

By Leaders
for the
Leaders



EXPLORING GRASSROOT LEADERSHIP THROUGH LENS OF SDG

Kantipur City College

Exploring Grassroot leadership through lens of SDG

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MESSAGE FROM THE PRINCIPAL OF KCC

It is with great pleasure that I extend my heartfelt congratulations on the publication of this significant work. In an era marked by complex global challenges, the role of youth as catalysts for change has never been more critical. This collection of essays represents the voices of a generation ready to confront the pressing issues of our time, from water security and disaster risk management to gender justice and global citizenship.



At Kantipur City College, we believe that education extends beyond the classroom. It is about nurturing critical thinkers, compassionate leaders, and responsible global citizens who are equipped to address the challenges facing our communities and our planet. The diverse perspectives presented in this book reflect the values we hold dear: innovation, sustainability, social equity, and resilience.

Nepal, with its rich cultural heritage and unique environmental landscape, stands at a crucial juncture. The issues explored by our students are not merely academic exercises but lived realities that demand urgent attention and thoughtful action. Each contribution in this volume offers practical insights and inspiring narratives that demonstrate how local action can contribute to global objectives, particularly the Sustainable Development Goals.

I am immensely proud of the students who have contributed to this publication. Their commitment to research, their passion for social change, and their courage to voice their perspectives exemplify the spirit of engaged scholarship that we strive to cultivate. These young leaders remind us that the solutions to our greatest challenges often emerge from those closest to the issues, and that youth perspectives are essential. May this book inspire countless individuals to embrace their potential as change makers, to advocate for justice and sustainability, and to work collaboratively toward building a more equitable and resilient future for all.

Yours sincerely

Mr. Raju Kattel

MESSAGE FROM THE VICE PRINCIPAL OF KCC

It is a matter of great pride to witness the publication of this remarkable collection of essays by our students. This book represents not just academic achievement, but a deep commitment to addressing the real challenges that our communities and our world face today.



The topics covered in these pages reflect the diverse interests and passions of our students. From clean water and sanitation to disaster risk reduction, from gender justice to sustainable development, each essay demonstrates thoughtful engagement with issues that matter. Our students have not only researched these topics but have also connected them to their lived experiences and the realities of our communities. At Kantipur City College, we encourage our students to think critically, question boldly, and contribute meaningfully to society. This publication is a testament to that vision. It shows that young people are not just learners but also educators, not just observers but also active participants in shaping a better future.

I commend each contributor for their dedication and hard work. Writing is a challenging process that requires patience, research, and the courage to share your ideas with the world. You have all risen to that challenge admirably.

To our readers, I hope this book offers you fresh perspectives and inspires you to engage with these critical issues. The voices you will encounter here are authentic, passionate, and grounded in the realities of Nepal and the broader global context. May this be the first of many such initiatives that amplify youth voices and contribute to positive change in our society.

Yours sincerely

Er. Bhanu Niraula

MESSAGE FROM THE STUDENT AFFAIR LEAD

It is with immense pride and joy that I congratulate all the contributors to this publication. As the mentor of this remarkable group of young leaders, I have had the privilege of witnessing their growth, dedication, and passion for creating positive change in our society.



This book is the result of countless discussions, debates, and collaborative efforts. Each essay reflects the genuine concern our students have for the pressing issues facing Nepal and the world. From water and sanitation challenges to disaster risk management, from gender justice to sustainable development, these young minds have engaged deeply with topics that will shape our future.

What strikes me most about this collection is not just the quality of research and writing, but the authenticity of the voices. These are not abstract academic exercises. These are real concerns from young people who are living these realities, who understand the challenges their communities face, and who are determined to be part of the solution.

Mentoring this group has been one of the most rewarding experiences of my professional journey. Their curiosity, their willingness to learn, and their commitment to making a difference remind me why education and youth empowerment are so crucial. They have taught me as much as I have guided them.

To all the contributors, I commend you for your hard work and perseverance. You have shown that youth voices matter and that your generation is ready to take on the challenges of our time with creativity, compassion, and courage. May this book inspire others to join you in this journey of learning, advocacy, and action. The future is indeed in capable hands.

Yours sincerely

Er. Ravi Khanal

MESSAGE FROM THE EDITOR IN CHIEF

It is with great excitement and a deep sense of accomplishment that I present this collection of essays to you. What began as an idea to create a platform for youth voices has evolved into something far more meaningful. This book represents the collective thoughts, concerns, and aspirations of young people who refuse to remain silent in the face of the challenges our world faces today.



As Editor-in-Chief, I have had the unique opportunity to work closely with each contributor, to understand their perspectives, and to help shape their ideas into the essays you see before you. This journey has been both challenging and incredibly rewarding. Every essay in this collection carries the distinct voice of its author, reflecting their personal experiences, their research, and their vision for a better future.

The topics covered in this book are diverse, yet they are all interconnected by a common thread: the belief that change is possible and that we, as young people, have a role to play in creating that change. From ensuring access to clean water and sanitation to building resilient communities, from fighting for gender justice to promoting global citizenship, these essays address issues that are not just relevant but urgent.

I am deeply grateful to every contributor for their trust, their hard work, and their willingness to share their stories and ideas. I also want to thank our mentors, faculty members, and everyone who supported this initiative. Your encouragement and guidance made this publication possible.

To our readers, I hope this book resonates with you. I hope it challenges you, inspires you, and most importantly, moves you to action. These are not just words on paper. They are calls to engage, to question, and to contribute to the world we all share. This is just the beginning. Let us continue to amplify youth voices and work together toward a more just, sustainable, and equitable future.

Yours sincerely

Milan Shrestha



Luniva Shrestha

Exploring how Gen Z is Redefining Leadership Through Sustainability Action

Introduction

Over the years, shifts in leadership have been influenced by generational change, reshaping the internal dynamics of organizations and their adaptability to societal transformations. As a university student leading sustainability initiatives, I've seen how the leadership spaces are not open for young leaders like us. Generation those born between the mid-1990s and early 2010s are no longer just digital natives; they are innovators, change-makers, and increasingly, decision-makers. Unlike their predecessors, Gen Z leaders prioritize inclusivity, adaptability, and purpose-driven work, reshaping what it means to lead in a rapidly changing world. Their rise signals not just a generational shift, but a transformation in leadership values and practices.

Understanding Gen Z leadership traits

As a Gen Z member myself, I approach leadership with a fundamentally different philosophy than my predecessors. In my past volunteer work with Leo Club, I've learned that Gen-Z leadership means not only leading but also prioritizing the voices of the unheard. Gen-Z leaders are redefining what effective leadership looks like in the 21st century. Standing up against all odds and chaos, Gen Z has proved to be a strong pillar of the transforming generation. The future belongs to those who lead with purpose and adapt with courage, and Gen Z is actually bringing such an impact.

When I was part of the cleaning campaign in my school days, we collaboratively completed our tasks and learned how effective teamwork enhances the results. We believe in leading through collaboration, encouraging open communication and teamwork rather than a strict hierarchy. Transparency, empathy, and innovation define their approach. Many Gen Z leaders are also passionate about mental health and sustainability, reflecting their belief that effective leadership is not only about achieving results but also about caring for people and the planet.

The Eco-conscious generation

Gen Z is the most diverse and digitally connected generation in history. They are growing up in a world of climate change, pollution, and plastic waste, and they are absolutely aware of the impact that humans are having on the environment.

Regarding spending habits, Gen Z is willing to utilize their money where the values are added. A 2020 First Insight Study of 1,000 US consumers found 66% of Gen Z are willing to pay for sustainable or environmentally friendly products, and 73% are willing to pay more for ethically sourced products. As Gen Z, we are likely to support eco-friendly brands, invest in sustainable products, and champion the circular economy. The approach to consumption is mindful and deliberate, favoring quality over quantity and long-term sustainability over short-term convenience. As a result, Gen Z is a highly Eco-conscious generation that values sustainability in their purchasing decisions and expects brands to take the lead on environmental issues.

Gen Z in the Workplace

In today's workplace, Gen-Z leaders are challenging long-lasting norms. They advocate for flexible work environments that encourage creativity and individuality. They are redefining productivity-focusing on quality, innovation, and impact rather than just spending hours in the office. They often emphasize feedback, mentorship, and shared learning. Moreover, Gen Z prioritizes work-life balance and mental well-being, prompting companies to adopt a healthier, more human-centered work culture.

The young leaders are bold enough to raise their voices and stand up for causes they believe in, from social justice to climate action. Their courage to speak out is inspiring both peers and older generations to rethink what effective leadership truly means.

Beyond the Workplace

For sustainable industrialization and fostering innovation, Gen-Z's influence extends far beyond corporate offices. At a young age, many are leading social movements like Hami Nepal, startups like clothing brands, businesses, and innovative platforms that challenge traditional systems and inspire creativity. The leaders are building communities around shared values and global awareness. Most of all, social media has given them the power to connect, educate, and mobilize people. Through digital platforms, they can influence the masses, resulting in impactful and authentic leadership. Influencers and public figures could use their voices for leadership and the right objective, which could impact the generation and society for the better.

SDGs for the Generation Z

Identifying why a young person is searching for something to interact with, there is this whole process based on the Reframing Model (by T. Wedell-Wedellsborg) and Jobs to be done theory (by C.M. Christensen, T. Hall, K. Dillon, and D. S. Duncan). By having a new psychographic approach towards youth education on Agenda 2030, according to values, we will find relevance in young pupils' everyday activities.

The new Gen Z lives in the access economy; thus, they do not rely on owning things. They evaluate success by measuring how involved one is in a world community, how effectively connected to a variety of information sources, and how he/she is solving the planetary problems. This change in mindset should be addressed accordingly. The situation has different layers shaping how the 17 SDGs should be presented. Education on Agenda 2030 should involve at least three actions: Integrating SDGs into familiar and interesting themes: popular cartoons, online games, etc. Delivering on-demand access through a digital platform with constant gamification. Engaging individuals with challenges: creating various exercises around the 17 SDGs.

Challenges faced by Gen Z Leaders

As a university graduate, I've faced certain obstacles in the education and leadership areas. Our voices were left bare, and we were not invited to any public or leadership matters. Many voices were only used for the benefit of political issues, not from a positive leadership aspect. With the rapid pace of technology and information, there comes a sudden challenge to improvise growth, mentorship, and inter-generational collaboration- helping bridge the gap between tradition and transformation. Even as Gen Z rises, they face various obstacles as skepticism from older generations, limited experience, and constant digital pressure. But these challenges boost them even better into resilient and adaptable leaders. Balancing confidence with humility and innovation with patience remains a key learning curve. By blending the wisdom of older generations with their innovative spirit, Gen Z can create a balanced, forward-looking model of leadership. Despite tough situations and hardships, they have the potential to turn the scratch into something much bigger and meaningful. In the world of technology and growth, Gen Z has it all to build and generate an innovative future with a driven mindset.

Shaping Tomorrow

As Gen Z continues to take on leadership roles across industries and causes, the definition of leadership itself is evolving. The future holds empathetic, inclusive, and purpose-driven leaders, which clearly defines Gen Z. Their ability to merge technology with humanity, innovation with empathy, and ambition with social responsibility sets them apart. The rise of Gen Z leaders marks not just a generational shift, but a cultural one - towards a world led by vision, values, and a shared sense of purpose.

Based on SDG 4, it ensures quality education. Progress has been made towards the 2030 education targets set by the United Nations; continued efforts are required to address persistent challenges and ensure that quality education is accessible to all, leaving no one behind. The future of leadership will undoubtedly be digital-first, driven by creativity and global awareness, areas where Gen Z excels. They are the power that drives the nation, providing every possible solution for growth and development.

Recent case

Moving on to the exemplary scene of the recent Nepal protest in September 2025 against political corruption: Gen Z were the change-makers and one of the most powerful leaders who preferred collaboration and peace over control. There was massive destruction of the government buildings, which led to the worst scene. In the tough situation, they were fearless and bold enough to protect themselves and fight back. Despite all odds, they fought back till the end, sacrificing their own life. Gen Z is already making a visible impact in workplaces, communities, and online spaces. They value open communication, mental health, diversity, and teamwork. Their approach to leadership is authentic — they lead by example, listen actively, and use technology to connect and inspire others. The true example of Gen Z lies in their vision for the future. They see leadership not as a position of power, but as a responsibility to create a positive impact. With their creativity, adaptability, and awareness of global challenges, they are driving conversations about sustainability, equality, and innovation. The use of digital tools combined with emotional intelligence ensures that the future of leadership will be more connected, compassionate, and forward-thinking than ever before.

Purpose over power

In terms of mental health and empathy, Gen Z underscored its importance by being more open about it and expecting the workplace to support it. The recent protest has led to frustration among Gen Z youth, and as a result, they have stood stronger for justice and stability. As leaders, they prioritize psychological safety, work-life balance, and inclusive cultures. Gen Z even faces hurdles, just like underemployment and a broken hiring system that doesn't always recognize their potential. However, their resilience and insistence on change may be exactly what the workplace needs. They value radical inclusion and are more likely to lead with emotional intelligence than authority. Gen Z expects leaders to be authentic, open, and honest about organizational challenges and decision-making processes. This demand for accountability helps foster a culture of ethical practices and responsible management, which is crucial for achieving the governance-related dimensions of the SDGs, such as SDG 16 (Peace, Justice and Strong Institutions).

Technology and the Gen Z Edge

Growing up in a hyper-connected world, Gen Z brings a native understanding of technology to leadership. They often have an affinity for dealing with people on a more personal level, both when communicating with colleagues and with customers, allowing them to provide more individualized services and support. They are comfortable with remote collaboration, AI tools, and decentralized decision-making. As the world is evolving digitally, Gen Z adds that spark, leading to a more digitized and connected system. In the recent couple of years, the updated version of Nepal has definitely included Gen Z as the most heroic member of the nation to uplift and capture the essence of values and connection. It also shows genuine interest and understanding of the psychology of why people do what they do. They prioritize transparency and two-way communication- giving and receiving regular feedback, promoting development conversations, and co-creating team goals.

As such, younger professionals are already starting to reshape the working landscape even before they drive into leadership roles, and this influence will only increase in the years to come. All of these leadership qualities and goals have the potential to be hugely beneficial and transformational for any organization, equipping companies for the challenges of the modern era.

Conclusion

This movement isn't about abandoning ambition; it's about reshaping how we measure and pursue success. Gen Z is challenging organizations to rethink leadership structures, workplace cultures, and career models. They aim to lead with purpose in addressing problems such as climate change, inequality, and mental health crises. Companies that hold onto rigid hierarchies risk losing the trust and engagement of the generation shaping the future of work. In the age of Gen Z, leadership is no longer about being the boss- it is about being human, authentic, and collaborative.

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AUTHOR'S INTRODUCTION

Luniva Shrestha is a BIT graduate of Kantipur City College, Purbanchal University. She previously served as secretary of the Sustainable Development Solutions Network (SDSN) Club, where she organised and hosted several events focused on quality education and youth leadership. She is also an active member of the Leo Club, currently serving as Vice President and contributing to different community-based programs. She has volunteered in community projects and youth awareness programs.

Beyond academics, Luniva finds joy in dancing, hiking, travelling, and writing through which she expresses her emotions and reflections. She believes that leadership is something you claim rather than you wait for, and that true impact comes from inspiring others through purposeful action. She deeply values the ideas youths bring forward and believes in their power to transform the impossible into meaningful change for a sustainable future.

As an IT student, she aspires to build a career in the technology field while continuing her commitment to community service and sustainable development. She hopes readers will feel encouraged to rethink leadership as a human-centred journey, one driven by purpose, curiosity, and conscious action. A quote that inspires me is: "One spark of intention can ignite a lifetime of change."- Unknown



Bishnu Shrestha

Engineering with Nature: Pathways to Sustainable Infrastructure and Biodiversity in Nepal

Abstract

Engineering with Nature (EwN) and Nature-based Solutions (NbS) use ecological processes and living systems to create resilient, multifunctional infrastructure. This article presents practical, Nepal-specific ideas with applied techniques, governance pathways, financing options, and monitoring methods suited to Nepal's geography and institutions. The goal is to offer an actionable roadmap for engineers, planners, and communities to implement EwN projects that enhance biodiversity, reduce disaster risks, and deliver socio-economic benefits (Bridges et al., 2018; IUCN, 2016).

Introduction

Nepal's steep topography, monsoon climate, and heavy reliance on river systems create both enormous opportunity (hydropower, irrigation, ecosystems services) and acute risk (floods, landslides, sedimentation). Historic events such as the 2008 Koshi breach demonstrate how sediment dynamics can reshape floodplains and livelihoods for years, while sediment-laden Himalayan rivers threaten hydropower assets and reservoir lifespans. These realities make EwN embedding ecological functions into infrastructure not only desirable but essential for long-term resilience and sustainable development in Nepal (Kafle et al., 2017; WWF Paani Program).

The concept of Engineering with Nature (EwN)

EwN intentionally aligns natural processes and engineered systems to achieve economic, ecological, and social benefits. It ranges from low-tech bioengineering of slopes and riparian buffers to large-scale river restoration and multi-benefit wetlands. EwN also overlaps with globally used terms such as Nature-based Solutions (NbS) and natural and nature-based features (NNBF). The technical core is simple, design infrastructure that accepts and harnesses dynamic processes (sediment, water, vegetation growth) rather than fighting them with purely gray structures (Bridges et al., 2015; Cohen-Shacham et al., 2016).

Practical and innovative EwN pathways for Nepal Below are concrete, practicable pathways that tailor EwN principles to Nepali conditions. Each pathway pairs technical measures with governance to increase uptake and sustainability.

1. River corridors as multifunctional Establish legally recognized 'dynamic river corridors' where designated low-value floodplains are intentionally reconnected to rivers during monsoon to store sediment and water, reducing pressure on embankments and downstream towns. Reclaimed sediments in shallower zones can be rapidly converted to high-value vegetable production using agro-saline-adapted cropping and minimal tillage. This reduces catastrophic sediment impacts (as seen after the Koshi flood) and provides new local livelihoods. Implementation needs cadastral zoning, community consent mechanisms, and short-term compensation funds. (Kafle et al., 2017; World Bank, 2018).

2. Integrated sediment management for hydropower

Combine upstream watershed measures bioengineering, afforestation, terrace rehabilitation with plant-level technologies such as optimized sand traps, hydrocyclones, flushing, and sediment bypasses. Establish a Sediment Management Trust Fund using a small hydropower levy and climate finance to support upstream conservation and sediment infrastructure. Pilot bypass/flushing at key plants like Kulekhani and Jhimruk, ensuring ecological flow monitoring (Chitrakar, 2019; ICIMOD, 2019).

3. Road and slope engineering that grows stronger with time
Standardize a hybrid specification for mountain roads that couples geotextiles/geocells with native deep-rooting hedges, bamboo crib walls, fascines, and staggered drainage outfalls. Use prefabricated biodegradable erosion-control mats seeded with native grasses for immediate protection and phased planting of shrubs/trees for long-term root reinforcement. Include local nurseries and road crews as micro-enterprises, this reduces cost and ensures maintenance. (Dhital et al., 2012; Demonstrating NbS Nepal, 2023).
Fig.Local Adaptation To Climate Change(LACC) Project, Achham

4. Urban green-blue infrastructure for Kathmandu and secondary cities
Develop green corridors along seasonal "nalas" with selective daylighting, add pocket wetlands for stormwater retention, install permeable pavements in market areas, and promote rooftop/vertical greening in dense zones. Integrate these with wastewater-reuse wetlands supporting parks and urban agriculture. A "Green Nala" pilot in Kathmandu can demonstrate flood reduction, heat-island control, and improved biodiversity (World Bank, 2018; IUCN, 2016).

5. Bioengineered river training for rural bridges and roads
Use hybrid bioengineering methods like brush layering, bamboo crib walls, and vegetated stone pitching instead of full concrete. These cost-effective, locally maintainable solutions reduce riverbank erosion near bridges and rural roads. DoR and municipalities can adopt standard bioengineered embankment designs.

Governance, policy and finance, turning pilots into scale
Integrate Eco-engineering with Nature (EwN) into national planning frameworks such as the National Adaptation Plan and hydropower licensing, introducing mandatory EwN screening for major infrastructure projects to identify where nature-based solutions can replace or complement gray infrastructure.

AUTHOR'S INTRODUCTION

Bishnu Shrestha is a final-year Civil Engineering student at Kantipur City College, Purbanchal University. He serves as an SDG Ambassador, where he actively promotes sustainability, youth engagement, and environmentally responsible practices within his academic community. As Program Coordinator(Lead of Civil Faculty) of the Student Quality Circle (SQC), he has strengthened student leadership and collaborative problem-solving skills. Bishnu has contributed to impactful engineering projects, including designing and demonstrating a GLOF outburst model that highlights its risks and showcases nature-based mitigation strategies. He has also volunteered with SAF Nepal, delivering Disaster Risk Mitigation (DRM) training to government school students in Kathmandu.

Outside the classroom, Bishnu enjoys long bike rides, cooking, photography, and exploring innovative engineering solutions to address Nepal's rising infrastructure challenges. For him, leadership means taking initiative, inspiring peers, and co-creating solutions that align technology with ecological wisdom. His engineering philosophy strongly reflects the belief that true resilience emerges when nature and infrastructure complement each other. Bishnu aims to advance Engineering With Nature approaches in hydropower, slope stabilization, and urban resilience across Nepal. A quote that guides his purpose is: "Nature is not a place to visit. It is home." – Gary Snyder.



Premal Kumar Shrestha

A New Voice Against the Old System

A look at how Nepal's Gen Z protests fit into a long history of youth movements and why today's young people are done accepting an old, corrupt system designed to keep them silent.

1. What Happened and When

The spark that ignited Nepal's massive youth uprising began on September 5, 2025, when the government blocked 26 major social media platforms. Citing registration issues under the Electronic Services Operations Act, the move instantly mobilized young people at Maitighar, with protests rapidly spreading to Pokhara, Biratnagar, Chitwan, Butwal, and Nepalgunj within a day (Reuters, 2025). What started as outrage over the ban quickly grew into a nationwide demand for accountability and economic opportunity. By September 7, clashes with police had turned violent, resulting in reported deaths and injuries (Reuters, 2025). Although the ban was lifted on September 9, the anger that drove the protests had already taken root, revealing the true issue: a long accumulation of frustrations carried by young Nepalis against a corrupt system.

2. Youth Movements in Nepal: A Long Lineage

Many news outlets described the 2025 protests as unprecedented. But Nepal's history shows that young people have always been at the forefront of change:

1990 Jana Andolan I: Students demanded multi-party democracy.

2006 Jana Andolan II: Youth activists played a major role in ending the monarchy's direct rule (Kathmandu Post, 2025).

2015 Constitution Movement: Students protested political interference and constitutional delays. The 2025 protests continue this lineage, but today's Gen Z is different. They grew up online, are globally informed, and reject the mindset that "यहाँ यस्तो नै हो" - a phrase meaning "This is just how things are here."

3. The Real Frustration: Everyday Corruption

For today's youth, corruption isn't an abstract political topic; it affects their daily lives.

Jobs and Hiring: PSC exams remain largely fair, but outside that system, opportunities often depend on "sources and forces." Merit is frequently secondary. (MacroTrends, 2025).

Local-Level Procurement: Reports continue to show that many development projects follow a commission model in which 15–20% of the budget goes to brokers or politically connected individuals (Transparency International Nepal, 2025).

Political Appointments: Hospitals, universities, and public boards are often filled based on party loyalty rather than competence (Kathmandu Post, 2024).

Youth Unemployment & Migration: With youth unemployment around 20% (MacroTrends, 2025), many feel the only reliable "system" is to leave. Over the last decade, more than a million young Nepalis have migrated for study or work.

This is why the protests resonated so deeply: they reflected the experiences of an entire generation.

4. A Global Pattern: Nepal Isn't Alone

Nepal's movement mirrors a broader global trend of youth-led resistance.

Morocco: The "Gen Z 212" protests saw more than 2,400 arrests, driven by demands for jobs and honest governance (Morocco World News, 2025).

Togo: Young protesters challenged dynastic political structures (Wikipedia, 2025)..

Paraguay: Students and youth groups led nationwide demonstrations against corruption (Wikipedia, 2025).

Different countries, different contexts — but one clear message: the old systems no longer work for young people.

5. What Changed After the Protest?

Several immediate results followed:

The social media ban ended on September 9 (Reuters, 2025).

The government agreed to revisit parts of the Electronic Services Operations Act (Kathmandu Post, 2025).

Civil-society groups regained momentum after years of pressure (Kathmandu Post, 2025).

Young people began openly discussing digital rights and accountability (Al Jazeera, 2025).

Real systemic change will take longer, but the protests shifted the national mood and showed that this generation will not remain silent.

6. Personal Reflection

One moment from the protests still stays with me: teenagers marching with their schoolbags on. It reminded me of my cousin, who left for Australia after losing a job to political favoritism. “I didn’t leave Nepal. Nepal left me,” he said.

This movement isn’t chaos; it’s Gen Z demanding dignity, fairness, and the freedom to dream without political barriers.

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AUTHOR'S INTRODUCTION

Premal Kumar Shrestha is an 8th-semester student at Kantipur City College, studying computer engineering, and currently leads the KCC SDSN Club's GCED and SDG Advocacy. In this capacity, he collaborates closely with students to start discussions about youth responsibility, global citizenship, and sustainability. Additionally, Premal has been actively involved in initiatives like YES Nepal, helping to organise gatherings where students come together to study, think, and act.

Premal likes taking pictures, listening to music, and experimenting with innovative tech projects while he's not studying. Effective leadership, in his opinion, is finding a balance between acting, listening, and inspiring others to participate in change. Effective leadership, in his opinion, is built on empathy, accountability, and the courage to confront systems that no longer serve people. Premal hopes to keep building solutions that connect technology with governance and empower young people to speak up. He wants readers to remember that change often starts with ordinary people deciding not to stay silent. A quote that motivates him is: “The power of youth is the common wealth for the entire world.” — Kailash Satyarthi.



Kiran Silwal

From data to decisions: How AI and Early Warning Systems (EWS) predict and analyze natural disasters to save lives in real time

Introduction Just a few days back just after tika in Dashain, the people in my neighbourhood got an alert on my phone like many other people before the rivers overflowed near my house. It was a small message, but it allowed the shops nearby to move their things before the flood. This article explores how AI and Early Warning Systems (EWS) are helping turn raw data into decisions that save lives by focusing on disasters in Nepal and the world.

Flood warnings in Nepal made real Nepal is very vulnerable to flooding, especially during monsoon season. But things are changing. In the Babai River Basin (Bardiya district), the Department of Hydrology and Meteorology (DHM) sent warnings to 50,000 residents ahead of a flood. One village leader estimated that 450 lives were saved when the alert reached his community in time. (Thomson Reuters Foundation, 2017)

I have collected a few more examples. In the Karnali River Basin, researchers found that the early warning systems improved from about 2–3 hours to 7–8 hours thanks to a better forecast model. (Smith, Brown, & Dugar, 2017) So, basically more time means more choices. The people can save themselves, move their livestock, and protect their property due to those crucial hours. These numbers show us how data, AI, technology and community can act together to save lives. AI isn't just a fancy word. It enables us to analyze rainfall, river flows, and collect data from sensors. Then we can use AI models to predict and accurately issue warnings in time.

Lessons from Japan's earthquake and tsunami system Looking at another disaster i.e. earthquakes in Japan. The Japan Meteorological Agency offers the best model. Their Earthquake Early Warning (EEW) system catches the first seismic waves and sends alerts seconds before strong shaking hits. In the 2011 Tōhoku quake, those few 10 to 30 seconds allowed trains to stop and people to take cover. Researchers estimate that these actions prevented thousands of casualties. In the 2011 tsunami in Japan, According to Yuichiro Tanioka of Hokkaido University simulations show that if tsunami warnings were a little faster by 7 minutes or more, then roughly 22,000 deaths could have been avoided. (Geoengineer.org, 2017) This lesson must be learnt by Nepal as it is also prone to earthquakes. So, we need to ensure that AI-powered detection and fast communication are in place. Even seconds matter. Every minute might save 1000 lives here in Nepal.

How AI can do more in Nepal AI can be efficiently used in Nepal in following ways:
Better predictions: AI can combine satellite imagery, river sensor data, rainfall forecasts and past flood history to predict which village will flood and when. (UNITARHQ, 2018) Real time monitoring and data collection should be prioritized by the government for this in every station.
Clear alerts: Machine learning can help craft messages in Nepali or local languages. They can be translated into voice alerts, so that they can reach elders and low-literacy groups.
Simulations and planning ahead: AI simulations of future floods or earthquakes can help the government to plan evacuations, practice resource movement and infrastructure ahead of time.
Conclusion Disasters can't be stopped, but our readiness can be strengthened with smarter technology. Nepal still faces major challenges due to uneven data coverage and only around 438 meteorological stations managed by DHM. We need to expand our data sources through satellites, river gauges, soil-moisture sensors and community-based reporting to fill these gaps.

If we collect enough data, advanced models like Random Forests, LSTM networks, Graph Neural Networks, and CNNs can be used to study patterns and forecast floods, landslides, and extreme weather with better accuracy. (Marasini & Pokhrel, 2024) Reinforcement-based methods can also support better evacuation planning and resource management when time is critical. To move forward, Nepal must invest in wider sensor networks, national data pipelines and efficient automated alert systems. By doing so, we can turn these data and EWS into life-saving action for vulnerable communities across the country.

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AUTHOR'S INTRODUCTION

Kiran is a final year Computer Engineering student currently studying at Kantipur City College and serves as the President of the Student Quality Circle. He is also a member of the SDSN Club and a participant in the SDG Flagship Program. He has conducted research and completed projects on disaster risk prediction and presented a paper on flood forecasting at the national ICEE conference. Through his involvement in these clubs and programs, he actively contributes to sustainable development initiatives while gaining practical knowledge and experience in the field.

Outside academics, Kiran enjoys exploring new technologies, travelling, participating in hackathons, hiking and participating in workshops and hackathons. For him, leadership means guiding others to collaborate and solve real-world problems through proper research and passion. For him, strong leadership can turn challenges into opportunities, and guide and motivate the team to accomplish anything.

Kiran aims to create AI systems and projects with real-world impact by focusing on disaster risk management and sustainable development. He is inspired by Jeremy Bravo's quote on leadership: "Great leaders don't set out to be leaders. They set out to make a difference."



Nirajan Adhikari

Empowering Future Global Citizens: The Role of Technology and Education in Global Citizenship Education

Introduction

In this digital world, information technology (IT) is one of the major driving forces not only in transforming industries but also in reshaping education itself. Being an IT student, I take this opportunity to explore how technological advancement interacts with educational objectives to cultivate global citizenship, an imperative for preparing students to explore the complex global challenges responsibly. Global Citizenship Education (GCE) is no longer a peripheral concept; it has become integrated into everyday learning to empower students with a critical understanding of their roles within a globally interconnected society.

Understanding Global Citizenship Education

GCE aims to do more than celebrate cultural diversity; it compels students to consider questions of structural power, systemic inequity, and historical injustice that influence global relationships. This approach prepares students to consider the role of their individual and collective responsibilities as they interface with the economic, political, and social systems locally and globally. GCE develops socio-political consciousness with an emphasis on the awareness of inequity and promoting action for justice, rather than a surface-level exploration of multiculturalism (Oxley & Morris, 2013; Santamaría-Cárdaba, 2024).

Strategies for Curriculum Integration

GCE infusing is meaningful when moved across multiple disciplines rather than an isolated course. Subjects like social studies, science, mathematics, and technology curriculum, specifically, provide an opportunity to link global competencies. For example, technology education could facilitate explorations around artificial intelligence ethics, personal data privacy, or practical implications around the digital divide, all significant issues where inequity impacts access and power on a global scale.

Project and inquiry-driven learning pedagogies offer a supportive modality, allowing students to consider local data collection of a global issue, such as sanitation awareness. In that global issue, students could consider collaborating locally, sharing that inquiry and data with partners in another country using technology. Students could conduct real-time interactions with their peers and share cultural experiences around sanitation and hygiene to bring some of the ambiguity surrounding global citizenship to lived experiences for learners.

In addition to those data and literacy experiences, the infusion of AI could also personalize various experiences, while providing critical conversations related to the ethics of algorithmic biases and surveillance, topics essential for critical digital literacy within the GCE frameworks. Addressing challenges such as unequal access to technology and ensuring data privacy remains essential for GCE implementation, especially in lower-resource settings (Sage Journals, 2023; UNESCO, 2023).

Overcoming Implementation Challenges

There are several key challenges to implementing GCE in practice. Teacher preparedness is the most critical. Many teachers receive minimal training in delivering content with global perspectives or managing contentious issues. For example, Davies et al. (2018) highlight that teachers' discomfort and lack of resources hinder effective engagement with complex global topics. We must prepare them through professional development and build their confidence and skills in these areas.

Curricular and exam-driven rigidity is another critical challenge. Schools typically prioritize bookish knowledge over critical thinking and ethical reasoning. Supportive leadership, flexible curricula, and innovative assessment approaches that value students' reflective skills are necessary to overcome these institutional barriers. We can engage community representatives to negotiate tensions and create culturally relevant yet globally informed education pathways.

Conclusion

Empowering future global citizens through technology and education helps in nurturing globally responsible and digitally literate citizens. Connecting education and technology supports learning by addressing the realities, such as AI ethics and digital inclusion. While challenges for implementation exist, empowering educators, designing flexible curriculum, respecting cultural plurality, and addressing digital inequities will lead towards meaningful GCE integration. This evolution moves beyond curriculum innovation and prepares learners for confronting and transforming the shared challenges of our interconnected world.

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AUTHOR'S INTRODUCTION

Nirajan Adhikari is a fourth-year Information Technology student at Kantipur City College, Purbanchal University, minoring in Data Science. As an SDG Ambassador and Vice-President of the Student Quality Circle at Kantipur City College, he believes technology provides powerful solutions for addressing social and environmental problems and participates in initiatives that explore how data and digital solutions can drive meaningful change.

Outside the classroom, Nirajan is passionate about reading and listening to music. For him, leadership is about empowering others through knowledge-sharing and creating spaces where every perspective can flourish. He sees the intersection between sustainability and innovation as a necessary space where young people can contribute with technological fluency, adaptive thinking, and optimism to deal with the challenges ahead.

Nirajan hopes to utilize data science and new technologies to build solutions that can solve real-world problems, particularly for underrepresented communities. He hopes this article inspires readers to envision technology not just as a career path, but as a catalyst for sustainable development. A quote that guides his work is: "Dreams are the fuel that drives us forward. Never stop dreaming, for they have the power to turn them into reality." – Javed Akhtar.



Anishma Bhattarai

Women and Youth: Driving Community Action for WASH

Introduction

WASH (Water, Sanitation, and Hygiene) services are essential for disease prevention, improving nutrition, and children's health. JMP datasets (WHO/UNICEF, 2023) show that communities with better WASH coverage report fewer cases of diarrhea. In rural districts of Nepal, including Dolakha, Ramechhap, and some Terai areas, women and adolescent girls primarily collect water and manage sanitation. This task can take 1 to 3 hours daily, covering long distances, which reduces time for school, work, or committee participation. This article examines how women and young people sustain WASH in these communities, the significance of their roles in the structure, and the type of policy and economic support required for long-term improvements.

Women sustain household and community-level WASH practices. They are the ones who fetch the water, keep things clean, manage sanitation, and ensure that domestic health activities are well taken care of. In many countries, such as Nepal, India, Ethiopia, and Kenya, Female Community Health Volunteers (FCHVs) are largely relied upon to disseminate health messaging related to WASH (Anderson et al., 2021). In Nepal, empirical evidence validates that within low-resource settings, women and girls spend several hours a day on water collection activities, which constrain their schooling and income-generating opportunities (Graham et al., 2016). This holds for the remote mountain and Terai districts of Nepal, where water sources are far away and there is seasonal scarcity.

The youth bring creative and technical inputs to WASH interventions, thereby creating low-cost sanitation innovations and designing hygiene awareness campaigns. Such innovations support human capital by fulfilling the community's needs. The experience of the SHINE project in Tanzania proves that interventions led by youths can provide culturally appropriate low-cost solutions that increase the acceptability of safe practices (Bastien et al., 2016). In Nepal, school WASH clubs, along with youth hygiene campaigns, identify unaddressed issues such as seasonal water shortages and handwashing stations not being maintained. Formal decision-making roles, training, and resources will make the impact sustainable.

Challenges

Women and girls suffer from time poverty because domestic work does not allow them to freely exercise their right to participate in decision-making bodies such as the WASH committees and leadership. Therefore, where it exists, it often lacks effective decision-making power. Older male-dominated committees easily overrule new members' opinions and the youth's perspectives (Hyde et al., 2020; Khadka et al., 2023). Teenage girls may miss school because they have to fetch water, and where innovation is youth-led, its input may not be recognized by existing governance structures or cultural norms. Structural barriers must be addressed to achieve sustainable WASH outcomes.

Better WASH reduces the risk of diarrhea, under-five mortality, and school absenteeism (Rakotomanana et al., 2020; WHO/UNICEF, 2023). Sanitation investments generate long-term returns by increasing productivity, lowering healthcare costs, and improving school performance, as shown in macroeconomic studies conducted in countries implementing WASH interventions (Hutton, 2012/2017). Policies that subsidize community training, formalize youth roles, increase access of women to water or labor-saving technologies, and support local innovation, e.g., community-built rainwater harvesting tanks, and handwashing stations made from materials locally available, strengthen the ability of women and youth to sustain WASH efforts.

Conclusion

Women and young people are crucial to Nepal's long-term WASH. Women bring local knowledge, management skills, and social credibility to the table, while young people bring creativity and technical expertise. If programs actively reduce time poverty, address power imbalances, and formally integrate youth, they work together to improve community health and service acceptance. Most WASH studies are either context-specific or cross-sectional, which makes it hard to apply the results to other situations. Also, youth-innovation case studies in Nepal often don't include long-term evaluations. Policies must evolve from superficial inclusion to substantive support, encompassing training, funding for youth innovation, and labor-saving infrastructure for women. Subsequent research should utilize longitudinal and mixed-method approaches to ascertain the most sustainable WASH strategies targeting women and youth.

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AUTHOR'S INTRODUCTION

Nirajan Adhikari is a fourth-year Information Technology student at Kantipur City College, Purbanchal University, minoring in Data Science. As an SDG Ambassador and Vice-President of the Student Quality Circle at Kantipur City College, he believes technology provides powerful solutions for addressing social and environmental problems and participates in initiatives that explore how data and digital solutions can drive meaningful change.

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Nirajan hopes to utilize data science and new technologies to build solutions that can solve real-world problems, particularly for underrepresented communities. He hopes this article inspires readers to envision technology not just as a career path, but as a catalyst for sustainable development. A quote that guides his work is: "Dreams are the fuel that drives us forward. Never stop dreaming, for they have the power to turn them into reality." – Javed Akhtar.



Nirbasu Regmi

Sustainable Designing: Disaster Risk Reduction Pathway

A. INTRODUCTION

Natural disasters are no longer rare events but frequent occurrences that are beyond human control. In the time of increased effects of climate change threats and rapid urbanization, natural disasters often add devastating costs to societies and communities in terms of financial losses, destroyed infrastructure and loss of life. They can set development back for years. Poorly constructed buildings, inadequate urban planning, and lack of disaster preparedness amplify the scale of destruction. Insightful take (2025, November 17). For geologically diverse and challenged regions like Nepal, which faces threats like earthquakes and floods, this challenge is critical. The need for safe and sustainable infrastructure is urgent. Sustainable design should not be understood just as an aesthetic or ecological choice. It should be emphasized as the life-saving imperative, including SDG (11) and SDG (13).

B. CURRENT CHALLENGES

Developing countries face socio-economical barriers while adopting sustainable practices due to rapid, unplanned urbanization and weak enforcement of the building codes often lead to unsafe infrastructure. In Nepal rapid urbanization is a common problem increasing from 22.31% to 27.07% between 2011 and 2021 (National Statistics Office, 2023). Weak governance and administration further worsens this problem. Lack of economic resources and technical expertise also constrains the adoption of environmentally responsible construction methods. Climate change increases casualties from disasters like floods, heatwaves, and storms. Social inequalities present in society results in improper resource distribution, leaving marginalized communities vulnerable and unprepared.

C. PROGRESS AND SUCCESS

Facing systemic barriers and escalating crises, the change successfully helps bring sustainability requirements throughout disaster response frameworks. Programs like the 'United Nations Making Cities Resilient' campaign have encouraged municipalities to adopt sustainable construction practices. This supports the Nepal National Building Code and Risk Sensitive Land Use Planning for early recovery and emergency preparedness. Other programs that are also involved are Taya Nepal promoting resilient building codes and eco-sensitive urban planning models to reduce vulnerability. These efforts have amplified the shift towards disaster preparedness rather than post disaster response. Through the implementation of sustainable building techniques such as rammed earth construction and the use of Compressed Stabilized Earth Blocks (CSEBs), Nepal is doing really well in building back better and creating more resilient and sustainable communities.

D. STRATEGIES AND INITIATIVES

Nepal's National Biodiversity Strategies and Action Plan (2014-2020) and National Urban Policy (2081/2024) emphasize green cities and climate-resilient technologies. The Community Forest Act, 1993, has also contributed to the sustainable management of forests. The World Bank's Digital and Spatial Technologies for Disaster Governance uses open geospatial mapping to inform DRR strategies in rural municipalities (Bithadchir, Budiganga) and two selected urban municipalities (Rajapur, Tikapur). This approach was instrumental for conducting local-level risk assessments of

floods and landslides, using a GIS-based web platform and Google Earth Engine.(Digital and Spatial Technologies for Disaster Governance in Nepal, World Bank).

E. RECOMMENDATIONS

Government agencies and infrastructure institutions must prioritize the development of disaster-safe infrastructure. By welcoming the local innovation like CSEB and use of these, we can make sustainable design reachable for all. The experts, the planners and the engineers must be united to design a safe home for all-especially those at critical risk. Further efforts should be made to prevent the unplanned opening of road tracks, soil erosion, degradation of mountain watersheds and unsustainable extraction of sand and pebbles.

F CONCLUSION

Government agencies and infrastructure institutions must prioritize the development of disaster-safe infrastructure. By welcoming the local innovation like CSEB and use of these, we can make sustainable design reachable for all. The experts, the planners and the engineers must be united to design a safe home for all-especially those at critical risk. Further efforts should be made to prevent the unplanned opening of road tracks, soil erosion, degradation of mountain watersheds and unsustainable extraction of sand and pebbles.

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AUTHOR'S INTRODUCTION

Nirbasu regmi is a third year civil engineering student at Kantipur City College. She serves as a Youth Engagement and Education Officer in SDSN Club. She has also participated in various seminars and conferences related to sustainable development. She has volunteered with SAF Nepal and participated in Book Free Friday program and given training to government school students and participated in various conferences aligning with sustainable development.

Outside of studies, Nirbasu enjoys baking, crocheting, reading novels and photography. For her, leadership means taking the initiative and supporting others without any restraints. She believes that we can break the orthodox way of approaching a problem and tackle it more innovatively. She hopes she can change the way people look at sustainability and can help people to apply a more sustainable approach to finish any scale of project.

Nirbasu hopes to work as a structural engineer who creates resilient structures in a sustainable and low carbon design. She wants the readers to know that every effort counts and collectively we can change the future of designing. A quote that guides her is : "We cannot solve our problems with the same thinking we used when we created them." – Albert Einstein



Aagya Luitel

Beyond Equality: Rethinking Gender Justice and Social Relations

Gender discussion often centers on inequity and discrimination, which are crucial issues. However, these concerns only scratch the surface of a deeper, complex social order. Achieving the Sustainable Development Goals (SDGs) requires moving beyond mere equality to gender justice—an approach that encompasses rights, relationships, responsibilities, and realities.

Understanding Gender, Justice, and Gender Justice

Gender is a social construct, referring to roles, behaviors, and expectations society associates with individuals, rather than solely biological traits. These roles vary across cultures and over time, shaping societal norms and individual experiences. Justice involves equitable distribution of resources and social order, ensuring every person can live with dignity and participate fully in social, political, and civic life.

Gender justice aims to dismantle inequities rooted in historical, cultural, and societal structures. It emphasizes the fair distribution of power, resources, and responsibilities. For example, providing textbooks to students assumes equal access, but questions arise: Does a girl have time to study after household chores? Does a boy face societal pressure to earn instead of learn? Justice demands addressing such disparities.

Shifting Social Relations in Nepal

Social relations evolve with social change. In Nepal, economic shifts, notably male labor migration to Gulf states and Malaysia over the past two decades, have significantly impacted social structures. Traditionally seen as breadwinners and decision-makers, men's migration forced women to assume new roles—managing households, land, finances, and community affairs. These responsibilities enhanced women's skills and confidence, with some communities recognizing women as potential leaders.

However, this shift also sparked social backlash against women stepping into male-dominated spheres. Conversely, in some neighborhoods, the absence of men fostered positive change, challenging stereotypes and elevating women's societal roles. These changes highlight how migration influences gender relations, often creating opportunities for gender justice—recognition and respect for women's unpaid labor, especially in domestic spheres.

Governance and Power Redefined

In governance, gender justice goes beyond token representation. It involves transforming participation from symbolic to substantive. When women's voices are genuinely acknowledged, they contribute to policy changes that address neglected issues like menstrual hygiene, water access, and child care. Yet, structural challenges remain; women representatives often feel sidelined during budget discussions, revealing that presence alone does not guarantee influence.

Achieving true gender equity in governance requires a shift in attitudes and institutional support. For example, Rwanda's over 60% women parliamentary representation has led to policy reforms on land rights and domestic violence, illustrating how structural changes can alter power dynamics and promote gender justice.

Gender Justice and Social Resilience

When gender relations are equitable, societies become more cohesive and resilient. Research shows that shared decision-making enhances community crisis management—be it economic downturns, pandemics, or climate disasters. For instance, women-led community forestry groups in Nepal foster sustainable resource management and conflict resolution, strengthening social bonds. Similarly, in post-conflict Rwanda and Liberia, women's inclusion in peace processes significantly contributed to recovery and reconciliation.

Gender justice, therefore, is strategic—it fosters societies that are inventive, resilient, and peaceful by distributing power and responsibilities more equally.

Beyond Stereotypes: Real-World Examples

Nepal's 2015 federal restructuring aimed for 40% women representation in local governance. While a step toward equality, gender justice remains complex. Some female leaders have enacted meaningful changes, like making menstrual hygiene management in schools mandatory, reflecting evolving social relations. However, in many cases, women's participation remains superficial, with some still excluded from decision-making.

At the household level, gender inequality persists. Women earning income through microfinance or small businesses often face control by husbands or in-laws, limiting their decision-making power about spending, children's education, or healthcare. True gender justice requires transforming these household power dynamics.

In rural Nepal, women often bear the brunt of climate change, collecting water and firewood and managing agriculture. When droughts occur, their workload doubles. Recognizing this, some community forestry groups now include women in decision-making, linking gender justice with environmental sustainability. Globally, women's inclusion in peace processes in Rwanda and Liberia underscores the importance of gender equality in building social resilience.

Pathways Toward Change

Gender justice involves transforming institutions and societal mindsets. Key strategies include: Institutional Change: Recognizing unpaid care work and enacting laws to protect against exploitation. Changing Narratives: Dismantling stereotypes through media, education, and culture.

Intersectional Justice: Addressing how gender intersects with class, caste, ethnicity, and sexuality.

Global Solidarity: Promoting international cooperation and protest for gender justice, recognizing that disparities are borderless and intertwined with issues like climate change.

Conclusion

Gender justice is both a goal and an ongoing process. It requires transforming social relations, redistributing power, and restructuring societal norms. Achieving it involves more than policy change; it demands profound shifts in everyday relationships, institutional conduct, and cultural attitudes.

When governance empowers, relationships are respectful, and institutions are accountable, societies flourish—becoming more adaptive, innovative, and resilient.

The ultimate measure of progress is not just in women's numbers but in creating a world where everyone, regardless of gender, has a voice in shaping the future.

AUTHOR'S INTRODUCTION

Aagya is a final-year Computer Engineering student at Kantipur City College. She has been working on disaster prediction and has been actively promoting sustainable development through various clubs and programs.

Besides academics, she is interested in travelling, playing games, working on projects, and exploring new topics related to technology. She believes that a true leader is the one who fosters harmony among people in the team. Good leadership knows how to keep the team composed even when there is disparity in the team.

She aims to work in the technology sector and make technology accessible to people. She also aims to be a voice that promotes women's empowerment, sustainable development. The quote that inspires her leadership is " Leadership is not about being the loudest voice—it's about lifting others with you" by Unknown.



**Mahesh Kumar
Yadav**

Title: The Power of WASH Education for youth - A Key to a Healthier Future

Introduction

Water, Sanitation, and Hygiene, commonly known as WASH, form the backbone of healthy communities. They influence not only individual well-being but also national development, social equality, and environmental sustainability, yet millions of people around the world still lack access to clean water and safe sanitation. Educating youth about WASH is one of the most powerful ways to address this issue. When young people understand the importance of hygiene, water safety, and sanitation, they become agents of change who can inspire cleaner habits within their families and communities. WASH education, therefore, holds the promise of building a healthier and more resilient generation.

The importance of WASH Education

WASH is not just about providing water taps or toilets, it is about changing behavior and building awareness. Many waterborne diseases such as diarrhea, cholera, and typhoid can be prevented simply through good hygiene and safe sanitation. According to the World Health Organization (2023) about 2 billion people still rely on contaminated water sources, while 3.6 billion live without safely managed sanitation. These conditions are especially dangerous for children and young people, who are more vulnerable to infections. and malnutrition, Teaching WASH principles. Youth help bridge the gap between infrastructure and practice, creating long-term improvement in public health. Schools are the best platforms to spread WASH knowledge. When students learn how to wash their hands properly, store water safely, and keep the toilet clean, they take these habits home. This creates a "multiplier effect" where information spreads naturally through families and communities. UNICEF (2022) notes that children are often the most effective messengers of hygiene awareness, influencing parents and peers alike. As such, WASH Education in school does not only improve health outcomes but also promotes lifelong learning and civic responsibility.

Youth as Leaders for Health and Change

WASH education has another important dimension, it builds leadership. Young people are naturally creative, energetic, and socially connected. When given the knowledge and tools to promote hygiene and sanitation, they can drive meaningful change. Across Asia and Africa, youth-led WASH clubs have organized campaigns to promote handwashing, menstrual hygiene awareness, and plastic free school environments. These activities encourage teamwork, confidence, and a sense of ownership. UNICEF's "WASH in Schools" program shows that students involved in hygiene clubs have better attendance and academic performance cleaner environments reduce illness and absenteeism (UNICEF, 2022). Moreover, WASH education teaches empathy and equality. In many region girls suffer disproportionately from the lack of clean toilets and menstrual hygiene facilities. When schools provide WASH-friendly environments, girls are less likely to drop out during adolescence (World Bank: 2021). This demonstrates that WASH education not only supports health but also advances gender equality and human rights.

Integrating WASH into policies and school

To make WASH education sustainable, it must be part of the national curriculum and supported by strong policies. Governments, NGOs, and local communities need to work together to provide clean water facilities, ensure waste management, and train teachers. In Nepal, for example, school-led total sanitation programs have successfully combined education with infrastructure development, helping students learn through both lessons and practical engagement. The United Nations (2022) highlights that regions investing in school-based WASH programs have seen measurable drop in situation-related diseases and absenteeism rates.

WASH education can be integrated into subjects like health science, environmental studies, and social learning. Practical activities such as hygiene demonstrations, community outreach and clean-water experiments make lessons more engaging. Teachers can also use storytelling, posters, and digital tools to explain hygiene practices. Such participatory approaches not only make learning WASH Concepts become part of student's daily lives.

WASH Education and Global goals

WASH education aligns directly with several Sustainable Development Goals (SDGs), particularly SDG 6: Clean Water and Sanitation and SDG 3: Good Health and well-being. By promoting safe water, hygiene, and sanitation practices, countries can significantly reduce disease burden and health costs. Furthermore, WASH education supports SDG 4: Quality Education by ensuring that students learn in a healthy environment where their basic needs are met. UNESCO (2021) emphasizes that children learn best when they are healthy, hydrated and comfortable.

Beyond the classroom, WASH education encourages environmental awareness. Students who understand water conservation are more likely to protect rivers, reduce plastic use, and adopt sustainable habits. Thus, investing in WASH education means nurturing environmentally conscious citizens who will carry these values into adulthood.

Conclusion

WASH education for youth is one of the most practical and cost-effective ways to improve global health. When young people are informed and empowered, they become ambassadors for hygiene, sustainability, and equality. Teaching WASH in school builds the foundations for cleaner communities, stronger economies, and healthier futures. Governments and development partners should continue prioritizing WASH programs that engage youth as leaders and educators. The impact extends far beyond classrooms, it shapes societies that value health, respect dignity, and protect the planet. Investing in WASH education means investing in the well-being of future generations.

AUTHOR'S INTRODUCTION

Mahesh Kumar Yadav is a fourth-year Bachelor of Information Technology student at Kantipur City College under Purbanchal University, developing a growing interest in community development and youth empowerment. He has participated in a WASH (Water, Sanitation & Hygiene) workshop, an experience that deepened his understanding of how simple practices can significantly improve public health outcomes. This exposure has strengthened his motivation to explore youth-driven solutions for healthier communities.

Beyond his academic pursuits, Mahesh enjoys travelling, singing, and playing cricket, activities that allow him to meet new people and appreciate diverse perspectives. For him, leadership means stepping forward with empathy, taking responsibility, and creating space for others to grow. He believes meaningful change begins when young people are informed and encouraged to take action, especially in promoting WASH awareness. His values align closely with sustainability and public health, rooted in the belief that healthier environments start with informed choices.



Nitesh Poudel

Youth Innovations for the Sustainable Development Goals: Local Action, Global Impact

Introduction

Innovation has always been the driving force for change. From the industrial revolution that transformed societies to today's digital era, innovation continues to redefine the way we work and live. As the world strives to achieve Sustainable Development Goals (SDGs), youth innovation stands at the center of progress. Youth innovation is the process of young people turning new ideas or concepts into solutions to address challenges and improve communities, often using new technologies or fresh perspectives. Guided by the idea of global citizenship and the mindset of a global citizen, innovations at the local level are proving to have a global impact.

Current Challenges

Even with their creativity and potential, young innovators face major obstacles in turning their ideas into real-world solutions that can make an impact in achieving Sustainable Development Goals (SDGs). One of the most common obstacles that restricts their ability to scale innovations beyond small pilot projects is limited access to funding and financial resources, particularly for youth from rural or marginalized communities (GOYN, 2022). Another challenge that young innovators face is navigating complex challenges in entrepreneurship and project implementation due to a lack of mentorship, technical support, and networking opportunities (ILO & UNDP, 2025). Youth in unstable and conflict-affected areas face issues such as weak infrastructure, political instability, and discrimination, which makes it much harder for them to actively improve their communities or be part of global development efforts (ILO, 2021). Social problems such as gender inequality and exclusion of marginalized groups make it harder for people to participate, resulting in promising innovators being overlooked (Orange Corners, 2024). These issues reflect not all but some of the challenges that youth innovators must face, and to address them, we require financial and technical support along with inclusive policies and platforms for youth involvement.

Youth-led Innovation and local success stories

Despite the challenges, young entrepreneurs are striving to come up with solutions for local problems, and there is a potential for global contribution to sustainable development. In Nepal, a youth-led initiative "khaalisisi" has made an effort to connect households with kabadiwala (informal waste collectors) through an online platform, improving recycling efficiency and waste worker income. This innovation is compatible with circular economic practice (i.e., recycling, repairing, and reusing materials) and has the potential to be replicated in cities across the world (UNESCO, 2025). Another example is Ncell Foundation, Khaalisisi, and Budhanilkantha Municipality's waste hackathon "Bin There, Hacked That!", which brought over 400 youth participants together to develop technology-led solutions for Nepal's issue of waste through the synergy of youth imagination with local government and private sector facilitation (Fiscal Nepal, 2025). Beyond Nepal, young people around the world are actively participating in reshaping communities. An example of this is "Barefoot College". This initiative started out in a tiny village called Tilonia in Rajasthan, India. At first, it was just a small project to teach rural women without formal education how to become solar engineers. But the idea caught on and now we can find this model in over 90 countries across Africa, Asia, and Latin America. It has empowered women to set up and maintain solar systems, bring clean energy to their villages, and earn a living doing it (Barefoot College, 2023). Internationally, the SDSN Youth "Youth Solutions Report" highlights local success stories and youth-led projects around the world in areas such as clean energy, healthcare, education, digital inclusion, and sustainable agriculture.

These local efforts demonstrate the important role young people play in achieving the Sustainable Development Goals (SDSN Youth, 2018).

Strategies & Initiatives Empowering Youth Innovation

Innovation among young people thrives when education, policy, and resources align to support

creative problem-solving. UNESCO's Global Citizenship Education is one such program that empowers young people to address issues at the local level with global awareness through its approach that involves creativity, technology, and civic values (UNESCO, 2022). Investing in the education system to run programs in line with the values of GCED is an important approach. At the policy level, governments are establishing innovation labs and accelerators to empower young innovators. An example of this is mentorship, entrepreneurship training, and financial access provided to youth through initiatives like UNDP's Youth Co: Lab and Generation Unlimited (GenU), for enabling them to scale innovations that contribute to clean energy, education, and equality (UNDP, 2023; Generation Unlimited [GenU], 2023). Similarly, global networks such as SDSN Youth's Youth Solutions Hub connect young innovators with global networks and funding opportunities. Local level partnerships between the private sector, local government, and youth innovators, such as collaboration between Ncell Foundation, Budanilkantha Municipality, and Khaalisisi, show how innovative solutions can be integrated into the urban sustainability agenda. Ultimately, empowering youth innovation requires community-wide effort that connects local initiatives to a global movement through education, financing, and inclusive policies. This results in lasting global impact through local solutions.

Bridging Local Actions to Global Impact

Youth innovation starts out as a local community project but may extend beyond the local level. In order to turn such local projects global in context, an individual must be a global citizen who makes youth innovations inclusive, ethical, and scalable. Localized solutions together add up to sustainable development goals when combined through digital platforms, global partnerships, and knowledge-sharing networks. Programs such as SDSN Youth, UNDP Youth Co: Lab, and Generation Unlimited foster cross-border collaboration and demonstrate how empowering young people at the local level can progress better at the global level. To link local action to global impact, governments and organizations need to invest in youth innovation hubs and empower young people, especially rural young people, to have access to finance, mentorship, and digital technology. Engaging young people in decision-making and policy-making, and partnering with them as stimulated by SDG 17, can accelerate the change. Local solutions can be scaled up to become international sustainable innovations with the right networks, support, and mindset.

Conclusion

Youth innovation is the bridge between local creativity and global progress. When young people devise creative solutions to local problems, they directly contribute to achieving the Sustainable Development Goals. As a youth myself, projects like Khaalisisi and Barefoot College have inspired me to think about how I can leverage collaboration and technology to ignite change in my community. With the right support, like guidance, resources, and inclusive policies, and inspiration from the principles of global citizenship, people's ideas can grow and make a bigger impact. Empowering youth today and supporting youth innovation leads to a future where local efforts lead to global change.

AUTHOR'S INTRODUCTION

Nitesh Poudel is a fourth-year Bachelor of Information Technology student and currently the Secretary of Wellness and Fitness club. He has previously volunteered with the Leo Club and taken part in different youth activities that helped him understand the value of SDGs, especially areas like Quality Education, Good Health and Wellbeing, Clean Water and Sanitation, Industry, Innovation and Infrastructure, and Partnerships for the Goals. His IT background and his community involvement have shaped his belief that technology can support real environmental and social change.

Outside academics, Nitesh enjoys hiking, basketball, singing, and boxing. He sees leadership as bringing people together, helping each person contribute their best, and taking responsibility for shared outcomes. His interest in innovation grew as he noticed how rapid technological advancement contributes to issues like e-waste and resource overuse that he feels requires creative and practical solutions.



Prajwol Basnet

Urban Planning and DRM Policies: Government & Community for the Safe and Better Future

The 2015 earthquake disaster served as a crucial point in Nepal's disaster awareness making both government and public recognize the need for robust strategies. Since then, Disaster Risk Management (DRM) has gained momentum, leading to formation of policies and regulations to mitigate future risks. Urban planning has been aligned with DRM policies to enhance safety and quality of life, particularly in hazard prone areas. As a developing nation with high risk towards seismic, climatic and other risks, there are complex challenges in integrating DRM into urban planning in Nepal. This article examines the current position of urban planning and DRM policies in Nepal, the gaps in integration, community role and disaster risks.

Nepal's urban planning and DRM face challenges as they lack proper integration and communal participation. Rapid urbanization, like in Kathmandu valley, without proper land use planning or hazard planning results in settlement in flood and landslide prone zones (Government of Nepal, 2024). DRM policies remain detached from the urban development framework, failing to integrate risk reduction into infrastructure and services (Government of Nepal, 2018). Also, the planning processes exclude local communities whose knowledge of risks and managing strategies is needed for effective resilience building (IOM Nepal, n.d.). This detachment between policy and practice deepens vulnerability for marginalized groups and also compromises sustainability. Many local governments lack the capacity or understanding to implement the existing national strategies and model DRM policies effectively, just replicating templates without implementation (IOM Nepal, n.d.). Without any means to integrate the DRM into urban planning and ensure inclusive participation, urban growth in Nepal will continue to amplify risk rather than mitigate, especially climate-induced hazards i.e. floods and landslides (MyRepublica, n.d.).

Nepal has taken many notable steps in aligning DRM with urban planning. Yet the challenge is to implement the policy into practice. The Disaster Risk Reduction National Strategy Plan of Action (2018 - 2030) encourages resilience and infrastructure and land use planning particularly in hazard prone areas (Government of Nepal, 2018). Aiding this the national urban policy 2081 suggests sustainable Urban Development and government reforms the (Government of Nepal, 2024). The Disaster Risk Management Localization Manual Provides tools and methods for local governments and communities to develop localized disaster and climate resilience plans (IOM Nepal, 2021). Use of technologies such as hazard mapping, early warning systems and smart city initiatives shows the collective efforts of government NGOs and communities. However, recent political situations including the genji lead prostate have highlighted governments failure and demanded proper transparency and communal inclusion in planning processes. Nepal's progress is supported by global frameworks like Sendai Framework, SDGs and UDRR. Valuable lessons/examples from Japan, Indonesia and Singapore etc. It's been integrating DRM and urban development (UNDRR, 2015). Nepal has taken several initiatives to integrate the DRM into sustainable open planning/development. The national urban policy 2081 introduces the new approach by including risk sensitive planning, climate adaptation and decentralized governance into Urban Development frameworks (Government of Nepal, 2024). It encourages inclusive growth, infrastructure resilience and improved cooperation between central and local authorities. Aiding these, Disaster Risk Reduction National Strategic Plan of Action (2018–2030) promotes proper land use, resilient construction practices and public awareness through educational drills (Government of Nepal, 2018). The Disaster Risk Management Localization Manual Provides local government governments with tools and methods for developing Local Disaster and Climate Resilience Plans (LDCRPs) needed for community (IOM Nepal, 2021). Implementation of technologies is done through collaboration among government agencies and NGOs and communities. Also the recent gen-Z protest has amplified the need for transparency and accountability in governance which potentially reforms DRM policies and urban planning integration.

Urban Planning and DRM Policies: Government & Community for the Safe and Better Future

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AUTHOR'S INTRODUCTION

Prajwol Basnet is a third year student of bachelors in civil engineering at Purbanchal University. He serves as an executive, Content Management Lead in Creators Club. He has participated in various conferences, seminars and workshops related to sustainable development and DRM. He has volunteered for SAF Nepal's Book Free Friday program to give training and knowledge about hazard, DRM, and sustainable development to government school students.

Beyond academics, Prajwol likes to develop new skills, hiking, videography, and exploring new things. He views leadership as encouraging peers to tackle challenges and conventional thinking with self at the forefront for collaborative solutions. He believes, to bring about change, out of the box thinking with an action oriented approach is essential. He believes in learning by doing as, if it's about one day, then it's today. He hopes to shatter the old shackles and bring change with people sharing the values.



Ramila Shrestha

Building Back Better: GEN Z'S ROLE IN SHAPING SAFER INFRASTRUCTURE IN NEPAL

INTRODUCTION:

Nepal is a country settled in the Himalayas that frequently faces the wrath of natural disasters like earthquakes, landslides, and floods. "Building Back Better" is a core principle in DRM that was introduced after major disasters. The role of Generation Z (1997-2012), who are known for their innovations and digital intelligence, makes them key drivers of sustainable and safe infrastructure development and essential partners in building their own country. Although disaster risk is high, Gen Z's digital literacy is the required solution. "As Nepal rapidly urbanizes, empowering this digitally literate generation in planning, designing, and implementing resilient infrastructure is essential for creating a safer, stronger, and sustainable future."

CURRENT CHALLENGES:

Nepal faces technical challenges like weak engineering expertise, limited pre-project research, and brain drain; institutional barriers such as poor coordination, weak code enforcement, and lack of innovation platforms; and economic issues including corruption, budget misuse, and scarce resources. Socially, non-compliance with safety standards and limited youth leadership opportunities persist. Overcoming these challenges requires active youth engagement, digital transparency, and strong leadership to close gaps between tradition and modernity, ensuring safer, future-ready infrastructure and genuine national resilience.

PROGRESS AND SUCCESS:

Despite challenges, Nepal has made progress toward resilient infrastructure. In 2023, the Nepal Youth Alliance for Resilience (NYAR) mobilized 150 engineering students from KU. They utilized drone surveying and GIS to map risk profiles across four key municipalities including Bhaktapur, identifying 3,500 non-compliant structures in high-risk zones. This delivered the precise data local governments needed to enforce revised building codes, enabling post-earthquake reconstruction of thousands of safe structures. Furthermore, the increasing adoption of Building Information Modeling (BIM) by young innovators, often collaborating with NDRRMA, is revolutionizing structural assessments. This allows engineers to digitally simulate seismic loads and integrity pre-construction, mitigating design flaws by an estimated 30%.

STRATEGIES AND INITIATIVES:

To enhance Gen Z's role in building back better, strategic actions are necessary. Youth requires proper experience and qualifications for resilient design. Government collaboration with youth via YFLG, the UNDP partnership with the National Youth Council, and organizations like NDRRMA facilitates initial participation. The enactment of the DRRM Act, 2017, represents a major paradigm shift from a response-focused approach to prioritizing risk reduction. Programs like the Youth Employment Transformation Initiative project aim to involve youth and intertwine them in sustainable development. Projects like GreenShift Nepal, climate-smart schools, and green jobs led by organizations like Youth for Good-Nepal, CREASION, and YI-LAB focus on curriculum and knowledge of disaster risk and mitigation. Nepal also secured funding from the EU for "Nepali Yuwa in Climate Action and Green Growth" (NYCAGG). This project has funded Nepal with a value of approximately €512,716, covering a four-year period. (EEAS, 2023) These initiatives and strategies collectively empower Gen Z by providing them with technical skills, formal platforms for advocacy, and resources to implement DRM and other projects in their locality.

RECOMMENDATION:

Nepal must actively integrate youth across research, policy and innovation by launching paid internship programs with agencies like NDRRMA and DRR to link theory with resilient, real-world design. Policies must ensure Gen Z representation in municipal planning for transparency and accountability against traditional corruption and "copy-paste" design flaws. Youth innovation grants for developing advanced, digitized solutions, such as AI-powered early warning systems before any disasters and dynamic GIS mapping for rapid disaster response. Enforcing strict building code and embedding (DRR) and climate-resilient design in engineering curricula will strengthen long-term sustainability empowering youth to build a resilient, future-ready Nepal.

CONCLUSION:

Building Back Better is Nepal's blueprint for reinvention. The path to resilience is forged by Generation Z, who are overcoming institutional gaps with technological skill. These digital natives bring GIS, BIM modeling, and a crucial demand for transparency. Empowering Gen Z through paid internships and mandatory DRR training ensures innovative, green infrastructure becomes the standard. By supporting their leadership, Nepal secures a sustainable, accountable, and resilient future, positioning itself as a model of progress in South Asia.

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AUTHOR'S INTRODUCTION

Ramila Shrestha is a third-year civil engineering student at Purwanchal University. She holds the position of secretary in IAESTE Club Nepal, where she facilitates international exchange programs and promotes global professional networks among students. She has participated in various conferences, seminars and workshops related to sustainable development. She has volunteered for SAF Nepal, delivering DRM training to government schools in Kathmandu.

Outside of academics, Ramila actively engages in hiking, photography, and exploring new places through travel. She also enjoys cooking and values spending time listening to the personal experiences of older people. For Ramila, leadership is rooted in collaborative effort, empowering peers to co-create innovative, locally relevant solutions that bridge generational gaps. She believes technical expertise must be guided by deep empathy for the end-user, blending expert knowledge with localized community wisdom to ensure equitable access.



Ranjita Kumari
yadav

THE MISSING LINK OF WASH AWARENESS IN VILLAGES:

INTRODUCTION:

WASH awareness gaps in the village are still unfilled. The eradication of poverty will positively influence other SDGs like Health, Human rights, Economic growth, Education and Gender Equality. In 2022, 838 million people were living in extreme poverty. Now, 800 million people live in extreme poverty and 1.1 billion people live in multidimensional poverty. Progress of ending poverty has slowed down because of pandemic impacts like COVID-19, conflicts, climate crises and economic distribution. Government always focus on urban areas because its developing and have huge population so sanitation and waste management is more focused than rural area. The missing link of WASH in villages is lack of awareness programs, connecting people with health factors, hygiene and sanitation.

CURRENT CHALLENGES:

The main challenge for NGOs and organizations is changing the lifestyle and the way of thinking of rural people.

1. Menstrual Hygiene: Women and girls use cloth instead of sanitary pads which leads women to face various health issues.
2. Infant Care: The newborns are often wrapped in old pieces of cloth instead of using proper baby clothes and diapers that affects the babies health.
3. Sanitation: Another practice of rural areas is open defecation i.e. open defecating in fields or river sides. It leads to the spread of diseases such as diarrhea, Cholera, Typhoid and intestinal worms particularly affecting the children and old ones.
4. Water Access (Nepal) : 10.8 million people in Nepal do not have access to improved sanitation, and 3.5 million do not have access to basic water services.

PROGRESS AND SUCCESS:

Rural sanitation in Nepal has seen significant improvement since 2008, now with a marked decrease in open defecation. This success is driven by a convergence of hygiene practices.

Education: A massive factor has been the increased willingness of rural people to educate their children. Education fosters awareness and a better understanding of hygiene.

Government Initiatives: Awareness programs conducted by the government often promoting a "Clean and green city" vision have played a crucial role in changing behavior.

Organizational Support: Several non governmental Organizations (NGOs) have been instrumental in leading sanitation efforts. Key examples include:

Water Environment and Life Organisation (WEL)

Nepal Water For Health (NEWAH)

Kanchan Nepal (Focusing on pokhara, Kaski, and Chitwan)

The rural people were also influenced by the thought of Gender sensitivity doing open defecation that served as a strong social motivator for adopting private latrines. With the world changing with technology and the internet, people using it was a great help for the betterment of rural areas.

Example project: The WASH udhhyami program is a recent example focusing on sanitation and hygiene in Sindhupalchowk. It ran successfully from June 2022 to May 2025.

STRATEGIES AND INITIATIVES:

WASH awareness should be strengthened in villages making it a more developed area. Promoting education, safety, hygiene and menstrual health can give an idea of quality of life to the villagers.

Quality of life means having basic comfort living including education, a clean environment and a

healthy life. Another problem villagers face is not having a waste dumping site as they do not know where to dispose of the used pads and diapers. So, this problem should be taken into consideration by the government who are responsible for these developments . Conducting awareness programs and creating job opportunities for young people will help for economic growth for personal growth. Gen Z plays a major role in the development of our country as they possess creative education, social change education and have a modern perspective.

FUTURE RECOMMENDATIONS:

To ensure Lasting success in sanitation and water initiatives, future strategies should concentrate on creating long term, sustainable solutions. The investment should be directed towards developing a climate resilient water supply system and reliable facilities. Improved infrastructure is crucial so it can withstand extreme weather condition.Gen Z should be actively included to leverage their creative thinking and deep understanding of the technology world. Young people are more adaptable to modern technologies and digital tools for planning, designing and implementing innovative solutions.

CONCLUSION:

WASH is an essential sector for promoting a healthy lifestyle. Everyone should have proper knowledge about water, sanitation, and hygiene, as these are the foundations of good health. The old saying "Health is wealth "still holds true today. To improve rural areas, programs should focus on education, community participation, gender inclusion, and proper funding. The missing link like good infrastructures,financial resources,etc should be used to connect and develop the rural areas.

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AUTHOR'S INTRODUCTION

Ranjita Yadav is a third year civil engineering student currently studying in kantipur city college. She aims to be an engineer who actively shapes a sustainable future through innovative construction. She has participated in various seminars and conferences and also serves as a volunteer in programs conducted in college. She has also participated in public speaking sessions.

Besides studying, Ranjita likes writing. She enjoys cooking, travelling, and reading books. She believes that topics like personal hygiene should not be considered taboo. She hopes to lead the society to a future where everyone can get the proper knowledge and resources to maintain their hygiene. She believes that Genz have the potential and capability to change the face of a nation.

Ranjita is an aspiring engineer with a powerful vision to catalyze growth of a country or a specific region by applying sustainable construction methods and nature based solutions. Her dream is to use her knowledge and skill specially in WASH for transforming rural areas and improving the quality of life for people. She wants the readers to know a small effort from ourselves can change an entire picture of the scenario.

"We ourselves feel that what we are doing is just a drop in the ocean. But the ocean would be less because of that missing drop." — Mother Teresa



Jenish Shrestha

WASH: CULTURAL & RELIGIOUS BELIEFS AND WASH PRACTICES

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In a bustling city or a remote village, water, sanitation, and hygiene significantly impact the health and well-being of everyone. These three essentials form the foundation of public health. It's collectively known as WASH. There is a misconception about WASH that it is only about providing toilets and clean water. But in reality, it's about creating safe, sustainable environments where people can live healthy and productive lives. WASH is recognised globally under Sustainable Development Goal 6 (Clean water and Sanitation). It plays important roles in preventing countless deaths from waterborne diseases, reducing child mortality and creating environments for thriving education, livelihoods and well-being(UNICEF & WHO,2024; World Health Organisation, 2021). WASH focuses on the human right to water and sanitation and ensures availability, accessibility, affordability, and safety for all.

WASH follows the principle of "Do No Harm". It is a reminder that WASH activities must never deepen inequalities or ignore the religious & cultural aspects, nor the gender dimensions of access. Different cultural & religious values are observed in many societies regarding water and cleanliness. They can be seen in daily rituals, purification practices and gendered roles in water collection or sanitation maintenance. These values either support or hinder hygiene behaviours. So, this makes religious and cultural sensitivity essential in WASH program design. I often notice how cultural practices directly influence hygiene in our communities. For example, many households still follow the habit of washing hands and feet before entering the home or touching food. This practice comes from our religious teachings, but modern science also shows that it helps remove germs and prevents illnesses. On the other hand, some taboos, like restricting women from certain water sources during menstruation, do not support good hygiene and create inequality. These examples show why WASH programs need to work with culture, not against it.

In Nepal, WASH initiatives gained momentum in the 1990s through different government programs, international partnerships with UNICEF and WHO, and also community-led efforts like Community-Led Total Sanitation. Despite efforts to address these situations, significant gaps persist. As of 2024, 21% of schools lack proper water services, 16% of the population practices open defecation, and only a quarter of water supply systems remain functional (UNICEF & WHO, 2024). Among many reasons, WASH's ability to have a bigger impact may be its failure to engage with the cultural systems that are already present. Nepal is a country deeply rooted in religious and cultural beliefs, which also shape daily behaviours around water, sanitation and hygiene (Bhattachan & Mishra, 2017; Shrestha, 2018). Water holds sacred significance, from birth to the death rituals, morning bath to evening prayers. Here, the idea that water must be respected, kept clean and used responsibly, is realised through rituals, chants and practices. For instance, during festivals like Chhath, Teej, and Maghe Sankranti, water bodies such as rivers are worshipped as life-giving deities. The act of polluting temple ponds or sacred springs was historically viewed as immoral. Communities built Dhungedhara(stone taps), wells (Inar), and ponds(pokhari), which were their water sources at that time. Dhungedhara stones were carved and worshipped, as were wells and ponds, reminding us, they must be preserved, respected and taken care of. Not only the large water bodies, but a simple vessel of drinking water was kept with much care. They were kept in a pot of clay, adding herbs like tulsi leaves and turmeric, and maintaining hygiene around it. What we now call "tradition" was often an effective hygiene system based on both cultural values and practical science, even if people did not label it that way.

Similarly, hygiene and sanitation have long been embedded in it. Practices like bathing daily, washing hands before meals and keeping kitchens, temples and houses clean were part of spiritual discipline. Practices of food handling, waste disposal align with modern hygiene principles. The word (Suchi)is followed, which means both external and internal hygiene. Only through (bahiri suchi) external hygiene, one can have (antaric suchi) internal hygiene of thought and mind. And every cultural and religious practice aimed to attain spiritual growth, along with living a healthy and productive life, sanitation and hygiene act as a foundation. Rituals and practices must be followed with an understanding of their purpose and time relevance. Otherwise, it will just remain as an act. Though it protected tradition, we have been separated from its benefits and suffer its consequences as we are facing today.

WASH efforts to improve effectiveness and address the problems may lie in going beyond infrastructure and tapping into reviving cultural wisdom and traditional values by integrating modern science and governance (Khadka et al., 2023; UN-Water, 2023). The practices which were relevant back then need to be revived and made relevant according to the present time and context. Because as a nation that has long shaped its relationship with water and cleanliness with cultural and religious practices, bringing new solution models will always conflict, making it less effective. WASH initiatives must align with cultural and religious practices, finding balance where tradition becomes a bridge, not a barrier, to achieve WASH and an overall healthier and sustainable society. As a student, this makes me feel that our generation has a role to play in understanding the real purpose behind these traditional practices and connecting them with modern WASH approaches so that both become meaningful in today's context.

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AUTHOR'S INTRODUCTION

Jenish Shrestha is an eighth-semester Bachelor of Computer Applications student at Kantipur City College. He currently serves as the Program Coordinator at ArtsEd and is an active member of the Anjaneya Youth Club, where he supports initiatives that strengthen youth culture, creativity, and empowerment. His academic interests span computer systems, UI/UX design, graphics, and application development, reflecting his passion for blending technology with artistry.

Outside academics, Jenish is deeply grounded in spirituality and practices meditation as a way to cultivate clarity and purpose. He also enjoys sports, hiking, and the creative arts. For him, leadership is about fostering space where people feel encouraged to grow, collaborate, and express their potential. He believes meaningful change begins when individuals combine self-awareness with collective action, aligning innovation with empathy.

Jenish hopes to contribute to human-centered digital solutions that uplift communities and inspire young people to explore their creative and technical strengths. A quote that guides his perspective is: "What you think, you become. What you feel, you attract. What you imagine, you create." — Buddha.



Anup Subedi

Whispers of the Himalayas: A Trekker's Reflection on Nature

This week, I walked for six unforgettable days from the crowded streets of Kathmandu to the serene glacial valley of Tsho Rolpa. What I expected was a challenging trek and beautiful mountains. What I did not expect was how deeply this journey would change the way I see our planet and the urgent need for sustainable action.

From the moment I stepped out of Kathmandu, the contrast between the capital and the Himalayas became impossible to ignore. In Kathmandu, the rivers that once carried life now carry plastic. The air hums with dust and fumes. But as I climbed higher, every breath felt different i.e. cleaner, lighter, untouched. Up there, hidden between rocky ridges and silent valleys, the streams ran crystal-clear. I could see the stones beneath the water and hear the sound of it flowing, unhurried and pure. It made me realize how much we lose when nature is overshadowed by pollution, and how much we stand to protect if we act responsibly.

Yet beauty was not the only thing that caught my eyes. The mountains themselves were telling a story; one that was far from comforting. Even though it was mid-winter, many peaks that should have been covered in a thick blanket of snow stood strangely bare. And Tsho-Rolpa, one of Nepal's largest glacial lakes, was not fully frozen. Instead of a solid sheet of ice, the surface rippled under the cold wind. This was shocking. Glacial lakes used to freeze solid in winter, but now the freeze comes late, or barely at all. It felt like the Himalayas were whispering a warning about climate change.

Along the trails, I also saw the scars left behind by landslides. The fresh wounds on the mountainsides. They were reminders of how fragile our landscape has become. Rising temperatures, unpredictable monsoons, and melting glaciers increase the risk of landslides every year. These disasters don't just reshape the mountains; they reshape lives. Whole villages live under threat. Trails collapse. Roads disappear. Families lose their homes. And all of this connects directly to SDG 13: Climate Action.

But amidst this vulnerability, the Himalayas also showed their strength. At night, the sky opened like a window into the universe. I saw constellations, shooting stars, and even the glowing arc of the Milky Way; something most people in cities, including myself, rarely get to witness. The lack of light pollution made the sky look like a living map of ancient stories. It reminded me why SDG 11 (Sustainable Cities and Communities) is so important. Development should not mean drowning nature in concrete, noise, and artificial light. A city can grow & glow without losing its connection to the stars.

As I walked through small villages along the trail, I saw communities living in harmony with nature, planting what they needed, using local water sources responsibly, and respecting the land they depend on. These simple lifestyles reflect SDG 12 (Responsible Consumption and Production). Sometimes, progress doesn't always need bigger cities or more buildings. Sometimes it simply means learning from people who use resources wisely.

My trek from Kathmandu to Tsho-Rolpa reminded me that the environment is not separate from us; it is part of us. What happens to the glaciers, rivers, forests, and skies eventually happens to our communities, our food systems, and our future. The Himalayas are changing, quietly but clearly. Their beauty is still breathtaking, but their warnings are becoming louder.

As young people, we cannot ignore these signs. We must protect our mountains, reduce pollution, support sustainable development, and fight climate change with whatever tools we have; awareness, advocacy, innovation, or simple everyday choices.

This trek taught me that nature speaks. The question is:
Are we listening?

AUTHOR'S INTRODUCTION

Anup Subedi is a seventh-semester Computer Engineering student who leads Event Coordination at the KCC IT Club. He has contributed to multiple tech startups, including Mohoda, a registered Nepali company offering exclusive premium tech products, and Woovie, an emerging platform focused on mentorship and personal growth. Anup has also developed projects like ProjectNest, a hub for academic project sharing, and Kharchametry, a budgeting tool designed for mindful spending.

Beyond academics, Anup enjoys coding, chess, traveling, and gardening. He sees leadership as the ability to understand people deeply, motivate them toward shared goals, and make thoughtful decisions even when emotions run high. His approach to problem-solving blends curiosity, research, and independent innovation. His love for nature grounds his belief that sustainability is essential to protecting the planet he cherishes.

Anup aspires to live a life that is financially free, happy, and peaceful. He hopes this article reminds readers that climate change is real and that Nepal's mountains are calling for action. A quote that resonates with him is, "The change starts with you."



Pari Khatiwada

BLUE FUTURE – Water as the Key to Tomorrow

Objective

Blue Future focuses on protecting water resources through sustainable management, clean water access, and reduced pollution. It promotes conservation of marine life, climate-resilient coastal development, and growth of a responsible blue economy. By encouraging community involvement and using modern technology, the Blue Future approach aims to secure healthy water systems for long-term environmental and economic well-being.

Introduction

Land and oceans have become more urgent than ever. The Blue Future vision calls for cleaner rivers, healthier oceans, and smarter use of water so communities, economies, and ecosystems can thrive together. In this changing world, safeguarding water is not just an environmental need—it is our pathway to a resilient and prosperous future.

Water is the Blue Future, our planet's most powerful lifeline and the key to a sustainable tomorrow. As climate pressures rise and resources shrink, protecting and managing our water. In many developing regions, access to safe drinking water and sanitation remains a daily struggle. According to the United Nations, "billions of people still live without safely managed water services, affecting health, education, and economic growth. The truth is simple: without safe water, there can be no healthy or sustainable life" (UN water development 2022)

Current Challenges

Nepal stands at the frontline of water insecurity, where melting Himalayan glaciers, unpredictable monsoons, and growing urban pressures are reshaping the nation's water future. Retreating ice threatens long-term river flows, while extreme floods, landslides, and droughts increasingly disrupt lives and infrastructure. Urban centers like Kathmandu struggle with polluted rivers, untreated wastewater, and declining groundwater, leaving communities reliant on unsafe or unreliable sources. In rural areas, gaps in sanitation and resilient WASH systems continue to expose people to health risks. These challenges demand urgent action: strong governance, clean-water investment, and protection of the country's fragile mountain ecosystems to steer Nepal toward a cleaner, safer, and sustainable Blue Future.

Progress and Success

Nepal is making real headway toward a Blue Future by strengthening its water and sanitation services: "over 94% of the population now has at least basic water supply, and universal basic sanitation has been achieved". (jwssmp.dwssm.gov.np+2mediahelpline.com.np+2) Institutional reforms are underway too – for example, the water sector's regulatory capacity has been reinforced with a reorganized Department of Water Supply & Sewerage Management. Climate-resilient and inclusive WASH projects have also expanded, such as SNV's program in rural districts, which enhances local capacity and reaches marginalized communities. At the same time, large-scale funding is being mobilized: a \$100 million World Bank project supports integrated water resource management and infrastructure. Civil society-led work is also making a difference – "NEWAH has implemented thousands of water-point and sanitation projects, serving over 2.2 million people". (newah.org.np) Together, these advances show Nepal is not only building infrastructure but also strengthening governance, equity, and sustainability in its water future.

Strategies and Initiatives

A Blue Future is rooted in sustainable water management that aligns with global SDGs. By ensuring clean drinking water and sanitation (SDG 6), protecting marine biodiversity and reducing pollution (SDG 14), and building climate-resilient infrastructure (SDG 13), Nepal can safeguard its ecosystems and communities. Initiatives such as integrated water resource management, rainwater harvesting, wetland restoration, and sustainable fisheries promote both environmental health and local livelihoods.

(SDG 8). Innovation and technology, including digital monitoring and water purification, strengthen infrastructure and resource efficiency (SDG 9). Crucially, community engagement, education, and partnerships (SDG 4 & 17) empower citizens to participate in conservation and sustainable practices. Together, these strategies chart a path toward a resilient, equitable, and sustainable Blue Future that benefits people, nature, and the economy alike.

Through education, innovation, and cooperation, we can build a resilient and sustainable water future.

Future Recommendations

To secure a Blue Future, action must begin now. Governments should enforce strong water protection laws, while communities focus on conservation and reuse. Investments in clean technologies, rainwater harvesting, and recycling systems will greatly reduce water waste. Protecting rivers, wetlands, and forests will keep ecosystems healthy and water sources pure. With unity and awareness, we can ensure clean water for all—today and for generations to come.

Conclusion

A Blue Future is key to achieving the SDGs, ensuring clean water (SDG 6), healthy oceans (SDG 14), climate resilience (SDG 13), and sustainable livelihoods (SDG 8). Through innovation, community action, and strong partnerships (SDG 4, 9 & 17), we can secure a resilient, equitable, and sustainable future for people and the planet

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AUTHOR'S INTRODUCTION

Pari Khatiwada is a seventh-semester Civil Engineering student at Kantipur City College, recognized for her commitment to sustainable water systems and community resilience. Serving as a WASH Lead, she has actively contributed to improving safe drinking water access, strengthening sanitation practices, and promoting hygiene awareness in schools and rural communities. Her work in water-focused initiatives has deepened her dedication to engineering solutions that integrate technical innovation with meaningful social impact.

Beyond academics, Pari engages in photography, writing, and community outreach—creative avenues that help her understand the everyday realities of water scarcity and environmental vulnerability. She defines leadership as creating opportunities for others through attentive listening, responsible action, and inspiring collective participation toward sustainable development. Her core values are grounded in service, integrity, and the belief that lasting change begins within communities.

Pari aspires to contribute to climate-resilient water supply systems, inclusive WASH infrastructures, and long-term water security strategies that uplift underserved populations while protecting Nepal's natural resources. She hopes her journey motivates young leaders to view water sustainability not as an option, but as a shared responsibility. A guiding quote she lives by is: "The best way to find yourself is to lose yourself in the service of others." — Mahatma Gandhi.



Anup Shrestha

Can Global Citizenship Education Calm the Chaos of Gen Z Movements?

Introduction

Our Generation Z is passionate, outspoken, and globally conscious. We care about everything: from climate change and mental health to equality and digital rights. In fact, a 2023 Pew Research Center study found that almost 70% of Gen Z actively take part in online activism or advocacy. Yet, despite such awareness, our activism often feels scattered, powerful but unfocused. Social media lets us share our voice and be heard (megaphone) but it doesn't always show us the right way to act or achieve our goals (map). We post, we share, we protest, but real change often lags behind. As Bourn (2020) says, awareness without structured education frequently leads to inconsistent social participation. What we need isn't just passion, but also guidance and knowledge to act in the right direction. And that is where Global Citizenship Education or GCED becomes important. It helps young people channel awareness through empathy, understanding, and informed action.

Chaos in Gen Z Movements

Gen Z is the first generation to grow up fully immersed in the digital world 98% of us own smartphones giving us unmatched power to connect, organize, and make an impact. But this constant connectivity has a downside: our awareness and passion can move faster than real progress, leading to "clicktivism," where enthusiasm burns bright but fades quickly. As Westheimer and Kahne (2004) point out, lasting change comes from active, engaged citizens, not just well-meaning ones. That's where Global Citizenship Education (GCED) comes in. It teaches us to think critically, empathize, and collaborate skills that turn our impulsive reactions into meaningful action. GCED reminds us to pause before posting, listen before arguing, and channel our online energy into real-world impact.

Why GCED Matters

Global Citizenship Education isn't about memorizing countries or global facts; it is about shaping a mindset. It encourages learners to understand diverse perspectives, critically assess information, and solve problems. In times when online debates are often replacing real dialogue, GCED reminds us that for activism to be truly effective, it has to be informed, inclusive, and strategic. Andreotti (2011) argues that education should do more than just teach empathy—it should foster ethical and reflective global understanding. Reimers (2021) adds that real social change also requires global awareness and practical civic skills. GCED helps turn our raw passion into focused, precise action. It changes emotional energy into meaningful, structured action.

How Schools and Youth Can Apply It

In college, I participated in a plastic waste management project that later inspired my idea for Trashmandu. The goal was simple but powerfully reduce pollution by collecting recyclable plastics from households and educate families on proper waste segregation. In Trashmandu, Collectors pay Rs 9 per kilogram of plastic waste to the person who make a request, creating a system that rewards responsible disposal while promoting environmental awareness. This experience taught me that small, consistent actions like separating and recycling plastic can create far reaching impact beyond online advocacy.

This is where Global Citizenship Education (GCED) comes in. GCED combines knowledge, empathy, and action, showing students how to turn awareness into meaningful change. Schools can apply this by integrating community projects, digital literacy, and global collaboration. Just like Trashmandu transforms everyday responsibility into tangible results, GCED guides students to channel their energy and passion into focused, purposeful actions that make a real difference (UNESCO, 2015).

The Digital Space of Global Citizenship

Because Gen Z spends so much of life online, the digital world can be a classroom for global learning and action. With over 4.8 billion social media users in the world today, it has huge potential to raise awareness and encourage collaboration. Reimers (2021) emphasizes that digital spaces offer a key way for young people to engage in civic participation and develop intercultural understanding.

I experienced this firsthand while developing Trashmandu. Sharing posts and videos about plastic collection reached over 20,000 people in just two days, drawing an overwhelming amount of appreciation and responses from the community. This showed me that digital platforms can do more than entertain, they can inspire action. Guided by GCED, these spaces can transform passive scrolling into purposeful engagement, helping Gen Z use technology not for conflict but for collaboration and meaningful change.

Conclusion

Without direction, one of the most powerful forces of this century-the activism of Gen Z-will go out in a blaze. UNESCO (2015) provides emphasis on how Global Citizenship Education builds critical thinking, empathy, and responsible civic action; while Reimers (2021) pointed out that global competence is not something people develop by accident but rather has to be taught. Embedding GCED in education, community work, and digital spaces transforms emotion into lasting impact. On a personal note, I pledge to practice those values through my project in Trashmandu: with technology and awareness to the environmental change. GCED gives directions to Gen Z so that it may turn passion into purpose and activism into meaningful progress.

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AUTHOR'S INTRODUCTION

Anup Shrestha is a third-year Computer Engineering student with a growing passion for using technology to solve real-world problems. His academic journey and hands-on project work have strengthened his belief that innovation should always support people, communities, and the planet.

He is the developer behind Trashmandu, a plastic waste management system designed to support SDG goals such as Clean Water and Sanitation (SDG 6), Sustainable Cities and Communities (SDG 11), and Responsible Consumption and Production (SDG 12). Through this project, Anup aims to create a practical digital solution that connects users, collectors, and administrators to manage waste more responsibly and efficiently.

Beyond software, Anup also explores IoT innovations. His project Auto Fish Feeder aligns with Zero Hunger (SDG 2) and Life Below Water (SDG 14) by promoting smarter, automated feeding systems that reduce waste and encourage sustainable aquaculture practices.

These experiences have shaped his interest in environmentally conscious innovation, showing him how technology can bridge the gap between awareness and action. Outside academics, Anup enjoys learning new tools, experimenting with hardware, and exploring ideas that merge traditional problem-solving with future-thinking creativity.

Looking ahead, he hopes to contribute to projects that combine engineering, sustainability, and community impact. A guiding belief he carries is simple yet bold: "small innovations, when done with purpose, can create big change."-Anup Shrestha



Manisha Yadav

Engineering hope : Civil Engineering Innovation for Clean Water, Sanitation and Hygiene

Introduction

As a civil engineering student, I feel a deep responsibility to design systems that ensure everyone can access safe water and dignified sanitation. In my courses and field visits I have learned how pipes, treatment plants, and simple household devices translate engineering theory into public health gains. Clean water is not only an engineering challenge but a social one: it requires affordable, maintainable solutions that communities can own. Motivated by this, I study low-energy treatment, decentralized systems, and resource recovery to create practical, equitable projects. I aim to apply classroom theory to community projects that improve public health and resilience.

Current challenges

Delivering safe water and sanitation faces intertwined technical, social, and financial challenges. Rapid urbanization overloads centralized sewerage and leaves informal settlements without services. Aging infrastructure in many cities leaks and wastes treatment capacity while rural areas often lack basic networks. Climate change causes droughts and floods that stress supply systems and contaminate sources. Limited funding, weak institutional capacity, and poor maintenance practices make promising technologies hard to sustain. Finally, social barriers—from affordability to lack of sanitation behavior change—reduce the impact of technical solutions. Emerging contaminants such as microplastics and pharmaceuticals complicate treatment, while seasonal supply variability forces tradeoffs between quantity, quality, and affordability for vulnerable populations. Corruption, fragmented governance, and lack of reliable data compound these issues, making planning and prioritization difficult.

Progress and success

The water and sanitation goals are defined by 8 targets that specify the goals, and the progress towards the 2030 Agenda for sustainable development is measured with 11 indicators as metrics by which the world aims to track whether these targets are achieved. This article presents the current global progress against these indicators. During 2015–2024, globally the proportion of population with access to safely managed drinking water services improved from 70% to 74%, (safe water and sanitation by Jay Rajapakse published in cambridge prisms 2023), safely managed sanitation services grew from 47% to 54%, and handwashing facilities with soap and water increased from 67% to 71% which cannot be taken as the good progress for the target. Eight out of 10 people without basic water services lived in rural areas, while safely managed sanitation services reached 62% of the world's urban population, but only 44% of its rural population.

Strategies and initiatives

It must be a continuous lifelong learning process for practicing water professionals, decision makers and managers. Some institutions, professional societies and special capacity building organizations offer continuous education opportunities. Strategies like rainwater harvesting, groundwater recharge and the use of decentralized water treatment plants can work in rural areas. To get back in on the track key strategies include increasing sector wide investment and capacity building, promoting innovation and evidence based actions.

Civil society organizations should work to keep governments accountable, by public participation and awareness about policies rights. Invest in water research and development and promote the role of women, youth and communities in water resources governance. One of the most impactful initiatives in modern civil engineering is the reuse of treated waste water. Civil engineers often lead awareness campaigns on water conservation and hygiene practice. Training is given to local technicians to maintain the water system. Civil engineers partner with government agencies, NGOs and private sector to implement national water safety plans, ensuring every project supports broader development objectives.

Future Recommendation

I recommend strengthening interdisciplinary education that pairs engineering students with local communities for real projects, emphasizing sustainable materials, energy-efficient processes, and life-cycle thinking. Expand pilot programs for constructed wetlands, solar desalination, and fecal sludge processing with rigorous monitoring and open publishing. Promote policies that subsidize capital for small decentralized projects and support local enterprises that operate them. By focusing on scalability, maintainability, and equity, future engineers can deliver lasting gains in health and dignity. Support open-source designs, hands-on internships, and cross-disciplinary research to accelerate deployment and reduce costs. Invest in sensors for predictive maintenance to increase reliability during climate variability.

Conclusion

Civil engineering innovations for clean water and sanitation have transformed lives, but global equity and sustainability still require urgent attention. As a student, I see that the challenge is not only to invent technologies but also to ensure they are inclusive, affordable, and resilient to climate change. WASH guidelines highlight that safe sanitation and reliable water systems directly reduce disease and poverty, strengthening communities. Engineers must therefore design systems that people can maintain, governments can fund, and nature can sustain. The next generation of engineers must bridge technical expertise with social empathy to achieve true water and sanitation justice.



**Subash Chandra
Gyawali**

Integrating Climate Change Adaptation and Disaster Risk Reduction into Urban Planning

Urban areas across the world are increasingly vulnerable to the impacts of climate change and disasters. Rapid urbanization, population growth, and unplanned development have intensified exposure to hazards such as floods, heatwaves, and landslides. To build cities that are safe, sustainable, and resilient, it is essential to integrate Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) into the core of urban planning.

Climate Change Adaptation refers to actions that help communities adjust to the effects of climate change, such as rising temperatures or unpredictable rainfall. Disaster Risk Reduction, on the other hand, focuses on minimizing vulnerabilities and managing risks associated with natural or human-induced disasters. Although these two fields have traditionally operated separately, they share a common goal reducing vulnerability and enhancing resilience. Urban planning provides the ideal framework to bring them together because it shapes how cities grow, where people live, and how infrastructure is designed.

As I also got to experience that climate change and lack of urban planning has increased more disease in urban area, As in case of sanitation , every year here in Kathmandu many are suffering from Dengue and lots of other diseases which are mostly coming from lack of management of solid and liquid waste in urban areas . Urban planning and people shifting towards urban areas can lead to more health disasters, If sanitation and planning is not in the place.

One of the most important steps in integrating CCA and DRR into urban planning is risk-informed land use management. Planners must consider hazard maps, flood zones, and climate projections before allocating land for housing or industry. Avoiding construction in high-risk areas such as riverbanks, unstable slopes, or coastal zones can prevent future disasters. Establishing green buffers, open spaces, and wetland conservation areas can further reduce risks while improving urban livability.

Climate-resilient infrastructure is another key aspect. Cities need drainage systems capable of handling intense rainfall and transport networks that remain functional during extreme weather events. Using nature-based solutions—like green roofs, urban forests, and permeable pavement can help manage stormwater, cool urban areas, and improve air quality. These approaches not only reduce risk but also contribute to the overall sustainability of cities.

For successful integration, policy and institutional coordination are crucial. Climate and disaster considerations should be embedded in building codes, zoning regulations, and master plans. Urban planners, environmental experts, and disaster management authorities need to collaborate closely. Moreover, governments must strengthen local institutions by providing adequate funding, technical training, and decision making authority.

Community participation also plays a vital role. Local people often have valuable knowledge about hazards and coping strategies. Involving communities in risk mapping, early warning systems, and resilience building initiatives ensures that planning decisions are inclusive and grounded in reality. Public awareness campaigns can encourage households to adopt safer construction practices and prepare for emergencies.

Mostly in most of the place implementation plays a vital role in these cases, As from government level implementing the right things at the right place at right time makes the actions different in prevention and awareness about urban planning and various disaster risk reduction Partnership with the local peoples helps in preventing the disaster by knowing their mindset and their trait in dealing the problems.

Technological tools such as Geographic Information Systems (GIS), remote sensing, and climate modeling can support data-driven decision-making. Smart city initiatives can integrate real-time monitoring of weather, infrastructure, and disaster response systems to enhance preparedness and recovery.

Integrating CCA and DRR into urban planning offers multiple benefits: reduced loss of life and property, sustainable use of resources, and improved quality of life. Cities like Rotterdam, Singapore, and Kathmandu have already begun to demonstrate how resilience can be built into urban systems.

In conclusion, urban planning must evolve from traditional growth-oriented approaches to resilience oriented strategies. By mainstreaming climate adaptation and disaster risk reduction, cities can move toward a safer, more sustainable, and climate-resilient future.

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Roji Chaudhary

From thirst to thriving : equal distribution of water for a healthy and prosperous life

Introduction

Water is the essence of life – every heartbeat, every harvest, and every home depends on it. From the flowing rivers made from melting of Himalayas to the fertile plain terai, water shapes its existence. Even Nepal is richest in water, many people are still thirsty. To travel from thirst to thriving we must ensure that every drop is shared fairly and used wisely which helps to maintain equality, quarrels and many types of other mental issues which lead us to serious illness.

Water inequality in Nepal

Nationally, Nepal made progress in expanding access to improved water sources, but gaps remain. UNICEF estimates that around 3.5 million people in Nepal still lack basic water services, and more than 10 million people lack sanitation.

Madhesh province, lying in the terai plain, facing water crisis. Many families are depends upon tube well, pond, rivers, wells, etc. which gets dry in summer season due to over extraction of groundwater. Seasonal extremes have made the problems worse. In recent years, erratic monsoon rainfall, frequent droughts. As a result, communities in districts like Dhanusha, Sarlahi and Siraha experiencing drying up of tubewell, and handpump. Nepal government has also declared Madhesh as a drought affected or disaster zone due to acute water pressure.

Causes of unequal water distribution

Nepal has geographical and ecological imbalance which is one of the first major cause. While the hilly and mountainous regions where there is less density of population holds the headwaters of rivers where the highly dense lowland plains depends on ground water and seasonal rivers. The impact of climate changes has made rainfall more unpredictable. The concentration of rainfall in short periods leads to floods in some months while dry in other months.

Secondly, infrastructure and investment have not kept pace with urbanization and population growth. Due to limited storage infrastructure to capture monsoon flows for use in the dry season often fail to reach tail-end farmers.

Thirdly, governance and policy gaps contribute to unequal distribution. Due to weak coordination among federal, provincial and local governments the responsibilities for water supply and irrigation is not managed properly. The declaration of drought in Madhesh reflects not only climatic stress but also the lack of proactive investment in resilient systems, groundwater monitoring and environmental protection.

Social inequality further deepens the problem. Dalit, marginalized communities and poor household may live in more flood-prone or drought-prone lands where they struggles to pay fees for connection. The women and children has to go for paid work which leads loosing time for education and rest.

Consequences for health and prosperity

Unequal access to safe water has immediate health impacts. Due to contaminated and poor sanitation water a community lead to diarrhoeal diseases, intestinal infections and undernutrition, especially among children. National WASH reviews emphasise that shortcomings in drinking water, sanitation and hygiene are closely linked with stunting and other forms of malnutrition in Nepal. In the area where people have to walk long distance for water there increases the chances of physical fatigue and also safety risk.

Economically, water scarcity undermines agriculture. Drought reduces crop yields, increases food prices. Reports on the current droughts reduced paddy production could significantly cut into Nepal's overall rice supply. Due to unreliable irrigation, farmers hesitate to invest in improved seeds, fertilisers or diversification. This leads a family into debt or labour migration to city or abroad. In short, unequal distribution of water keeps people trapped in a cycle of vulnerability instead of unlocking the full potential of Nepal fertile plain.

Solutions

Investing in infrastructure is important. This includes expanding climate- resilient piped water systems, improving quality of tube wells, introducing technologies such as solar- powered pumps, water treatment, rain water harvesting, promotion of micro-irrigation (drip and sprinkler system), construction of storage ponds, rehabilitation of canals which can often help farmers with rainfall variability.

At the policy level, Nepal needs strong implementation of its water sector strategies, with clear roles of federal, provincial and local governments. Laws and regulations should promote sustainable extraction of groundwater and discourage activities that degrade recharge areas.

Moving from thirst to thriving community participation and social inclusion must be at the heart of solution. Education campaigns on hygiene, involvement of women, Dalits and marginalized groups in decision making, safe use of groundwater can further strengthen the impact of physical investments. UNICEF and NGOs in Nepal already promotes such community based WASH approaches that link behavior change with infrastructure.

Conclusion

Equal distribution of water is more than just a technical target; it is a pathway to a healthier, more prosperous and more peaceful Nepal. The current drought and groundwater crisis in Madhesh are the warning signs that cannot be ignored. By protecting the chure hills, investing in resilient infrastructure, strengthening governance and empowering communities, Nepal can turn water from a source of hardship into a foundation for human flourishing. When every household can rely on safe glass of water and every farmer can plan the next season with confidence, the journey from thirst to thriving will truly be underway.

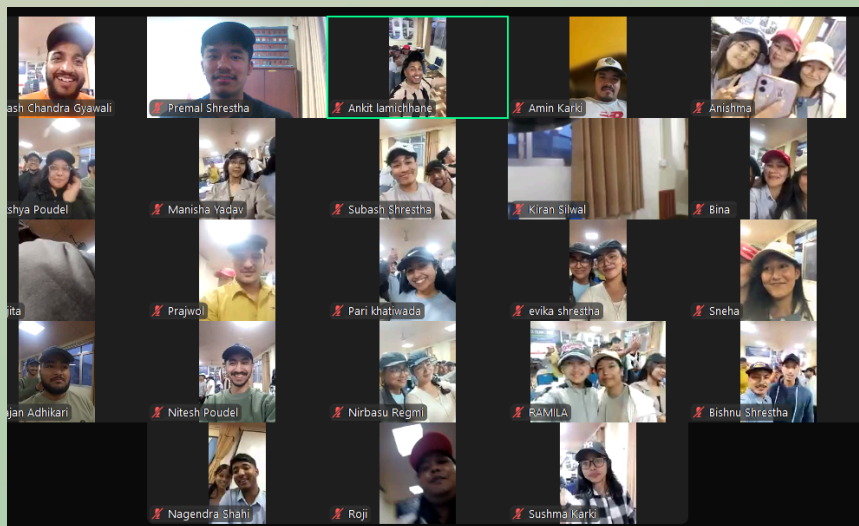
References

- Government of Nepal (2023)
- WASH sector performance report 2023
- ActionAid Nepal (2025). "Madhesh Drought: dry land, uncertain future"
- ICIMOD/ RevoScience (2025). Reports on drought , groundwater depletion in madhesh province.
- UNICEF Nepal. Water sanitation and hygiene (WASH) in Nepal.

Annex



Participants actively engaging in the SDG Module session with collaborative learning and discussions.



A fun and engaging cap session that brought everyone together for teamwork, memories, and shared excitement.



Sustainable Farming Through SALT

This SALT demonstration illustrates how contour farming and vegetation barriers help manage sloped land sustainably. The approach directly contributes to SDG 2 by enhancing agricultural resilience, SDG 13 by fostering climate-smart techniques, and SDG 15 by reducing land degradation on steep landscapes.



Visiting the Kiwi Farm at the ICIMOD Living Lab to learn how sustainable agriculture supports SDG 2, SDG 13, and SDG 15.



NbS Interactive Web Activity

Students engaged in a collaborative web-mapping exercise during the Nature-based Solutions (NbS) workshop, exploring how interconnected systems can strengthen community resilience and support SDG 13 (Climate Action) & SDG 15 (Life on Land).



Students engage in open discussions, sharing ideas linked to SDG 4 (Quality Education), SDG 11 (Sustainable Cities), and SDG 13 (Climate Action).



An interactive session where participants connect their projects with goals like SDG 12 (Responsible Consumption), SDG 15 (Life on Land), and SDG 17 (Partnerships for the Goals).

Nature Based Solution (NbS) Workshop Session



Understanding Planetary Boundaries



Visualizing ideas through our
Tree of Knowledge activity



Collaborative Tree Mapping
teamwork in action



Exploring the Doughnut Economy Model

GCED Workshop Session



Global minds at one table, sharing ideas that cross borders.



Turning conversations into clarity, shaping insights one note at a time."



Where creativity meets purpose: visual storytelling through our community map.



Exploring environmental challenges and mapping practical actions as a team.



Celebrating WASH Day Together

KCC students raised their voices for better water, sanitation, and hygiene, reinforcing the importance of SDG 6: Clean Water and Sanitation for a healthier and more sustainable future.





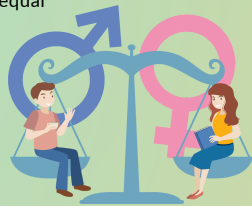
Creative Collaboration at the World Café

Participants brainstorm, sketch, and share insights through the World Café process collaborating creatively to spark solutions aligned with the Sustainable Development Goals.



Gender Justice Workshop: Understanding Equality, Breaking Bias

A dynamic session focused on gender justice, where participants explored stereotypes, shared perspectives, and engaged in meaningful dialogue to promote fairness, respect, and equal opportunities for all. (Aligned with SDG 5: Gender Equality)



Exploring the Roots of Gender Inequality

Participants engaged in a guided discussion on gender roles, norms, and social relations, deepening their understanding of justice and equality.



Open Dialogue for Inclusive Futures

A youth-led conversation on gender justice, equality, and empowerment, fostering empathy and shared learning through open discussion.



Youth Voices for Sustainable Change

A vibrant gathering of young minds coming together to rethink solutions, share bold ideas, and align their actions with the SDGs. A room full of creativity, collaboration, and unstoppable energy for a better future.

