This book (Stolen Rivers) is dedicated to three great civil engineers:

Lt. Gen. Dr. Ghulam Safdar Butt:

As leader of the KKH expeditionary team; he entered the Karakoram range as a young captain in the 1950's with his small team of surveyors to map a route to China over the mighty Karakorum Range. After his Ph.D. from USA and promotion to Maj. General he was appointed Dir. Gen. FWO and Dir. Gen. Lowari Tunnel Organization (LTO). Later served as Mg. Director Pak Arab Refinery Co (PARCO). A pioneering tenure from 1981 to 1987 as Chairman Water & Power Development Authority (WAPDA). Besides his great contribution to construction of the incredible KKH acknowledged as a marvel of highway engineering he as WAPDA Chairman oversaw MONENCO's work on "ranking studies" of the Indus Cascade-the lifeline of Pakistan. He was Chairman National Highway Authority (NHA) and finally Chairman Sui Northern Gas Pipelines Ltd (SNGPL). Founding member, Secretary General and President of the Alpine Club of Pakistan. Above all a versatile visionary who devoted himself selflessly to the development of his nation.

Professor John Briscoe:

He was known as "Mr. Water to environmental economists and the most far-sighted, thoughtful, deeply thinking person in the field." A Ph.D. from Harvard University. His book "Pakistan's Water Economy Running Dry" is a classic. He served the World Bank for 20 years (1989-2009) and helped oversee projects in water resources, irrigation, hydropower, and sanitation. Consulted on water issues for nonprofits, governments, and businesses. He resigned from the World Bank and was appointed Professor at the Harvard School of Engineering and Applied Sciences (SEAS) as Gordon McKay Professor of the Practice of Environmental Engineering as well as the Harvard Kennedy School. His career focused on efforts for the developing world to successfully manage and preserve water as a precious resource. In early 2014, he received the Stockholm Water Prize "the Nobel Prize of Water" for "unparalleled contributions to global and local management of water contributions covering vast thematic, geographic, and institutional environments-that have improved the lives and livelihoods of millions of people worldwide."

Engr. Mahmud-Ul-Hasan Siddiqi

On the morning of 10 April, 2023 Pakistan lost its most senior active Irrigation Engineer, just 15 days short of his 97th birthday. This brilliant patriot, Mahmud-Ul-Hasan Siddiqi obtained his B.Sc. Civil Engineering Degree in 1946 with distinction from Aligarh Muslim University. As Chief Engineer Irrigation, Sargodha in 1978 he planned and executed the Operation & Maintenance of three major Canal Systems, irrigating about 40 million acres together with a vast network of surface, seepage-cum-storm water drains involving 2100 SCARP Tube-wells & 13 Small Dams. Siddiqi Sahib had developed into a colossus of water management. He was by temperament a very humble and cooperative individual who had officially retired in early 1991. The Punjab Government had recognized his unique skills & selfless attitude. He was made a Consultant to the Punjab Irrigation Department in dealing with: Implementation of the Indus Waters Treaty of 1960 and more. A formidable pillar of strength for his nation.

Lt. Gen. Dr. Ghulam Safdar Butt was born on 13 March 1928 in Sukkur, Sindh to a Kashmiri family. His father an Irrigation engineer at the Sukkur Barrage. From his early age G.S. Butt was a bright Student. He was commissioned in Pakistan Army in 1950 after graduating from PMA (Pakistan Military Academy) as part of the first PMA Long Course; the first course to graduate from PMA after partition in August 1947. He achieved Professorship at the Military College of Engineering; Professor of Highways, Airfields, Soil and Foundation engineering. He was the first three-star rank General in the Corps of Engineers & the honor of being the first PhD of the Pakistan Army. The engineering world recognized him as the architect of the KKH Karakoram Highway. He had in the 1950's gone in as a Captain with a team of surveyors; to map a route to China across the Karakoram. He was versatile; in addition to geotechnical engineering he garnered a wealth of knowledge in allied fields: glaciology, geology, hydrology, earthquake engineering.

His motto was a book a day! During his PhD studies in USA his brilliance was apparent to his Faculty. Inducted as a member of the Apollo Mission review team for structural design of the Lunar Lander module. He spurned offers to join the US Corps of Engineers for the Vietnam Coastal facilities. A Brigadier during his PhD studies he looked forward to return. After returning home promoted to two-star General and made D.G Frontier Works Organization. Around 1974 Tarbela Dam one of the world's largest earth-filled structure was to be commissioned. An ominous problem was discovered; a defect in the 'Stilling Basin' and suspect anchoring of the main dam structure on the right bank. The US Corps of Engineers was asked to assist. Their response: "you have a very skilled engineer who recently returned with his PhD" a better talent would not be easy to locate. G.S. Butt took up the challenging task at Tarbela. It involved massive concreting and structural engineering skills to carry out repairs of the stilling basin and strengthening of the dam structure. Tarbela is the first dam on the Indus Main. Initially between 1975-85 two power tunnels operated with ten turbo-generators rated 175 MW (total power 1750 MW). Later the 3rd Extension (1993) based on the third tunnel would sustain four large turbo-generators each rated 432 MW, the largest in Asia. As Chairman WAPDA (1981-87) he had overseen MONENCO's work on "ranking studies" of the Indus Cascade. In 1984 had made futile efforts to convince Lt. Gen. Fazle Haq the Governor of NWFP (now KP) to rein in opposition to KBD (Kalabagh Dam) by NAP/ANP a party openly aligned with India.

The critical flood control dam KBD, was made contentious by Indian mischief. Political opposition, particularly from the south, allied with the ANP to block this vital project on a false pretense. Later, in early June 2004, he learnt that the Consultant for Diamer Basha Dam (DBD) had switched from the CFRD (Rock-filled) design recommended in the pre-Feasibility study to an RCC Structure in the Final Feasibility. Gen. Dr. Butt was Chairman WAPDA (1981–87) and he reacted at this news! Between June- October 2004, he wrote three detailed letters to President Gen. Musharraf, urging him to instruct WAPDA to revert to the safer and lower cost CFRD option. On June 30, 2004, he held a meeting with the WAPDA Chairman and consultant NESPAK. However, WAPDA influenced by political elements, pushed for a RCC Dam. Second ranked project DBD (Diamer Basha) was consented by these politicians who had opposed KBD. This enormously gifted son of the soil was struck by a brain tumor and passed away on May 1, 2006.

Professor John Briscoe was born on July 30, 1948 in South Africa. An environmental engineer who did his B.Sc. (first class honors) in Civil Engineering from University of Cape Town, South Africa in 1969. An M.S. in Environmental engineering in 1972. In 1976 he was conferred his Ph.D. in Environmental Engineering by Harvard University. Before coming to Harvard, he worked as an engineer in the government water agencies of South Africa and Mozambique; an epidemiologist at the Cholera Research Center, in Bangladesh; a professor of water resources at the University of North Carolina; and, at the World Bank, where he helped oversee projects in water resources, irrigation, hydropower, and sanitation. He has consulted on water issues for nonprofits, governments, nongovernmental organizations, and businesses. John Briscoe while serving in New Delhi as Sr. Water Advisor for the World Bank was appalled by the Indian water aggression against Pakistan, the lower Riparian. He resigned from the World Bank after serving 20 years (1989-2009) and joined Harvard School of Public Health. He was known as "Mr. Water" to environmental economists. At Harvard, Briscoe held appointments at the Harvard School of Engineering and Applied Sciences (SEAS) as Gordon McKay Professor of the Practice of Environmental Engineering. He focused his efforts on the developing world to successfully manage and preserve water as a precious resource. At Harvard, John launched the university-wide Harvard Water Security Initiative, which focuses on major challenges in countries around the world, including the ability to provide people with safe drinking water and food, to produce energy and sustain economic growth, and to enhance environmental quality. He displayed great empathy for the Pakistani nation as soon as he had realized they were in an untenable hydrological trap resulting from an unnatural; rather a cruel and cynical demarcation of the international border between West Pakistan and independent India.

He taught popular undergraduate and graduate courses on water and was nominated for major teaching and mentoring awards. In addition, he led groups of students from across the university in collaborative research on water management in the Colorado, Indus, Mississippi, Murray-Darling, and Sao Francisco basins. John Briscoe had worked on water issues in the subcontinent for 35 years. He lived in Bangladesh in the 1970s and Delhi in the 2000s. He superficially struck a balance in his intellectual grasp of the Pak-India water imbroglio; his over 120 articles in refereed professional journals and eight books had the focus on India, Pakistan and Brazil. His writings on Pakistan displayed a deep sensitivity as he understood the dynamic at play. “Pakistan’s Water Economy Running Dry” (2006) involved eighteen months of intensive work by the World Bank staff and an eminent group of Pakistani and foreign consultants. It received financial support of the Netherlands Government. A great testimony of John Briscoe’s depth and foresight; his sympathy for Pakistan’s plight is immortalized in his saintly article: War or peace on the Indus? The Indian mindset and collusion with imperial Britain was clear. John Briscoe obviously saw enough of this during his tenure as a world bank executive at New Delhi. Regretfully one saw great disparity in Pakistan’s focus compared to the Indian modus-operandi. An open opposition to Pakistani dams. In early 2014, he received the Stockholm Water Prize - the “Nobel Prize of Water" for "unparalleled contributions to global and local management of water contributions covering vast thematic, geographic, and institutional environments-that have improved the lives and livelihoods of millions of people worldwide.” He lost his struggle with cancer that same year. It was obvious why John Briscoe was for his peers “A water-resource expert who championed dams” says his obituary in The Washington Post (Nov 17, 2014.)

Mahmud-Ul-Hasan Siddiqi on the morning of 10 April, 2023 Pakistan lost its most senior Irrigation Engineer, just 15 days short of his 97th birthday. This brilliant patriot obtained his B.Sc. Civil Engineering degree in 1946 with distinction from Aligarh Muslim University. He retired as Chief Engineer, Punjab Irrigation & Power Department. Upto May 1991 was involved in Planning & Design of irrigation Works on Barrages, Headworks, SCARP Tube-wells & Small Dams. He distinguished himself in all aspects of irrigation & water management. He also taught Civil Engineering subjects at the School of Engineering, Rasul. His understanding of the irrigation system was so deep that as a Superintendent Engineer he was responsible for planning, design, execution, Operation & Maintenance of two major canal systems irrigating over 21 million acres. He also mastered the conjunctive use of canal water & tube-well waters on two major canal systems of Upper & Lower Jhelum Canals. As Chief Engineer Irrigation, Sargodha in 1978 he planned and executed the Operation & Maintenance of three major Canal Systems, irrigating about 40 million acres together with a vast network of surface, seepage-cum-storm water drains involving 2100 SCARP Tube-wells & 13 Small Dams. Siddiqi Sahib had developed into a colossus of water management.

He was included for 25 years as a representative of the Government of Punjab in the inter provincial meetings regarding distribution of Indus Basin Waters. He was nominated a member in the Punjab Team which finalized the Water Apportionment Accord of 1991. He acquired vast experience as a technical advisor to Pakistan's Commissioner for Indus Waters at meetings and tours of inspection in India & Pakistan on behalf of the permanent Indus Commission. It was therefore, not a surprise that he was part of highly intricate legal-cum technical discussions that led to the Water Apportionment Accord between Pakistani's provinces; approved by the Federal government. He prepared well for his meetings.

He was officially retired in early 1991 however the Punjab Government recognized his unique skills & selfless attitude. He was made a Consultant to the Punjab Irrigation Department in dealing with:

i) Implementation of the Indus Waters Treaty of 1960; between India & Pakistan.
ii) Matters connected with Water Apportionment Accord of 1991; between Pak Provinces.
iii) Irrigation problems of Punjab

He was attending office regularly till the last day. On 10 April, 2023 he had scheduled an official meeting at his office in the Punjab Irrigation & Power Department. While still at home he passed away as the result of a cardiac event. The chapter of the senior most and oldest employee of the Punjab Government came to a close 15 days before his 97 birthday. It is now a challenge to replace this great professional.

A memoir was presented to the citizens of Pakistan so that his remarkable services be understood and his mission be continued. The Water Resource Development Council (WRDC) my humble NGO had consulted him during last two decades especially when I was a part of the Pakistan delegation to the Closed Door Conference on Kashmir Waters (New Delhi July 2010) and Pak-India Water Dialogue (Bangalore Feb 2014). In recognition of his meritorious services to Pakistan he was awarded Tamgha-e-Imtiaz in 2003 by the President of Pakistan, The IEP National Excellence Award in 2012. He was also awarded the title of Mohafiz-e-Aab in 2016. Truly an indispensable asset for Pakistan. A devoted & selfless son of the soil.