

FULBRIGHT FOUNDATIONS TO FULL BRIGHT FUTURES

WAQAS IDREES

ABSTRACT

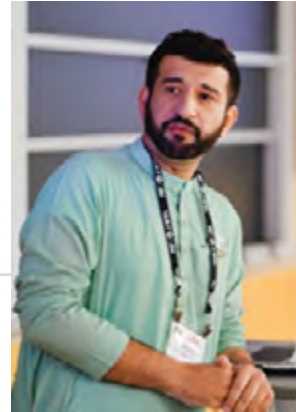
In the tapestry of life's trials and tribulations, sometimes, a single thread of resolve stands out. For me, that thread was the Fulbright scholarship, a goal that took three attempts. But once secured, it became a gateway to a world of possibilities, which later translated into groundbreaking work on sustainability in Pakistan.

Keywords: youth empowerment • actionism • collaboration

“The greatest threat to our planet is the belief that someone else will save it” – Robert Swan.

It is often said that sustainability is not solely about preserving our resources but also about instilling a legacy of empowerment and benevolence. Growing up in a middle-class working family in Pakistan, I've realized that true sustainability lies in 'actionism' and 'paying it forward' – creating a cascade of opportunities that empower others. It's a philosophical dance between being a steward of the environment and a nurturer of potential, ensuring that our footprints on this earth are not just shallow imprints but deep, nurturing grooves that guide future generations toward a brighter, more sustainable future.

This philosophy began to take root in my childhood when my art teacher, Ms. Ambreen, gave us the task of going home and collecting trash for our next art class. I still remember my revulsion as I collected toilet paper tubes, used paper plates, and discarded milk bottles, mixed with confusion as to how this assignment constituted art. The next day, as we sat down at our tables with our “trash” in front of us, Ms. Ambreen started by saying, “Today, we will convert trash into treasure.” The next hour saw a world emerge in front of me: picture frames, decorative plates, and a windmill that could light a bulb using wind power. Every creation was a celebration, a testament to the potential of 'waste' transformed into wonder, instilling in me an enduring lesson in resourcefulness, creativity, and the profound beauty of giving new life to the discarded. A testament to this experience was my first art exhibition at the National Lifestyle Exhibition in 2002, where I showcased art pieces made from recycled materials. My beloved art teacher had started a domino effect. I started teaching my friends how to recycle, reuse, reduce, and repurpose their trash. Little did I know that this small action of guiding others would lead to a life-long love for teaching and mentoring those around me.



WHEN PASSION BECOMES PURPOSE: THE JOURNEY TOWARDS FULBRIGHT

“Study the science of art. Study the art of science. Develop your senses - especially learn how to see. Realize that everything connects to everything else”-Leonardo da Vinci

I am a man of art. Surface aesthetics inspire me. I am also a man of science. To go beyond apparent beauty is my passion. That childhood endeavor of crafting art from trash, especially the windmill made from scraps, left a lasting impression. The bulb powered by nature sparked my curiosity on the connection between art and science. The answer dawned on me when I learned about da Vinci and his contributions to the world. Here was a man who belonged to both religions: art and science. As a polymath, he perfectly understood the importance of harmonious coexistence with nature. While the term ‘sustainability’ wasn’t used in his era, many of da Vinci’s works and notes reflect a deep appreciation for the natural world, an understanding of the interconnectivity of all living things, and thoughts on harnessing energy in sustainable ways, like his studies on water flow and the development of renewable energy sources. His holistic approach to science, art, and nature embodies principles we now associate with sustainability. This man was the inspiration for my desire to pursue a career in engineering, that masterful discipline where art and science are one.

When you embark on a journey that truly reflects your inner calling, the universe has a way of aligning its forces to guide you towards your destined path. In 2005, a 7.6 magnitude earthquake hit the city of Muzaffarabad in Pakistan, and the death toll reached 79,000. I volunteered at the Pakistan Institute of Medical Sciences (PIMS) and saw that among all the other problems afflicting the people in the area, the most crucial ones were no power due to poorly managed electrical setups, major dependency on fossil fuels alone, and no means of alternate energy in case of emergencies. In the children’s ward, the earthquake’s impact was heartbreakingly clear. Deprived of essentials and education, these young souls faced overwhelming adversity. Drawn to their resilience, I devoted my time to storytelling and crafting, transforming simple materials like gauze, wood sticks, and surgical tape into toys and tokens of joy. These moments, reminiscent of my childhood creativity, became a shared language of hope and expression amidst the shadows of disaster.

Back in school, I began thinking about the role of engineering in mitigating harm from natural or forced calamities. At the time, I was in my third year at university, studying specialized courses in Electrical Engineering. It was the basic principle of a generator that made me research further on electricity production. I became interested in electrical power generation using intermittent sources. Also, I had read in *New Scientist* that engineers were

trying to generate useful power from human muscle activity. After meticulous research, I finally locked on to a final-year project about energy generation through muscle movement. Based on a research paper from MIT, I graduated with practical results, a sense of purpose, and a passion to change the world.

However, the initial thrill of graduation soon faded into a sobering understanding. In Pakistan, not only was active research in sustainability limited, but efforts in renewable energy were siloed, rendering them largely out of reach for students and researchers nationwide. This situation was exacerbated by the prevalent reliance on imported technology, as local indigenization of technology lagged, and cutting-edge topics remained absent from university curricula. This disconnect between academia and industry created a gaping void, further sidelining the youth whose potential to drive innovation and foster change in these pivotal fields was left largely unexplored and unutilized.

Driven by a need for hands-on experience and a broader view of the world and inspired by my mother's unwavering belief in the power of quality education and international exposure, I decided to pursue a master's degree abroad. However, the financial barriers seemed insurmountable until my mother introduced me to the Fulbright scholarship. To me, Fulbright became more than a scholarship; it was a lifeline, offering a chance at unparalleled growth and learning for someone from a humble background, turning dreams of international education into attainable realities.

MERGING OF PROFESSIONAL AND PERSONAL PASSION: THE SEEDS FOR I CARE

“We cannot always build the future for our youth, but we can build our youth for the future”-Franklin D. Roosevelt

I went to the US to study energy systems from the lens of policy reforms and regulations. At Northeastern, I studied under Dr. Gregory Kowalski, an eminent professor in the field of mechanical engineering. At Massachusetts Institute of Technology, I studied ‘Engineering, Economics, and Regulation of the Electric Power Sector’ under Dr. Ignacio J. Pérez Arriaga, who has played a monumental role in the liberalization of the electric power sector of the European Commission and Latin America. Under their guidance, I was able to critically analyze Pakistan's power sector and determine the barriers to switching to more sustainable options. Fulbright helped me set Pakistan toward a more sustainable, energy-independent future. As a sustainability and climate risk expert and the youngest technical member on a USAID-funded project, I facilitated the financial closing of 12 wind and four solar power projects that will provide 860MW of renewable energy for Pakistan's national power grid. This represents a private and public sector investment of \$922 million in clean energy projects, which is an extraordinary achievement given Pakistan's credit rating, political instability, and risk perception. I am also assisting the

government in designing a competitive procurement process for renewable energy generation, which will serve as the foundation for renewable energy auctions in the future. I have also developed a comprehensive investment strategy to help Pakistan achieve its ambitious NDC targets for 2030.

In addition to my professional development, I was also able to refine the solution to a social problem I had been observing growing up: access to education. UNICEF estimates that 22.8 million children are out of school in Pakistan. As a kid, I offered free tuition classes to underprivileged children in my neighborhood. However, the gesture often felt pointless because of its limited geographic reach. It was only when I had to take online lectures during Boston's infamous blizzard season that I truly began to appreciate the potential of digital learning. Upon returning to Pakistan, I conducted studies on the efficacy of digital learning in educating underprivileged and displaced children through the lens of P21 century skills. The results for both studies were overwhelmingly positive and presented at MIT's LINC 2016 and 2019 conferences. In a world altered by Covid-19, the real impact of these studies became even more apparent, and researchers from all over contacted me to discuss adapting the findings for their regions.

While on the Fulbright scholarship, I was also able to study sustainability through the lens of 'activism' and 'actionism' and became involved in the Official Children and Youth Constituency of the United Nations Framework Convention on Climate Change (UNFCCC), YOUNGO. I was surprised to see how the youth of Pakistan were underrepresented on international platforms, especially those belonging to underprivileged areas. This revelation became the catalyst for an initiative aimed at amplifying their voices on a global stage. By nurturing a program rooted in cultural resonance and linguistic empowerment, my mission was to bridge the gap between local voices and global platforms, ensuring that the youth of Pakistan could contribute meaningfully to the discourse shaping their future and, in doing so, redefine the landscape of international environmental dialogue.

I CARE: NURTURING SUSTAINABLE YOUTH LEADERSHIP AND CLIMATE RESILIENCE

"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek." - Barack Obama

Before receiving the Fulbright scholarship, I was captivated by stories of transformation—how individuals were empowered to chart their unique courses upon returning from their Fulbright journeys. For me, the impact of Fulbright was significantly more profound; it was the gateway to discovering my voice and

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amplifying the voices of many in Pakistan. The insights and experiences accumulated over two years ignited breakthroughs that became the foundation of I CARE (Initiative for Climate Awareness and Resilient Earth). With a profound impact on over 6000 Pakistani youth, I CARE has embarked on a transformative journey that resonates with the pressing need to address climate change, environmental degradation, and socio-economic disparities. Through I CARE, I have extended Fulbright's impact to the local level, fostering youth leadership and climate resilience, a testament to the lasting influence of Fulbright in sculpting a world where there are no obstacles to learning, understanding, and collaboration.

One of I CARE's primary focuses is education. Recognizing the critical role of knowledge in fostering a sustainable future, I CARE endeavors to provide marginalized youth with access to education that extends beyond traditional classroom boundaries. Leveraging digital platforms, it has developed educational content and resources tailored to the needs of underprivileged children in Pakistan. These resources are designed to instill in them not only academic skills but also meta, humanistic, and life skills, equipping them to face the challenges of the 21st century.

A standout achievement of I CARE is its role in organizing Pakistan's first-ever Local Conference of Youth (LCOY), officially endorsed by the United Nations Framework Convention on Climate Change (UNFCCC). This groundbreaking event provided a platform for Pakistan's youth to raise their voices on the global stage, enabling them to contribute meaningfully to discussions on climate action and sustainability. Through LCOY, I CARE not only empowered young individuals but also facilitated the creation of Pakistan's first youth-led policy paper, reflective of the viewpoints of Pakistani youth, which was synthesized into the Global Youth Statement (GYS) presented at the 18th United Nations Climate Change Conference of Youth (COY18) and subsequently at COP28.

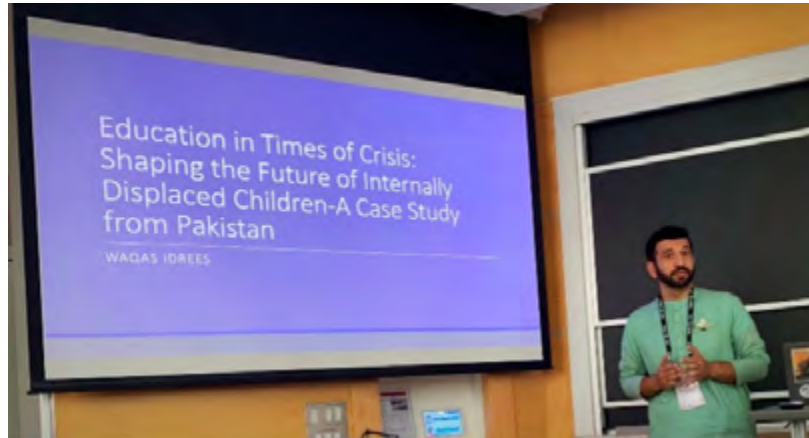
Collaboration lies at the heart of I CARE's mission. Through partnerships with influential entities like UNICEF, UNDP, and Pakistan's Ministry of Climate Change, I CARE has amplified its impact and engaged in projects of national and international significance. "COP in My City" is a project that promises to shape Pakistan's youth into global climate leaders. In 2023, I CARE empowered young individuals from diverse backgrounds, equipping them with the knowledge and skills to participate actively in climate discussions and represent Pakistan on the global stage. Eight select participants got the unparalleled opportunity to attend COP28 on Party badges and sit in actual negotiations to discuss and understand the nuances of international diplomacy. Recently, I had the honor of being chosen for the esteemed One Million Leaders in Asia (OMLAS) Fellowship. This opportunity will significantly amplify I CARE's reach as we join forces with counterparts across Asia, heralding a new era of expanded impact and collaborative efforts for sustainable change.

I CARE's work extends to environmental literacy and awareness. Recognizing the urgent need to address climate change, I conduct awareness campaigns, workshops, and seminars, spreading the message of sustainability and climate resilience to communities across Pakistan. These sessions are tailored to the local and cultural context so that the sessions are relevant and helpful for the participants. Additionally, the sessions are augmented through various games and experiments to keep the participants engaged, and complex theories are easily understood. By promoting environmental literacy, I CARE seeks to create a groundswell of informed citizens who understand the gravity of climate-related challenges and are inspired to take meaningful action.

In addition to these efforts, I CARE utilizes the power of media to foster awareness. "Climate Conundrum" is a Radio podcast I regularly host through Pakistan's Planet FM87.6 radio station. It aims to dispel climate myths, educate people on adopting sustainable practices and empower the youth to make the world around them better through small acts of change, like composting, recycling, etc. The podcast and news articles published in various national and international media serve as powerful tools to disseminate information on climate change, sustainability, and youth empowerment. These multimedia platforms provide a voice to the youth, allowing them to share their insights, experiences, and solutions with a wider audience.

In essence, I CARE embodies the spirit of transformation and empowerment. It is a movement that seeks to nurture a new generation of leaders who are not only aware of the pressing climate and sustainability issues but are also equipped with the knowledge, skills, and determination to address them. With every initiative and partnership, I CARE takes Pakistan closer to a sustainable and resilient future where no one is left behind, and the youth are at the forefront of positive change.

Creating a sustainable future is akin to weaving a tapestry with threads of resilience, innovation, and collective conscience. It's about understanding that our actions today script tomorrow's narrative, ensuring that the legacy we leave is one of balance, harmony, and empowerment. The Fulbright journey, as chronicled in this article, mirrors this ethos, translating academic excellence into actionable wisdom. It's not just about lighting a path for oneself but igniting beacons that guide entire communities toward enlightenment and sustainability. My Fulbright journey embodies this philosophy and is a testament to the power of collaborative effort in crafting legacies that transcend arbitrary borders and generations to ensure collective good for all who inhabit this earth.



BIOGRAPHY

Waqas Idrees is a certified Sustainability and Climate Risk (SCR) expert, a seasoned Electrical Engineer, and a Fulbright Scholar with a Master's in Energy Systems from Northeastern University, supplemented by advanced studies at the Massachusetts Institute of Technology. Over the past decade, Waqas has been instrumental in integrating sustainable energy sources into Pakistan's national grid, spearheading the mobilization of over 800 MW of solar and wind assets, a testament to his leadership in facilitating significant private sector investment exceeding \$900 million. He is currently working as a Senior Energy Specialist at The World Bank. Waqas's professional work and investment in social causes not only paves the way for a more sustainable and resilient energy future but also fosters a brighter, more educated generation. For inquiries and collaboration, he can be reached at waqas.idrees@fulbrightmail.org
