peshawar (Mar 1989 – June 1993)

INTERNATIONAL PROFESSIONAL DEVELOPMENT

Completed more than 25 international executive and technical training programs in climate adaptation, glacier hydrology, water resources management, environmental safeguards, project management, climate finance, infrastructure resilience, transboundary water governance, and leadership across Asia, Europe, Australia, Africa, and North America.

CLIMATE ADAPTATION, GLACIERS AND WATER SECURITY

- Glaciers and Improved Water Management Practices, Bhutan (2018)
- Regional Water Security and Glaciers Melting in Asia, Kazakhstan (2011)
- Global Water Workshop, West Virginia, USA (2024)
- Global Water and Development Workshop, Thailand (2019)
- Water Accounting and Water Productivity, Uzbekistan (2019)
- International Watershed Management Seminar, USA (2016)
- Service-Oriented Irrigation Management, Netherlands (2013)

CLIMATE LEADERSHIP, ENVIRONMENT AND INFRASTRUCTURE

- Environment and Sustainability Conference, Washington DC (2024)
- USAID Climate Champions (PIVOT) Program (2023)
- Asia Environmental Officers Conference, Thailand (2023)
- Global Infrastructure Workshop, South Africa (2022)
- Cultivating the Leader Within – Executive Leadership Program (2022)

POLICY, ECONOMICS AND PROJECT MANAGEMENT

- Public Financial Management Risk Mitigation Framework, Thailand
- Economic Analysis of Development Projects
- Project Design and Management
- Programming Foreign Assistance
- Cost–Benefit Analysis of Infrastructure Projects
- Monitoring and Evaluation for Development Projects

Earlier professional development includes advanced training in transboundary water law, integrated water resources management, irrigation modernization, domestic resource mobilization, and inclusive development.

SELECTED PUBLICATIONS, POLICY PAPERS & KNOWLEDGE PRODUCTS

SELECTED PUBLICATIONS

- Urban Water Security Assessment Framework: A Practical Tool for Building Water-Resilient Cities (July 2026)
- Fixing The System Not Water: Applying the Socratic Method (Apr 2026)
- Indus Telemetry: Revitalizing Surface Water Accounting in Pakistan (2026)
- The Ghost of Water Governance: Unveiling the Hidden Forces Shaping Policies and Practices (2026)
- Turning Floods into Opportunity: Reframing Pakistan's Water Future (2025)
- Water Markets in Pakistan: A Case for Revenue Generation and Water Security (2018)
- Canal Water Pricing for Irrigation in Pakistan (Government of Pakistan)
- Glacier Behavior under Climate Change and Implications for Irrigated Agriculture in Pakistan
- Technical contributions to the Kabul River Basin – State of the Basin Report
- Technical contributions to Pakistan's National Climate Change Task Force
- Technical contributions to Pakistan's Agriculture and Food Security Working Groups
- Financial Sustainability of Irrigation Systems in Pakistan (Master's Thesis, University of Melbourne)

KNOWLEDGE LEADERSHIP

- Presented technical papers at international conferences in the United States, South Africa, Kazakhstan, Thailand, Scotland, Bhutan, Uzbekistan, Sri Lanka, and Pakistan.
- Delivered policy presentations to the Supreme Court of Pakistan on water governance and sustainable financing.
- Delivered invited lectures at leading universities including the University of Engineering and Technology Peshawar, Lahore University of Management Sciences (LUMS), COMSATS University, and the University of Agriculture Peshawar.
- Frequently invited speaker in national media on climate adaptation, floods, water governance, and environmental sustainability.

- Produced technical guidance, policy briefs, analytical reports, and learning products supporting government decision-making and donor-funded investment programs.

PROFESSIONAL MEMBERSHIP AND LEADERSHIP

- USAID Mission Senior Advisor on Government-to-Government Water Cooperation
- Climate Integration Focal Point, USAID Mission Pakistan
- Member, USAID Global Water Community of Practice
- Chair/Focal Point, Development Partners Water Working Group
- Member, Prime Minister's Task Force on Climate Change
- Member, Prime Minister's Task Force on Food Security
- Member, Industrial Advisory Board, University of Engineering and Technology Peshawar
- Registered Professional Engineer, Pakistan Engineering Council (Lifetime Member)

HONORS AND AWARDS

Recipient of 17 professional awards recognizing leadership, technical excellence, innovation, and outstanding contributions to climate adaptation, water resources management, environmental stewardship, and development effectiveness.

SELECTED AWARDS

- USAID Special Act Award (2025)
- USAID Honor Award (2024)
- USAID Special Act Award (2024)
- USAID Special Act Award (2023)
- USAID Honor Award (2023)
- USAID Eagle Award (2021)
- USAID Honor Awards (2020, 2019, 2018, 2017)
- USAID Group Achievement and Meritorious Awards
- U.S. Mission Pakistan Employee of the Quarter
- Australian Government (AusAID) International Scholarship

TECHNICAL SKILLS

TECHNICAL EXPERTISE

- Climate Risk Assessment
- Integrated Water Resources Management (IWRM)
- River Basin Planning
- Glacier-fed Water Systems
- Flood Risk Assessment
- Watershed Management

- Nature-based Solutions
- Environmental Safeguards
- Climate Screening
- Monitoring, Evaluation and Learning (MEL)
- Results-Based Management
- Investment Appraisal

DIGITAL SKILLS

- Microsoft Office Suite (Word, Excel, PowerPoint)
- Hydrological and Water Resources Analysis
- Water Accounting Systems
- GIS-enabled Water Resources Applications (working knowledge)
- Data Analysis and Technical Reporting

LANGUAGES

- English: Professional Working Proficiency
- Urdu: Native/Full Professional Proficiency
- Pashto: Native/Full Professional Proficiency

PROFESSIONAL REFERENCES

Available upon request.