

Purbanchal University
International Conference 2026

Envisioning the Himalayan Future:
Pathways to Sustainability and Development



PUiCON
ABSTRACTS

12-13 February 2026

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Message from Vice Chancellor

Welcome you all to **PUiCON 2026**, here at the serene environment of Purbanchal University. The theme of the conference, centered on sustainability and development, reflects our collective responsibility to nurture communities, develop society, and create a sustainable future. This conference isn't just an event; it's proof of what we can achieve together as we work to expand knowledge, build new partnerships, and take on the big challenges of our time.

It's a real pleasure to share the proceedings from the International Conference on **Envisioning the Himalayan Future: Pathways to Sustainability and Development 2026**. Every paper in this collection shows the dedication, creativity, and teamwork of researchers, professionals, and innovators from all over the world, covering a wide range of topics in the field of sustainability, development, and more.

Thanks to all the authors for their hard work, to the reviewers for their thoughtful feedback, and to the organizing committee for pouring so much energy into making this conference a reality. We're also grateful to our sponsors and partners—your support truly brought us all here.

We hope these proceedings spark new ideas, kick off fresh collaborations, and help drive real progress toward a sustainable future in the Himalayas.

Enjoy your stay at Purbanchal University!

Prof. Biju Kumar Thapalia, PhD
Vice Chancellor,
Purbanchal University
Nepal

Message from Registrar

We are honored to welcome distinguished scientists, innovators, policymakers, and students to the International Conference on 'Envisioning the Himalayan Future: Pathways to Sustainability and Development', scheduled for February 12-13, 2026, and organized by Purbanchal University, Sundarharaicha, Morang, Nepal. The conference focuses on interdisciplinary solutions in climate change adaptation and mitigation, sustainable agriculture and food systems, human and animal health, wildlife conservation, infrastructure, ICT, and more. This event reflects the university's commitment to diversifying knowledge generation, promoting multi-disciplinary discourse, and adding value to sustainable and inclusive development in the Himalayan Region.

The Himalayan region is rich in ecological diversity and complex challenges related to climate resilience, livelihoods, and cultural continuity. These issues can be effectively addressed through interdisciplinary dialogue, innovative thinking, and evidence-based policies. I firmly believe that such international conferences play a crucial role in transforming academic and scholarly insights into practical solutions that benefit both communities and ecosystems.

Purbanchal University is committed to deepening academic excellence, research and its dissemination, and global scholarly engagement for policy dialogue. This conference will be pivotal in strengthening knowledge generation, dissemination, and in translating research outcomes into policies and practices that support long-term, sustainable development. I also believe that such multidisciplinary international conference in Koshi Province of Nepal creates an opportunity for global networking among scholars of different academic discipline to tackle with the challenges of Himalayan sustainability. Moreover, this conference also enhances the recognition of our university at a global level. I commend the efforts of the conference patrons, national and international delegates, steering committee, students, faculty, participants, contributors, and staff for their dedication to making this conference a success.

I am confident that the documentation of scholars' findings in this proceeding will serve as a valuable reference for academics, practitioners, and policymakers. I extend my best wishes for the grand success of the international conference and for remarkable academic exchange among all participants, both national and international.

Prof. Dr. Kalyani Mishra Tripathi
Registrar, Purbanchal University

Foreword

I am delighted to welcome you all to the abstract book of the Purbanchal University International Conference 2026 (PUICON 2026), themed “**Envisioning the Himalayan Future: Pathways to Sustainability and Development.**” The conference is held in Sundarharaicha, Nepal, from February 12 to 13, 2026. This conference is organised with the aim of providing a common academic platform to discuss research and practice relevant to the Himalayan region and comparable contexts. I hope that the work presented in this abstract book will serve as a useful reference for researchers, students, practitioners, and policymakers, and will encourage continued dialogue and collaboration on issues critical to the future of the Himalayan region.

PUICON 2026 received contributions from a wide range of disciplines and institutions. The conference was structured around five broad tracks: Arts, Law and Education, Engineering, Management, Science and Technology, and Medicines and Allied Sciences. This structure reflects our belief that the challenges of sustainability and development in the Himalayan region require interdisciplinary engagement rather than isolated approaches. In total, we received 307 submissions; of which, 197 abstracts were selected through a peer-review process to be presented at the conference. Together, these contributions represent diverse perspectives and thematic concern and highlight both local realities and broader regional and global connections.

I would like to acknowledge the guidance and support of the Vice Chancellor, Prof. Dr. Biju Kumar Thapalia and the Registrar, Prof. Dr. Kalyani Mishra Tripathi, of Purbanchal University. I am grateful for their indispensable trust and encouragement in making this conference a grand success. Similarly,

I sincerely thank all our distinguished keynote speakers – Prof. Dr. Deepak Aryal, Prof. Dr. Stein W. Wallace, Prof. Dr. Shrawan Kumar Acharya, Prof. Dr. Rafal Lizut, Prof. Dr. Purnand Savoikar, Prof. Dr. Lucius Botes, Dr. Niyada Kiatying-Angsulee, Prof. Dr. Ajaykumar R. Kambekar, Maj. Gen. Sudarshan Silwal (Ret.), Sr. Journalist Kanak Mani Dixit, Dr. Lochan Rijal, Dr. Mandira Shrestha, Dr. Mrigendra Bahadur Karki, Prof. Dr. Anirudh Agrawal, Prof. Dr. Veeranagouda B. Patil, Artist Ruchira Gupta, Prof. Dr. Bidhyanath Koirala – and session speakers – Dr. Meenakshi Dahal, Dr. Lavi Tyagi, Dr. Sunil Babu Shrestha, Prof. Dr. Avinash Kumar Agarwal – for sharing their expertise and experience. They travelled from different countries, cultures, and disciplines to be with us. Their talks inspired us and reminded us why research matters beyond papers and titles.

Organising a multidisciplinary international conference is challenging and requires collective effort. My sincere appreciation goes to all our reviewers, panellists, research presenters, participants, and attendees. You were the heart of this conference. It is your dedication and presence that made this conference possible. Your papers, questions, discussions, and curiosity made this event truly alive. I would also like to extend my heartfelt thanks to our sponsors, partners, media representatives, volunteers, technical teams, and administrative staff for their valuable support. I am grateful to all the members of the Organising Committee, volunteers and technical team, who worked tirelessly behind the scenes, handling all the planning, meeting, emails, reviews, logistics, and last-minute problems. I truly respect your commitment. Finally, I would like to thank the audience and the readers.

Prof. Bholanath Sharma Ghimire, PhD
Conference Chairman, PUICON 2026
Purbanchal University

Message from the Chief Guest

I feel extremely honoured to be invited as the Chief Guest to PUiCON 2026. This is an important academic programme focused on the sustainable future of Nepal.

International academic conferences such as PUiCON play a pivotal role in enhancing the academic standing of universities in Nepal. They also serve as a source of inspiration and a positive nudge for other universities across the country to follow a similar path forward. Such programmes are crucial in strengthening the research culture within the nation and provide a safe space for active engagement in global academic discourse.

I appreciate the bold and forward-looking initiative taken by Purbanchal University in organising this prestigious academic event, PUiCON 2026. Organising a conference of this scale requires vision and commitment from all parties involved. I admire the efforts put in by every individual, and I have high expectations for the positive and long-lasting impact of this conference at both academic and national levels.

I sincerely hope and pray for the continued success of PUiCON 2026.

Prof. Dr. Dev Raj Adhikari
Chairman
University Grant Commission Nepal

Abstracts of Keynote Speeches

Long-term Planning under Uncertainty

Prof. Stein W. Wallace

Professor, Norwegian School of Economics

When making long-term plans for a region or a company, uncertainty about the future is normally substantial. How do we handle that uncertainty? Are there any obvious traps that can lead us astray? The message itself is obvious enough: Keep the doors open! And open new doors if you can. But how do we plan to achieve this? If we have forecasts for major factors such as weather (for tourism as well as agriculture), climate, logistical needs, politics in the future ... whatever ... how do we use these forecasts? What is really a forecast from this planning perspective? The point of the talk is to outline how to think about future uncertainties when planning, be that using quantitative tools or just deep discussions.

Sustainable Development and the Himalayan Future

Prof. Lucius Botes
North-West University South Africa

The paper will share key views on sustainability and development which is vital for a shared understanding of sustainable development. It then shares some empirical evidence on the socio-economic and environmental challenges of Nepal. It also reflects on current development policies in Nepal and reflect on Nepal and the Sustainable Development Goals (SDGs). How Nepal scores on the Sustainable Development Goals Index and score cards also receive some attention. The paper concludes with a call to the Higher Education Institutions (HEIs) of Nepal to drive education for sustainable development (ESD). The paper will also present some guidelines on what the key considerations could be in envisioning the Himalayan Future 2026 on the pathways to sustainability and development.

Digital Transformation: A Universal Pathway to Sustainable Development

Prof. Rafal Lizut, DSc, PhD

Professor (Economy & Management), Bohdan Khmelnytsky Melitopol State Pedagogical University, Ukraine

Professor (Economy, IT), Veritas University, Abuja, Nigeria

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Director - Think Design, Lublin, Poland

Digital transformation is often presented as a universal pathway to sustainable development; however, for small and emerging economies it may introduce systemic risks that weaken resilience and sovereignty. Artificial intelligence (AI), central bank digital currencies (CBDCs), and cybersecurity increasingly shape development trajectories, particularly in regions with limited institutional and technological capacity.

AI-driven automation intensifies social and economic discrimination between large and small economies. Advanced AI systems rely on high-performance computing, while global RAM and semiconductor markets are increasingly monopolized, restricting access to critical resources to dominant states and corporations. These dynamics reinforce dependency, limit competitiveness, and amplify unemployment risks associated with AI-driven job displacement, alongside unresolved social challenges linked to excess free time and loss of economic purpose.

CBDCs represent a high-impact but high-risk innovation. Although they promise efficiency and transparency, the “one citizen–one account” model introduces vulnerabilities related to mass surveillance, political or economic coercion, and systemic exclusion. A large-scale cyberattack on CBDC infrastructure could paralyze the entire financial system, eliminating cash-based fallback mechanisms.

From a cybersecurity perspective, many governments lack sufficient technical capacity and adequately trained personnel to protect centrally stored citizen data. Poland’s KSeF centralized e-invoicing system, combined with ongoing hybrid cyberwarfare activities targeting Poland, illustrates how data concentration increases exposure to economic espionage and large-scale cyberattacks.

These challenges raise fundamental questions about the future of small and emerging economies in an increasingly technology-driven world.

How Do Social Enterprises Create Brand? Multiple Case Study from North East of India

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Differentiated brands attract high paying customers. If social enterprises are able to create differentiated brands, they would be able to attract high paying customers that would lead to greater benefits to the beneficiaries of these social enterprises. This is a multiple case study of social enterprise based out of North - Eastern part of India. We explore how do social enterprises with very few resources are able to create unique branding experience and brand value positioned in a competitive market space and how they managed to attract high-paying customers. We use comparative multiples case study method, to explore our research question. This is one of the few studies on entrepreneurship focused on North East of India. We found that brand legitimacy, positioning, and equity lead to the development of a long-lasting brand awareness that attracts greater funding from a multitude of sources and more recurring consumers. Overall, we found that social enterprises with strong brand awareness led to higher benefits for beneficiaries.

Disaster Risks, Rescue and Response challenges in Nepal's Himalayan Region

Sudarshan Silwal

Major General (Rtd), Nepal Army

Nepal's Himalayan region is highly exposed to recurrent and increasingly complex disasters, including floods, landslides, earthquakes, avalanches, Glacial Lake Outburst Floods (GLOFs), and other climate induced extremes. The combination of steep and unstable terrain, fragile geology, dispersed high altitude settlements, and accelerating climate variability significantly amplifies disaster impacts while severely constraining rescue and response operations. These hazards have shifted from sporadic occurrences to regular, often annual events, frequently affecting the same locations. Although Nepalese response agencies, including the Nepal Army, Armed Police Force, Nepal Police, local governments, and community-based volunteers, demonstrate strong commitment and operational resilience, overall disaster management and rescue effectiveness remains constrained by structural and institutional limitations rather than a lack of human effort or willingness.

Key challenges include limited physical access due to rugged terrain, recurrent damage to roads and trails during disaster events, weak coordination among multiple responding actors, insufficient availability of specialized mountain and urban search and rescue equipment, fragile communication systems, and shortages of adequately trained personnel at the local level. In high Himalayan areas, heavy reliance on weather dependent air rescue further restricts the timeliness and reach of emergency response. Additional constraints, such as delays in decision making, inadequate prepositioning of emergency supplies, elevated safety risks to responders, and weak damage and needs assessment mechanisms further reduce operational efficiency. While the expansion of early warning systems and evacuation measures has contributed to declining fatalities in certain flood prone areas, economic losses, infrastructure damage, and long-term recovery challenges continue to increase.

Despite these limitations, Nepal possesses several foundational strengths that can support more effective disaster response. These include specialized mountain rescue forces, expanding air support capacity, strong community engagement, institutional learning from repeated Himalayan disasters, and sustained international cooperation. The central policy challenge lies in narrowing the gap between disaster risk and preparedness by strengthening incident command systems, enhancing inter agency coordination, investing in high altitude rescue technology and emergency medical response, improving localized stockpiling of essential supplies, and expanding community-based preparedness initiatives. A strategic shift from reactive interventions toward proactive, system-based disaster management is essential to strengthening resilience and reducing disaster related losses in Nepal's Himalayan region.

Nurturing the Whole Child: From Individual Exploration to Interdependent Collaboration

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Contemporary education is undergoing a paradigm shift, moving beyond a narrow focus on academic achievement toward a holistic model that nurtures the "whole child." This article argues that true holistic development requires a deliberate and balanced progression from fostering "individual exploration" to cultivating "interdependent collaboration". Individual exploration builds self-awareness, intrinsic motivation, and cognitive foundations, allowing children to understand their unique strengths, interests, and voices. This stage is essential for developing agency and critical thinking on each individual child. However, to prepare children for the complexities of the modern world, education must seamlessly guide them toward interdependent collaboration, where they learn to integrate their unique capacities into shared goals, practice empathy, negotiate differences, and solve complex problems collectively. The article explores the theoretical underpinnings of this progression, drawing from constructivist and social learning theories. It provides a practical framework for educators, detailing pedagogical strategies for each stage and emphasizing the role of the learning environment, assessment, and educator mindset. Ultimately, it posits that by intentionally designing educational journeys that honor both the development of the self and the responsibilities to the collective, we equip children not only to succeed but to contribute meaningfully to a more compassionate and interconnected society.

Keywords: Whole Child Education, Individual Exploration, Interdependent Collaboration, Social-Emotional Learning (SEL)

Strengthening Cryo-Climatic Monitoring and Research Capacity in the southern slope of the Himalayas

Prof. Dr. Deepak Aryal

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The High Himalayas are a critical cryospheric zone facing rapid climatic changes, resulting in unprecedented glacier retreat, permafrost thaw, altered snow dynamics, changes in hydrological regime and heightened related hazards. Understanding this rapidly evolving system is crucial for ensuring future water security and reducing disaster risk across the region. To address this challenge, we emphasize three interlinked strategic fronts: (i) strengthening cryo-climatic monitoring to close critical observational gaps, especially at high altitudes., (ii) advancing capacity building to equip early-career scientists and local institutions with modern field, modeling, and analytical skills, and (iii) addressing emerging scientific questions related to cryo-climate feedbacks, and high-altitude hydro-meteorology. Strengthening these pillars will provide robust datasets and scientific insights necessary for improved prediction, risk assessment, and adaptation planning in the entire Himalayan region.

A step towards Carbon-Neutral Construction Materials and Green Manufacturing

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Concrete is the vital resource in rapid industrialization and urban development. In last two decades, the carbon emission levels in China increased by 7.2 times while those in India the corresponding rate of increase was 4.4 times. These ever increasing carbon emissions need to be controlled. Carbon negative concrete involve the use of construction materials and technology that can reduce the carbon emissions of the buildings with effective removal of CO₂ from the air. Sustainable building materials are more energy efficient than traditional materials. Recycled materials used during the construction process contribute significantly to the protection of the environment, reduction of waste, and increase energy and resource efficiency. Sustainable building materials are often free of volatile organic compounds (VOCs) and other harmful chemicals, making them a healthier option for indoor air quality. Sustainable building methods utilize eco-friendly materials without compromising quality or structural integrity. Sustainable construction techniques can lead to significant cost savings over the life cycle of a construction project, as well as reducing the environmental impact. Apart from the using waste materials used in construction due to the above advantages, natural renewable materials and waste materials generated from the usage of these natural resources are often tried in various stages in building construction. It is high time to innovate different carbon neutral materials, technologies and processes that can help to decarbonize the building construction. Marble and granite dust mixture has been tried as a replacement for natural sand partially. The use of natural fibres in the concrete is increasing as a result of increased awareness among the consumer to reduce the waste and environmental pollution. Bamboo, rice husk ash, sugarcane bagasse and fibres is one of the oldest traditional building materials. Sisal fibres are used in geotextiles and also in concrete as fibre reinforcement for improving tensile strength. Bacteria *Bacillus Sphaericus*, *Bacillus Pasteurii* and *Bacillus Subtilis* helps in calcite precipitation in concrete mixtures to heal concrete cracks. Abundantly available plant species such as *Cissus glauca* Roxb and *Terminalia elliptica* improves compressive strength of lime mortar while *Sansevieria trifasciata* and Lemongrass extract coatings can be anti-corrosive and *Careya arborea* fibres improve flexural strength of concrete. Xanthan gum, a polysaccharide is commonly used to improve the strength properties of black cotton soil such as shear strength, swelling and shrinkage properties, and the bearing capacity. The potential of these bio-based materials to enhance mechanical properties, durability, and sustainability in construction needs to be explored at larger scale.

Keywords: Carbon neutrality, bio-engineering, self-healing concrete, compressive strength, corrosion resistance.

The Ontology of Questioning: Stripaksha, Ka-Prashna, and the Foundations of Social Sustainability in Nepal

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This paper reinterprets the *Nyāyabikāśinī*—a fourteenth-century legal code of Nepal—as a foundational philosophical archive for the development of a distinctive Nepali sociology. Anchored in the conference theme concerning the intersection of law and society, the study foregrounds *Stripaksha* (the juridical and social domain of *mahila* (woman)), demonstrating how historical legal classifications articulated the ontological and epistemological structuring of gender within Himalayan civilization. Rather than treating these classifications as static or merely descriptive categories, the paper analyzes them through two contrasting paradigms of questioning: *Ka-Prashna*, derived from Ṛgveda 10.129 (the *Nāsadīya Sūkta*)—which conceptualizes social identity as an emergent and relational process, and the modern paradigm of “wh-questions,” which presupposes subjects as fixed, determinate legal entities. The paper argues that *Stripaksha* reveals an underlying “ontological openness” within Nepali social formations, thereby offering a critical vantage point for interrogating modern bureaucratic and administrative rationalities. Within the broader discourse of Himalayan sustainability, the study contends that resilience must be understood not solely as a technical or environmental objective but as a fundamentally social and ethical project. Such a project necessitates a Nepali sociology that is epistemically sovereign, hermeneutically grounded, and globally conversant. By invoking “Active Seeing” as a civilizational mode of inquiry, this sociological framework recovers the constitutive absences of contemporary development discourse—most notably, the lived ethical dimensions of gender. Ultimately, the ontology of questioning articulated in this paper establishes the epistemic foundations for a sociology capable of grounding Himalayan development in social justice and civilizational wisdom.

Keywords: *Stripaksha*; *Ka-Prashna*; *Nyāyabikāśinī*; Nepali Sociology; Active Seeing; Law and Society; Himalayan Sustainability

Road to Sustainable Pathways

Prof. Bidya Nath Koirala, Ph. D.

Religious texts are taught to be interconnected; culture taught to use science and myth; community leaders taught to be circulatory thinker. So, we Nepali became holistic thinker (*Ishopanishad*); spirituality believer, and cyclical practitioners. But in educational institute, we learnt reductionism, linearity and fragmentation for clashed knowledge systems. It is where we discuss linear sustainability despite our socio-culturally attuned circular and holistic sustainability.

Deushanti is eco-cyclic sustainability of holistic knowledge and circular economy discourse of Ellen MacArthur Foundation and indigenous philosophy of Buen Vivir's alternative to linear development model; *laya yoga*, *dhyan yoga*, karma yoga etc link individual I with cosmic I as Yoga Sutra says; the use of mud and mortar for construction is eco-cyclic sustainability as *Vastu Shastra* mentions; *Upanishadiya* mantras such as *Sohum*, *Ahambrahmashmi*, *Shibohum*, *Om* teaches the sample universe connection.

Each and every work of Nepali artisans teaches STEAM (as argued by Nirmal Man Tuladhar and Shukra Sagar Shrestha) with unclaimed methodology. Agricultural seeds are locally sustained (as Local Initiatives for Biodiversity, Research and Development.e.LI-BIRD advocates); festivals as per David N. Gellner are sustained; terrace farming as per Brigitte Steinmann is sustained as agro ecology of Himalaya; *Jachuri Kulo* (Biharikrishna Shrestha and Chaitnya Mishra) and *Naadi* are sustained; Vedic meters and music are sustained; Charak and Sushurat's knowledge are sustained in Aurveda and naturopathy; Adwait and Dwait Vedanta's knowledge of monism, dualism, and *ekohum bahushyama* (Max Muller's Kethenotheism) are sustained with people.

My argument above might echo ethnocentric for Eurocentric and the sole believers of lab science. The work of Boaventura de Sousa Santos on "Epistemologies of the South" and Dipesh Chakrabarty "Provincializing Europe" help connect Yogic wisdom with modern science. Are we academia ready for it?

Keywords: holistic, circular, classed knowledge

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Assessing the Impact of Modernization on the Well-being and Social Status of Senior Citizens in Gauradaha Municipality

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Elderly is a universal and un-avoiding phenomenon where an individual performance, productivity and health decline. In Nepal, the traditional practice of taking care of the elderly is vested on family. But the nuclear family emerged as a new trend transformed family structures which has reduced the capacity of this institution to serve as the safety net for the less privileged. Nepal faces many challenges in welfare for its elderly population. This research aims to explore the social problems faced by elder population. This paper has tried to assess the senior citizen anticipation from the government about their welfare. The research was conducted in Gauradaha Municipality of Jhapa District. A descriptive qualitative case study design was used to explore the experiences of elderly. Fifty senior citizens were selected in the study. In-depth interviews with elderly people were used to collect primary data. Major social problems faced by elderly include social isolation, social mobility, dependency, and authoritative problems, etc. Though senior citizens are pathetic and face a series of problems, they still lived a satisfying life as they were economically independent. Their expenditure of time includes time spent with their children and grandchildren, temples as places of socialization and religion which played an essential role in the lives of senior citizens.

Keywords: Elderly, Modernization, Authoritative

Beyond Awareness: Bridging Knowledge Gaps and Strategic Interventions for Adolescent Sexual and Reproductive Health in Nepal

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Introduction: The World Health Organisation defines reproductive health as a state of complete physical, mental and social well-being. It encompasses the right to a safe sex life and the freedom to make informed reproductive choices. The adolescents faced a critical transition. They encounter challenges related to self-identity and sexual experimentation in Nepal. Despite the global acceptance of sexual and reproductive health (SR) concepts, Nepal continues to struggle with high rates of early marriage (ranking third in South Asia) and motherhood, alongside persistent stigma regarding sexually transmitted infections.

Methodology: This study used a desk-based research approach to analyse existing literature on SRH education in Nepal. The research involved a comprehensive review of peer-reviewed journal articles, government reports, policy documents, and organisational publications published within the last 20 years, sourced from the data-based databases PubMed, Google Scholar, and ScienceDirect. It is searched using keywords focused on contraception knowledge, family planning, and barriers to SRH education.

Findings: The research reveals a significant “knowledge-action” gap among the adolescent. The awareness of family planning among Nepalese adolescents is nearly universal at 99.9%. The utilisation of active contraceptives is notably lower, at approximately 70.48% in some regions of Nepal. Furthermore, while awareness of HIV/AIDS is high, up to 94%. The knowledge of other STIs like syphilis and hepatitis B remains limited. Identified barriers to health services include individual shyness and unsupportive family norms. The systemic issues include a lack of privacy and confidentiality, as well as a shortage of female healthcare providers.

Conclusion: The study concludes that early marriage remains prevalent. This is particularly prevalent in rural and marginalised communities, leading to severe health complications like maternal mortality and malnutrition. Although awareness of basic SRH concepts is high, the low use of services and the persistence of stigma and misconceptions highlight the need for further action.

Keywords: Adolescents, STI, family norms

Beyond Visual Stimulation: The Role of 'Open Canvas' in Mitigating Cognitive Overload in Early Learners

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In many schools across Nepal, classrooms are often over-decorated with ready-made charts and bright stickers, driven by the misconception that more visual stimuli equate to better learning. However, educational psychology suggests that such environments can lead to overstimulation and "cognitive overload," hindering a child's natural focus and creativity. This paper explores the concept of the "Open Canvas" providing intentional blank spaces within learning environments, as a vital tool for cognitive and emotional development in children aged 0-8 years. Drawing on the "Reggio Emilia" approach and Lev Vygotsky's "Zone of Proximal Development" (ZPD), the study explores how physical environments act as a "third teacher". It observes the impact of wall coverage on learning, noting that while 20-50% coverage is ideal, many Nepali classrooms reach 100%, turning educational aids into mere "visual pollution". Research indicates that open spaces encourage self-expression, problem-solving, and the development of fine motor skills. By shifting from pre-made posters to child-led creations, schools foster a sense of ownership and improve concentration. The paper highlights the necessity of a "Cyclical System" for changing educational materials to maintain curiosity. The study concludes that moving away from "commercial glitter" toward natural, open learning environments is essential for fostering independent thinkers. Providing an "Open Canvas" is not just about wall space; it is about granting children autonomy and confidence to construct their own cognitive world.

Key Words: Early Childhood Education (ECE), Open Canvas, Cognitive Overload, Creative Expression

Bilingual Education and Workforce Retainment in Nepal: The Nepanglish Challenge

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In Nepal, many students and youths face a communication gap because they are not strong in either Nepali or English. English-medium schools and colleges have expanded rapidly, while Nepali is often ignored, assumed to be learned automatically as the mother tongue. As a result, many young people rely on 'Nepanglish', a mix of Nepali and English, but this reliance causes difficulties in using news media, participating in social life, and managing everyday communication. This imbalance weakens cultural identity, lowers confidence, and contributes to migration abroad for simple jobs where language skills are less important. The study applies qualitative case analysis. Three public events were taken as cases, one physical and two virtual. Data were collected from live commentary, social media interactions, and educational programs, then analyzed to identify communication barriers and their impact on society and workforce retention. The analysis shows that many youths are deprived of both languages. They struggle with Nepali numeracy, media engagement, and social participation, and often depend on mixed-language communication. This situation increases the risk of workforce drain from the country. Reviving bilingual communicative education, which was practiced in the past, can address this gap. If students can read, write, speak, and listen in both Nepali and English, they will remain connected to their community and culture while also gaining global opportunities. A balanced bilingual model is essential for sustainable development and for retaining human resources in the country.

Keywords: Bilingual education, Nepanglish, Communication gap, Workforce retention, Migration abroad

Bridging the Digital Divide: Speech Recognition Technology for Endangered Language Preservation in the Himalayan Region

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Language extinction is a major challenge in mountain regions for cultural preservation, community wellbeing, intergenerational knowledge transfer, and the digital divide. The lack of speech technology for low-resource languages with limited resource constraints creates barriers to documentation, education, and communication. Our offline speech recognition application for endangered languages offers a solution to these gaps. This uses a finetuned multilingual transformer-based Whisper model trained on an audio dataset that was collected in collaboration with community-based organizations and native speakers. The collection was consent-driven, ethically approved, and participants were informed about the usage of model training. The dataset includes conversational speech recorded in real-world conditions to match the deployment environment. The finetuned model consistently performed better than the base model across all the standard automatic speech recognition evaluation metrics performed on test data. Taking into consideration the geographical complexities, the finetuned model is used with android application that is fully available offline on low-end devices with support for cloud-based features for secure data upload when connectivity is stable. The application supports documentation of oral histories, speech transcription, vocabulary learning, and communication between tourists and locals. Our project proves how data collection, model finetuning, and edge deployment for low-resource languages can help create a solution that is saleable, community-centric, and usable for language preservation. This project integrates sustainable development practices by showing how technology aids in community identity preservation, language preservation, and digital divide, which directly contributes to SDG Goals 4, 10, and 11.

Keywords: Speech Recognition Technology, Digital Divide Mitigation, Indigenous Language Preservation

Child Labour and Educational Exclusion in Brick Kilns of Nepal

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Child labour remains widespread in brick kilns of Rautahat district, creating a barrier to achieving SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). Seasonal migration to brick kilns compels many children to drop out of school in the middle of the academic year. This paper's main objective is to explore how child labour in brick kilns affects children's access to quality education and impact on health. This study uses structured questionnaires for the collection of quantitative data from 106 child laborers in 10 different brick kiln conditions in Rautahat district. The purposive sampling method was used to collect participants, as brick kiln child workers are a hard-to-reach population. The findings indicate that most children were aged 8-13 years, and all were living with their families at the kiln sites, working alongside them with their parents' request to support their families. Although 100 children had been to school, only 39 were studying at the time of the survey, while 61 had dropped out. A major cause of the dropout lies in the fact that there is lack of accessibility to school from the places where kilns are located, and children's compulsion to stay with parents at the brick kiln. Results indicate that major health problems reported are body pain, cough, and fever, and major work challenges were heavy load and longer working hours. Overall, the study demonstrates that child labour negatively affects educational performance and exposes children to health risks with long term implications for sustainable development. The results also suggest enhancing coordination between NGOs and local governments, with integrated education and livelihood support, which is vital for creating sustainable futures in education by moving from brick kilns to classrooms.

Keywords: Child Labour, brick kilns, education

Climate Change Governance and Legal Frameworks for Himalayan Sustainability

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Introduction: To preserve essential but endangered mountain ecosystems, Himalayan sustainability involves striking a balance between distinct ecological fragility, diverse cultures, and development needs through legal frameworks that emphasize climate resilience, biodiversity, sustainable resource management (such as NTFPs), and equitable benefit-sharing. Nepal has emerged as a leader in investigating novel laws, such as granting nature rights, while national policies address pollution, land use, and community forestry.

Legal Instruments: Legal instruments for the protection of Himalayan ecology are:

Environment Protection Act, 2076 (2019)

Environment Protection Regulation, 2077 (2020)

UN Framework Convention on Climate Change (UNFCCC, 1992); Kyoto Protocol, 1995;

Paris Agreement, 2015

Objective: The objectives of the study will be to study the existing legal framework interrelated with Himalayan sustainability, to enlist the types of resource pressure that leads to land degradation in Himalayan region and to enumerate the correlation between requirement of local livelihood and conservation.

Methodology: This study will be descriptive as well as analytical based on the available data. The rules of citation will be Blue-book rules of citation, 21st edition.

Principle obstacles in the sustainable Himalayan Ecosystem are:

- Landslides, floods, and changed ecosystems are more likely due to climate change.
- Resource pressure includes land degradation, over harvesting of medicinal plants (NTFPs), and unsustainable farming.
- Balancing Development: Combining local livelihoods and economic requirements with conservation.

Conclusion: To preserve this vital, delicate ecosystem and improve the lives of its inhabitants, Himalayan sustainability essentially depends on strong, creative legislative structures that go beyond conventional environmental regulations.

Keywords: mountain ecosystems, livelihoods, land degradation

Comparative Analysis of Environmental Legal Frameworks for Himalayan Climate Preservation: A Study of Nepal, Pakistan, Bhutan, and India

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The Himalayan region, a critical ecological buffer and primary water source for South Asia, is experiencing accelerated climate impacts, including glacial retreat, biodiversity loss, and heightened disaster risks. This research undertakes a comparative, critical analysis of the environmental legal frameworks in four Himalayan nations; Nepal, Pakistan, Bhutan, and India to assess their capacity to enable a paradigm shift from sectoral, development-oriented governance to integrated, ecosystem-based climate preservation. The study reveals that while all four countries have established progressive constitutional provisions and core environmental laws, significant gaps persist in implementation, climate adaptation mainstreaming, and intergovernmental coordination. Nepal's framework, anchored in its 2015 Constitution and the Environment Protection Act (2019), demonstrates strong normative foundations but suffers from weak enforcement, sectoral conflicts, and limited provincial capacity. Pakistan's system, governed by the Pakistan Environmental Protection Act (1997) and Climate Change Act (2017), is hampered by federal-provincial fragmentation, ambiguous jurisdiction in Gilgit-Baltistan, and poor regulatory enforcement. Bhutan's unique Gross National Happiness paradigm and constitutional mandate for 60% forest cover provide a robust preservationist foundation. India's comprehensive legislative network, including the Environment Protection Act (1986) and Forest Conservation Act (1980), is undermined by fragmentation, poor cumulative impact assessment, and persistent development pressures that override ecological concerns. Across all jurisdictions, judiciary has emerged as a critical catalyst for environmental accountability, though judicial orders often face implementation hurdles. The analysis concludes that a transformative shift requires not merely legislative reform but systemic changes: enacting dedicated Himalayan climate resilience laws, mandating strategic environmental and cumulative impact assessments, strengthening institutional and financial capacity at sub-national levels, and institutionalizing climate justice and community participation. This study contributes to cross-jurisdictional learning and offers actionable recommendations for constructing a coherent, enforceable, and ecologically grounded legal architecture capable of safeguarding the Himalayan region in an era of climate crisis.

Keywords: development-oriented governance, judiciary, climate resilience laws

Declining Female Birth Rate and Sex Ratio Imbalance in Nepal: Challenges and Implications for Sustainable Development

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Nepal is experiencing a noticeable decline in female birth rates alongside a growing sex ratio imbalance at birth, reflecting persistent gender-based demographic challenges. Although overall fertility has declined, entrenched socio-cultural preferences for male children and differential access to reproductive health services have contributed to increasingly skewed birth outcomes. These demographic trends disrupt the natural population structure and pose serious concerns for gender equity, social stability, and sustainable development. Understanding the magnitude and patterns of sex ratio imbalance is therefore essential for evidence-based policy formulation in Nepal. This study employs a quantitative research design based on secondary data analysis from the Nepal Population Census and Nepal Demographic and Health Surveys (NDHS). Descriptive statistical techniques, including percentage distribution, ratio analysis, and trend analysis, are used to examine changes in female birth rates and sex ratio at birth over time. Provincial and urban–rural variations are analyzed to identify spatial patterns and demographic disparities. The findings indicate a gradual decline in the proportion of female births and an increase in sex ratio at birth in several provinces, particularly in urban and economically advanced regions. Such imbalances have long-term implications for population stability, labor force composition, marriage systems, and social cohesion. Persistent sex ratio imbalance also threatens progress toward the Sustainable Development Goals (SDGs), especially those related to health, gender equality, and inclusive development. The study emphasizes the need for strengthened policy enforcement, gender-sensitive public awareness, and integration of demographic balance considerations into national sustainable development strategies.

Keywords: Female birth rate, Sex ratio imbalance, Sustainable development, Gender equity, Demographic trends

Do Remittances Influence the REER–Export Link? Evidence from Nepal

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We analyze the impact of the real exchange rate and its volatility on Nepal's export performance using ordinary least squares (OLS) estimation based on 83 quarterly observations from Q1 2004 to Q3 2024. Our findings clearly demonstrate that the external competitiveness of Nepalese products has deteriorated, largely due to the appreciation of the Nepali currency against the Indian rupee and other trading currencies, a phenomenon driven by substantial remittance inflows. We assert that there is a significant relationship between the real exchange rate and Nepal's exports, in stark contrast to the global trend. While exchange rate volatility shows no substantial effect on real exports, expectations of appreciation in the real exchange rate predict an increase in real exports. Employing an instrumental variable-generalized method of moments (IV-GMM) framework, we establish that remittance inflows are inversely related to the real exchange rate. This indicates that the claim of remittance-induced appreciation of the Nepali rupee is unfounded. Since the real effective exchange rate (REER) has only appreciated by a single digit since Q1 2010, it is crucial for Nepal to pursue alternative strategies to enhance exports instead of merely adjusting its pegged currency to the Indian rupee. Furthermore, policymakers must prioritize creating an environment that fosters the productive use of remittance incomes.

Keywords: Exchange rate, Exports, Remittances, Quarterly Data.

Does migration improve food security? Evidence from rural Nepal

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Abstract Two things prevail in developing countries: poor households are less food secure, and poor individuals migrate for work, leaving their families behind. We examine whether rural households with migrant members are more food secure using a rich three-year panel data (2016–2018) from Nepal’s Household Risk and Vulnerability Survey (NHRVS). Nepal is a uniquely pertinent case: one in three households has a migrant, yet the country still suffers markedly from food insecurity. In our preferred two-way fixed effects specification, we find that households with migrants consume 319 kcal more per adult male equivalent daily, which is 14% of food-poverty line. This strong finding persists across specifications with alternative measures of food security, definitions of migration, different identification assumptions, and even when incorporating noisy remittance data. Furthermore, this improvement is not accompanied by the expected decline in food consumption from home production. Our results underscore the importance of migration as a channel for alleviating food insecurity among left-behind families.

Keywords: Migration, Food Security, Nutrition, Panel Data

Eco-critical Reading of Poudyal's 'The Parrot in the Cage' and Frost's 'A Brook in the City'

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This paper presents a comparative eco-critical reading of Lekhnath Poudyal's "Pinjadako Suga" (1914) rendered into English as "The Parrot in the Cage" by Laxmi Prasad Devkota, and Robert Frost's "A Brook in the City" (1923). It aims to examine how modern human civilization confines and silences the natural world. Poudyal's "Parrot in the Cage" depicts nature under confinement and control. It exposes the violence of human domination over non-human life. Frost's "A Brook in the City" portrays how urban development and the infrastructure built in the city gradually bury a natural stream. Reading them together, the poems expose two closely related forms of environmental violence: captivity and erasure. The study draws on eco-critical theories and environmental ethics to argue that both poems critique anthropocentric notion of civilization and progress. Poudyal critiques the moral aspects of humans that deny freedom and right to non-human beings. The parrot's imprisonment serves as a powerful metaphor to show broader ecological problems. It also questions the human centered notion of progress and control. By placing these poems belonging to different spatial and temporal contexts side by side, the study reveals how poetry becomes a site for ethical reflection on environmental responsibility. Moreover, the paper demonstrates that such comparative reading of literary work not only deepens our understanding of ecological awareness but also informs how environmental issues have become shared ethical concerns across cultural contexts.

Keywords: anthropocentrism, confinement, eco-criticism, ecological awareness, environmental ethics

Edupreneurial Strategies for Institutional Sustainability in Nepali Higher Education

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Edupreneurship is an important strategic approach for ensuring the sustainability of institutions and the survival and development of higher education institutions in the face of challenging economic and social environments. Nevertheless, in developing settings such as Nepal, the institutions face resource shortages and uncertain environments that may affect the sustainability of the institution. Therefore, this qualitative research aims to examine how college administrators manage the sustainability of the institution in the edupreneurial context using the results of 15 interviews conducted on college administrators. Based on the results of the thematic analysis of the data collected, the administrators employed the strategies of (1) Resource Mobilization and Diversification, (2) Curriculum Innovation and Relevance, and (3) Managing Institutional Pressures as the appropriate solutions to the challenges they face in the edupreneurial context. This research postulates the importance of adaptive leadership over strategic planning in the context of institution sustainability. It finally concludes that the Nepali college administrators have effectively taken on the role of edupreneurs by applying the principle of resilience and strategic creativity.

Keywords: edupreneurship, institutional sustainability, strategy, higher education

English as a Medium of Instruction (EMI) in Nepal: Contexts, Challenges and Prospects

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This paper examines the existing English as a Medium of Instruction (EMI) policies and practices having implemented in Nepali English as a Foreign Language (EFL) classroom settings exhibiting empirical measures between teachers and students. The entire session highlights the Government policies of EMI adopting both English and Nepali languages as medium of instruction in schools. Moreover, both Nepali and English languages along with the indigenous languages are permitted in Nepali classrooms through the seventh and eighth amendments of Education Act-1971. The presentation further encompasses comparative research of two different schools of Sunsari district for the practical aspects of endorsing EMI. The researchers have employed interpretive qualitative research design (Cohen et al., 2013) to analyze the results following pair discussion, sharing success story and jigsaw teaching strategies. The researchers share the findings of language hierarchy in public spheres (Poudel, 2022) and two EMI schools: government and private. However, both students and parents of the government campus regarded the private school for better quality (Phyak, 2016; Poudel & Choi, 2021 & Sah, 2022). They assumed that 'if you have English, you have everything; if you don't, you miss everything'. The research found that the participants at large desired on EMI in general setting illustrating their penchant for the opportunities of EMI in local and global contexts. However, a scanty number of students admitted that EMI was challenging in learning atmosphere. The session concludes with the sharing of classroom experience and pedagogical implications of EMI for teachers, educators and curriculum designers to create and promote the desirable contexts to execute EMI.

Keywords: government and private school, EMI policy, expansion, hierarchy, pedagogy

Emotional Intelligence of Undergraduate students of Arts Management and Science: A Case Study of St. Xavier's College, Maitighar

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This study examines the Emotional Intelligence (EI) of undergraduate level students from three different disciplines i.e., Arts, Business Studies, and Microbiology. Universe of this study are entire students at St. Xavier's College pursuing bachelor's degrees in Arts, Business Studies, and Microbiology in Kathmandu. The sample size of the study was 168, with 56 students from each faculty. The data for emotional intelligence scores were collected using the Emotional Intelligence Scale (EIS) (2007) developed by Anukool Hyde, Sanjyot Pethe, and Upinder Dhar. This test consists of 34 items and measures emotional intelligence through ten factors. The findings indicate no significant relation of emotional intelligence with academic performance, which means students with higher Emotional Intelligence may or may not be academically brilliant. However, in terms of comparison within the three faculties, students of Management have scored higher in average Emotional Intelligence with an average score of 75.3, while students of Arts scored an average of 74.4 and students of Microbiology scored 71.80. In terms of highest performers, seventeen students in both arts and microbiology scored the highest level of emotional intelligence, while 14 business studies students scored the highest level of emotional intelligence. The study also found that students from the Gurung community have better emotional intelligence. In terms of the gender dimension of demographical information, females are better in emotional intelligence, while in terms of the geographical dimension, students from the hills score better in emotional intelligence. However, the number of representatives of students could play a role.

Keywords: Emotional intelligence (EI), disciplines, academic performance, gender, community, geography

Employability Skill of TVET Students from the Government and Private Schools: A Survey of Diploma in Civil Engineering Program in Nepal

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Employability skill is all about what employers expect from the graduate. The Council for Technical Education and Vocational Training is the apex body in Nepal that conducts TVET related programs. The objective of this study is to compare the difference in employability skills of students from different types of school. This study utilized a quantitative research approach with a survey design. The survey was conducted among 294 diploma-level civil engineering students in the final semester of their studies. A t-test, ANOVA, and binary logistic regression was used for data analysis. The finding showed that students who graduated from a government school in the Secondary Education Examination (SEE) had higher employability skills than the students at private schools. Similarly, students pursuing diploma in civil engineering courses at a private institution had the lowest level of employability skills, and types of school (SEE and CTEVT) has also an impact on employability skills of students. The findings of this study can be useful for students, employers, and institutions. Students can now focus on the core skill in which they have performed lowest, and the employer can now work closely with the academic institutions to develop the skills that students lack. Similarly, academic institutions can develop separate modules to train the students in the skills they lack. Furthermore, this study also paves the way for future researchers and policymakers to address employability skills through policy intervention and the appropriate course.

Keywords: Employability Skill, Technical and Vocational Education and Training, Government School, Private School, Secondary Exam Education.

Envisioning Critical Reflection as a Pedagogical Process in Participatory Professional Development

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Although reflective practice is widely promoted in teacher professional development, it is normally theorized as an individual and technical activity with limited pedagogical process and consequences. This study conceptualizes critical reflection as a pedagogical process rooted within collaborative and participatory professional learning. Drawing on a qualitative participatory action research, this study conducted with basic and secondary level schoolteachers in a private school in Itahari, Koshi Province, Nepal. The research examines how critical reflection considers teachers' curriculum engagement, pedagogical improvement, and professional agency through collaborative engagement. Data were generated through focus group discussions, classroom observations, semi-structured interviews, and reflective journals and analyzed through narrative analysis. The findings show that critical reflection fosters reflective engagement for curriculum awareness, collaborative commitment to exploring innovative pedagogical practices, shifts from traditional to student-centered teaching-learning, and robust connections between students' learning and teachers' professional growth. The study extends transformative learning theory by demonstrating how critical reflection becomes pedagogically procreative when it is dialogic, socially mediated, and situated within context-responsive participatory structures for teachers' professional development. The findings suggest that teachers' professional learning is strengthened when critical reflection is positioned as a pedagogical process rather than technical instrument.

Keywords: professional learning, student-centred, transformative learning

Exploring Community Experiences, Challenges, and Social Impacts of Drug Trafficking in Nepal

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Drug trafficking is a growing concern in Nepal, profoundly affecting communities' social, economic, and health well-being. This qualitative study explores community experiences, challenges, and responses to drug trafficking in Nuwakot District. Seven key informants were purposively selected from local communities and interviewed using semi-structured guides; data were analyzed using Framework Analysis. Findings indicate that drug trafficking is driven by open borders, socio-economic vulnerabilities, and organized networks, with youth being particularly affected. Participants reported that trafficking disrupts education, family life, livelihoods, productivity, and social cohesion, while easy access to drugs, coupled with weak law enforcement, exacerbates crime and public health risks. Communities described several strategies to address these challenges, including coordinated legal action, border control, awareness campaigns, school-based prevention programs, rehabilitation initiatives, and multisectoral collaboration. The study highlights the complex social and economic impacts of drug trafficking and underscores the importance of integrating community perspectives into policies and interventions aimed at reducing its societal harm.

Keywords: open border, social cohesion, rehabilitation

Fermenting Livelihoods: Exploring the Role of Millet Liquor Production as Cultural Heritage and Informal Education for Sustainable Rural Economies

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Fermented beverages have significant socioeconomic impacts and play a crucial role in the culture and livelihood of communities in South Asia, yet their contributions remain under-researched and under-recognized in policy and academic discourse. In Nepal, indigenous communities such as the Limbu, Rai, Tamang, and Magar attach deep ritual, symbolic, and social significance to kodo ko rakshi (millet liquor), where production practices function not only as a livelihood strategy but also as a form of living cultural heritage and informal education. Despite its cultural and economic importance, millet liquor production exists within legal and policy grey areas and remains largely invisible in formal livelihood enumeration. This qualitative study examines the socio-economic, cultural, and gendered dimensions of millet liquor production as a sustainable rural livelihood in Kanepokhari Rural Municipality, Nepal. Using a descriptive–interpretive research design, data were generated through semi-structured and in-depth interviews, participant observation, field notes, and observational records, and analyzed using Braun and Clarke’s thematic analysis framework. Findings reveal that millet liquor production contributes between 35 and 75 percent of household food-system income, supporting essential expenditures such as education and healthcare. The livelihood is predominantly sustained by women-headed households, where intergenerational transmission of brewing knowledge operates as an informal educational system embedded in everyday practice, ritual, and ecological management. Households face multiple constraints, including rising input costs, limited access to firewood, climate-sensitive fermentation processes, and regulatory uncertainty. Nevertheless, strong social trust, cooperative labor, and community networks enhance resilience. The study concludes that millet liquor production is not a marginal activity but a central livelihood system that sustains rural economies, preserves indigenous cultural heritage, and facilitates informal learning. Policy recognition through cooperative frameworks, culturally sensitive regulations, and inclusive value-chain integration can strengthen women’s informal employment, safeguard indigenous knowledge systems, and enhance sustainable rural development in Nepal.

Keywords: cultural heritage, informal education, rural livelihoods, feminist economics, sustainability

From Hydro-Hegemony to Cooperation: Strategic Shifts in India–Bangladesh Hydro-Diplomacy

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Transboundary water governance in the Ganges–Brahmaputra–Meghna (GBM) basin has historically been confined to rigid bilateral frameworks, primarily between India and Bangladesh; while the 1996 Ganges Water Sharing Treaty institutionalized cooperation, it failed to address basin-wide challenges. This paper analyzes the evolving hydropolitical landscape between India and Bangladesh from mid-2024 through early 2026; following the political transition in Dhaka after the August 2024 regime change and the establishment of an interim government, the bilateral water-cooperation framework has faced unprecedented strain. Using a mixed-methods approach that synthesizes official statements, hydrological data sets on flow variability at Farakka and Hardinge Bridge, and theoretical frameworks including Hydro-Hegemony and the Transboundary Water Interaction Nexus, the study evaluates the resilience of existing treaties and strategic shifts in riparian diplomacy as the 1996 Ganges Water Sharing Treaty approaches its expiration in December 2026. Results indicate a strategic pivot in Bangladesh from bilateral dependency toward multilateral internationalization, evidenced by its accession to the UNECE Water Convention in June 2025; the paper further identifies a dual-track dynamic in which functional cooperation persists in flood-data sharing (extended to October 31 annually) even as high-level treaty negotiations remain deadlocked by political mistrust and international hydro-politics. The study concludes that the upcoming Ganges Treaty renewal will likely be contingent on a substantially altered negotiation baseline, incorporating climate-variability clauses and potentially third-party dispute-resolution mechanisms, thereby challenging India’s traditional bilateral hegemony in South Asian water governance.

Keywords: water-cooperation, multilateral internationalization, climate-variability

From Learner to Educator: A Reflective Inquiry into Culturally Grounded Pedagogies Supporting Nepali Nurses' NCLEX-RN Preparation and Sustainable Health Workforce Development in the Himalayan Region

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Nurses are the frontline and a major workforce of the global healthcare system. The sustainability of health care systems, including nursing workforce requires adequate preparation, confidence, and resilience. In Nepal, an increasing number of nurses are pursuing international licensure through the National Council Licensure Examination for Registered Nurses (NCLEX-RN) for being the registered nurse of the United States for professional advancement and opportunities. This journey of being an international nurse not only requires high dedication but also requires patience and perseverance, often accompanied by challenges such as emotional stress, financial burdens, language barriers, unfamiliar cultural content, complex and novel documentation process. This paper depicts a reflective inquiry which is grounded in the author's lived experiences as both an NCLEX-RN candidate and later as an educator supporting the Nepali nurses through the process. This inquiry is based on reflective journals, teaching experiences, and engagement with learner. It is guided by transformative learning, eastern and indigenous educational traditions. Informal dialogic practices mentorship, self-directed learning, emotional balance, and service-oriented guidance developed as meaningful supports along with formal exam preparation strategies and process. The reflection suggests that effective NCLEX-RN preparation among Nepali nurses is more than just an exam preparation. It requires concept mastery, emotional readiness and digital literacy. The international curriculum requires preparation through local cultural and educational realities which allows educators to better address the challenges faced by the candidates. This paper contributes to broader discussions of sustainable nursing education and health care workforce development in the Himalayan region. It also offers practical insights for educators, organizations and policy makers to strengthen health system capacity.

Keywords: Nursing education, reflective inquiry, health workforce sustainability

Gap Between Policies and Practice in Local Curriculum in Nepalese Schools: A Case Study of Lalbandi Municipality, Sarlahi

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This study explores the gap between what happens and what they say in classrooms regarding the local curriculum at the primary level in Nepal. Majorly focusing on Lalbandi Municipality of Sarlahi District. A qualitative case study approach was adopted. Data was gathered through semi-structured interviews and focus discussions with teachers, head teachers, and officials from the municipal education office. Relevant policy documents, curriculum frameworks, and implementation guidelines were also reviewed to learn how the local curriculum is supposed to be implemented. The findings from the analysis indicate a gap between policy and practice in the classroom. In fact, though national policies call for a local curriculum, most schools do not implement it at the primary level. Instead, Optional English is taught. In implementing a local curriculum, schoolteachers and school leadership lack awareness, guidelines, and technical skills. The study highlights the need for targeted teacher training, clear operational guidelines, expert technical support, and stronger monitoring by local governments to effectively bridge the gap between policy and classroom practice. This research adds empirical evidence on challenges in implementing the local curriculum in Nepal and provides practical insights for policymakers, curriculum planners, and local governments supporting education decentralization.

Keywords: Primary education, curriculum, policy, policy–practice gap

Globalization in Secondary-level English Textbooks

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This study critically examines how globalization is reflected and negotiated in Nepalese secondary-level English textbooks, focusing on Grades 9 to 12 currently prescribed by the Government of Nepal. Positioned within an interpretive qualitative framework, the research employs content analysis and draws on concepts from critical discourse analysis to investigate how textbooks represent global influences, local cultural identities, and ideological perspectives. Textbooks were purposively selected and analyzed across multiple genres—including essays, short stories, poems, and visual texts—with attention to representations of global issues, cultural balance, and pedagogical implications. Findings reveal that the textbooks incorporate a wide range of global themes, including human rights, gender equality, technological advancement, and intercultural communication, reflecting Nepal’s alignment with international educational agendas and Sustainable Development Goal 4. However, the integration of global content demonstrates a noticeable Western-centric orientation, privileging contexts, narratives, and knowledge systems from the Global North. While some attempts at cultural diversity are present, particularly through selective inclusion of African and Asian texts, these remain limited in scope. Local cultural representation is found to be inconsistent and often superficial; where Nepalese contexts do appear, they are typically simplified, resulting in a tension between global exposure and cultural rootedness. This imbalance risks marginalizing indigenous knowledge and identities, potentially affecting learners’ sense of self and engagement. The study concludes that while globalization has expanded the thematic and ideological range of textbook content, the current balance between global and local representation remains pedagogically uneven. It recommends contextually grounded curriculum development, increased local authorship, and enhanced teacher agency to mediate textbook content critically. These reforms are essential for fostering culturally responsive, globally informed English education in Nepal.

Keywords: Globalization; English Textbooks; Cultural Representation; Nepalese Secondary Education.

Innovative Pedagogy to Enhance Academic Excellence: Action Research

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The study explores the use of new pedagogical approaches in Nepalese education at school level. The research emphasized the need to modernize teacher education to enhance participation, increase critical thinking, and support the use of technology. The study seeks to answer the question ‘Which methods can incorporate new pedagogies into the development and delivery of training?’ from the transformational theoretical framework. The research employed qualitative action-research design with a four-cycle action research structure in two schools, assessing the impact of learner-centered approaches in four techniques, namely, flipped classrooms, problem-based learning, gamification, and digital tools, on teacher engagement, planning, and professional identification. The data corpus was provided by pre and post assessment, reflective journals, and peer observations. These data were thematically analyzed, and eight main themes of engagement, awareness of innovative techniques, critical reflection, digital integration, lesson planning, professional identity, application of learning, and collaboration had been identified. The research showed transformative changes: teachers emphasized student-centred approaches, involved least tools of technology and advanced communities of peer-learning. The closure of theory-practice gaps allows replicating the study and determining a model of participatory teacher training that can be comprehensive in separate contexts and has the potential to cause systemic educational changes in resource-poor environments.

Key words: Innovative pedagogy, Action research, Teacher training, Digital integration, Transformative learning.

Marginalization and Resilience: Socio-Cultural Realities of the Satar Women's Community in Jhapa, Nepal

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The study explores the socio-cultural realities of the Satar women's community of Jhapa, Nepal. The study conveys the dual theme of marginalization of Satar women's community in governance and resilience they develop through community solidarity and micro entrepreneurship. The Satar, also known as Santhals are the indigenous group of Nepal, with a population of over 23,000 in Jhapa, have been facing systematic exclusion from the mainstream of society and they are deprived from political participation for a long time. The study adopts qualitative research design drawing on in-depth interviews and participants observation with 30 young women participants of 24-45 age groups. Satar women's lived experiences and their vast cultural experiences, their education level, employment status and access to public services will be captured in the study. An in-depth examination of Satar women's demographic characteristics, their cultural practices and the social norms provide greater understanding of marginalization of the community. The narrative analysis highlights their social invisibility because of the abrasion of cultural practices and the adherence to modernization and encroachment by the dominant classes. The study also investigates the attempt made by the Satar women community to preserve their cultural heritage and their resilience in changing socio-cultural realities. The study underlines the urgent need to formulate inclusive development policies to empower Satar women community. The findings of the study lead for the broader discourse on their indigenous identity. The study argues that the historical context of segregation and structural inequalities flame up the marginalization; resilience, on the other hand, shapes the new form of agency to extend community solidarity. The study calls policy makers for promulgation of socio-cultural sensitive policy interventions to contribute on adoptive identities to understand marginalization and resilience of Satar women community.

Keywords: marginalization, resilience, indigenous identity, socio-cultural realities, narrative analysis

Organizational Leadership and Job Performance of Teachers in Higher Education Institutions: A study based on quality accredited colleges in Nepal

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The drive and spirit of a leader can influence and move their subordinates in the direction they want. This article assessed the association of organizational leadership with the job performance of teachers with evidence from quality accredited higher education institutions in Nepal. The study has been conducted using a descriptive survey research design. The population comprised 3900 academic staff from 76 quality accredited higher education institutions in Nepal. Convenience plus quota sampling techniques were employed to select the valid sample size of 366 academic staff from the population. Pearson correlation analysis and regression analysis were used to analyze the data collected using a five-point Likert's scale structured questionnaire. The study supported a positive association between organizational leadership and teachers' job performance. However, a moderate association between organizational leadership and teachers' job performance indicated that quality accredited higher education institutions need more leadership training programs to equip leaders with the necessary skills to manage and support the teachers effectively.

Keywords: organizational leadership, job performance, teachers, leadership training

Paradigmatic transition from Conventional Teaching to Teacherpreneurship: A Sustainable Pedagogic Model for Nepalese Higher Education

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Higher education in Nepal remains largely rooted in conventional teaching preventing students' creativity, critical thinking, and practical skills. This requires a shift toward innovative pedagogical models to address the evolving workforce demands globally. This study explores *teacherpreneurship*, integrating entrepreneurial principles into teacher development, as the potential model for higher education to enhance students' engagement, employability, and institutional competitiveness along with sustainability dynamics. This research proposes a sustainable model for transitioning from conventional teacher roles to teacherpreneurship in Nepalese higher education. It examines entrepreneurial methodologies for teacher education introducing the critical success factors, institutional collaborations, professional development, and policy necessities to enable this shift. The study is designed to contribute to a resilient pedagogical theory and practical strategies for educators, administrators, and policymakers in Nepal. This study was conducted analysing the data gathered through quantitative surveys and qualitative interviews from the faculty members, administrators, education policy makers and students across multiple universities in Nepal. This research revealed *teacherpreneurship* as a comprehensive framework containing key contributors like; tailored training programs combined with pedagogy and entrepreneurial insight, innovative entrepreneurship grants and curriculum flexibility in Nepalese Higher Education. This study concluded teacherpreneurship as a powerful shift from the conventional teaching practices in Nepalese higher education to foster resilient pedagogy and empowerment of teachers to innovative pedagogues. Key recommendations to policymakers, institutional leaders, and educators included the implementation of phased professional development modules and academia-industry collaboration to support sustainable and entrepreneurial teaching models to provide a pathway for enhancing pedagogy, teacher effectiveness, student outcomes, and institutional resilience through teacherpreneurship.

Keywords: Teacherpreneurship, Higher Education, Resilient Pedagogy, Sustainable Development.

**Power Politics and the Limits of International Law: Implications for
Nepal's National Security**

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International law is built on universal norms and institutional mechanisms designed to govern state behavior and reduce conflict, yet its authority is often shaped by geopolitical power disparities and strategic interests. This study develops the concept of selective legality to explain why international legal norms are applied and enforced differently depending on power distribution, institutional constraints, and strategic salience. Integrating insights from structural realism, legal realism, and liberal institutionalism, the research employs a qualitative comparative design combining doctrinal legal analysis with structured case studies and discourse analysis. The paper examines unilateral United States sanctions against Venezuela, the Russia-Ukraine war, the China -Taiwan security crisis, and the international failure to prevent the Rwandan genocide to illustrate how major power interests can delay, reinterpret, or circumvent legal norms. These cases reveal persistent gaps between normative commitments and practice. Situating Nepal within this global pattern, the study shows how weak enforcement mechanisms and regional power dynamics limit the protective value of international law for small, strategically exposed states. The findings argue that reliance on legal norms without strategic adaptation increases vulnerability to coercion and diplomatic pressure. The paper concludes with a proposed framework for small-state security emphasizing calibrated non-alignment, norm advocacy, multilateral legal engagement, and sustained investment in diplomatic and legal capacity.

Keywords: International law; power politics; small states; Nepal; national security; selective legality; global governance Top of Form

**Remittances and Trade Deficit Nexus in a Landlocked Developing
Country: The Case of Nepal**

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This study investigates the relationship between remittance inflows and the trade deficit in Nepal, a landlocked developing country, using annual data from 1990 to 2022. Employing the Vector Error Correction Model (VECM), the research analyzes both short-run and long-run dynamics between remittances, imports, and the trade deficit. The findings indicate a strong long-run relationship between remittances and imports, where a 1% increase in remittances leads to a 0.95% rise in imports, demonstrating that remittance inflows significantly drive import growth. In the long run, a 1% increase in remittances corresponds to a 0.0587% increase in the trade deficit, suggesting that higher remittances contribute to a widening trade deficit over time. Conversely, in the short run, a 1% increase in remittances slightly reduces the trade deficit by 0.0357%. The error correction mechanism confirms that deviations from long-run equilibrium are gradually adjusted over time. These results underscore the macroeconomic challenges faced by Nepal and highlight the need for policies to channel remittances into productive investments, mitigating their impact on the trade deficit while maximizing economic benefits.

Keywords: Remittances, Trade Deficit, Landlocked Country, Nepal, VECM

Secondary Students' Experiences of Learning Writing Through Online Learning Community: A Pedagogical Intervention Study

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The present study aimed to explore the secondary students' experiences of learning English writing through an online learning community (OLC). The study concentrated on exploring students' learning experiences of writing through Google Meet and explored how OLC supported developing students' English language writing skills. Rogers (2003)'s diffusion of innovation theory served as the study's guiding theory. In this Participatory Action Research (PAR), I formed OLC and taught them writing skills for three weeks. My reflection on the intervention and students' voices obtained through in-depth interviews provided a picture of how OLC developed students' English writing skills. The potential of OLC as an alternative platform for learning English writing at the secondary level has been revealed by this study. It can significantly improve students' English writing proficiency by encouraging their collaborative learning practices with their peers and teachers. The study's conclusions cannot be applied to other EFL circumstances where ELT teachers and students lack access to the internet and mobile technology. The findings do point to OLC as a potential resource for online English teaching that may help in students' learning. Therefore, to implement OLC for instructional activities and boost students' participation in English language learning activities, English teachers need to possess the necessary technological and pedagogical knowledge. According to this study, the government, educational institutions, principals, and other key partners in the field of education should encourage teachers to use ICT-and smartphone-integrated teaching and learning strategies to replace conventional instruction.

Keywords: writing skills, learning activities, smartphone-integrated teaching,

Sites of Possibility: Creative Learning Spaces for Women English Language Teachers

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This phenomenological study explores how creative learning spaces function as spaces of possibility for women English Teachers. Drawing on the norms of feminist pedagogy; collaboration, agency, voices, shared authority and others I argue that spaces are not neutral backdrops but gendered, political sites where voices, identities and power relations are negotiated alongside language practices. This qualitative study explores spaces in schools having possibility of transformative and empowering learning environments illustrating the experiences from creative and dialogic spaces like support circles women teachers tend to regain voice and agency. Based on the experiences and voices of five women English language teachers, this study explores different spaces they participate in, voluntarily exercising women's power and solidarity wherein these spaces are not only classrooms but also spaces which are creative such as informal spaces that foster critical awareness and collective growth. The study implies that feminist pedagogical approaches can reorient teacher education and professional development by positioning women educators as knowledge-makers who co-create inclusive and socially just educational practices.

Keywords: feminist pedagogy, power relations, informal spaces

Social Wellbeing of Older Adults: A Study of Marginalized Indigenous People of Nepal

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An active ageing strategy is adopted by most of the world to mitigate the problem that comes along with ageing population and social wellbeing is essential parameter of it. Subjective wellbeing of marginalized indigenous older adults has been explored with the objective of understanding the social wellbeing of older adults of marginalized indigenous community *Tamang* with the socio-economic status, developing community wellbeing. The study is based on mixed research design as the self – reported state of elderly wellness has been taken to understand their social well-being and the socio-economic of the community has been identified to understand the relation between the two. Marginalized indigenous older adults share strong relationship and cohesion with family, friends, and neighborhood expressing sense of satisfaction. However, their relationship, connectedness and participation with institutional support system and community wellbeing are very weak. Positive social relationships with family, friends and neighbors help them with increasing resilience to cope with life's challenges which is not being filled by institutional support system.

Keywords: social wellbeing, indigenous older adult, resilience and coping, institutional support system, Nepal

Status of Women Journalist in Nepal

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The status of women journalists in Nepal remains constrained by persistent gender inequalities embedded within social, economic, cultural, and institutional frameworks. Despite growing global advocacy for gender equality, women journalists in Nepal continue to experience marginalization, limited representation, and systemic barriers within the media industry. This study analyzes the present status of women journalists in Nepal, with specific emphasis on professional participation, workplace discrimination, and structural challenges affecting their career sustainability. This research employs a mixed-methods approach, integrating quantitative and qualitative data. Primary data were collected from 100 women journalists representing all 77 districts of Nepal, including Kathmandu Valley, through questionnaires administered via phone calls, emails, and direct participation. In-depth interviews and case studies were conducted to capture lived experiences and ensure factual accuracy. Additionally, content analysis of bylines from five mainstream print media outlets was undertaken to assess women's visibility in media production. Findings indicate that women journalists continue to face unequal pay, job insecurity, gender discrimination, and limited access to leadership and decision-making positions. The study also reveals widespread experiences of harassment, including online abuse and economic exploitation, which further undermine professional engagement. A comparative analysis over a decade highlights a decline in women's representation—from approximately 25 percent among 8,000 journalists a decade ago to only 18 percent among more than 9,300 journalists at present—despite overall growth in the media workforce. This trend reflects stagnation and regression in gender inclusion rather than progress. While media practices remain largely shaped by male-dominated perspectives, a notable positive development is the election of the first female president of the Federation of Nepali Journalists in its seven-decade history. The study concludes that meaningful gender equality in Nepali journalism requires targeted policy reforms, institutional accountability, and gender-responsive media governance to ensure equitable participation, safety, and professional advancement for women journalists.

Keywords: gender inequalities, advocacy, gender inclusion, media

**Subaltern Teachers and Universal Design for Learning: A Reflection on
Community School Teachers of Solukhumbu**

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The community schoolteachers of Nepal are often unheard by the authority and stakeholders of the society regarding discourses of education system, teaching-learning, policy and pedagogy so far. While there are such things that the teachers have observed, experienced and overseen from the immemorable time which can help improve the status of the whole school teaching system, their voices remain unheard leaving them subaltern. My paper examines what can be untouched and what remains incomplete in teaching-learning at all levels of community schools if we can't incorporate the voices of the directly involved teachers. This study is based on ethnographic models of qualitative research. The data is drawn from the in-depth narratives of four teachers, focused group discussion, classroom observation in different community schools at different clusters of Solukhumbu to represent the whole district. The main objective of the study is to explore the teacher's practice of inclusive education, an integral part of national goal of education through universal design for learning (UDL) in the present context of Nepal whether representation, engagement and expression are of varied types. The teachers are found to be practicing UDL consciously or/and unconsciously however the Nepali authority and administration seem to be unalert to the needs of the teachers for the reform of entire education system by empowering teachers leaving the teachers voiceless.

Keywords: Universal Design for Learning, Empowering Teachers, Reform of entire education system

Teaching at a Distance: Teachers' Experiences in Open and Distance Learning Mode in Nepal

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Open and Distance Learning (ODL) mode has been increasing in education field; mainly after Covid-19. In Nepal, some national and international universities have been running limited course in ODL mode for about two decades. This paper explores teachers' experiences; more specifically, their perceptions on access, practices and challenges in teaching ODL in Nepal. The study employs qualitative research approach, applying interpretivism as the research paradigm. Learning theories of connectivism and constructivism and social theory of equity have been adopted to interpret the narratives and meta-narratives of the five teachers in the study. The teachers perceive learning resources like technology, the Internet, reading materials and even teachers are not easily accessible in the ODL in Nepal. The study finds that teachers mainly practice synchronous and 'traditional' methods in ODL mode. Likewise, lack of motivation in both teachers and students, problems in the use of technologies, lack of training and resources are the major challenges in ODL. They also share problems of degree recognition, problem of English language and willpower to implement policies are other challenges in ODL mode. So, the research can be significant for the practitioners who have been running ODL programs and the policy makers who are designing curriculum in Nepal. The continuous support and trainings, establishment of different learning centers, technological set up, and even awareness programs about the mode of education need to be considered for the improvement of ODL in Nepal.

Keywords: Open & Distance Learning, Interpretivism, Connectivism, Equity & Synchronous

Tomorrow's Classroom, Tomorrow's Campus: A Systems Thinking Model for Digital and Sustainable Higher Education Transition in Nepal's Hilly Regions

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This paper develops a systems-thinking model for digital and sustainable higher-education transition in Nepal using an evidence-based qualitative approach. The study is prepared through a structured review of approximately 25 peer-reviewed journal articles and policy documents retrieved from ResearchGate, Google Scholar, and Nepal Journals Online (NepJOL), using predefined keywords related to digital education, blended learning, teacher professional development, ICT governance, and higher-education sustainability. The literature review is complemented by analysis of national enrolment statistics and institutional-level enrolment records from selected community campuses in eastern Nepal (2010–2023). The reviewed literature and datasets were thematically analyzed to identify recurring systemic challenges and intervention strategies relevant to limited educational contexts. Based on this synthesis, the paper formulates a six-layer intervention model comprising: (1) sustainable ICT infrastructure and maintenance ecosystems; (2) blended learning approaches; (3) localized non-credit skill curricula linking school to campus; (4) continuous teacher and faculty professional development; (5) school–campus digital linkage mechanisms; and (6) a Triple Helix (University–Industry–Government) framework. Each layer is derived from convergent findings in the reviewed literature and contextual data. The model provides a literature-grounded framework to support equitable access, learning continuity, and long-term institutional sustainability within Nepal's higher-education system.

Keywords: Systems Thinking, Digital Higher Education, Blended Learning, ICT Governance, Sustainable Education Transition

Training Effectiveness of Individual Education Plan for Children with Neurodiverse Conditions in the Community School of Kathmandu Metropolitan City

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This paper poses some research questions against which it studies the execution and efficacy of Individualized Education Programs (IEPs) in neuro-inclusive schools in Kathmandu Metropolitan area with reference to different individual needs, such as autism, ADHD, cerebral palsy and deaf-blindness. The research is informed by the neurodiversity paradigm and shaped through the Piaget, Bruner, and Vygotsky's cognitive developmental theories, and the study is applied under ethnographic approaches and qualitative case studies in four neuro-inclusive schools. The results indicate different degrees of knowledge and use of IEPs in institutions. While certain schools evolve hybrid forms of Korean and Nepali structure, others face challenges such as ineffective instruction of teachers, absence of resources, and poor maintenance of parental interest. According to teachers, IEPs provide a wonderful background in helping them achieve their learning outcomes, but the constraints are usually confined to space limits, teacher shortages as well as the intricacy of addressing various learner's needs on the same platform (classroom). Notwithstanding these difficulties, there exists evidence of better self-regulation and developing social skills, especially in students with mild cases of autism with the adaptive, activity-based IEPs playing a role. To improve inclusive education processes, the study reinforces the importance of lifelong professional learning, cross-culturally sensitive parent collaborations, and culturally contextual education-related resources. It finds that the flexible, developmentally based and child-centered approach, rooted in the developmental theories, is critical to the sound implementation of the IEP in the neurodiverse ecology of learning settings.

Keywords: Individual Education Plan, Neurodiversity, Neuro-Inclusive Education, Training and Development

Translating SDGs into Practice in Nepal: NGOs, INGOs and the Under-Recognized Role of Social Work

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The Sustainable Development Goals (SDGs) are the blueprint for all nations to address poverty, inequality, and social injustice. However, for developing countries like Nepal, translating these global goals into reality comes with many challenges. In Nepal, non-governmental development actors, NGOs and INGOs significantly contribute to the social development sector. These actors are important components of translating SDGs into practice. On the other hand, Social Work education has entered its second decade and is training professionals in sustainable social development. This paper aims to examine how NGOs and INGOs implement SDGs in their practice and how they utilize professional social workers in their work. For this, a qualitative study was carried out in 2021-22 with 20 heads of NGOs and INGOs working explicitly in SDGs. An interpretative approach was adopted to analyze the in-depth interviews and come to the findings. The findings show that all participants identified themselves as SDG implementers with their diverse academic and training backgrounds. They were engaged in community development, education, health, rights advocacy, capacity building, and participatory engagement, which aligned closely with social work. However, professional social workers were largely absent from their workforce. This limited presence and the under-recognition of social workers highlight the missed opportunity for the Social Work fraternity of Nepal to contribute to the achievement of SDGs.

Keywords: Social Work Practice, SDG translation, Social Justice, participatory engagement.

Understanding Women empowerment Strategies and Challenges of Handicraft Social Enterprises

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This study investigates the empowerment strategies and challenges of the handicraft based social enterprises working with marginalized and vulnerable women in Kathmandu Valley. These enterprises integrate social economic and psychological objectives that are recognized as effective strategies to empower vulnerable and marginalized women. The research addresses two core questions: (1) What strategies do handicraft social enterprises apply to empower women? (2) What challenges do these enterprises face while empowering women? A qualitative research design was adopted to explore the research questions in depth. Data were collected through semi-structured interviews with social entrepreneurs and women artisans involved in two handicraft social enterprises. This approach allowed for rich, firsthand insights into the lived experiences of the women and social entrepreneurs. The data were analyzed thematically to identify recurring patterns and key themes. The findings indicate that the enterprises applied an integrated empowerment approach encompassing five key strategies: skill development training, leadership and mentorship programs, financial literacy with seed funding, digital literacy, and psychological support through communication and self-confidence workshops. These strategies holistically support economic independence, social inclusion, and psychological resilience among vulnerable and marginalized women. This process enabled women to change their status from dependency to self-dependent. However, several operational challenges were also identified, including lack of legal recognition for social enterprises, limited financial resources, and insufficient government support. These barriers hinder growth and sustainability. In response, the study recommends that the Government of Nepal develop formal policies that support social enterprises through tax incentives, access to funding, and infrastructure support. This research contributes valuable knowledge to the fields of social entrepreneurship academicians and women artisans who are in search of opportunity. It highlights the transformative role of handicraft-based social enterprises in promoting women empowerment and offers practical recommendations for enhancing their reach and effectiveness in Nepal's development context.

Keywords: marginalized, social entrepreneurship, mentorship programs

Women and Nature: An Ecofeminist Study of Hill and Tarai Regions of Nepal

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This research highlights the close relationship between women and nature in Nepal. Primarily it is based on an ecofeminist perspective to view how the environment of hills and tarai regions and social contexts shape women's experiences. To strengthen the analysis, Marxist feminism is also used to understand women's unpaid labor, class relations, and economic marginalization within hill and Tarai communities of Nepal. Mainly, the study combines secondary data based on analysis of the hilly areas and primary data from women of the Tarai region through semi-structured interviews and observation methods. The study focuses on how women engage themselves in ecological practices and care for natural resources of Nepal, how they face social and environmental challenges and bring to light the intersections of gender, culture, and environmental sustainability. The findings explore that ecofeminist ethics of care offer an important framework to state women's environmental knowledge and agency throughout different geographic ecological areas. The paper examines the need for context specific strategies that recognize women's roles in environmental protection and invites further research in other regions that are not explored so far.

Keywords: ecological practices, ethics of care, environmental protection

Women's Empowerment Through Cooperatives: Evidence from Surkhet Valley

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This study examined the role of cooperatives in promoting women's empowerment in Surkhet Valley. The main objective was to assess how participation in cooperative organizations contributes to women's empowerment. The study treated women's empowerment as the dependent variable, while household and economic decision-making, interest rates on savings and loans, training and skill development, self-confidence, and financial status were considered independent variables. A total of 180 women members from cooperative organizations in Surkhet Valley were selected using convenience sampling. Findings indicate that 86.67% of respondents experienced improvements in household, financial, investment, business-related decision-making and family support after joining cooperatives. In addition, 87.78% agreed that cooperatives support women's decision-making. Regarding financial services, 96.67% reported that they obtained information before saving or taking loans from the cooperative, and 84.44% agreed that the interest rates on savings and loans contribute to women's empowerment. Concerning capacity-building, 53.33% of respondents had received training from cooperatives, while 83.33% agreed that training and development programs support women's empowerment. Similarly, 79.44% reported a moderate improvement in self-dependency after cooperative involvement, and 85.56% agreed that increased self-confidence facilitated by cooperatives supports empowerment. Moreover, 70.56% received direct advice after joining cooperatives, and 92.78% agreed that the financial support provided by cooperatives contributes to women's empowerment. The study concludes that cooperatives have played a significant role in empowering women in the study area by strengthening decision-making capacity, improving access to savings and loans at supportive interest rates, expanding training and skill development opportunities, enhancing self-confidence with social and cultural status.

Keywords: decision-making; interest rate; savings; loan; training; skill development; self-confidence.

नेपाली भाषा शिक्षणमा सूचना तथा सञ्चार प्रविधि (ICT) एकीकृत शिक्षण पद्धतिको प्रयोग: तयारी अवस्था र चुनौतीहरू

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सूचना तथा सञ्चार प्रविधि (ICT) एकीकृत शिक्षण पद्धति सामुदायिक विद्यालयहरूमा सिकाइ उपलब्धि सुधार गर्नका लागि, विशेषगरी भाषिक सीप, शब्दभण्डार, व्याकरण तथा २१औँ शताब्दीका सीपहरू विकास गर्न अत्यावश्यक दृष्टिकोण हो। यस अध्ययनले माध्यमिक तहमा नेपाली भाषा शिक्षणमा ICT एकीकृत शिक्षण पद्धति प्रयोग गर्न नेपाली भाषा शिक्षकहरू कतिको तयार छन् भन्ने कुरा पत्ता लगाउने तथा नेपाली शिक्षणमा ICT समायोजन गर्दा उनीहरूले सामना गर्नुपरेका चुनौतीहरूको पहिचान गर्ने प्रयास गरेको छ। अनुसन्धानका उद्देश्यहरू पूरा गर्न यस अध्ययनमा हर्मेन्युटिक फिनोमेनोलोजिकल अनुसन्धान ढाँचा अपनाइएको छ। ICT एकीकृत शिक्षण पद्धतिको सान्दर्भिकता र सिकाइ उपलब्धि अभिवृद्धिका लागि ICT उपकरण प्रयोग गर्न शिक्षकहरूको तयारी अवस्था पत्ता लगाउन नेपाली भाषा शिक्षकहरूको जीवन्त अनुभव र प्रतिबिम्ब आवश्यक ठानियो। निर्णयात्मक गैर-यादृच्छिक नमुना छनोट विधिबाट दुई जना नेपाली शिक्षक छनोट गरिएका थिए। नेपालका सन्दर्भमापहिलो र दोस्रो भाषाका रूपमा नेपाली सिकने विद्यार्थीहरूलाई भाषाका सीप, शब्दभण्डार र व्याकरण शिक्षणमा ICT एकीकृत शिक्षण पद्धति प्रयोग गर्दा शिक्षकहरूको तयारी अवस्था र चुनौतीहरूबारे आवश्यक जीवन्त अनुभव सङ्कलन गर्न गहिरो अन्तर्वार्ता र कक्षा अवलोकन विधि प्रयोग गरिएको छ। यस अध्ययनका प्रमुख नतिजाहरूमा ICT प्रयोगमार्फत सिकाइमा विद्यार्थीको संलग्नता र प्रेरणाको अपरिहार्यता, ICT साक्षरतामार्फत २१औँ शताब्दीका सीपहरूको विकास, तथा भाषा सीप र भाषिक पक्षहरू विकास गर्न आवश्यक ICT उपकरण, ई-लर्निङ कार्यशाला र तालिमको अभाव देखिएको छ। नेपालका सामुदायिक विद्यालयहरूमा विद्यार्थीहरूको सिकाइ उपलब्धि अभिवृद्धि गर्न ICT एकीकृत शिक्षण पद्धति अत्यावश्यक उपाय हो। यसले माध्यमिक तहका नेपाली भाषा शिक्षकहरूलाई समालोचनात्मक सोच, सहकार्य सीप र डिजिटल साक्षरता जस्ता २१औँ शताब्दीका सीपहरू प्रवर्द्धन गर्न सहयोग पुऱ्याउँछ। यस अध्ययनका निहितार्थहरूले नीति निर्माणकर्ता, शिक्षक र विद्यार्थीहरूलाई डिजिटल शिक्षण पद्धतिका फाइदाबारे सचेत गराई सिकनेहरूको सिकाइ उपलब्धि तथा नेपाली भाषा शिक्षकहरूको व्यावसायिक विकासलाई डिजिटल शिक्षण पद्धतिमार्फत प्रवर्द्धन गर्न सहयोग पुऱ्याउँछ।

शब्दकुञ्जी: उपलब्धिसुधार, प्रेरणा, समालोचनात्मकसोच, व्यावसायिकविकास

पर्यावरणीय सचेतनाका दृष्टीले कक्षा ९ र १० का नेपाली भाषापाठ्यपुस्तकमा प्रयुक्त चित्रहरू

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यस अनुसन्धानात्मक लेखमा कक्षा ९ र १० का नेपाली भाषापाठ्यपुस्तकमा समावेश चित्रहरूलाई पर्यावरणीय सचेतनाको दृष्टिकोणबाट गहन अध्ययन गरिएको छ। भाषा शिक्षणमा चित्रहरूको भूमिका सौन्दर्यात्मक मात्र नभई अर्थ निर्माण, भावनात्मक संलग्नता बढाउने र मूल्यबोध तथा नैतिक चेतना विकास गर्न महत्वपूर्ण माध्यम हो। त्यसैले पाठ्यपुस्तकका चित्रहरूले विद्यार्थीमा वातावरणप्रति कस्तो सोच र व्यवहार विकास गर्छन् भन्ने प्रश्न यस अध्ययनको केन्द्रीय विषय हो। जलवायु परिवर्तन, वन विनाश, बढ्दो प्रदूषणजस्ता विश्वव्यापी सङ्कटको पृष्ठभूमिमा विद्यार्थीमा प्रकृतिप्रतिको जीम्मेवारी र संरक्षण चेतना जगाउनु यस लेखको मूल सन्दर्भ हो भने मुख्य उद्देश्य: पर्यावरण तथा पारिस्थितिक प्रणालीसम्बन्धी दृश्य सामग्रीहरूको पहिचान, वर्गीकरण, विश्लेषण र तिनको प्रभाव मूल्याङ्कन गर्नु हो। यो पूर्ण गुणात्मक अनुसन्धान हो। प्रामाणिक लिखत विश्लेषण विधीबाट कक्षा ९ र १० का नेपाली भाषा पाठ्यपुस्तकका सम्बन्धीत पाठ र चित्रहरूलाई प्रत्यक्ष अवलोकन गरी गहन अध्ययन गरिएको यस लेखमा चित्रहरूलाई प्राकृतिक सौन्दर्य, जैविक विविधता, प्रदूषण, दिगो विकास, मानव-प्रकृति सम्बन्ध र पर्यावरणीय सचेतना जस्ता मानकमा आधारित वर्गीकरण तथा विश्लेषण गरिएको छ। यसै गरी यहाँ गुणात्मक सामग्री विश्लेषणबाट चित्रहरूको सन्देश, प्रतीकात्मकता र पाठसँगको अन्तरसम्बन्ध व्याख्या गरिएको छ। अध्ययनबाट केही चित्रहरूले वन, नदी, हिमाल, ग्रामीण जीवन र जैविक विविधातालाई सकारात्मक रूपमा प्रस्तुत गरी वातावरणप्रति सम्मान र संरक्षणको भाव जगाएको निष्कर्ष निकालिएको छ। तर, प्रदूषण, जलवायु परिवर्तन, फोहोर व्यवस्थापन तथा प्रकृति दोहनका नकारात्मक प्रभाव देखाउने चित्रहरू सीमित रहेको पाइएको छ। यस कुराले विद्यार्थीलाई समसामयिक पर्यावरणीय समस्याप्रति गहन चिन्तन र सक्रिय चेतनाको पर्याप्त अवसर दिएको मान्न सकिन्छ। अन्तमा, चित्रहरूलाई उद्देश्यपूर्ण, सन्देशमूलक र समसामयिक मुद्दासँग जोडेर प्रस्तुत गर्नसके विद्यार्थीलाई सचेत तथा वातावरणमैत्री नागरिकका रूपमा विकास गर्न ठूलो योगदान पुग्ने व्यावहारिक सुझाव यस लेखले दिएको छ।

शब्दाकुन्जी: पारिस्थितिक प्रणाली, मानव-प्रकृति सम्बन्ध, वातावरणमैत्री नागरिक

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प्रस्तुत लेख २०२१ सालमा मदन पुरस्कार प्राप्त 'प्राकृत पोखरा' खण्डकाव्यको प्रकृतिचित्रण र अलङ्कार प्रयोगको अध्ययनमा केन्द्रित छ । तथ्याङ्क सङ्कलनमा पुस्तकालयको प्रयोग र नमुना छनोटमा उद्देश्यमूलक नमुना छनोटको अवलम्बन गरिएको छ । यो अध्ययन गुणात्मक प्रकृतिको भएकाले अध्ययनको स्वरूप वर्णनात्मक, विश्लेषणात्मक र व्याख्यात्मक रहेको छ । अध्ययनको क्षेत्र निर्दिष्ट खण्डकाव्यको प्रकृतिचित्रण र त्यस कृतिमा प्रयुक्त अलङ्कार विश्लेषणसँग सम्बन्धित रहेको छ । प्रकृतिको उपहारको रूपमा रहेको पोखराको सुन्दर वर्णन यस खण्डकाव्यमा गरिएकाले प्रकृति चित्रणको अनुपम दृष्टान्त 'प्राकृत पोखरा' बनेको छ। प्रकृतिको तनमय र मनमय चित्रण यसमा पाइन्छ। कुशल वर्णनात्मक शैलीका प्रयोक्ता कवि मुकुन्दशरण उपाध्यायद्वारा रचित यस खण्डकाव्यमा मूलतः प्रकृतिबाटै आलङ्कारिक उपकरणहरू चयन भएका छन् । प्राकृतिक सौन्दर्यास्वादनका दृष्टिले यो खण्डकाव्य नेपाली साहित्यमा अतुलनीय रहेको छ । यसमा उपमा, उपमेयोपमा, अनन्वय, रूपक, व्यतिरेक, दृष्टान्त, विनोक्ति, कारकदीपक, परिकर, अपहृति, उल्लेख, सार, काव्यलिङ्ग, परिवृत्ति, तुल्ययोगिता, कारणमाला जस्ता अलङ्कारहरूको स्वाभाविक र प्रभावकारी प्रयोग पाइन्छ । यी अलङ्कारहरूको उदाहरणसहित विश्लेषण गरी अध्ययनको निष्कर्ष निकालिएको छ । अलङ्कार प्रयोग गर्नुको मुख्य प्रयोजन भाव र विचारलाई प्रभावकारी तुल्याउनु र काव्यको कथ्य अर्थलाई वैचित्र्यपूर्ण बनाउनु रहेको देखिन्छ । यो लेख 'प्राकृत पोखरा' खण्डकाव्यको प्रकृतिचित्रण र अलङ्कारप्रयोगको अध्ययन गर्न चाहनेहरूका लागि उपयोगी हुनेछ । यसका साथै अलङ्कारप्रयोग गरेर कविता रचना गर्ने कवि, अलङ्कारका सम्बन्धमा जिज्ञासा राख्ने विद्यार्थीहरू पनि यस अध्ययनबाट लाभान्वित हुन सक्नेछन् भन्ने विश्वास गरिएको छ ।

शब्दकुन्जी: मनमय, तुल्ययोगिता, वैचित्र्यपूर्ण

**Track: Management Tourism, Hospitality
and Business Sustainability**
A study of ethics on Nepal Tourism - A global perspective

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Tourism greatly contributes to Nepal's economic development and cultural outreach, positioning the country as a major global destination for adventure, spiritual, and eco-tourism. However, the quick expansion of tourism has also brought up important moral issues pertaining to risk management, social justice, cultural integrity, environmental sustainability, and inclusive economic growth. From a worldwide standpoint, Nepal makes a strong case for investigating how ethical tourism principles might strike a balance between responsible and sustainable practices and economic growth, especially in culturally rich and environmentally vulnerable areas. This study's main objective is to analyse Nepal's tourist industry's ethical aspects within a global context and evaluate how international ethical norms can influence sustainable tourism governance. Using a qualitative and conceptual research approach, the study draws from primary and secondary sources, including policy papers, academic literature, comparative ethical studies of tourist practices, and global ethical frameworks, the UNWTO Global Code of Ethics for tourists. The findings/results show that although Nepal's tourism industry normatively conforms to the global ethical values of justice, sustainability, respect, and responsibility, there are still large implementation gaps. Environmental deterioration in the Himalayan ecosystem, cultural commodification, unequal distribution of economic benefits, hazards for frontline adventure tourism workers, and governance issues involving several international players are some of the major ethical issues. The study also emphasizes the transboundary environmental and social ramifications of Nepal's tourism-related ethical failures, underscoring its worldwide significance in the discourse on tourism ethics. We conclude that, strong governance systems, environmental stewardship, cultural sensitivity, economic fairness, and post-pandemic recovery methods must all be integrated into ethical tourism in Nepal. Nepal can become a role model for ethical and sustainable tourism in the twenty-first century by balancing indigenous traditions with international ethical standards.

Keywords: Ethics, Governance, tourism, sustainability, growth

Attitudes of Employees in Nepalese Commercial Banks Regarding Retention

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Employee retention is the crucial components of talent management. It helps an organization by saving costs and improving performance. The trend of more students migrating overseas provide issues for Nepalese commercial banks in terms of talent retention. In this scenario, this study examines the attitudes of employees in Nepalese Commercial Banks regarding retention. Descriptive - analytical research method was adopted for this study. The study was based on primary data of 397 respondents of selected Nepalese Commercial Banks. Structured 5 - point Likert scale questionnaires were used to collect the data. Opportunities for promotion, overtime salary, consider suggestions and grievances, participation in decision making, job security, recognizes performance, equal opportunities, challenging and interesting job-related items were used to examine the attitudes of employees regarding retention. The convenience sampling method was used to pick a sample that satisfied relevant study goal. This study included a total of 18,330 workers. Solvin's equation was used to calculate the necessary sample size for the population in this study. Mean and standard deviation were used to examine the attitudes of employees regarding retention. The study revealed that employees of Nepalese Commercial Banks generally possess a positive attitude towards their organization. However, there are some problems, such as overtime salaries and not being involved much in decision-making. These issues could reduce employees' commitment and may cause them to leave the organization in the future. We can explore this study by adding other talent management variables such as attraction, selection, training and development etc. This study used only descriptive statistics. In future, we can apply different statistical tools like correlation, regression etc. to obtain better research results.

Keywords: Attitudes, Retention, commitment

Barriers to Open Banking Adoption: Evidence from Emerging Fintech Landscapes

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Open banking has emerged as a transformative innovation in the Financial Technology (FinTech) sector, enabling secure access to customer data through APIs to promote transparency, innovation, and user empowerment. Although developed markets are significantly benefiting from it, adopting Open Banking for Financial Services faces a lot of challenges in emerging markets. This research investigates the socio-economic and demographic profile of FinTech users, identifies key barriers in open banking adoption, and assesses their impact on user behavior, trust, and engagement. In this study, a mixed-method approach was followed, and the data gathered from 200 respondents were analyzed by applying Pearson Correlation, Chi-Square tests, Linear Regression, and t-tests to validate the hypotheses with respect to privacy concerns, trust issues, regulatory ambiguities, and technological complexities. Key findings show that inhibiting factors to adoption are privacy concerns, as expressed by the correlation coefficient $r = 0.678$ and significant at $p = 0.021$. In addition, 'Fear of Data Breaches' is found out to be yet another inhibitive with a correlation coefficient of $r = 0.710$, which is significant at $p = 0.012$. The results also showed (i) trust issues and (ii) technological complexity as deterring factors in both user engagement and hence in the adoption rate. Such hedge would be overcome through educational programs, data protection policies, and technical literacy workshops. The Study concludes that addressing these challenges holistically will unleash the potential of Open Banking for furthering financial inclusion, fostering innovation, and building a financial ecosystem that is secure as well as user-friendly in the emerging markets.

Keywords: Open Banking, FinTech (Financial Technology), APIs (Application Programming Interfaces), User Engagement, and Emerging Markets.

Behavioral and Motivational Determinants of Students' Intentions to Pursue International Education: Evidence from Nepal

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Purpose: This study aims to examine the behavioral and motivational determinants influencing Nepalese students' intentions to pursue international education by integrating the Theory of Planned Behaviour (TPB) and Self-Determination Theory (SDT).

Design/methodology/approach: A quantitative research design was employed, combining descriptive and causal-comparative approaches. Data were collected from 300 valid responses using a structured questionnaire measured on a five-point Likert scale. The study applied reliability testing, correlation, and multiple regression analyses to test the hypotheses derived from TPB and SDT constructs.

Findings: Results indicate that all behavioral (attitude, subjective norms, perceived behavioral control) and motivational (intrinsic and extrinsic motivation) factors significantly and positively affect students' intentions to study abroad. Among these, perceived behavioral control exerted the strongest predictive influence, followed by extrinsic motivation. The integrated TPB–SDT framework explained 96.3% of the variance in students' intentions, highlighting the dominance of both psychological and contextual determinants in shaping international study aspirations.

Practical implications: The findings provide insights for policymakers, universities, and educational consultants to design guidance mechanisms and policies that address both the behavioral and motivational needs of Nepalese students, rather than focusing solely on economic or institutional factors.

Originality/value: This study bridges a critical research gap by empirically integrating TPB and SDT within the Nepalese context, demonstrating how behavioral and motivational constructs jointly influence international education decisions in an emerging economy.

Keywords: Student mobility, Study abroad intention, Perceived behavioral control, Self-Determination Theory and Theory of Planned behavior

Bibliometric Analysis of Supply Chain Performance Measurement in Agricultural Products

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Agricultural supply chains are critical for ensuring food security, sustainability, and economic development. Due to issues including perishability, seasonality, market volatility, and the rising desire for transparency, evaluating their performance has grown more difficult. Using dimensions.ai and visual aids like VOSviewer, this study offers a bibliometric analysis of academic literature on supply chain performance measurement in agricultural products. The analysis applies PRISMA screening, dimension ai., and VOSviewer to examine publication trends, disciplinary distribution, geographic contributions, thematic clusters, and citation network analysis. This study includes 395 papers in different categories, reveals that the subject is dominated by commerce and management, followed by information sciences and others. The study shows that there was an increase in publications in 2021, followed by a decline in 2022 and a recovery in 2023–2024. Leading contributors are identified through co-authorship networks. Citation network analysis revealed foundational works on efficiency and managerial KPI. The major study areas are highlighted by clustered thematic mapping. Emerging topics like blockchain, IoT, and social sustainability demonstrate a shift towards interdisciplinary approaches. This study concludes that there is a significant gap in developing agri-food specific indicators and empirically validating digital technologies. Future research should prioritize sector-specific frameworks, interdisciplinary collaboration, and comparative regional studies to advance performance measurement in agricultural supply chains.

Keywords: Supply chain performance, Performance measurement, Agricultural products, Bibliometric analysis, VOS viewer

Calendar Anomalies and Volatility Clustering in an Emerging Stock Market: Evidence from Nepal

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This study examines calendar anomalies and volatility dynamics in the Nepalese stock market using daily closing prices of the Nepal Stock Exchange (NEPSE) from 2003 to 2024. It analyzes day-of-the-week, month-of-the-year, and holiday effects, together with volatility clustering and asymmetric volatility responses to market shocks. Calendar anomalies are tested using dummy variable regressions with Newey–West heteroskedasticity- and autocorrelation-consistent standard errors, while volatility behavior is modeled using GARCH-family specifications, including EGARCH. The results reveal a statistically significant positive return on Tuesdays relative to Sundays, indicating a robust mid-week effect. Stock returns also decline significantly in the trading days following the Dashain holiday, even after controlling for the Tihar effect. Month-of-the-year analysis shows significantly lower returns in Bhadra and Falgun compared to Sharwan. Volatility estimates confirm strong clustering and asymmetry, with negative shocks exerting a greater impact on volatility than positive shocks of equal magnitude. Overall, the findings provide evidence of deviations from weak-form market efficiency in Nepal. By jointly examining calendar anomalies and volatility dynamics over a long sample period, this study contributes to the limited literature on emerging and frontier stock markets and offers useful insights for investors and policymakers.

Keywords: Calendar anomalies; Volatility clustering; GARCH; EGARCH; Emerging markets.

Career Adaptability and Employees' Turnover Intention in Nepalese Private Commercial Banks

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The main objective of this study was to examine the relationship between career adaptability and employees' turnover intention in Nepalese private commercial banks. The research was quantitative in nature. The sampling method adopted was convenience sampling. For the study, a survey was conducted by distributing questionnaire and necessary information was gathered from 310 respondents. Collected data were organized, analyzed, and managed using Microsoft Excel and SPSS. Descriptive as well as inferential analyses were carried out to meet the objectives of the study. Frequencies, percentage, mean, standard deviations, correlation and multiple regressions were done to meet the objectives of the study. The findings of the study exhibited that there exists a significant relationship between career adaptability and employees' turnover intention in Nepalese commercial banks. However, it was found that among the four career adaptability factors, concern, curiosity, and confidence had a positive relationship with employees' turnover intention, but control had negative relationship with employees' turnover intention. Concern as a factor of career adaptability proved to be the dominant factor having greatest impact on employees' turnover intention. Career adaptability level among bankers was found to be at medium level and turnover intention level among bankers was found to be at medium level and turnover intention level was found to be at medium level. Gender moderates the relationship between career adaptability and employees' turnover intention.

Keywords: Career adaptability, Employees' turnover, Concern, Curiosity, Confidence.

Determinants of Sustainability Awareness among Higher Education Students in Koshi Province, Nepal

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This study explores the determinants of sustainability awareness among the higher education students in Koshi province, Nepal - a region spanning diverse ecological zones facing acute climate vulnerabilities. Grounded in Cognitive Hierarchy Model and Theory of Planned Behavior, the research explores five independent variables: sustainability knowledge, sustainability education exposure, social influence, media & information exposure, and personal environmental responsibility. Data were collected through survey questionnaire of 232 higher education students using Convenience sampling (non-probability method). The data analysis employed software: Jamovi for Explanatory Factor Analysis (EFA) & Confirmatory Factor Analysis (CFA), and IBM SPSS 27 for Regression analysis. EFA (principal axis factoring, varimax rotation) identified a four-factor structure explaining 74% variance (KMO = 0.963; Bartlett's $p < .001$), with strong factor loadings confirming stability. CFA showed significant standardized loadings for all constructs. Regression revealed media exposure ($\beta = 0.319-0.798$, $p < .01$) and personal responsibility ($\beta = 0.483-0.748$, $p < .01$) as strongest predictors; education exposure was weaker (significant only in Models III/ V). Models explained 28–68% variance (adjusted $R^2 = 0.283-0.684$; $F = 92.22-422.50$). Findings validate a robust sustainability awareness model and identify key intervention targets for higher education aligned with SDG 4.7.

Keywords: sustainability awareness, higher education students, exploratory factor analysis, confirmatory factor analysis, regression analysis, Koshi province, Nepal.

Economic Opportunities in Koshi Province: Building Backward Linkages for Sustainable Growth

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Koshi Province spans Nepal's full agro-climatic range and sits at a strategic junction between India and China. Despite this advantage, many provincial industries remain dependent on imported raw materials and intermediates, exposing firms to cross-border policy changes, logistics disruptions, and price volatility. This study examines these vulnerabilities using Government of Nepal Foreign Trade Statistics (FTS) for FY 2071/72–FY 2081/82, agricultural production statistics, and industry information from the Nepal Jute Mills Association (NJMA), complemented by the author's long-term field observation and key-informant interviews with jute industry personnel and farmers in Morang. Using the jute value chain as a focused case, the paper assesses the scale of import dependence, identifies constraints limiting domestic raw-fibre expansion, and proposes a practical cluster pathway for strengthening backward linkages.

The results show pronounced year-to-year volatility in the consolidated jute trade basket, continued reliance on imported raw jute, and partial shutdown of installed mill capacity in the Koshi industrial corridor. District production data indicate that Morang and Sunsari achieve competitive yields and are located close to processing hubs, suggesting strong potential for local supply expansion. However, farm-level evidence highlights binding bottlenecks, especially labour- and water-intensive retting and fibre extraction, inconsistent timely availability of quality seed and inputs, and uncertainty in pricing and procurement. Recent NJMA market information (27 January 2026) indicates a quality raw-jute price around NPR 150/kg, reinforcing profitability potential when market's function and quality is assured. The paper concludes that Koshi can improve industrial resilience and employment stability by strengthening backward linkages through contract farming, aggregation and grading, shared retting/extraction facilities, and youth-led service SMEs. Policy priorities include quality seed systems and R&D, timely input supply, risk-sharing incentives and buy-back arrangements, and public-private financing for shared infrastructure aligned with sustainability goals.

Keywords: Import dependency; backward linkages; jute value chain; cluster development; sustainability

Enhancing Service and Financial Literacy for Sustainable Tourism: A Study among Nepalese Tourism Entrepreneurs

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This study examines how enhancing hospitality service management (HSM) and financial literacy (FL) contribute to the sustainability of tourism small and medium enterprises (TSMEs) in Nepal. Using a descriptive research design, data were collected from 80 Nepalese tourism entrepreneurs via a structured questionnaire. The data were analyzed using descriptive statistics and Structural Equation Modeling (SEM). The findings reveal that both HSM, measured by service quality indicators, and FL, encompassing budgeting and financial planning, have significant positive impacts on business sustainability (BS). Financial literacy demonstrates a substantially stronger direct effect. However, discriminant validity analysis indicates a closely intertwined relationship between FL and BS constructs. The results imply that for Nepal's tourism sector to achieve greater resilience and long-term viability, entrepreneurial development programs must integrate targeted training in financial management with service quality enhancement. This dual-focused approach is critical for entrepreneurs to fully leverage Nepal's cultural and natural assets, improve visitor experiences, and ensure competitive, sustainable businesses.

Keywords: financial literacy, hospitality service management, sustainable tourism, tourism entrepreneurs.

Entrepreneurial Policy Overload and Low Impact in Nepal: A Secondary Policy Analysis

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Nepal has witnessed a proliferation of entrepreneurial policies and programs since 2020, including the Industrial Enterprise Act (2020), National Startup Policy (2024), and various funding mechanisms. Despite this policy abundance, entrepreneurial outcomes remain disappointing, with Nepal ranking 130th in economic freedom and 94th in ease of doing business. This secondary policy analysis examines the phenomenon of policy overload and its relationship with implementation deficits in Nepal's entrepreneurial ecosystem. Through systematic analysis of policy documents, implementation reports, and scholarly literature from 2020-2024, this study identifies critical gaps between policy formulation and execution. Findings reveal that policy proliferation without adequate implementation mechanisms creates organizational overload, leading to "policy triage" behaviors where bureaucratic systems prioritize certain initiatives while neglecting others. Key challenges include inadequate inter-governmental coordination, insufficient technical capacity at local levels, delayed fund disbursement, and persistent regulatory complexity. The study concludes that Nepal's entrepreneurial development suffers not from insufficient policies but from implementation deficits exacerbated by continuous policy additions without corresponding capacity building. Recommendations emphasize policy consolidation, strengthened implementation infrastructure, and enhanced coordination mechanisms over further policy expansion.

Keywords: Entrepreneurship policy; policy overload; implementation deficit; policy triage; Nepal; startup ecosystem

Envisioning Himalayan Travel Futures: Adventure Tourism as a Catalyst for Sustainable Destination Development

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Himalayas of Nepal are becoming highly vulnerable due to the climate factors and economic issues and thus there is a need to develop sustainable approaches with specific reference to tourism. This research is non-empirical and exploratory and investigates the potential of adventure tourism as a catalyst for sustainable development of the destinations in the region. As a literature-based study, it combines the Triple Bottom Line framework with the regenerative tourism theory to conceptually evaluate adventure tourism activities in the Annapurna and Everest regions. The systematic review of the existing literature, including ecological models, tourism trend analyses, and indigenous knowledge, points to the fact that adventure tourism, including trekking and rafting, can help to sustain local economies and to promote environmental restoration work. Furthermore, literature also presents certain threats arising from overtourism such as environmental degradation and commodification of culture in high tourist destinations. The paper proposes “Adventure Resilience Index” as a conceptual framework to assess sustainability in the economic, ecological, and sociocultural aspects. The findings of the study highlight the importance of policy frameworks to facilitate responsible adventure tourism to attain a balanced and resilient development of the Himalayan destinations.

Keywords: climate, indigenous knowledge, Adventure Resilience Index

Factors Influencing the Adoption of Management Accounting in Nepal's Co-Operative Sector

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The management accounting (MA) is deliberate to decision-making, long-term planning and long-term sustainability of cooperatives that are run on the values of supportive and democratic governance. Regardless of its significance, the topic of MA adoption among Nepalese cooperatives has not been thoroughly investigated, specifically the interaction of organizational, technological, and environmental factors. This report examines these determinants in a quantitative and descriptive-correlational research within Parashuram Municipality having 10 cooperatives which includes Savings and Credit, Multipurpose and Dairy Cooperatives. The respondents (board members, employees and general members) were 112 who carried out questionnaires in a structured manner. The SPSS and Smart-PLS were used to analyze the data which incorporated the use of descriptive statistics, correlation analysis, regression analysis, and structural equation modeling. The results show that technological aspects ($r = 0.65$), organizational aspects ($r = 0.62$), rivalry ($r = 0.60$) and environmental aspects ($r = 0.58$) are positively and significantly related to MA adoption. The results of multiple regressions suggest that these predictors reveal 61 percent of variance in MA adoption ($R^2 = 0.61$), and there are no problems with multicollinearity or autocorrelation. The paper notes that technology and organizational support are the main drivers and the competitive and environmental pressures are also significant. These lessons give theoretical and practical solutions on how to improve the MA practices, governance and performance in the Nepalese cooperatives.

Key words: Technological Factors, Organizational Factors, Environmental Factors, Competitive Intensity

Financial Crimes: An Analysis of Banking Frauds and Economic Growth in Nepal

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This study explores the key causes and effects of banking fraud in Nepal and how it impacts the performance of banks, collecting wide range of primary data from 418 employees from different banks and financial institutions in Nepal. By applying a causal-comparative research design and regression analysis, the research finds that employee dissatisfaction, weak internal controls, misuse of authority by management, and vulnerabilities in IT systems are significantly linked to higher cases of fraud. On the other hand, training programs for employees, awareness campaigns for customers, strong legal systems, and effective accounting controls are associated with a lower occurrence of fraud. The statistical results strongly support these findings. In the first regression model, 72.3% of the variation in banking fraud is explained by these factors as (Adjusted $R^2 = 0.723$), and in the second model, 82.2% of the variation in bank performance is explained by fraud and these contributing factors (Adjusted $R^2 = 0.822$). IT weaknesses had a high positive effect on fraud ($\beta = 0.769$, $t = 25.316$), while internal control had a strong negative effect ($\beta = -0.831$, $t = -27.326$), proving their significance. Furthermore, banking fraud was shown to reduce bank performance ($\beta = -0.120$, $t = -3.135$). All these models are statistically significant at the 1% level, meaning the results are highly impactful. Financial frauds harm a bank's brand, which may result in a drop in clientele and, eventually, revenue. The study concludes that reducing fraud through better internal controls, stronger legal compliance, and staff training can significantly improve the bank performance and trustworthiness of banks and financial institutions for the economic growth in Nepal.

Keywords: misuse of authority, effective accounting controls, legal compliance

Financial Integration and Employee Psychological Empowerment: Mediating with Digital Mindset of Nepalese Banking Employees

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This study investigates the impact of organizational FinTech integration (OFI) on employee psychological empowerment (EPE) with the presence of a digital mindset of banking employees. The study is grounded in social cognitive theory (SCT) and Self-Determination Theory (SDT), which posits that the shift of structural environment into employee motivation occurs through internal cognitive filters. Data were collected from 148 banking employees scattered across 22 branches of commercial banks in Kapilvastu district, representing four urban areas (Jeetpur, Chandrouta, Taulihawa, and Goringhe) with a close-ended structured questionnaire survey. The descriptive and explanatory research design was adopted, and data were analyzed using the PROCESS macro (Model 4) to test for mediation. The study showed a significant positive relationship between OFI and EPE ($b = 0.4906, p < .001$), confirming that employee psychological empowerment is influenced by fintech integration. Furthermore, the presence of digital mindset has a significant partial mediation effect ($ab = 0.2524, 95\% \text{ CI} [0.1400, 0.3521]$), suggesting that the presence of a personal cognitive factor has an impact on structural integration for psychological empowerment. These findings suggest that fintech integration (environmental change) leads to psychological empowerment (individual behavior/motivation) being more worthy by prioritizing embedding digital mindset (cognitive factor) of employees. By extending the literature of SCT in a new context with unique constructs, the study contributes to academia and for industry, the study provides actionable insights by connecting the organizational reinforcement as a stimulus and the empowerment of human resources as a reaction, catalyzing individual digital cognition.

Keywords: Fintech Integration, Psychological Empowerment, Digital Mindset, Social Cognitive Theory

Fintech-Driven Financial Ecosystems for Himalayan Economic Resilience and Sustainable Growth

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The Himalayan region is one of the few places on Earth that combines extreme geography, remote living, and the effects of climate change to cause severe economic hardship. This research examines how the development of digital financial systems—or FinTech ecosystems—can help these mountain economies become more resilient and sustainable. Rather than focusing on technology as a single tool, this research sees the complete support system that can aid mountain communities to counteract isolation and financial poverty. By drawing on a host of academic papers, policy reports, and global development data, the research constructs an innovative approach to mountain finance. The findings suggest means such as mobile banking, digital payment apps, and new ways to measure credit can provide people in remote corners of the world with access to money they never had. These mechanisms do much more than shuffle money around: They help families survive natural disasters, provide financing for local businesses, and link small mountain economies to the rest of the world. There have been several great talking points this study has highlighted, but the greatest contribution is changing the discussion from plaguing urban-centered banking and solidifying "the Highlands." This model guides government leaders and banks on how to design financial strategies that work in the thin air and rough terrain of the Himalayas. Though the research is built on theories that need to be proved out in the field, it lays before us a new and promising vision of how digital finance can help mountain people prosper in times of change.

Keywords: FinTech; Ecosystems; Resilience; Digital Finance; and ‘the Highlands’

From Price Premiums to Stagnation: Institutional Mimicry in Nepal's Coffee Value Chain

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Background: Nepali coffee sector presents a critical paradox: it achieves high export per unit values which indicates successful product upgrading in the global specialty coffee market, but despite that, it faces long term stagnation in terms of production and exports. Existing literature identifies constraints but fails to explain the systemic disconnect between policy ambitions and ground level realities.

Objectives: This paper studies the “policy-practice decoupling” to understand the institutional misalignments, faced by the value chain actors, focusing on how those actors navigate the challenges created by the institutional void.

Methods: It adopts a qualitative case study approach, conducting in depth semi structured interviews with key stakeholders across the value chain (N = 8), triangulating it with grey literature. Data was analysed using abductive coding and thematic analysis approach.

Results: Findings suggest that the sector belongs to “captive” governance structure where the most value is captured at the top of the chain, due to lower supplier capabilities. “Isomorphic Mimicry” is identified as the core mechanism of failure where the state’s institutions adopt the form of modern support systems (policies, boards, strategies) to signal legitimacy while lacking to function and deliver regulatory and extension supports. Entrepreneurs navigate this void by adopting a “learning by doing” approach to make up for functional upgrading that the state fails to deliver.

Conclusions: Without transformation in institutional capacity, the market-based upgrading cannot drive sectoral growth in landlocked LDCs like Nepal. This paper recommends: Nepal Tea and Coffee Development Board to become more than a passive institution, facilitate research and extension services, strengthening cooperation to build supplier capability, and issuance of “Women in Coffee” certification to align social equity with market competitiveness.

Keywords: Specialty Coffee, Global Value Chains, Isomorphic Mimicry, Institutional Void.

From Tradition to Aspiration: Investigating the Socioeconomic Consequences of Luxury Consumption in Rural Nepal

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This study critically examines the socio-economic and environmental impacts of luxury management on grassroots communities in Koshi Province, Nepal. As luxury markets rapidly expand beyond urban hubs into provincial economies, they threaten to dismantle the traditional cyclical systems of agriculture, small trade, and artisanal production that sustain rural livelihoods. Based on a mixed-methods approach involving 1,000 respondents across urban and rural sectors, the findings reveal that luxury consumption disproportionately benefits urban elites while exacerbating economic inequalities, displacing local industries, and disrupting intergenerational labor continuity. The research highlights rising youth migration, cultural disintegration, and increased environmental degradation tied to luxury-driven consumer behavior. This article argues that in the absence of inclusive policies and ethical market regulation, luxury management becomes a regressive force—deepening structural disparities and undermining sustainable development goals. The study concludes with strategic recommendations for integrating luxury markets with grassroots economies through sustainable sourcing, localized value chains, and community-based innovation.

Keywords: Luxury management, grassroots economy, Koshi Province, Nepal, cyclical economy, inequality, sustainability, rural development

Global Capital Market Reactions to Protectionist Shocks: A Cross-Country Analysis of the 2025 U.S. Reciprocal Tariffs

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This research aims to empirically assess the global capital market response to the 2025 U.S. Reciprocal Tariff Policy announcement, focusing on both short-term shocks and cross-sectional market heterogeneity. The study investigates whether the magnitude of the market reaction is influenced by structural economic factors like geographic location, income level, and trade dependency, or mediated by institutional and geopolitical alignments such as NATO membership, G20 status, and Free Trade Agreements (FTAs). Using a cross-country event study, daily index returns from 78 national stock markets are analyzed around the announcement using the Market Model to estimate Average and Cumulative Average Abnormal Returns (CAAR) over an 11-day window. The sample is stratified by economic status, trade dependency, and strategic alignments. Findings reveal a synchronized global decline with significant post-shock drift, with the greatest loss occurring in wealthy economies, G20 members, and NATO allies, rather than emerging markets. While FTAs provided temporary relief from anticipatory volatility, they did little to protect against the global systemic sell-off, suggesting that market integration exacerbated the shock. The study introduces the concept of a "Systemic Battleground" dynamic, showing that the deep integration of advanced economies paradoxically increases vulnerability, challenging the "flight-to-safety" narrative in global trade wars.

Keywords: Global Capital Markets, Protectionism, Reciprocal Tariffs, Event Study, Abnormal Returns

Green Human Resource Management Practice and Environmental Performance in Nepalese Five Star Hotels: Mediating Role of Green Organizational Culture

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This study attempts to examine the impact of Green Human Resource Management Practice (GHRMP) on Environmental Performance (EP) in Nepalese five-star hotels operating in Kathmandu Valley with mediating role of Green Organizational Culture (GOC). The data were collected from 355 respondents determined by using the formula of known population (3117) through 5-point Likert-scaled structure questionnaire. The proportionate convenience sampling method was employed to generate the data from the sample. Inferential statistics were applied to analyze the collected data by using SPSS for the calculation of correlation and regression to determine the relationship between human resource management practice and environmental performance in mediation of green organizational culture of the hotels. Results show all the GHRMPs attributes had found positive impact on Green Organizational Culture (GOC) and some components of Green Organizational Culture showed mediating role between GHRMPs and EP. The findings demonstrate GHRMPs could indirectly influence organizational environmental performance in association with GOC. Thus, Nepalese five-star hotels in Kathmandu Valley can improve their sustainability through strategies of providing training, commitment of top-level management, and stakeholder collaboration.

Keywords: green human resource management, environmental performance, organizational culture

Himalayan Horizon 2030: Fintech-Infused Green Finance Architectures for Climate-Resilient Eco-Development

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The Himalayas, the “Third Pole,” are facing huge challenges as glaciers melt at a breakneck pace, threatening the water supplies of almost two billion people and billions of dollars in flood damage. To address this, a new plan termed as “Himalayan Horizon 2030” has proposed leveraging high-end technology, including Blockchain, Satellite AI, and Digital currency, to establish a contemporary green finance system. The hope is to raise \$5 billion in climate financing for India, Nepal, and Bhutan by the end of the decade, with funds specifically designated to support remote mountain villages that lack good internet or banking services today. Analyzing recent developments and simulating the future, this Study reveals how Decentralized Sustainable Development (DSD) can help combat fraud while shielding local cooperatives from disasters and energizing economies via eco-friendly digital marketplaces. The study is the first to map out what mountainous regions could do financially to contribute toward global sustainability, offering government leaders a road map in shifting money from disaster relief into climate funds that prevent crises. These concepts still need to be proven in the real world over the next few years, but together they are turning a threat into an opportunity for the Himalayas to lead the way on green innovation.

Keywords: FinTech, Green Finance, Climate-resilience, Eco-development, Climate Finance.

Hostpreneurs' Challenges and Tourist Loyalty: The Mediating Role of Tourist Satisfaction

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This study aims to analyze the effect of hostpreneurs' challenges on tourist satisfaction and loyalty towards the various homestays. Another aim of this paper was to study the mediating role of tourist satisfaction between hostpreneurs' challenges and tourist loyalty through the proposed model. Data collection for the study is done by a questionnaire survey. Purposive sampling was used to choose the respondents and analysis of data was done through exploratory factor analysis, confirmatory factor analysis and structural equation model. The findings of the study suggest that internal challenges and external challenges are important elements of hostpreneurs' challenges which have a positive effect on tourist satisfaction and tourist loyalty. Additionally, it was also discovered that hostpreneurs' challenges have direct and indirect effects on tourist loyalty. Additionally, the findings of the study will also help different tourism participants to understand tourist behaviour for promoting homestay tourism. This will increase the number of tourism arrivals at homestays, thus directly boosting the local economy. For encouraging tourist arrivals at homestays, it is crucial to eradicate hostpreneurs' challenges and enhance the quality of the tourist experience. The results of this study can guide the development and evaluation of programmes for entrepreneurship education in the future.

Keywords: Hostpreneurs' Challenges, Tourist Satisfaction, Tourist Loyalty, Homestay Tourism, Tourist Experience.

Impact of Social Media on Student's Academic Performance: A Quantitative Analysis on Community Based Campus (SMC)

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Nepal has seen a very quick growth in internet in recent years. As a result, there is large and active number of social media users, particularly among students. Popular social networking platforms such as Facebook, Twitter, TikTok, and Instagram have become an integral part of students' daily lives. These platforms are changing their concentration from academic activities. Students spend significantly more time on social networking than on educational communication such as email or formal learning platforms. The study is based on a sample of 100 students of Sukuna Multiple Campus. This quantitative study analyzes social media's impact on academic performance of students using a structured questionnaire to measure usage patterns, gender, educational level, social influence, and GPA/study hours. Results show excessive daily use on platforms like TikTok and Instagram negatively correlating with academic performance, reducing study time and concentration of students. Regression analysis confirms social influence as a key predictor with males more hours/day and lower GPAs than of females. Moderate, academic-oriented use generated positive effects. Findings disclose unregulated social media as a barrier to profound learning and retention in community campuses. We conclude interventions like limited uses, peer awareness programs, use in educational communication and digital literacy are essential to reduce negative impacts and produce benefits for student success.

Keywords: Social Networking Platforms, Academic Performance, Social Media Impact, Quantitative Analysis, Educational Interventions

IndiGo – From Inception to Its Current State

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The example of IndiGo Airlines presents a strong ascending trend with its strategic brilliance and operational excellence and then a slow downtrend caused by a decline in the cultural situation, overload of workers, and the lack of trust of people. Previously being regarded as the most reliable and efficient airline in India, IndiGo grew at an exceptionally high rate with large fleet, low-cost operation, and strict implementation. Nevertheless, the stress inside the company started to emerge where employees complained of fatigue, unrealistic scheduling, poor communication channels and HR practices that were not commensurate to the size of operations. Manpower planning and safety preparedness weakness were further revealed by the implementation of stricter Flight Duty Time Limitations (FDTL), further straining operations. This case study investigates the origins of the problems at IndiGo and a systematic turnaround strategy is suggested on the premise of 5 pillars: Cultural Reset, Fair Compensation, Employee Fatigue & Duty Reforms, Operational Strengthening, and Passenger Trust Rebuilding. Focuses of the cultural reset include getting rid of the toxic leadership behaviours, enhancing communication norms, and empowering the employees through autonomy of HR systems and feedback channels. Fair pay is aimed at increasing staff salaries on the ground, compensating for extra work, and being open to career progression.

Keywords: Turnaround Strategy, Employee Fatigue, Airline Management, Work Culture, Operational Efficiency.

Influence of Socio-Cultural Factors on Employability Intentions among Female Students of Management in Nepal

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Employability and wider reach of management education have increased enrollment of female students in business programs in Nepal. Although female participation in professional role has increased in the later years, socio-cultural factors remain inherent in shaping career aspirations in Nepalese context. This paper attempts to examine the socio-cultural factors influencing employability intentions of female management students in Nepal. Guided by Social Cognitive Career theory (SCCT) a descriptive study was conducted among 162 female students studying management program in Bhadrapur region of Nepal. The response of students studying BBA, BBS and MBS were collected through structured questionnaire. SPSS is used for analyzing the collected data. Descriptive statistics are used to analyze respondents' demographic characteristics and Chi Square analysis is performed to examine the significant association of socio-cultural factors on career choice. Majority of students desired to work as employees after completing bachelor level education. Bank and financial institutions and government organizations were among the highly desired field for employment. Majority of female students opted to complete master's level as the highest level of educational achievement. Personal interest, salary, job security and work life balance were among the primary considerations when choosing employment. Parents, friends and teachers were significantly influential in the career choice of female students. The findings of the study offer important updates for higher education's service providers and policy makers to develop institutional support and educational competencies for promoting sustainable employment opportunities among female graduates.

Keywords: Higher Education, Career aspirations, Socio cultural, Educational competencies

Informality, Trust, and Perceived Naturalness in Shaping Purchase Intention toward Organic Products: A Systematic Review

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Organic purchase intention is shaped by informal market practices, weak certification, and reliance on trust and perceived naturalness, yet existing research largely reflects formal-market contexts. This proposed systematic review aims to critically examine how market informality, trust, and perceived naturalness influence consumers' purchase intention toward organic products in developing economic contexts. The absence of credible and universally trusted organic certification systems has significantly undermine institutional trust, compelling consumers to rely on alternative cues such as seller reputation, personal relationships, word-of-mouth, and perceived naturalness when forming purchase intentions. The review integrates the Theory of Planned Behaviour to examine consumer attitudes and intentions, Institutional Trust Theory to assess trust in contexts of weak regulation, Cue Utilization Theory to explore the influence of perceived naturalness, and Institutional Void Theory to explain consumer behaviour in informal market environments. Guided by PRISMA guidelines, the study intends to synthesize peer-reviewed empirical literature published between 2010 and 2025 sourced from Scopus, Web of Science, Google Scholar, DOAJ, and relevant regional journal databases. The study offers important implications for policymakers, marketers, and sustainability practitioners. Policymakers are guided to strengthen certification systems, regulatory enforcement, and consumer awareness, while marketers can leverage trust-based communication and ethical branding in informal markets. Also, promoting sustainable consumption requires enhancing institutional credibility and increasing consumer awareness and education regarding authentic organic products.

Keywords: consumer attitudes, informal market, trust-based communication

Innovation for Sustainable Transport: A Quantitative Analysis of Consumer Buying Behavior towards Electric Vehicles

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The global transport sector is shifting toward sustainable alternatives, with electric vehicles (EVs) emerging as a key solution to reduce emissions, fuel costs, and energy dependence. In Nepal, government support through reduced import taxes, subsidies, and charging infrastructure has encouraged EV adoption; however, uptake remains slow in emerging urban areas such as Itahari due to limited infrastructure, high purchase costs, and low consumer awareness. This study investigates the factors influencing consumer buying behavior toward EVs in Itahari Metropolitan City, drawing on the Theory of Planned Behavior (TPB) and Innovation Diffusion Theory (IDT). Using a quantitative design, data were collected from 63 respondents through structured questionnaires and analyzed using descriptive and analytical statistical techniques in SPSS. The findings indicate that price sensitivity, availability of charging stations, and environmental concerns significantly shape consumer attitudes, while financial barriers and inadequate infrastructure continue to hinder adoption. Results show that positive attitudes—particularly when EVs are perceived as affordable, practical, and sustainable—strongly mediate purchase intentions. This study contributes valuable insights for policymakers, urban planners, and manufacturers, emphasizing the need for awareness campaigns, improved charging infrastructure, and financial incentives to accelerate EV adoption in urban Nepal.

Keywords: Consumer, Behavior, Electric Vehicles, Attitude

Kautilya's Arthashastra: An Oriental Model of Sustainable Development

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This study highlights key approaches of Kautilya in terms of economic growth, social welfare, ethical governance and environmental stewardship and aligns with contemporary concept of balanced development which emerges broadly after Brundtland Commission. The study adopts qualitative and interpretative research methodology. Primary data is drawn from translated versions of Kautilya's Arthashastra, while secondary sources include scholarly articles, books, and contemporary studies on sustainable development and ancient Indian economic thought. A textual analysis method is employed to identify themes related to resource management, welfare economics, taxation, environmental protection, and ethical governance. A comparative approach is also used to examine parallels between Kautilya's ideas and modern sustainable development principles. The study finds that the Arthashastra incorporates key elements of sustainable development such as responsible use of natural resources, regulation of forests and wildlife, equitable taxation, welfare measures for vulnerable sections, and long-term economic planning. Kautilya emphasizes that the prosperity of the state depends on the well-being of its people and the protection of natural resources. The text also highlights accountability in governance and the prevention of corruption, which are crucial for sustainable growth. The research concludes that Kautilya's Arthashastra presents a well-defined oriental model of sustainable development rooted in ethical governance, inclusive growth and socio-ecological balance. Its principles transcend time and offer valuable insights for contemporary policymakers seeking inclusive and sustainable economic models. Reviving and integrating such indigenous knowledge systems can contribute meaningfully to modern development discourse and promote a more balanced and humane approach to progress.

Keywords: Oriental, ethical governance, inclusive growth

Management Accounting Practices and Their Impact on Organizational Performance of Commercial Banks in Nepal: Evidence from the Post-Merger Era

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Management accounting has become an increasingly important strategic tool for commercial banks in Nepal as they adjust to a more competitive and consolidated banking environment. Structural reforms initiated by Nepal Rastra Bank, particularly merger and acquisition policies, have significantly reshaped the sector. By mid-2025, the number of 'A' class commercial banks declined from 27 to 20, resulting in larger institutions with expanded branch networks and stronger capital bases. This study examines the role of management accounting practices (MAPs) in supporting the performance of these consolidated banks. A descriptive research design was adopted to assess the current application of MAPs in Nepalese commercial banks. The target population comprised all 20 commercial banks operating across the country, while the sample focused on eight selected banks. Primary data were collected from 30 respondents representing top, middle, and lower management levels using structured questionnaires. The data were analyzed quantitatively using SPSS 25.0, and findings were presented through tables and figures. The results indicate that management accounting in Nepalese banks has moved beyond traditional record-keeping and now plays a central role in strategic planning and operational control. Among the practices examined, information for decision-making emerged as the most extensively used, particularly in managing post-merger complexities. Budgeting, performance evaluation, and costing and controlling were also found to be critical, with growing interest in advanced techniques such as Activity-Based Costing. The study recommends strengthening internal reporting systems and promoting a data-driven managerial culture to enhance long-term competitiveness.

Keywords: Structural reforms, operational control, Activity-Based Costing

Managing Eye Care Delivery: Lessons from Primary Eye Care Centers in Nepal

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Background: Primary Eye Care Centers (PECCs) were started to offer affordable and convenient eye care services community-wide. The proposed research set out to evaluate the use of the services of the chosen PECCs in Eastern Nepal and to determine the customer satisfaction levels and determinants of service provision.

Methods: The study design used was mixed-method research. Service utilization and satisfaction were measured by use of 163 client exit interviews which were used to gather quantitative data. The qualitative data was collected based on 69 in-depth interviews (IDIs) with key informants to investigate the obstacles and supports of service delivery. Descriptive statistics were used in the analysis of quantitative data, whilst thematic analysis was used in the analysis of qualitative data.

Findings: Out of 163 clients, 87.1% expressed their general satisfaction with the PECC services. Most of the service users availed primary eye and ear care. The issues were reported to be shortage of modern equipment, lack of space, no insurance cover, lack of transport facilities, high expense of spectacles, use of personal providers and poor coordination with local governmental entities. Irrespective of these hindrances, services were affordable and geographically reachable, which helped in preventing and treating ocular issues in early stages.

Conclusion: In Eastern Nepal, the use of services in PECCs was generally high, although most clients were satisfied. Nevertheless, there is still significant room for improvement. The infrastructure improvement, the development of diagnostic and treatment centers, the increase in the insurance rate and the arrangement of regular outreach and screening programs might help to achieve considerable service efficiency and the ability to access the community.

Keywords: Primary Eye care centers, service utilization, client satisfaction, community health

Mapping the Emotional Intelligence on Idealized Impact Attribute of Transformational Leadership

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This paper is based on bibliometric analysis to propose comprehensive thoughts of the con-current research context in emotional intelligence and idealized impact attribute along with the dataset of 229 research articles from scopus database comprising time frame of one decade from 2015 to 2025. The aim of this paper is to analyze the conceptual framework concerning the issue of emotional intelligence and idealized impact attributes. The study presents the significant growth in this research domain with 21.2% annual growth rate. Major findings disclose that American, European and some Asian countries are fundamental contributors to this research dimensions, consisting of international collaboration between authors, organizations and countries to enhance the impact of research. This bibliometric analysis focuses the emotional intelligence and idealized impact attribute of transformational leadership as a central theme. It is very contemporary topic to overcome some emerging issues such as emotional intelligence, idealized impact attribute, transformational leadership, leadership style and green leadership. By analyzing existing trends, this paper provides scopes to future research based on multidisciplinary and collaborative work and the findings will support to develop policies in related fields.

Keywords: bibliometric analysis, emotional intelligence, idealized impact attribute, international collaboration.

Navigating Economic Resilience: Fundamental Determinants of Stock Prices in Nepal's Manufacturing Sector and Pathways to Sustainable Development

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As Nepal seeks to "Envision the Himalayan Future," the stability and growth of its industrial sector serve as critical drivers for regional sustainability and economic development. This study investigates the firm-specific fundamental determinants of Market Price per Share within the manufacturing sector of the Nepal Stock Exchange, focusing on blue-chip entities: Unilever Nepal Ltd. and Bottlers Nepal (Terai) Ltd. Utilizing secondary data from fiscal years 2076/77 to 2081/82, the research evaluates the impact of Earnings per Share (EPS), Dividend per Share, Dividend Yield, Return on Assets, and Return on Equity on stock price movements. Through descriptive statistics, correlation analysis, and multiple regression, the study establishes how profitability and dividend policies signal the health of manufacturing firms—a sector vital for local employment and resource management in the Himalayas. By identifying these valuation dynamics, the research provides a roadmap for investors and policymakers to foster a more transparent, efficient, and resilient capital market. Ultimately, the findings suggest that robust financial fundamentals are essential for attracting the long-term investment needed to fuel sustainable industrial pathways in Nepal's emerging economy.

Keywords: Himalayan Development, NEPSE, Stock Price Determinants, Manufacturing Sector, Financial Sustainability

Challenges and Opportunities in Implementing Fiscal Federalism: A Case Study of Nepal's Local Governance

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Federalism enables power-sharing between central and regional administrations, with fiscal federalism focusing on resource allocation to improve governance. Nepal's 2015 Constitution established a federal system emphasizing decentralization and participatory governance. Despite advancements like Performance-Based Grant Systems, challenges in resource allocation, infrastructure, and coordination persist. This study explored fiscal federalism's challenges and opportunities to enhance governance and equitable development in Nepal. Using a descriptive cross-sectional design, data were collected from 384 local government officials involved in fiscal policy and management in Nepal. Data analysis performed using SPSS version 20. The results highlight significant challenges, including insufficient funding (89.3%), political interference (89.6%), and lack of clear guidelines (85.9%). Opportunities identified include improved local economic growth (mean = 4.74), public service delivery (mean = 4.20), and accountability (mean = 4.17). However, the implementation of fiscal federalism is hindered by issues such as political instability (mean = 4.10) and resource allocation challenges (mean = 3.68). Despite these obstacles, respondents largely agree that fiscal federalism has contributed positively to local governance, with 94.3% agreeing that it has improved governance and 96% noting increased public participation. The study concludes that while fiscal federalism has shown promise in enhancing local autonomy and service delivery, addressing funding shortages, capacity deficits, and coordination challenges is crucial for maximizing its potential to foster equitable development and improve the quality of life in Nepal.

Keywords: participatory governance, political instability, coordination challenges

Pathways to Sustainability in Jhapa's Tea Industry: Livelihoods, Ecology, and Climate Resilience in the Eastern Himalayan Foothills

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This research explores sustainability practices within Jhapa's tea sector, a key agro-economic region in Nepal's eastern Himalayan foothills. As a resident of Jhapa, my observations are informed by ongoing engagement with local tea communities and firsthand exposure to seasonal changes affecting tea cultivation. This preliminary study draws from visits to tea states in Birtamod, Bhadrapur, Mechinagar and Burne, where conversation with workers revealed both challenges and local innovations. Using field visit and semi-structured interviews with tea garden workers, supervisors, and local managers, the study assesses current methods in water use, waste management, organic farming transition, and climate adaptation. Initial observations indicate increasing environmental awareness among stakeholders, yet gaps remain in practical implementation-especially in reducing plastic use and promoting chemical-free agriculture. The study also highlights gender-based differences in training opportunities and roles in decision-making. It posits that Jhapa's tea landscape reflects wider Himalayan sustainability dilemmas, requiring integrated approaches that support both community livelihoods and ecosystem health. The paper recommends policy interventions for organic certification, local waste management models, and inclusive skill development initiatives. Ultimately, this Jhapa-based case offers a grounded framework for sustainable agro-industry development in Himalayan and sub-Himalayan regions.

Keywords: Tea Sustainability, Jhapa, Livelihood, Climate Resilience, Organic farming, Himalayan foothills.

Perceptions of Women's Work and Sustainable Tourism Development in Nepal: The Mediating Role of Women Entrepreneurship

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The purpose of this research paper is to analyze the perceptions of women's work contribution to sustainable tourism development, with women entrepreneurship as a mediating variable, within the Annapurna Conservation Area and Khumbu region two areas that are known for their rich cultural heritage and potential for tourism. A descriptive and causal research design was used, with primary data collected from 394 women respondents who are currently involved in tourism-related activities within the study locations. Structured questionnaires and models were used to measure perceptions about women's work, women entrepreneurship, and sustainable tourism development. This study shows the importance of positive perceptions of women's work for sustainable tourism development. This research study found that the role of women entrepreneurs serves as a partial mediator in that positive perceptions of women's work support them in becoming entrepreneurs, which further support sustainable development of tourism through economic sustainability, innovation, and community wellbeing. This research study emphasizes role of women entrepreneurs in creating businesses, developing skills, and improving the quality of services, thereby contributing to positive sustainable tourism outcomes. As such, this study recommends the development of awareness programs aimed at improving perceived value of women's work, access to financial resources and entrepreneurial training for women, and the creation of gender sensitive tourism policies to develop inclusive and sustainable tourism within the region.

Keywords: women entrepreneurship, economic sustainability, entrepreneurial training

Persisting the Leakage: Scheming Robust Public-Private-Community Partnership (PPCP) Governance Models for Himalayan Tourism in Nepal

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The Himalayan region of Nepal is a tourism hotspot, which forms a key pillar in maintaining the livelihoods of the locals and contributing to the development of the region. However, the effects of tourism in many destinations are highly unequal, which can be explained by ineffective governance systems and the existence of economic leakage. Planning and investment are mostly made by government and other non-governmental organisations, whereas local communities are not involved in decision-making and on benefits sharing of the activity. Consequently, a significant share of tourism-based value is exported out of the local economies, creating issues of social equity and sustainability. This study focuses on governance structures as critical factors influencing such outcomes. It follows a model of public-private-community partnership (PPCP), making communities active agents of governance and not passive recipients. This study has a conceptual and qualitative research design, and it has conducted a systematic review of the scholarly literature, policies of the country, and governance structures that apply to Himalayan tourism. The chosen case studies of the Himalayan regions in Nepal, will be evaluated to determine how institutional coordination, power dynamics, and community involvement contribute to the distribution and leakage of tourism value. This study uses these findings to suggest a context-specific PPCP governance framework that can be applied to tourism sector in Nepal. This model outlines the institutional roles, decision-making processes, and benefit-sharing mechanisms that enhance the development of local enterprises and the retention of value among communities. This study also highlights the importance of adaptive governance, which reacts to ecological sensitivities and socio-cultural circumstances that are common in mountainous regions. As a result, this study contributes to the academic literature on inclusive tourism governance and enable fair and sustainable tourism development in the Himalayan region of Nepal.

Keywords: PPCP, benefit-sharing, ecological sensitivities

Possibility of Cultural Tourism and Its Impacts on Economic Growth in the Context of Kathmandu Valley, Nepal

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Nepal is a multicultural nation with a high possibility of cultural tourism. There are many cultural sites in Nepal. Kathmandu Valley is one of those that has a high possibility of cultural tourism. The study analyzes the possibility of cultural tourism and its impacts on economic growth in the context of the Kathmandu valley. The main objective of this study is to analyze the economic impacts of cultural tourism in terms of visiting historical and cultural monuments, promoting traditional food culture, traditional technologies, and other cultural products like dress patterns, rituals, and festivities. The study focuses on how these cultural activity phenomena and products help enhance the economic activities of the people living in the study area through cultural tourism. The study adopts a mixed-methods approach. Primary data are collected through household surveys, interviews with tourism entrepreneurs, and key informant interviews with local stakeholders. Secondary data are obtained from government reports, tourism statistics, and previous studies. Quantitative data are analyzed using descriptive statistics, while qualitative data are interpreted through thematic analysis. Cultural tourism enhances local employment opportunities, supports traditional occupations, and has an impact on handicrafts, hospitality, festivities, and transportation sectors. Unequal benefit distribution and seasonal dependency remain key challenges. Inclusive tourism policies should be developed to solve the challenges seen in the tourism sector. The study lies in its integration of economic analysis with cultural sustainability, providing localized empirical evidence to inform policy and community-based tourism planning in Kathmandu Valley.

Keywords: traditional food culture, economic growth, tourism policy

Revitalizing Udayapur Cement Industries Ltd.: Challenges, Opportunities, and Strategic Pathways for Sustainable Growth

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This study examines the underperformance of Udayapur Cement Industries Ltd. (UCIL), Nepal's largest state-owned cement manufacturing enterprise, and explores strategic avenues for its revival. Once a dominant player in the domestic market, UCIL's operational capacity has dwindled to approximately 30–35% of its installed capacity well below international standards of 80–90% and regional competitors operating at 70–80%. This research analyzes key challenges in production, logistics, and workforce management through a qualitative case study approach, drawing on managerial insights from a 30-month tenure and secondary data from industry reports, government statistics, and comparative analyses with private sector counterparts. Thematic analysis reveals systemic inefficiencies and contextual constraints contributing to underperformance. Findings indicate that aging machinery, frequent breakdowns, governance issues, inefficient labor practices, and substandard input quality specifically coal, gypsum, and iron ore have severely compromised productivity and product quality. Excessive labor costs, averaging NPR 100,000 per employee monthly five times higher than private sector norms have inflated production costs, resulting in losses exceeding NPR 360 million by FY 2020. Weak marketing efforts and dealer malpractice have further depressed sales, which have fallen to approximately 23,000 bags per day. The study recommends immediate interventions such as machinery replacement, upgrading and modernization, smooth raw material and quality control, workforce accountability, and marketing reforms. For sustainable growth, long-term strategies include fostering public-private partnerships (PPPs), establishing a 10,000 TPD plant leveraging Sindhali limestone reserves, adopting renewable energy solutions, and modernizing logistics. Implementing these integrated measures can restore UCIL's competitiveness, reduce dependence on clinker imports, and strengthen Nepal's cement industry.

Keywords: Capacity utilization, Operational challenges, Public-private partnerships, Workforce management, Sustainable development

Role of Fintech in Promoting Sustainable Development Goals (SDGs) in India

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Financial technology (Fintech) has emerged as a major driver of inclusive economic development and innovation. This paper analyses contribution of Fintech to achieving selected Sustainable Development Goals (SDGs) in India — notably SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 8 (Decent Work & Economic Growth), SDG 9 (Industry, Innovation & Infrastructure), SDG 10 (Reduced Inequalities), and SDG 13 (Climate Action). Using secondary sources (regulatory reports, industry analyses, academic literature and public datasets) and illustrative quantitative series, the paper maps Fintech mechanisms (payments rails, digital lending, micro-savings, insuretech, regtech, and green-fintech) to SDG outcomes, evaluates evidence of impact, highlights key barriers (digital exclusion, consumer risk, data governance, measurement gaps), and provides policy recommendations to scale benefits while mitigating harms. Findings indicate strong evidence that Fintech has accelerated financial inclusion and MSME access to credit in India; evidence for green/ climate outcomes is nascent; and measurable SDG gains require complementary public goods, standardized impact metrics and proportionate regulation.

Keywords: financial inclusion, digital payments, MSME finance, green fintech, policy.

SERVQUAL Model for Customer Satisfaction in Hotels in Jhapa, Nepal

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This study examines how hotel service quality affects customer satisfaction in Jhapa, Nepal, using the SERVQUAL model developed by Parasuraman, Zeithaml, and Berry. Service quality is evaluated through five dimensions such as tangibles, reliability, responsiveness, assurance, and empathy to understand which factors most strongly shape guest satisfaction and intention to revisit. A cross-sectional quantitative approach was used. Data were collected through a structured questionnaire measured on a seven-point Likert scale. The study covered guests linked with 17 hotels in major areas of Jhapa, including Birtamod, Charpane, Kakarvitta, Damak, and Mechinagar, for the period from 2081 to the end of 2082 (Mangsir). Respondents were selected using a sampling frame prepared from hotel guest register records that hotels agreed to disclose upon request. To improve reach, additional eligible respondents, mainly working professionals who reported staying in Jhapa hotels during the study period were contacted through professional networks. Data collection was conducted remotely, and the questionnaire was distributed through direct contact using WhatsApp and emails. Descriptive analysis was used to summarize perceptions of service quality, and inferential tests, including ANOVA and multiple regression, were applied to assess the effect of SERVQUAL dimensions on overall satisfaction. Results indicate that service quality significantly influences customer satisfaction. All five SERVQUAL dimensions contribute positively, with responsiveness showing the strongest effect, followed by tangibles and assurance. The findings suggest that faster service, well-maintained facilities, and professional staff conduct are central to improving guest satisfaction and supporting repeat visits in Jhapa's hotel sector.

Keywords: Sustainability of Hotel Business; Customer satisfaction; service quality; hospitality management; Jhapa; Nepal.

SMEs Sustainability in Kailali and Kanchanpur District of Nepal

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Small and Medium Enterprises (SMEs) play a vital role in employment generation, income creation, and regional economic development in Nepal, particularly in peripheral border regions. This study examines the determinants of SME sustainability in Kailali and Kanchanpur districts of Sudurpaschim Province. Using a quantitative research design, primary data were collected from 550 registered SMEs operating in the trade, manufacturing, and service sectors through a structured survey. Descriptive statistics and multiple regression analysis were employed to assess the influence of access to finance, managerial capability, market access, infrastructure, and government support on business sustainability. The results reveal that access to finance, managerial capability, and market access significantly contribute to SME sustainability, while inadequate infrastructure and limited effectiveness of government support remain critical challenges in border districts. The findings highlight the importance of integrated financial and digital literacy programs, improved access to suitable financing mechanisms, and targeted capacity-building initiatives tailored to the unique context of border-region SMEs. The study concludes that policy interventions must simultaneously address human capital development and structural constraints within the financial system to enhance the long-term sustainability of SMEs in peripheral regions of Nepal.

Keywords: SME sustainability, access to finance, managerial capability, market access, infrastructure, government support

Sustainability and Fast Fashion: Exploring Factors Influencing Consumer Behaviour Among Young Consumers in Nepal

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The rapid growth of fast fashion within the global fashion industry has significantly altered consumer consumption patterns, often at the expense of environmental sustainability and labor ethics. The garment industry continues to contribute to environmental degradation through excessive resource use, pollution, and textile waste, while prioritizing the mass production of low-cost, trend-driven clothing. In response, sustainable fashion practices such as thrifting, upcycling, and supporting eco-friendly brands have gained momentum, particularly among younger consumers. However, consumer perceptions and behaviors toward sustainable fashion in emerging markets like Nepal remain insufficiently explored. This study aims to examine the factors influencing the fast fashion consumption behavior of young Nepalese consumers from a sustainability perspective. It focuses on key psychological, social, and digital influences, including impulse buying, social media exposure, peer pressure, fear of missing out (FOMO), and perceived affordability. A descriptive quantitative research design was employed, using a structured questionnaire with a 5-point Likert scale to collect primary data from Nepali clothing consumers selected through convenience sampling. Secondary data were obtained from an extensive literature review. Descriptive statistical tools such as mean and standard deviation were used for analysis. The findings reveal a notable intention-behavior gap. Although young Nepalese consumers demonstrate positive attitudes and intentions toward sustainable fashion, their actual purchasing behavior remains dominated by fast fashion due to cost, availability, and trend accessibility. These insights can help policymakers, educators, and fashion brands promote responsible consumption and reduce environmental impact.

Keywords: fast fashion, consumer behavior, consumer perception, sustainability, sustainable fashion

The Influence of Green Culture on Organizational Performance in the Hotel Industry: A Survey in Nepal

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The exploration of how green culture influences organizational performance has become increasingly prominent in the present context of the hotel industry, particularly within developing nations. Acknowledging the pressing demands of this area, this study has investigated the contribution of green culture to the organizational performance of hotels in Nepal. It has examined both the mediating roles of green innovation, its competitive advantages, as well as the moderating roles of government in its regulation. This exploration led to a self-administered survey conducted among 223 hotel employees across Nepal while the proposed model was empirically tested using Structural Equation Modelling (SEM). The findings revealed that green culture exerts a strong and positive influence on organizational performance while both green innovation and competitive advantage demonstrated the direct effect as well as mediated their respective relationships. While adding to the growing body of knowledge on green culture within the hotel industry, it also highlights the importance of nurturing a green culture at the organizational level, especially in Nepal. Therefore, it addresses the existing empirical gaps based on the two relevant theories: Triple Bottom Line (TBL) theory and Resource-Based View (RBV) theory. Hence, the study highlights the need to cultivate a green culture at the organizational level, hence recommends regular employee training on sustainable practices and promotion of green innovation in collaboration with governmental sectors.

Keywords: Greenculture, GreenInnovation, Competitive Advantage, Government Regulation, Organizational Performance

**The Relationship Between Pro-Environment Behavior and Self-wellbeing:
A Survey of IT Students in Nepal**

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The climate crisis is a global threat. Pro-environment behavior (PEB) is crucial for mitigating this crisis and promoting positive well-being among students. Previous studies have shown that PEB positively influences self-well-being. Although a few studies have examined the relationship between PEB and self-well-being in developed countries, there is a lack of research on this relationship among students in developing countries. The main objective of this paper is to analyze the relationship between PEB and self-well-being among IT students in Kathmandu Valley and to examine the mediating effects of teacher influence on this relationship. A survey was conducted among 314 IT students in Kathmandu Valley. The results of SEM suggest that PEB significantly influences environmental well-being, and teachers partially mediate the effect of PEB on student well-being. These findings can be useful for IT institutions and teachers. Institutions may integrate green pedagogy to enhance student well-being, while teachers can strengthen their own PEB and support students in adopting pro-environment practices. The findings will also be valuable for policymakers, students, academic institutions, and researchers.

Keywords: mediating effects, IT students, green pedagogy

The Sikkim Model for Himalayan Sustainability: Historical Roots of Organic Farming, Eco-Tourism, and the Ethos of Hospitality

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As the problem of global warming is escalating, it is crucial to define sustainable environmental frameworks to preserve and sustain the Himalayan region. The concept of sustainable development in the context of the Himalayan region, mainly including India, Nepal, Bhutan, China and Pakistan, is a vital ecological concern. It is essential to integrate new approaches for the sustainability and development of the Himalayan region, and in this task, Sikkim, a small state of India, located in the Eastern Himalayas, plays a significant role by becoming the First Organic state of India in 2016, promoting the tourism industry of India by emphasising eco-tourism, hospitality and cleanliness. The state of Sikkim is also a great source of inspiration for environmental protection and cleanliness through its initiative to make the state free from plastic and strengthen cleanliness campaigns. The various communities of Sikkim, with their indigenous practices and traditional knowledge, have created unique and beautiful ways for the sustainable development of the Himalayas.

Keywords: ecological concern, organic, indigenous practices

Tourism Beyond Borders: Culture, Connection, Experience

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Building on a multidisciplinary qualitative methodology through description, ethnography, cultural analysis and inquiry, the research brings forth immersive narratives, rich inputs from travelers as well as the locals in a range of regionally diverse border areas. This study lays the groundwork for more nuanced calculations of the future effects of border tourism in a dissolute interlocked global context. This Chapter scrutinizes border tourism as a space of travel and cross-border encounters with diverse experiences and ways of life in the liminal region. It also explores and examines the transformative potentials of border tourism as a main site for human relations, travel, lived experience, and the cultural contact of interstitial subjectivity. Results unveil emerging forms of experience and cross-cultural insights that inform new understandings of space, tourism, and identity transcending political boundaries. It sets out to scrutinize the ways in which borderlands function as sites of both identity negotiation as well as intercultural exchange and tourism innovation in a globalized world. The proposed Framework provides policy-making ideas for tourism practitioners intending to encourage inclusive and sustainable tourism development in keeping with stimulating visitor attractions and communities. The novelty arises from combining critical cultural theory and experiential perspectives with emphasizing tourism's capacity to cross borders not only physically but culturally and socially. The significance is that the research advances border-based tourism scholarship by foregrounding people's actual experiences at the center of understanding inferences about cross-border cultural relations. Drawbacks are the generalizability limitations caused by qualitative emphasis and differences in different border contexts.

Keywords: Border tourism, Lived experience, Cultural Connections, Travel, and Experiential Tourism

Trail-Blazing Himalayan Horizons: Innovating Management Education and Research in Sustainable Futures

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Today, technology disruption and global uncertainty are affecting Management education and research worldwide and particularly in the Himalayan Kingdom of Nepal. This study aims to suggest new conceptual frame model for management education by incorporating sustainability-focused and future-oriented approaches rooted from global knowledge and indigenous Himalayan wisdom. For the study, the existing literature in the fields of management education, artificial intelligence-enabled learning, FinTech innovations and sustainable development are used. Using thematic analysis and critical synthesis, a conceptual framework is proposed; further the future scenarios in the field with specific relevance to Himalayan regions are examined. This study also proposes the "Himalayan Innovation Manifesto" a model for integrating sustainability technology, and ethics in management education. The findings of this study can guide the educators and policymakers in developing environmentally conscious leadership and strengthen regional resilience. The study also reveals that Nepal is emerging as significant contributor in the field of global sustainability and mountain-focused management education and research.

Keyword:indigenous, resilience, global sustainability

Understanding Green Entrepreneurship Barriers: A Case Study of Areca Leaf Plate Scaling Challenges in Jhapa, Nepal

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This case study explores why a profitable areca leaf plate manufacturer in Jhapa, Nepal, cannot scale up regardless of having a strong market demand and operational viability. The enterprise operates 22 hydraulic machines, producing 2,200 plates daily with 48% gross margins, yet remains locked at micro-scale, unable to export goods to foreign markets and expand its production capacity. Using qualitative single-case methodology with semi-structured interviews and framework analysis, primary data collected revealed six interconnected barriers creating a "scaling trap": (1) seasonal raw material availability limited to a 4-month only, forcing purchasing and storing of 280,000 leaves for whole year ; (2) working capital constraints from paying leaf collectors daily (NPR 1.4 million outflow) while customers delay payments beyond 90-day terms; (3) market segmentation problems locking the enterprise into low-margin local channels instead of premium export markets; (4) labor quality issues causing 10% production scrap; (5) limited government support despite plastic ban policies; and (6) infrastructure deficiencies including weekly power outages causing NPR 20,000-30,000 monthly revenue loss. These barriers are interconnected with each other—seasonal supply pressures trigger cash shortages, preventing infrastructure investments and perpetuating quality problems that block higher-margin markets. Operational profitability alone cannot make growth when systemic barriers interact. Policy interventions must address multiple issues simultaneously—seasonal working capital finance, shared infrastructure, technical training, institutional procurement mechanisms, and certification support—for green start-ups in mountainous regions to scale successfully. This research contributes actionable insights for policymakers supporting green entrepreneurship in Nepal's Himalayan context and similar developing economies.

Keywords: scaling trap, labor quality, operational profitability

Track: Science and Technology

AI-Powered Venomous Snake Identification, Rescue and Hospital Routing Assistant

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Snakebites are one of the severe but ignored public health concerns, especially for the people of Nepal's rural places, where knowledge about hospitals, rescuers, and emergency response information is not accessible. It has been estimated that approximately 138,000 people die from snakebites annually all around the globe. It's not only about medical concerns, but there is also a cultural or behavioral approach of people that must worry about. It is necessary to identify the type of snake species instantly after the bite to use the correct anti-venom to prevent fatalities. This paper highlights a tech-driven solution that bridges the gap between people to carry out educational campaigns, provide instant information and connectivity to people seeking help. It comes into view that highlights a practical online application that tackles one of the more urgent issues regarding Nepalese snake bites, as quick and accurate classification of a venomous species which can be a major treatment determinant and lifesaver. Utilizing an EfficientNetV2-S machine learning model that is trained on a dataset of 26 common Nepalese species of snakes, it helps via an online interface where users can place images that get instant classification based on common names, Nepalese names, venom toxicity levels, and ranges and habitats, all of which get high accuracy and classification ratings of above 90%. Geospatial functionality integrated system creates hospital routing through interactive online maps that identify nearby hospitals and rescue teams, automatically putting them on top of user preference as closest choices based on geolocation and Haversine distance algorithms.

Keywords: Snakebites, Anti-venom, EfficientNetV2-S, Hospital Routing, Haversine distance algorithms.

Antibiotic Resistance in Nepal: A One Health Perspective Linking Livestock, Wildlife, Environment, and Human Health

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Antibiotic resistance (AMR) is a major threat to public health, food safety, and biodiversity. In countries like Nepal, rapid growth in livestock and poultry farming, weak antimicrobial controls, greater contact between humans and wildlife, and poor environmental management have all contributed to the rise and spread of resistant microbes. Laboratory studies in Nepal, including research on *Salmonella enterica*, avian pathogenic *Escherichia coli*, *Staphylococcus aureus*, and other bacteria from poultry farms, dairy herds, retail meat, wildlife, and the environment, show that multidrug resistance and important resistance and virulence genes are widespread. Researchers carried out laboratory and surveillance studies across Nepal to examine antibiotic resistance using a One Health approach. The studies found connections between livestock production, food chains, wildlife health, and environmental pollution in shaping AMR. They used microbiological and molecular methods and examined key policy and management issues. The study suggests Nepal should adopt an integrated One Health AMR framework. It stresses the need for coordinated surveillance, stronger partnerships between universities and government, the inclusion of wildlife in planning, and better environmental management. Improving these efforts is crucial to stop Nepal from becoming a long-term source of antimicrobial resistance.

Keywords: Antibiotic resistance, One Health, food safety, environmental microbiology, AMR stewardship

Assessment of Nutrient Adequacy and Dietary Diversity of Mid-Day Meal in Public School at Barahakshetra Municipality

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The Mid-Day Meal program was launched by the Government of Nepal in 2008 A.D. to enhance children's nutritional status, reduce hunger, and improve school attendance. A cross-sectional study was conducted with 165 students aged 4-12 years to assess the nutrient adequacy and dietary diversity of the mid-day meal in three public schools at Barahakshetra municipality. Data were collected using pretested, structured and semi-structured questionnaires. Weighing method and food composition table were used to determine the amount and nutrient content of the School Meal Program (SMP). Food and Agriculture Organization Mean Dietary Diversity for Women (MDD-W), 2016 were used to obtain the dietary diversity score of SMP. Z-scores were generated using WHO Anthro plus (version 1.0.4). Statistical analyses such as Pearson's chi-square and binary logistic regression analysis were used to analyze and predict the factors associated with malnutrition, respectively. The study depicted the prevalence of thinness, stunting, and underweight. Among many factors for thinness, number of siblings (>2) [OR:5.369, 95% CI: 2.179 to 13.228], SMP protein intake below the Recommended Dietary Intake (RDA) [OR:2.186, 95% CI: 1.023 to 7.654], and SMP DDS (<4) [OR:1.543, 95% CI: 1.361 to 11.241] were significantly associated. Likewise, for underweight, male [OR:2.31, 95% CI: 1.072 to 5.282], and SMP protein intake (below RDA) (OR:3.239, 95% CI: 1.181 to 9.079) were significantly associated. It is, therefore, recommended to involve nutritional professionals to strengthen the dietary diversity and educate SMP cooks and teachers to improve the nutrition of the school children.

Keywords: Nutritional status, Nutrient adequacy, Dietary Diversity, School mid-day meal

Banana Stem Fiber Prevents Respiratory Infection as Bio face Mask

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Abstract: The face mask prepared from banana stem fiber are used to prevent respirator viral pathogens.¹ The outbreak of COVID 19 pandemic initiated the routine use of face masks as an essential tool for critical public health intervention. Respiratory viruses are responsible for several diseases such as common cold, influenza, pneumonia, and acute respiratory syndromes. Banana stem fibers extracted from banana peels can be used to produce face masks that help prevent transmission via respiratory droplets, aerosols, and close person-to-person contact. The fine nano bed of banana stem was prepared by simple chemical and mechanical treatment. The quality of the mask was tested with dust particles and NaCl. It revealed maximum dust particles and NaCl was adsorbed on the mask surface. The nanofiber has ranging 90-150 nm in size. This ecofriendly material can be reused several times and easily biodegradable when necessary. This study investigates the potential of renewable agricultural waste-derived nanofibers as an alternative to conventional synthetic mask materials. In addition, nanofibers derived from renewable plant sources enable climate-resilient solutions appropriate for environmentally sensitive mountain regions as well as the overall ecosystems.

Keywords: Banana face mask, ecofriendly material, nano material, respiratorydiseases

Building the Future of Manufacturing: Importance and Implementation of a Nepal-Centric Enterprise Resource Planning (ERP) Systems for the Garment Industry of Nepal

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Objectives: This research aims to evaluate the critical role of Enterprise Resource Planning (ERP) systems in enhancing the global competitiveness of Nepal's garment. The study specifically investigates the drivers for adoption—such as real-time inventory tracking and production chain visibility—and identifies the primary technical and organizational barriers to successful implementation in the Nepalese context. Our goal is to develop a localized ERP software specifically designed for the unique needs of Nepal's factories—helping them stay competitive by lowering production costs and improving delivery speed.

Research Design & Methods: We are not just building software in a vacuum. Our development process includes:

1. Field Visits: Studying actual factory floors in Nepal to understand "as-is" processes.
2. Gap Analysis: Identifying where international systems (like SAP) are too expensive or complex for local SMEs.
3. Prototyping: Testing specific modules like Production Planning, Production workflow and Inventory Tracking and management with local production heads.

Findings: We found that almost all Nepali factories are either unaware of digital tools like ERP systems, or if they are aware, they face major problems with high costs and data security concerns. Global ERP software often forces businesses to store their private information on overseas servers (in "the cloud") without a local option. Our newly developed software directly addresses these local challenges. Crucially, our software is designed to be affordable for local budgets and offers a local "on-premises" installation option, while still allowing convenient cloud access for managers on the go.

Implications & Recommendations: For Nepal to survive the 2026 LDC transition, factories must adopt digital tools. We are developing ERP focusing on affordability and offline-first capabilities to handle local internet and power challenges. We also urge the Garment Association of Nepal (GAN) to support "Made in Nepal" software initiatives to ensure local support and lower maintenance costs.

Contribution & Value Added: Our project is creating a "Digital Ecosystem for Nepal Garments." Unlike generic foreign software, our system includes modules for raw material import and custom duty calculation, export documentation required by Nepali customs, Inland Revenue Department (IRD) approved billing system and simplified interfaces for workers who may not be tech-savvy.

Keywords: Local ERP Development, Nepal Garment Export 2026, LDC Graduation, Textile Waste Reduction, Inventory Management IRD approved software.

**Climate Change Vulnerability and Autonomous Adaptation in Nepal's
Mid-Hills: Insights from the Mid-Hill Communities of Panchapuri,
Surkhet, Nepal**

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Mountain regions are recognized as highly vulnerable to climate change, yet community-level evidence of its impacts and responses remains sparse. This study employed a mixed-methods approach to analyze local perceptions of climate change impacts and document autonomous adaptation strategies. These qualitative perceptions were corroborated through a trend analysis of meteorological data (1993–2023), which quantified a significant increase in annual temperature and a decline in monsoon precipitation, with the most pronounced warming occurring in winter. The convergence of lived experience and empirical data provided robust evidence of a shifting local climate in Nepal's mid-hills. These changes had led to severe impacts on livelihoods, including water source depletion, prolonged droughts, floods, and increased crop failure and livestock forage loss due to pests and invasive species. In response, the community had adopted various adaptation strategies, such as changing cropping times and crop types, constructing check-dams, protecting water sources and forests, and implementing plantation programs. The study concluded that while local communities demonstrate significant resilience, their autonomous adaptation measures were often insufficient for long-term climate challenges. It emphasized the critical need for targeted institutional support, capacity-building programs, and the integration of local knowledge with modern scientific approaches through cooperation between government agencies, local bodies, and NGOs to develop effective and sustainable climate resilience strategies for the region.

Keywords:community-level evidence, monsoon precipitation, capacity-building, local knowledge

Consumers' Preference and Willingness to Pay for Nepalese Large Cardamom in the Global Market

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This paper examines the consumers' preference and willingness to pay Nepalese large cardamom in the global market. A total of 255 respondents were surveyed using structural questionnaire in KoBo Toolbox online survey during 2020. The Logit model was used for assessing factors determining consumers WTP and WTP regression was used to assess the monetary value of additional WTP price premium. Average age of the respondents was 29.2 years and 16.7 years of schooling. The average household size was 4.87 members. Two-third of respondents were male, and 39% respondent's occupations were service. About 92% respondents belonged to Asia whereas 38% from urban city origin. One-fourth of respondents had US\$ 5000 and above annual income. Consumers were willing to pay price premium of 34.56% for Nepalese large cardamom while about 33% additional WTP for organically certified once. About 40% of respondents showed willingness to pay for Nepalese large cardamom whereas 65% expressed their additional WTP on organic certified. Average price paid for large cardamoms was US\$ 19.6 per kg whereas the WTP additional amount for Nepalese large cardamom was US\$ 6.92 per kg and US\$ 6.6 per kg additional for organic certification once. Major determining factors on WTP of Nepalese large cardamom were preference based on color, size, household expenditure and knowledge. Additional WTP of Nepalese large cardamom price premium were determined by preference based on color, size and part of cardamom used. The results can significantly contribute to improving value added practices of Nepalese large cardamom based on consumers' preference.

Keywords: Willingness to pay; consumers' preference; large cardamom; global market

Effect of Different Concentration of Washing Treatment on Postharvest Quality of Mango

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The quality of mango fruit as influenced by washing treatment was done in farmer field of Kanchanrupa municipality, Saptari and laboratory work at National Citrus Research Program, Dhankuta from 16th June, 2024 to 25th June, 2024. The research was laid out in a completely randomized design with six treatments and four replications. The washing treatment done in field consists of (No washing, Normal tap water, Sodium chloride-1%, Potassium metabisulphite-1 %, Calcium hydroxide- 0.5 %, and Detergent-1%). The Physiochemical quality, peel colour, Shelf-life, Sap burn injury and physiological loss in weight (PLW) were studied. The highest total soluble solids (TSS) was obtained in No washing (19.44 ° Brix) and lowest in Calcium hydroxide (15.96 ° Brix) at seven days after harvesting. Similarly, the lowest titratable acidity of fruit was obtained in washing treatment No washing (0.23%) and highest in both Sodium chloride and Calcium hydroxide (0.35%). Among different washing treatments, the longest shelf-life of mango was obtained in Calcium hydroxide (7.7 days) washed fruits. The sap burn injury was recorded more in washing treatment No washing (3.15) and least in Calcium hydroxide (0.75). The PLW of fruit was observed lowest in Calcium hydroxide (6.53 %) treated fruit at seven days after harvesting. The peel value by Colorimeter with regard to L* was significant among washing treatments, whereas a* and b* values were not significant at seven days after harvesting. Overall, Calcium hydroxide can be used as best washing treatment for better post-harvest life of mango than rest of the treatments.

Keywords: mango,quality,washing chemicals

Efficacy of different insecticides against Okra Jassid (*Amrasca biguttula biguttula*) in Okra under Field Condition at Sunsari District, Nepal

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Okra (*Abelmoschus esculentus*) is one of the most important vegetable crops in Nepal from Malvaceae family, valued for its nutritional and economic significance. A field experiment was conducted from 5th February, 2025 to 10th July, 2025 in Inaruwa Municipality, Sunsari district, Nepal to evaluate the efficacy of seven treatments of insecticides; T1: Acephate 75 SP (292 g a.i/ha), T2: Acetamiprid 20 SP (40g a.i/ha), T3: Thiamethoxam 25 WG (25g a.i/ha), T4: Lambdacyhalothrin 5 EC (30g a.i/ha), T5: Chlorantraniliprole 18.5 SC (30g a.i/ha), T6: Emamectin benzoate 5 EC (50g a.i/ha), and T7: Control. The research was laid out in Randomized complete block design with three replications. The first spray was applied at 30 DAS, and subsequently two sprays were applied at 15-day intervals. Jassid population (upper, middle, lower leaves) was recorded before and after sprays (3rd, 5th, 7th day), leaf damage ratings were recorded weekly, and yield parameters were recorded at harvest. Results showed significant variations among treatments. Thiamethoxam 25 WG provided minimum Jassid population, minimum leaf damage, and maximum yield, followed by Chlorantraniliprole 18.5 SC. Acetamiprid 20 SP, Acephate 75 SP and Lambda-cyhalothrin 5 EC were moderately effective, while Emamectin benzoate 5 EC was least effective. The Control (no insecticidal) showed the highest pest infestation and lowest yield. Hence, Thiamethoxam 25 WG (25g a.i/ha) with two follow-up sprays at 15-day intervals is recommended for effective okra Jassid management and yield improvement under Sunsari agro-climatic conditions.

Key words: Insecticides, Jassid, okra, yield

GIS-Based Assessment of Flash Flood Hazard and Community Resilience in the Melamchi River Basin, Nepal Himalaya

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Flash floods are one of the most destructive natural hazards in mountainous regions due to their rapid onset, high velocities, and short warning time. Erratic rainfall, cloudbursts, landslide, and climate-induced hydrological variability are the prime factors to trigger flash floods in the Himalayan region. The Melamchi River Basin in central Nepal Himalaya has witness recurrent flash flood events, most notably the catastrophic 2021 flood. An integrated hazard assessment and resilience planning are needed to mitigate effect of such extreme events in future. The present study is GIS-based assessment of flash flood hazard and community resilience using a multi-criteria decision analysis (MCDA) approach. Key contributing factors such as slope, elevation, drainage density, flow accumulation, rainfall intensity, land use, land cover, and valley confinement were integrated using the Analytical Hierarchy Process (AHP). These factors are used to generate a flash flood susceptibility map in Melamchi River Basin. The resulting susceptibility maps were overlaid with settlement and infrastructure data to evaluate exposure and risk. Very high flash flood susceptibility zones are concentrated along narrow, steep river valleys and downstream confluences, where communities and vital infrastructure are vulnerable. The resilience assessment highlights the effectiveness of community-based early warning systems and local preparedness initiatives. The study also reveals a gap in structural mitigation and land-use regulation. It emphasizes importance of basin-scale flash flood zoning, nature-based solutions, and strengthened community resilience frameworks for disaster risk reduction in Himalayan region.

Keywords: Flash flood; GIS; Community resilience; Disaster risk reduction; Melamchi River Basin; Nepal Himalaya

Green Software Engineering: Designing Energy-Efficient Applications for Sustainable Development in Mountain Ecosystems

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Sustainable development in Himalayan regions requires approaches to development efforts that adequately respond to environmental sensitivity, limited energy resources, and infrastructural constraints. Increasingly, software systems are coming into play as part of essential governance, education, health, and other infrastructure services. Though it is intangible, software does significantly influence the consumption of energy through computation and storage of data and network communication. Therefore, inefficient design of software can contribute indirectly to increased energy use and environmental degradation. Green Software Engineering (GSE) brings sustainability as a first-class concern in software engineering by presenting energy-aware, resource usage-optimized, and environmentally responsible design practices. This paper discusses the importance of green software engineering for Himalayan regions and offers a conceptual framework specific to energy-constrained mountainous environments. It utilizes conceptual research methodology achieved through an extensive literature review of the works related to sustainable software development and best practice approaches. The framework shall merge energy-aware design, efficient development, optimized deployment, and continuous monitoring for every phase of a lifecycle. Practical application contexts were discussed from mobile applications and cloud-based public systems to demonstrate feasibility. Meantime, green software engineering can make an essential contribution to sustainable digital development in Himalayan regions through energy consumption decrease, better system reliability, and support of long-term environmental goals.

Key words: Green computing, software design, sustainability

Hallucination Benchmarking of Large Language Models for Climate and Disaster Knowledge in the Himalayan Region: A Nepal-Centric Dataset

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Large Language Models (LLMs) are increasingly being adopted for climate analysis, disaster risk communication, and policy decision support. However, their tendency to generate fluent but incorrect information, commonly referred to as hallucinations, poses serious risks in safety-critical domains such as climate change adaptation and disaster management. The current work presents a comprehensive hallucination benchmarking framework grounded in Nepal-specific climate and disaster knowledge from the Himalayan region. This paper introduces a curated, open-source benchmark dataset constructed from authoritative national policies, disaster assessment reports, standard operating procedures, and peer-reviewed scientific studies published between 2007 and 2024. The dataset contains 300+ question-answer pairs spanning floods, landslides, glacial lake outburst floods, climate trends, governance, and disaster risk reduction. The questions are deliberately designed to stress diverse failure modes of LLMs, including single-hop factual retrieval, multi-hop scientific reasoning, numerical precision, internally conflicting statistics, and explicitly unanswerable queries where source documents are silent. Using standardized prompts, multiple open-source LLMs are evaluated in a zero-shot and few-shot setting. Model responses are systematically compared against ground-truth references and labeled as factual, partially hallucinated, or fully hallucinated. To assess mitigation strategies, we then apply Retrieval-Augmented Generation (RAG) by grounding the models with a vector database built from verified source documents and re-evaluate hallucination rates under retrieval-enabled settings. By comparing hallucination behavior before and after grounding, this study provided quantitative evidence of improved factual reliability with retrieval-based methods. The proposed benchmark and evaluation pipeline offer a reproducible framework for assessing and improving the trustworthiness of LLMs in climate and disaster applications, particularly for data-scarce and high-risk regions such as Nepal.

Keywords: Retrieval-Augmented Generation (RAG); Climate Change; Disaster Risk Reduction; Himalayan Region; Trustworthy AI

How AI Fails: An Interactive Pedagogical Tool for Demonstrating Dialectal Bias in Automated Toxicity Models

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Now that AI-driven moderation has become pervasive in everyday life, we often hear claims that "the AI is biased". While this is often said jokingly, the light-hearted remark reflects a deeper concern. How can we be certain that an online post flagged as "inappropriate" was not simply the victim of a biased algorithm? This paper investigates this problem using a dual approach. First, I conduct a quantitative benchmark of a widely used toxicity model (unitary/toxic-bert) to measure performance disparity between text in African-American English (AAE) and Standard American English (SAE). The benchmark reveals a clear, systematic bias: on average, the model scores AAE text as 1.8 times more toxic and 8.8 times higher for "identity hate". Second, I introduce an interactive pedagogical tool that makes these abstract biases tangible. The tool's core mechanic, a user-controlled "sensitivity threshold," demonstrates that the biased score itself is not the only harm; instead, the more-concerning harm is the human-set, seemingly neutral policy that ultimately operationalizes discrimination. This work provides both statistical evidence of disparate impact and a public-facing tool designed to foster critical AI literacy.

Keywords: AI-driven moderation, quantitative benchmark, public-facing tool

Improvement of Nutritional and Physicochemical Properties of Blenderized tube Feeding Formulas of Hospitals in Kathmandu, Nepal

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Blenderized tube feeding (BTF) has gained popularity as an alternative to commercial enteral formulas, citing improved feeding tolerance, use of whole foods, oral intake, and cost-effectiveness. However, nutrient adequacy and feeding performance are major challenges that limit its wider application. This study aimed to assess and improve the nutritional and physicochemical properties of BTF formulas in hospitals in Kathmandu, Nepal. An online survey using a structured questionnaire was conducted among dietitians in 13 hospitals in Kathmandu to assess their enteral feeding practices and BTF formulas. Three common BTF formulas were selected, reproduced, and analyzed for nutritional composition and physicochemical properties, including viscosity, flow rate in a 14-French feeding tube, osmolality, and physical stability. The existing BTF formulas were improved by modifying their recipes using locally available ingredients at different proportions to achieve energy density of 1 kcal/mL; caloric distribution of 15–20% proteins, 30–35% fats, and 50–60% carbohydrates; flow rate of >7 mL/min; and osmolality of 300–600 mOsm/kg. Our survey depicted that BTF prepared in hospitals had issues with nutrient sufficiency and physicochemical properties. Five improved BTF formulas contained chickpea flour, wheat flour, rice, potatoes, and sugar as carbohydrate sources; eggs, skim milk powder, chicken breast, mung bean, lentils, and soy flour as protein sources; sunflower oil as a fat source; together with fruits and vegetables, namely bottle gourd, carrot, apple, pumpkin, and amaranth. All formulas exhibited 0.9–1.1 kcal/mL with caloric distribution of 13–17% protein, 30–35% fats, and 48–54% carbohydrates. Their viscosity, flow rate, and osmolality were 51.99–101.58 cP at 100 s^{-1} , 15.57–36.34 mL/min, and 328.22–549.33 mOsm/kg, respectively. All BTF were physically stable ($<10\%$ separation) after 24-hour refrigerated storage. Such improved nutritional quality, acceptable flow properties, and enhanced stability make the improved BTF more suitable for enteral administration.

Keywords: Blenderized feed, enteral feeding, hospital nutrition, formulation

Next Word Prediction in Nepali Language using LSTM Model

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Nepali language, with its rich linguistic diversity, presents unique challenges in natural language processing (NLP) tasks. Next-word prediction is a fundamental task in language modeling, essential for various applications such as completion and predictive typing. Despite advancements in machine learning, Nepali people lack robust next-word prediction models, relying on general-purpose models trained in English. This study aimed to predict the next word in Nepali language using LSTM model. Based on the evaluation metrics, the model exhibits solid performance in predicting the next word in Nepali text on training and analyzing the datasets. Predicting the next word in a sentence is a fundamental task in NLP, which enables applications such as text autocompletion, language modeling, and machine translation. This paper presents a method for next-word prediction in the Nepali language using Long Short-Term Memory (LSTM) model. LSTM, a type of Recurrent Neural Network (RNN), is well-suited for sequential data and captures long-range dependencies, making it ideal for language modeling tasks. In this study, we first preprocessed a large corpus of Nepali text data by tokenizing and encoding the words, followed by creating sequences of words to train the LSTM model. The model is then trained to predict the next word in a sequence given the previous words. It showed that the metrics accuracy, precision, F1 score, perplexity, recall and BLEU score fit the model. Our results show that the LSTM-based approach outperforms traditional methods in predicting the next word, with a significant improvement in accuracy and fluency of the generated text.

Keywords: LSTM, Nepali text, tokenizing, metrics, and NLP

Performance of Commercial biogas in achieving a sustainable Bio economy and Waste Management

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Large biogas plants address waste management challenges, supplement insufficient chemical fertilizers, cut carbon emissions, and decrease reliance on petroleum imports. This study assesses Nepal's commercial biogas plants' technical performance across input, transformation (anaerobic digestion), and output (product chain) through the organic waste management. It examines average biogas yield and economic viability. Field visits and in-depth discussions with plant managers were conducted based on modeled questionnaire. The provided information was grouped and thoroughly analyzed based on similar study on the topic through the available literature, articles, research papers, etc. The study identifies that a single biogas plant operating at full capacity on average can process around 40 tons per day of organic waste. However, inconsistent feedstock input is due to overestimating organic waste collection, leading to plants operating at 80% below capacity. Facilities lacked instruments for testing the parameters of feedstock like C:N ratio, pH, TS and VS of organic waste which are often unregulated and it heavily influenced the calculation of the results that followed in unrealistic technical outcomes. Upon financial analysis conducted on full capacity operation and sales, operation and investment in biogas plant looks feasible and sustainable. However, practically the biogas facilities operating in Nepal are suffering losses. The challenges in operation have arisen due to Covid-19 impacts and project delays, weak supply chains and market issues, leading to wastage of biogas and fertilizer. Stakeholders must address technical weaknesses, storage and upgradation of biogas within the standard, set legal frameworks, and conduct public awareness for a sustainable bio economy.

Keywords: Biogas, Anaerobic Digestion, Waste Management, Organic Fertilizer

Production, Marketing, and Orchard Age Structure of Mandarin (*Citrus reticulata* Blanco) in Madi, Sankhuwasabha, Nepal

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The study was conducted to assess the economics of production and marketing of Mandarin in Madi, Sankhuwasabha, Nepal, a mid-hill region with high potential for sustainable horticultural development in the Himalayan context. A field survey using a structured questionnaire with 125 households was done to collect primary information for the study of the cost of production and marketing channels. The secondary data regarding the cost of production, production strategy, and marketing system were reviewed from journals, Articles, Books, and newspapers. Data entry and analysis were done using Microsoft Excel and IBM SPSS Statistics 27. Socioeconomic and farm characteristics were described by using descriptive statistics. The average farm size of a household was 0.22 ha. Benefit-cost ratio, gross margin per hectare was found to be 1.37 and Rs. 157823.26, respectively. Identification of factors influencing mandarin productivity was done with the Cobb-Douglas production function, which estimated that major inputs like labour, manure, irrigation access, orchard age, and sapling type had a positive influence on mandarin output, which shows efficient input and orchard management for sustainable production. The producer's share was found to be 40.88%. The main reason for the increase in Mandarin cultivation area was due to market demand. The major marketing channel used was producers to middleman to wholesaler to retailer to consumer. The major challenge for cultivation was the irrigation facility, and in marketing was the lack of market information. Pre-harvest contract was used by 49% of farmers during marketing. The major factor affecting the price of Mandarin was quality. Thus, the result signifies that Mandarin farming is a profitable business with relatively low initial investment, with significant potential to enhance income, livelihood resilience, and sustainable agricultural development in the Himalayan regions of Nepal.

Keywords: Benefit cost ratio, Himalayan sustainability, Mandarin, Marketing, Production

Saving Himalayan Nature: Strong Plans for The Future

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Strong Plans for the Future. The Himalayas are home to many plants and animals. But climate change and human activities are harming this special nature. This paper explores ideas from books and studies to protect Himalayan biodiversity. The goal is to find simple ways for a green and safe future. We read and reviewed more than 250 recent articles and reports (from 2015 to 2025). These come from science journals and groups like ICIMOD in Nepal. We used easy tools to group ideas, draw maps, and build a new plan. We looked at topics like lost habitats, moving animals, and local people's knowledge. We found three main ideas: (1) special paths to connect nature areas; (2) ways to mix old wisdom with new tools; and (3) rules to help nature and people together. This paper shares a new idea called the Himalayan Biodiversity Resilience Framework (HBRF). It is a simple guide to make conservation strong. This can help Nepal's village forests, bring countries together, and support UN goals. Limits: We only used English papers, and our ideas need real tests later. What makes it new? HBRF mixes local stories with future planning. It gives a clear path to save the Himalayas for all.

Keywords: Himalayan nature, new plan, book review, safe paths, nature care.

Study of predictive data mining technique to predict students' performance

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The rapid growth of digital data in the education sector has created significant opportunities for applying data-driven decision-making approaches. Educational Data Mining (EDM), an emerging interdisciplinary field, focuses on extracting meaningful patterns from educational datasets to enhance academic planning, student support mechanisms, and institutional effectiveness. This study examines the application of predictive data mining technique to forecast students' academic performance, with a particular emphasis on grade prediction. Using secondary data obtained from online educational resources, the research explores existing predictive approaches and develops comparative predictive models to assess student performance outcomes. The methodology involves multiple stages, including data acquisition, data preprocessing, data mining, and knowledge discovery. Three predictive models were developed using different sets of variables to evaluate their effectiveness in predicting student grades. Model performance was assessed using statistical evaluation metrics such as the correlation coefficient, mean absolute error (MAE), and mean square error (MSE). Comparative analysis of the results revealed that Model I demonstrated the highest predictive accuracy, while Model III showed stronger correlations among the selected variables. Given the objective of accurately predicting student performance, predictive accuracy was prioritized over factors such as execution time and inter-variable relationships. The findings indicate that incorporating both qualitative and quantitative variables significantly enhances prediction accuracy in student performance models. The study highlights the practical relevance of EDM in identifying students at academic risk and supporting evidence-based academic interventions. The proposed predictive framework contributes to the growing body of EDM research and offers useful insights for educational institutions seeking to leverage data mining techniques for academic performance monitoring and improvement.

Keywords: Educational Data Mining; Student Performance Prediction; Academic Analytics; Data Mining Models; Higher Education Analytics

Track: Medical and Allied Sciences
A Comparative In-Vitro Quality Assessment of Different Brands of Paracetamol Tablets

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Background: Paracetamol, the most used analgesic and antipyretic medicines in Nepal as a OTC drugs. Many national and imported brands of paracetamol tablets are available. It is important to ensure that all marketed products meet established quality standards. Variations in formulation or manufacturing may affect the drugs quality which ensuring their quality for effectiveness and patientsafety.

Objectives: The study aimed to in-vitro quality assessment and pharmaceutical equivalence of different brands of paracetamol tablets and evaluate their compliance with pharmacopoeial quality parameters.

Materials and Methods: Different Ten brands of paracetamol tablets (Nepali and Indian manufacturer) were collected fromNepal and India. Tests were performed as per Pharmacopoeiastandard methods. The evaluated physico chemical parameters included weight variation, friability, hardness,disintegration time, assay and dissolution. Each test result was compared with itsstandard limits to assess overall product quality.

Results: All the brands comply with the required quality tests parameters. Weight variation and friability valuesfor every brand remained within acceptable limits, showing uniformity and adequatemechanical strength. Most tablets disintegrated within a few minutes, and all brandsmet assay requirements of 95–105% of labeled content. Dissolution results showedmore than the minimum required drug release, indicating a good predictedbioavailability.

Conclusion: Both national and Indian paracetamol tablet brands assessed in this study can meet withpharmacopoeial standards and can be considered safe and effective for therapeutic use.Regular post-marketing quality surveillanc is recommended to maintain consistent performance among various brands.

Keywords:Paracetamol, in-vitro quality assessment, Physico chemical parameters, pharmacopoeial standards

A Comparative Study of Cardiac Autonomic Dysfunction in Diabetic Highlander and Diabetic Lowlander Populations of Nepal Using Heart Rate Variability

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Background: Diabetes mellitus is commonly accompanied with cardiac autonomic dysfunction (CAD), which often elevates the risk of cardiovascular morbidity and mortality. High altitude dwellers exhibit physiological adaptations that may regulate autonomic function. The present study aims to compare cardiac autonomic function in diabetic highlanders versus diabetic lowlanders of Nepal using heart rate variability.

Methods: A cross-sectional study was performed on 128 diabetic subjects, including 64 native highlanders residing above 2500 meters (Phaplu, Solukhumbu district, Nepal) and 64 native lowlanders below 500 meters (Biratnagar, Morang District, Nepal). HRV was measured using standard electrocardiography (ECG) under baseline resting state. Time-domain (SDNN, RMSSD) and frequency-domain (LF, HF, LF/HF ratio) HRV indices were analyzed. Clinical variables including age, gender, duration of diabetes, and HbA1c were recorded and analyzed. Comparative statistical analysis was conducted using independent t-tests and Mann-Whitney U tests.

Results: In time-domain parameters, diabetic highlanders showed significantly higher SDNN (132.50[48.23-267.89]ms vs. 28.73[20.19-43.11]ms; $p<0.001$, $r=0.58$), RMSSD (132.50 [48.23-267.89]ms vs. 21.63[14.31-38.31]ms; $p<0.001$, $r=0.50$), NN50 (4.00[2.00-96.00] vs. 4.00[1.00-11.75]; $p<0.05$, $r=0.19$) and pNN50 (8.61[1.18-21.65] % vs. 1.12[.24-3.37] %; $p<0.001$, $r=0.45$) compared to lowlanders. Likewise, in frequency-domain analysis, as compared to lowlanders, diabetic highlanders revealed significantly increased HF power (1.12[.24-3.37] ms^2 vs. 1.12[.24-3.37] ms^2 ; $p<0.001$, $r=0.35$), increased Hfnu (72.02[47.51-81.93] vs. 46.36[22.72-53.25]; $p<0.001$, $r=0.46$), increased total power (874.88[558.88-2115.50] ms^2 vs. 574.98[230.64-1469.64] ms^2 ; $p<0.05$, $r=0.19$) lower LF/HF ratio (0.38[0.22-1.10] vs. 1.15[0.85-3.41]; $p<0.001$, $r=0.44$) and lower Lfnu (27.97[18.06-52.48] vs. 53.63[46.74-77.27]; $p<0.001$, $r=0.46$) demonstrating relatively better autonomic balance. Diabetic lowlanders revealed enhanced sympathetic dominance and reduced parasympathetic activity.

Conclusion: Diabetic highlanders exhibit relatively preserved cardiac autonomic balance compared to diabetic lowlanders, indicating that chronic exposure to high altitude influence diabetes-related autonomic dysfunction. These findings highlight the importance of considering geographical and environmental factors during management and risk assessment of diabetic individuals in Nepal.

Keywords: Cardiac autonomic dysfunction, Diabetes mellitus, Heart rate variability, Highlanders, Lowlanders, Nepal

Knowledge, Attitude and Practice Regarding Cervical Cancer Screening Among Married Women, Lalbandi, Sarlahi

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Cervical cancer continues to pose a significant public health challenge in Nepal, even though effective screening options are available. The uptake of cervical cancer screening among married women remains inadequate due to insufficient knowledge, prevailing misconceptions, and limited engagement in preventive health practices. This study was conducted to evaluate the level of knowledge, attitude, and practice related to cervical cancer screening among married women in Lalbandi Municipality, Sarlahi district. A descriptive cross-sectional research design was used, involving 116 married women aged 20–65 years selected through a multistage sampling procedure. Data were obtained through face-to-face interviews using a structured questionnaire. The collected data were coded and analyzed using Statistical Package for Social Sciences (SPSS) version 20, applying descriptive statistics such as frequency and percentage. The findings demonstrated that a substantial majority of respondents (83.6%) possessed poor knowledge regarding cervical cancer and its screening, while only a small proportion (16.4%) showed adequate knowledge. Despite this knowledge gap, most participants show a positive attitude toward cervical cancer screening and recognized its importance for women's health. In contrast, actual screening behavior was notably low, with only 17.2% of respondents reporting that they had ever-undergone cervical cancer screening, and a very limited number adhering to the recommended screening schedule. The most common reasons for not being screened included lack of symptoms (69.1%) and inadequate information about screening (28.9%). Encouragingly, nearly all respondents (99.1%) expressed their willingness to undergo cervical cancer screening in the future. This study concluded that although married women in Lalbandi Municipality demonstrate favorable attitudes toward cervical cancer screening, significant deficiencies in knowledge and screening practices persist. Addressing these gaps through community-based awareness initiatives, improved access to screening services, and stronger involvement of health workers is essential to enhance screening uptake and reduce the burden of cervical cancer.

Keywords: Cervical Cancer, Screening, Knowledge, Attitude, Practice, Married women.

An Assessment of the Impact of Faculty Development Programs on Nursing Education

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Faculty development is essential for improving teaching quality, curriculum effectiveness, and professional competence in nursing education, particularly in contexts facing workforce shortages, limited training opportunities, and resource constraints. This study aimed to assess the role of faculty development programs in enhancing nursing education in Nepal. A quantitative cross-sectional study was conducted among 422 bachelor-level nursing educators from purposively selected nursing colleges in Kathmandu Valley, Nepal, using a structured self-administered questionnaire. Participants were selected through simple random sampling of educators. Data were collected via Kobo Toolbox and analyzed using SPSS with descriptive statistics, chi-square tests, and logistic regression, with statistical significance set at $p < 0.05$. Findings showed that faculty development programs (FDPs) in nursing education were predominantly offered by private institutions (98.8%). Educators widely adopted learner-centered strategies, particularly community-based clinical practice (mean = 8.00) and simulation (mean = 7.63). FDPs significantly enhanced professional growth, especially leadership (mean = 8.14), mentoring (mean = 8.13), and clinical supervision (mean = 7.68). Strong positive correlations were found between FDPs and teaching strategies, curriculum development, leadership, and graduate attributes ($r = 0.83-0.93$, $p < 0.01$). Therefore, faculty development programs are essential for improving teaching quality and professional capacity in nursing education in Nepal. Sustained, contextually relevant FDPs are needed to strengthen faculty capacity and educational outcomes.

Keywords: professional competence, learner-centered strategies, teaching quality

Assessing the Effectiveness of Tb-Free Initiatives: The Journey to End TB in Nepal

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Background: Tuberculosis remains a major public health challenge in Nepal, in response; the Government of Nepal launched the TB-Free Palika initiative to accelerate progress toward the End TB Strategy by empowering local governments and communities. This study aimed to assess the effectiveness of the TB-Free Palika initiative in improving TB detection, treatment outcomes, and community engagement compared to non-TB-Free municipalities with assessing indicators and exploring the stakeholder's perceptions.

Methods: This research used convergent parallel mixed-methods combining quantitative data from eTB/DHIS2 from two municipalities and districts were analyzed over five-year period with key indicators included case notification rate, treatment success rate, defaulter and mortality rates and compare minimum service standards as well as activities of TB free initiative. Qualitative data were collected through interviews with stakeholders including health workers, managers, local leaders, TB coordinators, patients, and volunteers to explore perceptions, challenges, and recommendations for TB free.

Results: TB free municipality showed consistently higher TB case notification rates than non-initiative municipality and almost same treatment success rates. TB positivity and HIV testing, drug sensitivity test among TB patients also showed significant improvements. Better minimum service standards of DOTS and tuberculosis activities. Qualitative findings emphasized the importance of political commitment, community engagement, monitoring and supervision, patient centered care, awareness and sustainable funding. Despite these gains, challenges such as limited human resources, social stigma, treatment compliance, availability of diagnosis technology and difficulty in contact tracing were reported.

Conclusion: The TB-Free Palika initiative has demonstrated positive impacts on TB control indicators, supporting Nepal's End TB targets. Strengthening local health systems and ownership, community engagement, reducing stigma and ensuring multisectoral collaboration are crucial for sustaining and expanding the initiative nationwide.

Keywords: Tuberculosis, TB-Free Palika, Nepal, End TB Strategy, Mixed method.

Assessing the Impact of Breathing Techniques on Asthma Symptoms and Quality of Life

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Asthma, a chronic respiratory condition affecting 1%-18% of the global population, leads to significant morbidity, healthcare costs, and around 180,000 deaths annually. Despite advances in pharmacological treatments, many individuals still experience persistent symptoms, reducing their quality of life. This study aims to assess the impact of breathing techniques as adjunct therapy on asthma-related quality of life. A randomized controlled trial was conducted with 80 participants, divided into an intervention group (40) and a control group (40). The ACT and AQLQ were used to evaluate asthma control and quality of life. Following two weeks of training in diaphragmatic and pursed-lip breathing, data were analyzed using SPSS with paired and independent t-tests. Results showed a slight improvement in the intervention group, with AQLQ scores increasing from 3.25 to 3.36 ($p = 0.002$). However, the control group had better asthma-related quality of life, with higher mean AQLQ scores (3.60 vs. 3.13) and a stronger improvement in post-test scores. More participants in the control group reported minimal or no impairment. While breathing techniques slightly improved quality of life in the intervention group, they were less effective than the overall improvements in the control group. Further research is needed to evaluate the effectiveness of breathing techniques compared to other interventions.

Keywords: Asthma, Breathing technique, QoL

Assessment of Nursing Students' Palliative Care Knowledge and Attitude Towards Care of the Dying in Province 1, Nepal

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Introduction: Palliative care (PC) quality and attitude towards dying depend on how well nurses know about PC and how they feel about caring for dying patients. As future nurses, it is imperative that undergraduate students possess extensive knowledge about PC and deliver compassionate care to dying patients. The study aims to assess the palliative care knowledge and to find out the attitude of nursing students towards care of the dying.

Methods: Cross sectional research study and Census method, enumerator technique was employed among undergraduate nursing students studying last year from four colleges situated in Province 1. Ethical clearance was obtained from IRC-PUSHS. Out of 180 only 105 students participated. PCQN (Palliative Care Quiz for Nursing), and FATCOD (Frommelt Attitude Toward Care of the Dying) Scale was used. Chi square was used to find out the association between the students' characteristics, palliative care knowledge and attitude towards care of dying.

Results: Majority of respondents (78%) completed a formal course of PC and demonstrated inadequate knowledge (69.5%) on the PCQN, and significant proportion of students (69.5%) held negative attitudes towards Dying on FATCOD scale. No significant association is found between demographic characteristics, the level of palliative care knowledge and attitude towards care of dying. The observed frequencies reveal that a majority of respondents with a negative attitude had inadequate knowledge (67.1%), while a similar, although slightly higher, proportion of those with a positive attitude also had inadequate knowledge (74.3%) but no statistically significant evidence of an association between a nursing students' attitude towards palliative care and their level of knowledge on the subject among participants (p-value of 0.454.) was found.

Conclusions: Despite a high rate of formal palliative care education, the majority of participants demonstrated inadequate knowledge and held negative attitudes toward caring for the dying.

Keywords: Attitude, FATCOD, PCQN, Nursing Students

Assessment of Positive Mental Health Status and Its Associated Factors among Undergraduate Students of Purbanchal University

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Background: Mental health research often focuses on the disease or illness side of health disease spectrum, whereas this research focuses on health side of the spectrum. The healthy side of the mental health spectrum is referred as Positive Mental Health (PMH,) which can be categorized as flourishing, moderate and languishing state. This study aimed to assess the PMH status and its associated factors among undergraduates at Purbanchal University (PU), Nepal.

Methods: A descriptive cross-sectional study was conducted among 434 undergraduates, selected by using multistage sampling from the constituent colleges of PU. Self-administered structured questionnaire including validated Mental Health Continuum–Short Form (MHC-SF) was used. Descriptive statistics assessed the state of PMH, and multinomial logistic regression was applied to identify associated factors of PMH status.

Result: Among the 434 participants, the majority were female (57.14%), aged 21–25 years (63.6%) of Brahmin/Chhetri ethnicity (50.2%) and followers of the Hindu religion (90.3%) with the highest academic representation from the BALLB program (26.3%) and those receiving full scholarships (50%). One third of the participants were flourishing, the majority 57.6% had moderate mental health, and 5.8% were languishing. Although 61.8% of students possessed adequate PMH knowledge, only 40.3% reported high emotional well-being. The multinomial logistic model demonstrated high predictive power (Nagelkerke $R^2 = 0.80$), identifying monthly household income as a primary predictor of mental well-being. After adjusting age, ethnicity, religion, income and level of knowledge, students from middle-income households had significantly higher odds of flourishing (AOR=4.34; 95% CI: 1.46–12.76) and high-income students were 3.61 times (AOR = 3.61; 95% CI: 1.05–12.35) more likely to flourishing compare to low-income students. Although adequate PMH knowledge showed a positive trend toward flourishing (AOR=2.20) and moderate health (AOR=2.93) there is no statistical association.

Conclusion: The study highlights the need and adopting a positive mental health framework in universities, focusing on psychosocial support, mental health promotion, early identification of at risk students, and interventions to improve literacy and reduce financial stress.

Keywords: MHC-SF, Mental health literacy, Positive Mental Health, Undergraduate Student, PU, Nepal

Attitude towards Mental Health Problems among Adult Population in Sundarharaicha Municipality, Morang, Nepal: A Community Based Cross-Sectional Study

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Introduction: Mental health problems in a country like Nepal is associated with strong stigma. Several research in different countries including Nepal have shown unfavorable attitudes towards mental health problems which will often lead to delayed treatment from mental health professionals. The objectives of the study were to assess attitude towards mental health problems among adult population in Sundarharaicha Municipality.

Methods: A community based cross-sectional study was conducted between March 2023 to February 2024. Total number of 370 adult population participated in the study from two selected wards of Sundarharaicha Municipality. A valid tool Community Attitude Towards Mentally Illness-Short form (CAMI-SF) was used. The tool was translated into the Nepali language and was translated back to English by a blinded language expert. Data was collected by face-to-face interview method. Mannwhitney U Test and Kruskal Wallis Test was used. Ethical clearance was obtained from Purbanchal University School of Health Sciences-Institutional Review Committee (Ref No:013-079/80).

Results: Nearly two thirds (64.9%) of the respondents had good attitude towards mental health problems followed by 35.1% with poor attitude. There was a significant association of attitude towards mental health problems with marital status ($p=0.004$), education level ($p=0.006$), history of mental illness in family ($p=0.022$), respondent as caretaker of people with mental illness ($p=0.034$).

Conclusion and Recommendations: Majority of the respondents had good attitude towards mental health problems. Community attitude towards mental health problems varied with marital status, family history of mental illness, education level and respondents as caretaker of people with mental illness. Awareness programme for the community regarding mental health problems, community-based services for treatment of mental disorders are recommended.

Keywords: Adult Population, Attitude towards mental health problems, community-based services

Attitudes of Nurses towards Providing Care to LGBTQ Patients and Affecting Factors

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Background: Health disparities and unequal healthcare experiences persist among lesbian, gay, bisexual, transgender, and queer (LGBTQ) populations worldwide, primarily due to stigma, discrimination, and inadequate culturally competent healthcare. Nurses, as primary providers of patient care, play a vital role in influencing the quality of healthcare experiences and outcomes for LGBTQ patients. In Nepal, where discussions on sexuality remain culturally sensitive, nurses' personal beliefs, societal norms, and limited exposure to LGBTQ-related health issues may affect the quality of care provided, despite progressive legal recognition of LGBTQ rights.

Objectives: The study aimed to assess nurses' attitudes toward providing care to LGBTQ patients, identify psychosocial and demographic factors influencing these attitudes, and examine the relationship between nurses' attitudes, homophobic behavior, and the quality of care delivered to LGBTQ patients.

Methodology: A descriptive cross-sectional quantitative study was conducted by using Rensis Likert (1932) scale among nursing staff working in randomly selected 3 hospitals of Bhaktapur district, Nepal. All eligible nurses aged 18 to 60 years with at least six months of work experience were included using a census method with 372 (Madhyapur hospital-135, bhaktapur Hospital-110 and Bhaktapur Cancer Hospita-127). Data were collected by using (Rensis Likert-1932 scale) a structured self-administered questionnaire and analyzed using SPSS version 25. Descriptive statistics, correlation analysis, and multiple regression analysis were performed with a significance level set at $p < 0.05$.

Results: Male and female nurses aged 19 to 56 years participated in this study and most of them had 1-2 years of working experience. The findings revealed mixed attitudes among nurses, with a notable proportion expressing reluctance to provide care to LGBTQ patients, alongside moderate comfort with inclusive communication and awareness of LGBTQ-specific health needs. Majority of Respondents were willing to provide nursing care to LGBTQ patients. This finding suggests that respondents are willing to provide care, they may feel less confident or less familiar with LGBTQ-affirming communication practice such as asking about pronouns. Demographic factors explained a modest proportion of variance ($R^2 = 0.211$).

Conclusion: The study highlights that nurses' attitudes toward LGBTQ patient care are primarily influenced by psychosocial factors rather than demographic characteristics or knowledge alone. Targeted educational interventions, bias-reduction strategies, and enhanced cultural competency training are essential to promote inclusive, equitable, and patient-centered care for LGBTQ populations.

Keywords: psychosocial, inclusive communication, bias-reduction, cultural competency training

Awareness and Utilization of Family Planning Methods Among Married Women of Sundarhairaicha Municipality, Eastern Nepal

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Background: Family planning (FP) plays a vital role for improving reproductive health and reducing maternal and child mortality. In Nepal, despite national programs, disparities remain in awareness and utilization of family planning methods due to socio-cultural, educational, and access-related factors. This study aims to explore the awareness and utilization of family planning method among married women of Sundarhairaicha municipality located in eastern Nepal.

Methods: A descriptive cross-sectional study was conducted using 16 items structured questionnaires using systematic random sampling techniques in five randomly selected wards of the municipality. Descriptive statistics are used to summarize the findings. Association between predictor and outcome variables is analyzed using chi-square test. $P < 0.05$ was considered statistically significant.

Results: A total of 377 women with a mean age of 34.28 ± 6.49 years participated in the study. Overall, 292 (77.45%) respondents were aware of at least one family planning method, whereas only 145 (38.5%) had ever used contraceptives. Injectable contraceptives were the most utilized method (53.1%), followed by oral contraceptive pills (29%). A high rate of contraceptive discontinuation was observed (73.8%), primarily due to spousal separation and perceived side effects. Decision-making regarding contraceptive use was predominantly joint among married couples (78.62%). Although most participants recognized the importance of birth spacing for maternal and child health (98.4%), a substantial proportion expressed concerns about infertility (44.6%). Awareness of family planning methods was significantly associated with maternal education level and religion, while utilization was significantly associated with the number of children ($p < 0.05$).

Conclusion: Despite relatively high awareness of family planning methods, utilization among women in the study area remained suboptimal. Injectable contraceptives were predominantly used, with family planning decisions largely made jointly by couples. Education, religion, and number of children were key determinants of awareness and utilization. Misconceptions particularly, fears of infertility had negatively influenced attitudes, underscoring the need for targeted, context-specific interventions to promote informed contraceptive use.

Keywords: Decision-making, access-related factors, fears of infertility, context-specific interventions

Career Plans of Bachelor of Public Health Students in Nepal or Abroad and Influencing Factors: A Mix-Method Study

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Nepal has seen an increase in the number of its aspirational youth choosing to pursue their education overseas. However, some students also choose for higher education and career paths within Nepal. This study aims to assess the career plans of Bachelor of Public Health Students (BPH) in Nepal or abroad and identify the key factors influencing their decision. A concurrent mixed method includes structured online survey among 311 current BPH students followed by online in-depth video interviews among 10 purposively selected respondents was employed. Quantitative data were extracted and descriptive analysis was done. In-dept interviews were transcribed and thematic analysis was done manually. Out of 311 respondents selected from 1626 current BPH students in different Universities of Nepal, 78.8% were 20–25 years old, 55.9% female, 59.2% from +2 Science background, 50.2% in their third year and 52.4% had family members abroad. Of the total respondents, 54.7% planned to pursue careers abroad, while 45.3% intended to work in Nepal. Top three countries who intend to go are Australia (90%) followed by America (88%) and Canada (50%). Quality of education was the leading factor influencing career decisions (40.8%). Key reasons for going abroad included better career opportunities (94.1%), higher income potential (89.4%) and better-quality education (87.1%), along with pushing factor like limited opportunities (83.5%) and political instability (78.8%) in Nepal. The quantitative findings were supported by qualitative findings “working abroad is often viewed as a symbol of success and social prestige”. Among those choosing Nepal, staying close to family was important for almost all (92.9%), the government sector was preferred by 70.9% within the country. Participants expressed confidence that Nepal’s health system is expanding, and new job avenues are emerging and patriotism “beyond everything, county always come first”. About 42 % who intend to go abroad have also reported their plan to return to Nepal. This study concluded that students are motivated but uncertain about long-term opportunities in Nepal. Addressing the influencing factors and gaps can help build a stronger public health workforce and reduce the push toward migration.

Keywords: Public health students; career plans; migration intention; study abroad; employment opportunities

Detection of Adulterants in Spices Through Chemical and Spectroscopy Methods, Insilico Admet and Toxicity Study of Adulterants

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Food products like turmeric and chili powder are often adulterated with non-permitted colorants to enhance appearance. Metanil yellow, commonly used in turmeric, and Sudan III in chili powder, pose health risks. A study in Bharatpur, Chitwan analyzed five turmeric and five chilli powder samples using colour tests, chromatography, and UV spectroscopy. Results confirmed the presence of adulterants including Sudan III, rhodamine B, starch, metanil yellow, and lead, with chromatographic and spectroscopic analyses validating these findings. Cramer's and revised Cramer's rule show high class III toxic compound for Sudan III. No Gastrointestinal absorption and blood brain permeation by Sudan III and structural alert for genotoxic carcinogenicity was found.

As per limits of Food Safety and Standards Authority of India (FSSAI) and other food regulatory agencies, quantitative estimation should be done for further study, Insilico Admet study does not show gastrointestinal absorption and study accordingly done by Toxtree Cramer Rule confirm for genotoxic carcinogenicity

Keywords: adulterants, detection, food, Insilco

Detection of Intestinal Parasites in Fruits and Vegetables Sold in Different Street Vendors of Biratnagar

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Introduction:Vegetables and fruits contaminated with intestinal parasites are responsible for parasitic diseases in human beings. Consequences of parasitic infections include diarrhea, dysentery, anaemia, malnutrition, stunted growth, sterility, abortion and even death in vulnerable population like children, pregnant women, geriatric people and immunocompromised individuals. Most often green and leafy vegetables are consumed uncooked or measily cooked. Likelihood of consumers getting infected is often high if such vegetables and fruits contain parasites. Various studies throughout the world have documented possible presence of parasites in vegetables.

Objectives:To find out whether fruits and vegetables that are sold in open markets of Biratnagar contain parasites or not.

Methodology:This is a laboratory results-based study to find contamination of fruits and vegetables by protozoans and helminths. Total of 455 samples were analyzed microscopically for presence of parasitic ova, cysts and trophozoies.

Results:In this study, out of 65 parasites detected in 455 numbers of fruits and vegetables, none of the parasites were detected in apples but in contrast to this finding, 28% and 20% of cabbage and lady fingers respectively were contaminated with parasites. Immediate to this finding was the coriander in which 17% of coriander were found to have parasites. Only 8% of onions were contaminated with parasites All three, tomato, cucumber and grapes were equally contaminated, i.e. 6%. Finally, only 1% of guava, pears and pomegranate were found to have parasites.

Conclusion:Thus, the study reveals that vegetables and fruits from open air markets of Biratnagar are contaminated by parasites.

Keywords:Structured markets, open air markets, street vendor, intestinal parasites

Determinants of Antenatal Service Utilization in Nepal: A Narrative Review

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Background: Antenatal service utilization is a critical component of maternal health and plays a pivotal role in reducing maternal and neonatal mortality and morbidity worldwide. Although Nepal has made impressive progress in improving antenatal care utilization, significant disparities persist.

Objective: This narrative review aimed to systematically synthesize available evidence on the determinants of antenatal services utilization in Nepal.

Methods: A structured narrative review was conducted. Studies were retrieved using keywords antenatal services, determinants of health, factors associated, utilization, Nepal, from databases: PubMed, Google Scholar, CINAHL, and Research Rabbit. A total of 20 full-text original articles related to Nepal in the English language published from 2010 to 2025 were assessed and included in the review.

Results: There exist disparities in antenatal service utilization. The antenatal service utilization mainly consists of four antenatal visits varies widely, ranging from a minimum 19% in 2013 to a maximum 89% in 2024, which is in accordance with the national average. The evidence shows that the antenatal service utilization is shaped by a complex interplay of socio-demographic, socio-economic, contextual, individual, and informational factors. Key factors for service utilization were identified as maternal age, area of residence, family type, socio-economic status, maternal and paternal education, ethnicity, women's decision-making role, family support, maternal health literacy level, history of abortion, access to internet and mobile phones, and exposure to mass media.

Conclusion: Findings indicate that targeted equity-focused public health interventions focusing on education, mass media messaging, and family involvement are necessary to improve ANC utilization to reduce the burden of maternal and neonatal morbidity and mortality in Nepal. Multimedia-based health promotion for strengthening maternal health literacy is critical to achieving national safe motherhood goals and sustainable development goals.

Keywords: antenatal services, determinants of health, factors associated, utilization, Nepal.

Determinants of Health-Related Quality of Life among Pregnant Woman Attending OPD for Antenatal Checkup at Koshi Hospital, Biratnagar

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Background: Quality of life is significant in all stages of life, including within pregnancy. The hormonal, emotional, psychological, and physical factors specific to pregnancy can affect and threaten the quality of life of pregnant mothers.

Objective: The objective of the study is to find out the determinants of health-related quality of life of pregnant women attending in OPD for antenatal checkup at Koshi hospital.

Methods: A cross-sectional analytical study design was conducted among 220 pregnant women attending in OPD for antenatal checkup at Koshi hospital. A non-probability purposive sampling technique was used. A structured WHOQOL BREEF QOL tool was used to collect the data. Independent t-test was used to find out difference between domain scores as well as overall QOL score. The overall HRQOL mean was computed from four domains transformed score. Unadjusted and adjusted odds ratio were calculated to examine the determinants of HRQOL.

Results: Half (51.4%) of the pregnant women were perceived as good quality of their life (Mean \pm SD=3.5 \pm 0.86) and 58.2% were satisfied with their health (Mean \pm SD=3.6 \pm 0.85). Nearly half (45.5%) of the pregnant women have low level of HRQOL. Overall mean score of standardized HRQOL observed by pregnant women were 65.58 \pm 11.61. The mean scored was obtained highest in social relationship (68.46 \pm 15.89) and lowest in physical health (64.02 \pm 15.36). Education status of the spouse (AOR=2.273., 95% CI=1.076-4.799, p=0.031), and planned pregnancy (AOR=1.965 95% CI=1.049- 3.680, p=0.035) were significantly associated with overall HRQOL among pregnant women.

Conclusion: Nearly half of pregnant women have poor level of HRQOL. Intervention needs to improve physical health as well as attention must be given to pregnant women who had unplanned pregnancy especially those with less educated spouse.

Key words: Antenatal Checkup, Determinants, HRQOL, Pregnant Women, WHOQOL BREEF QOL

Effect of Integrative Naturopathic Intervention in Prostatomegaly Patient with Renal Dysfunction – A Case Study

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Introduction: The prostate is a male gland below the bladder that produces seminal fluid. Prostatomegaly or enlargement of prostate, common in middle-aged and elderly males, can cause lower urinary tract symptoms and, in severe cases, secondary renal impairment manifested by proteinuria. Standard treatment of prostatomegaly centers on drug therapy and surgery, while research on supportive naturopathic strategies is still minimal.

Objective: To assess the effect of integrative naturopathic intervention on prostate size and renal function in a patient with prostatomegaly and proteinuria.

Methodology: An 82-year-old male with hypertension, type 2 diabetes, and a history of open-heart surgery and cholecystectomy presented with two-year prostatomegaly and six-month proteinuria. He reported nocturia with incomplete bladder emptying, regular bowel habits, low fluid intake, and good appetite. Patient was initially evaluated based on history, physical examination, vital signs, laboratory reports and ultrasonography. Based on initial evaluation integrated naturopathic intervention was prescribed. He underwent a 73-day supervised naturopathic program at Bindhyabasini Nature Cure Hospital including dietary modification, exercise, manipulative therapy, hydrotherapy, poultice, and mud therapy. Post Intervention evaluation was done using the same methods and criteria in initial evaluation.

Results: Initial evaluation showed blood pressure 140/80 mmHg, pulse 69 bpm, serum creatinine 0.99 mg/dl, urine protein 3+, prostate volume 51g, and post-void residual urine 60 ml. post-intervention, blood pressure improved to 130/70 mmHg, serum creatinine to 0.7 mg/dl, urine protein to 1+, and prostate volume to 35.1g with post-void residual 77 ml, alongside subjective improvement in urinary symptoms. After 73 days, prostate volume decreased from 51 g to 35.1 g, urinary protein improved from +3 to +1, and ultrasonography confirmed reduced prostate size. The patient reported symptomatic relief, and no adverse events were observed.

Conclusion: The patient showed clinical and investigational improvement following naturopathic treatment. While limited by a single-case design, the findings suggest naturopathy may offer supportive benefits in prostatomegaly with renal involvement. Larger controlled studies are needed for confirmation.

Keywords: Integrative therapy, Prostatomegaly, Proteinuria, Naturopathy

Effectiveness of an Educational Intervention on Knowledge and Perception Regarding Dignified Menstruation among School Going Adolescent Boys in Sunwal Municipality, Nepal

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Menstrual discrimination remains widespread in Nepal, reinforced by social norms and the limited involvement of boys in menstrual education. While menstruation is a natural biological process, silence and misinformation among adolescent boys often contribute to teasing, exclusion and menstrual discriminatory practices. There is a clear need to develop and test an educational package. This study assessed the effectiveness of a school-based educational intervention in improving knowledge and perceptions regarding dignified menstruation among school-going adolescent boys in Sunwal Municipality. A pre-test post-test control group design was applied. Two schools from study areas were selected purposively and assigned to intervention and control. The study sample consisted of 50 students from Sakura School (intervention group) and 50 students from Lumbini School (control group). Pre and post-test intervention data were collected using a structured questionnaire assessing Knowledge and perception. The intervention group received expert validated and pre-tested modules on dignified menstruation. Difference in-difference analysis was done. The intervention and control groups were comparable across key socio-demographic characteristics, including age, family type, ethnicity, religion, and grade level. At baseline, knowledge gaps and negative perceptions were observed in both groups. Following the intervention, the intervention group showed a significant improvement in outcomes. The proportion of boys with a high level of knowledge (above 80%) increased from 0% on pre-test to 82% at post-test, while positive perception levels increased from 32% to 94%. Difference-in-difference analysis shows that intervention group showed a substantial increase in mean scores for both knowledge (≈ 4.4 points) and perception (≈ 14.1 points), whereas the control group demonstrated only negligible improvements (≈ 0.1 and ≈ 1.5 points, respectively). The study concludes that school based educational interventions are highly effective in improving boys' understanding of menstruation and fostering positive, supportive attitudes. These modules can be applied in similar settings in the future and integrated into academic programs.

Keywords: Dignified menstruation, Education intervention, School adolescent

Effectiveness of Education Intervention on Human Papillomavirus (HPV) Infections and Its Vaccination among Secondary-level Girls in Selected Schools of Dhankuta, Nepal

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Background: Human Papillomavirus (HPV) infection is a significant global health concern. High-risk HPV genotype is the primary causative factor for cervical cancer, which remains one of the leading causes of cancer-related morbidity and mortality among women. Educational interventions play a vital role in improving knowledge and shaping positive attitudes toward HPV infection prevention.

Objective: The study aimed to evaluate the effectiveness of educational intervention regarding HPV infection and attitudes towards its vaccination among secondary-level girls in selected schools of Dhankuta.

Method: A pre-experimental one-group pretest-posttest study was conducted among 184 secondary-level girls, with all eligible students from two selected schools of Dhankuta District. Baseline knowledge and attitudes were assessed using a pretested, self-administered questionnaire. An educational intervention was administered on HPV infection and its vaccination, and a posttest was done with the same instrument three months after the intervention. Data analysis was done using SPSS. Descriptive statistics and a paired t-test were used to determine the effectiveness of the intervention at $p < 0.05$.

Result: The study findings revealed that out of 184 respondents, only 26.1% of them had ever heard of HPV infection. Pre-intervention scores (mean=9.67, SD=3.01) significantly increased after the intervention (mean=15.08, SD=2.98) at $p < 0.001$. The respondents who strongly agreed to receive the HPV vaccination were increased from 56.7% to 83.2%.

Conclusion: The mean knowledge score of the respondents increased significantly after the educational intervention, indicating that the educational intervention was effective in improving knowledge about HPV infection and fostering positive attitudes towards HPV vaccination.

Keywords: Human Papillomavirus Infection, HPV Vaccine, Education Intervention, Secondary-level Girls

Effectiveness of Educational Intervention on Knowledge regarding Breast-Self Examination among Undergraduates

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Background: Breast cancer is still one of the top causes of cancer-related mortality among women globally, especially in low-resource areas like Nepal, where early detection methods are frequently missing. Breast self-examination (BSE) is a simple, low-cost procedure that, when performed correctly and regularly, can play an important role in early detection. However, BSE awareness and practice remain deprived among young women.

Objective: This study aimed to assess the effectiveness of an educational intervention in knowledge regarding breast self-examination among undergraduate students.

Methods: A pre-experimental one-group pretest-posttest design was conducted among 37 female undergraduate students of Purbanchal University School of Health Sciences. Data were collected using a semi-structured, self-administered questionnaire that assessed knowledge before and after the session. The educational package was developed through extensive literature review and expert guide consultation were done. To establish the intervention's significance, data were analyzed by descriptive statistics and paired t-tests.

Results: Prior to the intervention, all participants had inadequate awareness of BSE. Following the intervention, majority of the respondents (86.5%) displayed adequate knowledge, whereas 13.5% had moderate understanding. The mean knowledge score rose considerably from 45.75% (SD = 14.625) to 85.52% (SD = 9.142), with a p-value < 0.0001. Improvements were observed in all elements of BSE, including comprehension of proper timing, processes, and responses to irregularities.

Conclusion: The findings imply that a focused educational intervention can considerably improve young women's knowledge and awareness of BSE. Implementing such programs in academic settings could be a highly effective public health strategy for boosting early detection and decreasing breast cancer mortality.

Keywords: Breast Self-examination, Educational Intervention, Undergraduate Students.

Evaluating the effectiveness of Telehealth Services in Community Nursing Practice

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Telehealth, using digital platforms to provide remote healthcare, has the potential to address geographic and systemic barriers, especially in resource-constrained settings like Nepal. This quantitative study assessed the efficacy of telehealth in community-based nursing care in hospitals of Sudurpaschim Province, Nepal. A purposive sample of 422 outpatients aged over 18 years was surveyed using a structured questionnaire. Data were collected through face-to-face interviews, ensuring ethical approval, informed consent, and confidentiality. Responses were recorded via Kobo Toolbox and analyzed with SPSS using descriptive statistics, chi-square tests, and logistic regression, with significance set at $p < 0.05$. Most respondents were male (64%), aged 30–39 years (40.5%), from rural areas (88.9%), and 73.9% had smartphone or internet access. Awareness of telehealth was low, with 58.5% never having heard of it and only 34.6% correctly identifying it as health services via phone or internet. Utilization was minimal, mainly for health advice (11.6%) and prescription refills (4.0%), while preventive and specialized care were rarely used. Acceptance was motivated by convenience, time, and cost savings, but limited by poor connectivity, privacy concerns, and preference for in-person care. The findings highlight the need for targeted education, awareness programs, improved digital infrastructure, and governance to enhance telehealth utilization and integration into healthcare delivery.

Keywords: Community Nursing, Effectiveness, Telehealth

Evaluation of Curcumin Content in Rhizomes of *Curcuma Longa* from Different Altitudes of Eastern Nepal

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Curcuma longa (Turmeric) is an important medicinal plant which is widely used in traditional and modern medicine due to the presence of Curcumin. The major active constituents of *Curcuma longa* is Curcumin, which is well known for its hepatoprotective, antioxidant, anti-inflammatory, antimicrobial, and anticancer properties. The content of Curcumin in turmeric rhizomes determined by multiple environmental factors, including altitude, climate, and soil conditions. Therefore, this study aims to evaluate and compare the Curcumin content in rhizomes of *Curcuma longa* collected from different altitudes. Turmeric powder samples were collected from low (Morang), mid (Bhojpur), and high (Ilam) altitude locations. Curcumin was extracted using ethanol and water and quantitative estimation was carried out using UV-Visible spectrophotometry. The absorbance of the extracts was measured at a characteristic wavelength (424nm) of Curcumin, and the concentration was determined using a standard calibration curve prepared with standard Curcumin. The results showed a noticeable variation in Curcumin content among samples obtained from different altitudes. Powder collected from mid and high-altitude regions exhibited relatively higher Curcumin content compared to those from low altitude areas. These variations may be attributed to altitude-related environmental factors such as temperature fluctuations, light intensity, and stress conditions, which can influence secondary metabolite production in *C. longa*. The findings of this study suggest that altitude plays a significant role in determining Curcumin content in *Curcuma longa* rhizomes. This study provides valuable information for selecting suitable cultivation regions to enhance Curcumin yield and supports the use of UV-Visible spectrophotometry as a simple, cost-effective, and reliable method for Curcumin estimation.

Keywords: Curcumin, Altitude variation, UV-Visible spectrophotometry, Secondary metabolites

Examining Nursing Leadership and Its Role in Driving Quality Improvement among Nursing Students in Kathmandu Valley

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Quality improvement (QI) strengthens healthcare delivery, with nurses playing a central role in addressing practice gaps. In Nepal, workforce shortages and inconsistent nursing education limit students' readiness for QI, making leadership support essential. This study examined the influence of nursing leadership on nursing students' awareness, participation, and perceptions of QI initiatives in Kathmandu Valley. A descriptive cross-sectional study was conducted, with data collected from 422 students through stratified random sampling and analyzed using descriptive statistics in SPSS. Findings indicated that nursing students in Kathmandu Valley were highly engaged in QI initiatives, participating in projects (mean = 4.42, SD = 0.83), planning (mean = 4.01, SD = 0.83), and implementation (mean = 3.91, SD = 0.76). Leadership awareness and skills were moderate to high, despite limited formal training (mean = 2.99, SD = 1.29). Key challenges included workload (61.6%) and limited supervision (54.3%), while practical examples (64.7%) and instructor support (62.8%) facilitated sustained QI engagement. Incorporating structured leadership development and experiential QI training is essential to enhance nursing students' competence in leading and sustaining quality improvement initiatives.

Keywords: Nursing leadership, Students, Quality Improvement,

Experiences of Children Regarding Invasive/Painful Procedures Using the Draw, Write, and Tell (DWT) Technique: A Mixed Method Study

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Introduction: Pain during invasive procedures is a common yet often underreported experience in pediatric healthcare. This study employed the *Draw, Write, and Tell (DWT)* technique to amplify children's voices, exploring their emotional, cognitive, and sensory experiences of painful medical interventions in a hospital setting.

Objectives: The study aimed to: (1) Identify children's experiences of pain during invasive procedures (e.g., IV cannulation); (2) Document their coping strategies and support needs; and (3) Propose child-centered improvements for procedural care.

Methods: A mixed-method design was used with 15 children aged 7–11 years admitted to Koshi Hospital, Nepal. Qualitative data were collected via DWT (drawings, written narratives, and interviews), while quantitative data included socio-demographic variables (age, education, diagnosis). Thematic analysis was conducted for qualitative data; descriptive statistics summarized quantitative findings.

Results: Four themes emerged: 1. Emotional Responses: Fear and anxiety predominated, with 66.7% of drawings depicting needles as threatening. 2. Pain Perception: Younger children used metaphors (e.g., "bee sting"), while older children described intensity. 3. Coping Strategies: Distraction (40%), parental presence (55%), and nurse engagement (30%) were key supports. 4. Suggestions: Children recommended numbing creams, shorter wait times, and clearer explanations. Quantitatively, 60% of participants were in primary school, 53.3% had prior hospitalization, and pneumonia (26.7%) was the most common diagnosis.

Conclusions: The DWT technique effectively captured children's perspectives, revealing actionable insights for pediatric pain management. Empathetic communication, non-pharmacological interventions, and family involvement are critical to mitigating procedural distress. Future research should validate these findings in larger, multi-site studies.

Keywords: Emotions, Health Personnel, Nursing Care, Pain Management.

Factors Associated with the Development of Hypertension among Adult Patients attending Koshi Hospital of Biratnagar

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Background: Hypertension is a serious medical condition that significantly increases the risk of heart, kidney, brain, and other diseases. It is a silent killer disease and can also cause premature death. Therefore, it is now emerging as a significant global health challenge. This study aims to find factors associated with the development of hypertension among adult patients attending Koshi Hospital of Biratnagar, Morang.

Methods: A quantitative, descriptive cross-sectional study was conducted among 384 patients attending the medical OPD of Koshi Hospital, Biratnagar. Ethical approval was received from Purbanchal University PUSHS IRC. Informed consent was obtained from respondents. Non-probability Consequent Sampling technique was used. A semi-structured face-to-face interview schedule was used for data collection. Descriptive and inferential statistics were used for data analysis.

Results: Out of 384 patients, the mean age and standard deviation were 49.16 yrs and 6.904, respectively. The prevalence of hypertension was 10.9% among the study respondents. According to the results of the chi-square, age, religion, occupation, marital status, BMI, tobacco smoking, type of diet, excessive salt intake, mental stress/crisis, past medical history, and family history were statistically significant ($P < 0.05$) with hypertension among patients attending the OPD.

Conclusion and Recommendation: Under sociodemographic, individual, and lifestyle risk factors, the occurrence of hypertension was found to be associated with hypertension. These findings emphasize that healthcare professionals should initiate an effort to promote the healthy habits of patients with the development of hypertension.

Keywords: Hypertension, OPD, tobacco smoking

Factors Associated with Undernutrition among Under-5 Year Children in Koshi Hospital: A Case Control Study

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Background and objective: A child who is below minus two standard deviations (SD) from the reference median for height-for-age and weight-for-height is considered stunted and wasted respectively. Undernutrition has been found to be caused by various factors such as socio-economic status, pregnancy related conditions, co-morbidities, household environment and child feeding practices. Thus, this study aims to determine the factors associated with undernutrition among children aged 6-59 months.

Methods: Unmatched-case-control research was conducted in Koshi Hospital. Purposive sampling technique was used to select a total of 113 mothers (37 cases and 76 controls) of under-5 children. Ethical approval was obtained from the Institutional Review Committee of Purbanchal University. A pretested self-prepared questionnaire was used to gather information by face-to-face interview. Collected data were analyzed using descriptive and inferential statistics i.e. chi square and multiple regression tests and presented in tables.

Results: Children whose birthweight was less than 2.5 (aOR: 45.567, 95% CI=8.094-256.533) and mothers age at childbirth less than 20 years (aOR: 4.939, 95% CI=1.374-17.758) was significantly associated with undernutrition. Respondents who have no livestock were less likely (aOR: 0.188, 95% CI=0.052-0.683) to have undernutrition in their child.

Conclusion: The study concluded that the factors like birth weight of child, mothers age at childbirth and having livestock at home were significantly associated with undernutrition. Interventions should be more focused at the community level to prevent undernutrition along with the current management of undernutrition in Nutrition Rehabilitation homes.

Keywords: Case control study; Under five years children; Undernutrition.

From First Puff to Policy: A Systematic Review on Adolescent Tobacco Initiation and Regulatory Shortfalls in Nepal

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Background: Tobacco use remains a leading cause of preventable morbidity and mortality worldwide, with low- and middle-income countries bearing a disproportionate burden. Adolescence is a critical period for the initiation of tobacco use, and habits formed during this stage often persist into adulthood. In Nepal, despite existing legislation and adherence to the WHO Framework Convention on Tobacco Control (FCTC), adolescent tobacco consumption both smoked and smokeless continues to rise. Objective This systematic review aims to synthesize evidence on adolescent tobacco initiation in Nepal, examine socio-ecological and behavioral determinants, and evaluate regulatory gaps in tobacco control policies.

Methods: A systematic review was conducted following PRISMA guidelines Peer-reviewed Articles, policy reports, and grey literature published between 2010 and 2024 were identified through searches of PubMed, Google Scholar, and relevant national reports was analyzed to identify trends in adolescent tobacco use, determinants of initiation, and the effectiveness of existing tobacco control measures in Nepal and South Asia.

Results: Tobacco initiation frequently occurs before the age of 18, influenced by peer pressure, identity formation, socioeconomic factors, and wonderment of using tobacco. While cigarette use shows a slight decline, alternative nicotine delivery systems including e-cigarettes, hookah, and smokeless tobacco are increasingly popular among adolescents. Nepalese tobacco control policies, including graphic health warnings and cessation programs, have improved awareness but remain limited in enforcement and reach, particularly for smokeless tobacco products. Cross-country comparisons highlight similar challenges in India and other South Asian countries.

Conclusion: Adolescent tobacco use in Nepal represents a significant public health challenge. Strengthening enforcement of existing policies, expanding cessation services, and implementing targeted, multi-level interventions particularly school and community-based programs are essential to prevent early tobacco initiation and reduce future disease burden.

Keywords: adolescent tobacco use, WHO-FCTC, policy gaps, tobacco initiation.

Impact of Screen Time on Sleep Patterns among Secondary Level Students of Belbari Municipality, Nepal.

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Background: The widespread use of digital devices among adolescents has emerged as an important public health concern due to its potential impact on sleep quality. Screen-based activities are now embedded in the daily routines of secondary-level students, and insufficient sleep during adolescence is associated with impaired cognitive performance, emotional instability, and long-term health consequences.

Objective: To assess the impact of screen time on sleep patterns among secondary level students of Belbari municipality.

Methodology: A descriptive cross-sectional study was conducted among 137 students from Grades 9 and 10 in Belbari Municipality. Data were collected using a structured self-administered questionnaire that included socio-demographic characteristics, screen-time habits, and sleep quality assessed using the Pittsburgh Sleep Quality Index. Descriptive statistics summarized participant characteristics and screen-use patterns, while chi-square tests were used to examine associations between screen-time variables and sleep quality.

Result: Among the participants, 62.8% were aged 15–17 years, with an almost equal distribution of males and females. Digital device use was similar (98.5%), and most students reported 1-4 hours of daily screen exposure. Social media was the most common primary purpose of screen use (46.0%), and 75.2% reported screen use before bedtime. No significant associations were observed between sleep quality and socio demographic factors, total screen duration, number of devices owned and timing of screen use. However, a significant association was found between the primary purpose of screen use and sleep quality, with students primarily using screens for social media more likely to experience poor sleep.

Conclusion: These findings suggest that the nature of digital engagement, rather than overall screen duration, plays a more influential role in shaping adolescents' sleep quality.

Keywords: Screen time, Sleep quality, Adolescents, Social media.

Job Satisfaction among Nurses: A Comparative Study of Nurses Employed in Public and Private Hospitals of Eastern Nepal

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Purpose: This research was conducted to study the factors influencing nurses' job satisfaction and compare the level of job satisfaction among public and private hospitals nursing employee in Eastern Nepal.

Methods: A descriptive cross-sectional design was used with a systematic random sample of 210 Staff Nurses working In Public and Private hospital of Eastern Nepal were included in the study. Data were analyzed descriptively; chi-square test was done to identify the factors influencing nurse's job satisfaction. Comparisons were made regarding job satisfaction using t-tests, based on the total score of nurses' job satisfaction.

Findings: In general, a low level of job satisfaction was found. Almost sixty-four percent of public hospitals and fifty percent of private hospitals were dissatisfied with their job. Factors found to be significantly associated with job satisfaction were, staff relation, training opportunity, working environment, procedural justice and opportunity to develop in both public and private hospitals as well as self-esteem was also found to be significant in private hospital ($p < 0.05$). Almost sixty-one percent of participants in both public and private hospitals did not think that their income was a reflection of the work they do. Significant mean difference between public and private hospital respondents were found regarding general satisfaction, job training, procedural justice, opportunity to develop and overall job satisfaction where $p < 0.05$).

Conclusion: This study highlighted the low satisfaction level among nursing employees and confirmed the disparity between the levels of job satisfaction between the public and private sectors. Improving the work environment so that it provides a context congruent with the aspirations and values systems of nurses is more likely to increase the satisfaction of nurses and consequently have a positive effect on individual, organizational and health outcomes. This study is a baseline for future research in areas of practice, education, and research.

Keywords: Job satisfaction, Nurse, Public private hospital

Knowledge and Practices of Yoga among Undergraduate Students in Kawasoti Municipality

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Background: Yoga is an ancient mind-body practice that promotes holistic well-being, but despite its benefits, regular practice remains limited in Nepal, and evidence on its awareness and practice among undergraduates in semi-urban areas like Kawasoti Municipality is scarce.

Objectives: The main objective of this study is to assess the level of knowledge and practices regarding yoga and meditation among undergraduate students in Kawasoti Municipality, Nawalpur and to examine the association between selected socio-demographic variables and the practice of yoga.

Methodology: A descriptive cross-sectional study was conducted among undergraduate students in Kawasoti Municipality using stratified random sampling, with data collected through a structured questionnaire and analyzed using SPSS at $p < 0.05$.

Findings: The study found very high awareness of yoga (95.8%) but moderate actual practice, with only 111 students regularly engaging, mostly at home for 15-30 minutes and focusing on Asanas. Overall, the study highlights strong awareness and positive attitudes toward yoga but a gap between knowledge and consistent practice.

Conclusion: The study concludes that despite high awareness of yoga, regular practice among undergraduate students remains limited, indicating a gap between knowledge and practice.

Keywords: Yoga, Knowledge, Practices, Undergraduate Students, Kawasoti-Municipality.

Knowledge and Prevalence of Cataract among the Adults in Sundarharaichha Morang, Nepal

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Introduction: Cataract is a condition where the natural lens of the eye becomes cloudy, which may arise from congenital, developmental, or acquired causes. Barriers such as lack of awareness, limited access to eye care, shortage of skilled professionals, high treatment costs, and concerns about surgical outcomes increase the burden of cataracts.

Objective: This study aimed to assess the level of knowledge and prevalence of cataracts among adults Sundarharaichha, Morang District.

Methodology: A descriptive cross-sectional study was conducted among 186 adults selected through non-probability convenience sampling. Data were collected via semi-structured interviews and analyzed using SPSS version 16 with descriptive statistics (frequency, percentage, mean, median, standard deviation) and Chi-square tests to determine associations.

Findings: Results showed that 90.9% of participants had good knowledge of cataracts. Despite this, only 19.9% were aware of the condition before diagnosis, and 15.6% had undergone cataract surgery.

Conclusion: While most adults demonstrated good knowledge about cataracts and accessed information through healthcare workers and media, awareness prior to diagnosis and uptake of surgery was low. This highlights the need for enhanced community-based awareness and early detection programs.

Keywords: Adults, Cataract, Knowledge, Prevalence

Knowledge and Preventive Practice Regarding Dengue Fever among Community People at Sundarharaicha, Morang, Nepal.

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Introduction: Dengue fever is a mosquito-borne viral disease caused by the dengue virus. Dengue fever has become a major international public health concern and has frequent epidemic occurrences in many countries, including Nepal.

Objective: The objective of the study was to assess the level of Knowledge and preventive practice regarding dengue fever among community people at Sundarharaicha, Morang, Nepal.

Methodology: A Descriptive cross-sectional study was carried at Sundarharaicha, Morang, Nepal among 380 community people from August 2022 to July 2023. Ethical clearance was obtained from Purbanchal University School of Health Sciences-Institutional Review Committee (PUSHS-IRC) and informed consent were taken from study participants. Non-probability convenience sampling was used. Data was analyzed using SPSS version 21. The Chi-square test was used to find out the association between knowledge and practice with selected demographic variables. P value <0.05 was considered statistically significant.

Result: Majority 193(50.8 %) of the respondents had inadequate knowledge and 187 (49.2%) had adequate knowledge regarding dengue fever. and 309(81.3 %) of the respondents had poor practice and 71 (18.7%) had good practice regarding dengue fever. There was a significant association between knowledge and socio-demographic variables like educational status ($p = .005$), occupation of the mother ($p = .008$), number of children ($p = .014$), birth order ($p = .012$), sources of information ($p = .001$) and previous experience ($p = .001$) regarding toilet training. Similarly, there was a significant association between practice and socio-demographic variables like educational status ($p = .001$) and source of information ($p = .010$) at $p < 0.05$ level of significance.

Conclusion: Inadequate knowledge and poor practice were observed regarding dengue fever among mothers observed in the study.

Key words: Dengue fever, Knowledge, Preventive Practice, Community people

Knowledge of Autism among Married Women in Tilottama Municipality

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Background: Autism Spectrum Disorder (ASD) is a lifelong neurodevelopmental condition that affects social interaction, communication, and behavior. Despite improvements in diagnosis, awareness and understanding among the general population remain limited, especially in communities with low access to information.

Objective: To assess the level of knowledge regarding autism among married women in Tilottama Municipality, Rupandehi.

Methodology: A community-based descriptive cross-sectional study was conducted among 246 married women in Tilottama Municipality. A multistage random sampling technique was used to select participants. Data were collected using a structured questionnaire after obtaining informed consent. Statistical analysis was performed to determine the distribution of knowledge levels and their association with sociodemographic determinants.

Findings: Among the respondents, 34.6% had low knowledge of autism, 35.8% had moderate knowledge, and 29.7% had high knowledge. Education level, occupation, and monthly income were significantly associated with knowledge level ($p < 0.05$), whereas age showed no significant association. Women with higher education and those engaged in formal employment demonstrated better awareness of autism compared to others.

Conclusion: Overall knowledge about autism among married women in Tilottama Municipality was moderate. Although many respondents recognized key symptoms and the importance of early diagnosis, misconceptions and knowledge gaps still existed. Strengthening community-based awareness programs and educational interventions is essential to improve understanding and reduce misinformation regarding autism.

Keywords: social interaction, informed consent, formal employment, misconceptions

Knowledge on Infertility among Married Women of Reproductive Age Group of Jhapa Rural Municipality, Jhapa

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Background: Infertility is one of the major reproductive health concerns worldwide, particularly in developing countries where socio-cultural beliefs strongly influence perceptions and care-seeking behavior. In most of the rural settings, infertility is commonly seen as a female's problem, leading to stigma, discrimination, and psychological distress despite evidence that infertility affects both partners equally.

Objective: This study aimed to assess the level of knowledge, prevailing beliefs, misconceptions, and health-seeking behavior related to infertility among married women of reproductive age in Jhapa Rural Municipality, Jhapa, Nepal.

Methods: A descriptive cross-sectional study was conducted among 288 married women aged 20–45 years. Participants were chosen using a multistage cluster sampling technique. Data were collected by face-to-face interviews using a structured and pretested questionnaire that includes socio-demographic characteristics, knowledge of infertility, beliefs and misconceptions, and health-seeking behavior. Data were analyzed using SPSS and presented using descriptive statistics.

Results: All participants had heard of infertility. Among them majority (68.8%) correctly identified infertility as a condition affecting both men and women; however, 31.2% perceived it as a female-only problem. Nearly one-third (31.9%) believed infertility to be a result of divine punishment or karma. Family and friends were the primary sources of information (84.7%), while only 13.2% accounted for health professionals. More than half of the respondents (51.8%) demonstrated a high level of knowledge, though gender bias remained prominent, with 89.6% accounting women are predominantly blamed for infertility. Nearly half (48.3%) preferred a combination of both the medical and traditional treatment, and financial constraints was found as the major barrier to seeking care (86.1%) for infertility.

Conclusion: Although awareness of infertility among married women was generally satisfactory, misconceptions, cultural beliefs, and gender-based stigma persist. Community-based education, involvement of male partners, and qualitative reproductive health services are important to improve understanding and promote timely and appropriate infertility management.

Keywords: Infertility, knowledge, beliefs, misconceptions, health-seeking behavior, married women, reproductive age, stigma.

Knowledge, Attitude, Practice in Self-care and its Associated Factors of Diabetes among Older People: A Narrative Review

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Background: Diabetes, a severe, life-threatening illness affecting 422 million people worldwide, mainly in low- and middle-income countries, causes 1.5 million fatalities annually and has increased in prevalence over recent decades. Diabetes self-care includes managing medication, meal plans, blood glucose monitoring, exercise, and attending medical/educational appointments to maintain healthy glucose levels. Aims of review is to assess the knowledge, attitude and practice on self-care and its associated factors of diabetes mellitus among the older people through narrative review of published articles.

Method: A narrative review was conducted using published national and international journals, articles, and reports. Research articles from various databases, published between January 2019 and November 2024, were included. The review focused on knowledge, attitudes, practices, and determinants of diabetes self-care among older adults, with sample sizes ranging from 32 to 617 participants. Only English-language studies with diverse, eligible research designs were considered. The review process followed the PRISMA-P guidelines for narrative reviews and included 21 published articles.

Result: Across 21 studies involving a total of 5,610 diabetic patients, the proportion of those with good diabetes-related knowledge ranged from slightly over one-third to nearly three-quarters, while those with poor knowledge ranged from 20% to almost 66%. Good self-care practices were observed in 7.3% to 54.2% of patients, with 28.1% demonstrating moderate self-care practice. Factors such as literacy, education, geographic location, social support, presence of diabetes complications, and socioeconomic status were found to significantly affect self-care behaviors.

Conclusion: The analysis of various studies concluded that diabetic people had varying levels of knowledge and self-care practices. Poor self-care knowledge is associated with reading difficulties, education, rural residence, social support, diabetes consequences, and socioeconomic status.

Keywords: attitude, knowledge, practice, self-care older people triangulation.

Knowledge on Autism Spectrum Disorder among community Health Workers in Sunsari District

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Autism Spectrum Disorder (ASD) is a lifelong condition that affects the way a person's brain develops and is characterized by challenges with social skills, communication, and a tendency toward repetitive behaviors. Early identification and intervention are vital for improving outcomes for children with ASD. This descriptive cross-sectional study investigated the knowledge, experience, and training related to autism among frontline community healthcare workers in Sunsari district, Eastern Nepal. Among 149 health workers, with a mean age of 38.3 ± 8.7 years, completed a structured questionnaire. The findings revealed significant deficiencies: only 6.7% had received formal autism training, and a mere 9.4% had direct care experience with an autistic child. For the majority of respondents (65.1%), social media served as a source of autism knowledge. The mean knowledge score was (13.3 ± 2.6) ; these knowledge levels did not show significant correlations with demographic factors such as age, sex, or work experience. These results underscore substantial gaps in autism-related education and awareness within Nepal's healthcare workforce. The findings highlight the pressing need to integrate comprehensive autism education and continuous professional development into healthcare curricula and training programs. Such initiatives are essential for early detection and effective management of ASD in resource-limited environments, ultimately providing better support for individuals with autism and their families.

Keywords: Knowledge; Autism; Community health worker

Knowledge on Digital Health and Its Associated Factors among Undergraduate Public Health Students of Nepal

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Background: Digital health is a multidisciplinary field integrating technologies such as telehealth, mHealth, wearable devices, and electronic health records (EHRs) to enhance health outcomes. While digital health is vital for strengthening healthcare systems and achieving Sustainable Development Goals (SDGs), its formal integration into public health education in Nepal remains underexplored.

Objective: This study aimed to assess the level of knowledge regarding digital health and identify associated factors among undergraduate public health students in Nepal.

Methodology: A quantitative, web-based, cross-sectional study was conducted among undergraduate Bachelor of Public Health (BPH) students across various universities in Nepal. Data were collected from 275 participants using a structured online questionnaire via purposive sampling. Knowledge was assessed across four domains: telehealth, mHealth, wearable devices, and EHRs. Statistical analysis was performed using descriptive and inferential statistics (Chi-square and Fisher-Freeman-Halton Exact tests).

Result: The study revealed a moderate overall knowledge level with a mean score of 79.69%. Participants showed high proficiency in general digital health concepts (90.33%) and wearable devices (86.18%), but lower knowledge in telehealth (65.02%). Despite moderate knowledge, 91.3% of participants reported low prior formal exposure, with 82.5% having received no formal training. Statistically significant associations were observed between knowledge levels and age category ($p=0.0042$), monthly family income ($p=0.0002$), and academic progression ($p=0.0236$).

Conclusion: The findings suggest a significant paradox where undergraduate public health students possess foundational digital health knowledge acquired primarily through informal channels rather than structured academic curricula. There is an urgent need to formalize digital health education within the BPH curriculum to equip future professionals with the competencies required for Nepal's digital health framework.

Keywords: Digital health, Public health students, Knowledge assessment, Curriculum gap, Nepal, Telehealth, mHealth.

Knowledge on Health Impact of Electronic Smoking Among Secondary Level Students in Itahari Sub-Metropolitan City

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Background: Vaping is a growing public health concern among adolescents, often perceived as safer than traditional cigarettes but exposing users to nicotine and other harmful substances. In Nepal, empirical evidence regarding secondary level students' knowledge of vaping-related health risks remains limited. As the government moves toward stricter regulations, assessing current awareness levels is critical to inform preventive public health strategies.

Objectives: To assess the level of knowledge regarding the health impacts of electronic smoking among secondary level students in Itahari Sub-Metropolitan City and examine associated socio-demographic and exposure factors.

Methodology: A descriptive cross-sectional study was conducted among 256 students in grades 11 and 12 attending selected private secondary schools in Itahari. Data were collected via a structured, self-administered questionnaire covering socio-demographics, vaping exposure, and health knowledge. Knowledge was categorized as low, moderate, or high based on scoring. Data were analyzed using descriptive and inferential statistics, with associations tested via Chi-square at $p < 0.05$.

Findings: The study population primarily consisted of female students (52.3%) and older adolescents aged 17–19 years (74.2%) residing in urban areas (54.7%) with family monthly incomes exceeding NPR 30,000 (63.3%). High knowledge was observed in 60.5% of participants, moderate in 37.5%, and low in 2%. Peer vaping exposure was reported by 44.5%, while family exposure was 11.7%. Knowledge was significantly higher among Grade 12 students compared to Grade 11 ($p < 0.001$). However, associations with sex ($p = 0.070$), age category ($p = 0.052$), or peer exposure ($p = 0.727$) were not statistically significant.

Conclusion: While most students demonstrated moderate to high knowledge of vaping risks, significant gaps remain, particularly among students in lower grades. The findings highlight the critical influence of peer dynamics and the necessity of targeted school-based health education. Strengthening awareness programs and implementing strict retail enforcement are essential to reduce adolescent vaping-related risks in urban Nepal.

Keywords: Knowledge, Health Impact, Electronic Smoking

Level of Knowledge and Attitude on Breast Self- Examination among Female Secondary Level School Students of Birtamode Municipality, Jhapa

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Breast cancer is a major cause of morbidity and mortality among women worldwide, with a growing burden in low and middle-income countries such as Nepal. Breast Self-Examination (BSE) is a simple, low cost, and accessible method that helps in early detection and can facilitate early diagnosis and improve treatment outcomes, particularly in low resource settings. This study aimed to assess the level of knowledge and attitude on breast self-examination and to determine the association between level of knowledge of BSE and socio-demographic factors among female secondary level school students of Birtamode Jhapa. A descriptive cross-sectional study was carried out among 292 female students of grades 11 and 12, who were selected through multistage sampling technique. Data was collected using a self-administered structured questionnaire covering socio-demographic characteristics, knowledge and attitude related to BSE. The collected data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) version 16, using descriptive statistics such as frequency and percentage, along with inferential analysis to assess associations. The findings revealed that only 32.2% of respondents had heard about breast self-examination. Among those aware of BSE 44.7% had good knowledge, while 55.3% demonstrated poor knowledge regarding correct timing, techniques, and procedures. Despite these knowledge gaps, respondents exhibited an overall positive attitude toward BSE, with a mean attitude score of 4.061, indicating favorable perceptions of its importance and usefulness for early detection of breast cancer. Knowledge of BSE was found to be significantly associated with age, grade level, father's education and mother's education. The study concludes that while female secondary level students demonstrate positive attitudes toward breast self-examination, their level of knowledge remains insufficient, highlighting the need for structured school-based breast health education and targeted awareness programs to improve knowledge and promote regular BSE practice among adolescents.

Keywords: Breast self-examination, knowledge, attitude, secondary-level students.

Maternal Satisfaction on Quality of Health Care Service during Childbirth among Postnatal Mothers in a Government Hospital

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Background: Despite global efforts to improve maternal health outcomes, significant disparities persist, highlighting the need to understand factors influencing maternal well-being. Satisfaction is a key indicator of the quality of maternal and newborn services. This study aims to assess maternal satisfaction with the quality of healthcare services during childbirth at a government hospital.

Methods: A descriptive cross-sectional study was conducted among newly delivered 384 postnatal mothers at Koshi Hospital, Koshi Province, using a valid structured interview schedule from the Scale for Measuring Maternal Satisfaction - Normal Birth (SMMS-NB). Ethical approval was obtained from the Ethical Review Board of the Nepal Health Research Council and the original author for the use of the SMMS-NB tool prior to data collection. Purposive sampling technique was used to collect data and before proceeding data collection informed consent was verbally obtained from each respondent. Both descriptive (number, percentage, mean, standard deviation and range) and inferential statistics (Chi-square test) was used to analyze the data. Odd ratio was calculated. A p-value < 0.05 was considered statistically significant.

Results: According to Scale for measuring maternal satisfaction in normal birth cutoff point, 64.1% women highly satisfied with quality of health care service provided during childbirth. Women under 25 years of age had significantly higher levels of satisfaction (66.9%) compared to those over 25 years (55.3%) (p=0.042). Illiterate women had a higher satisfaction rate (64.9%) than literate respondents (63.1%) (p=0.886). Mother with four or more antenatal care visits (65.4%) were more satisfied than those with fewer visits (61.2%) (p=0.421). First parity mothers were less satisfied (59.1%) compared to mothers who had more than one child (69.1%) (p=0.040). Women with female babies were more satisfied (69.1%) than those with male babies (59.7%) (p=0.050). Interestingly, women who were not allowed companionship during labor reported significantly higher satisfaction (64.4%) compared to those who had companionship (64.0%) (p=0.955). However, mothers with planned pregnancies showed lower satisfaction with delivery services.

Conclusion: Majority of postnatal mothers at Koshi hospital are happy with the nursing care they received during childbirth. Postnatal mothers receiving adequate information and being actively involved in the decision making process during their delivery care. Postnatal mothers who are younger those under 25, multiparous mothers and mother delivered with female sex baby are tend to be associated with more satisfaction towards health care service provided during childbirth.

Key words: Childbirth, Government Hospital, Maternal Satisfaction, Postnatal Mother

Mental Health–Promoting Activities and Mental Health Status among School-Going Adolescents

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Background: Adolescents across all regions face adversities and uncertainties linked to environmental and social changes. In Nepal, where access to mental health services remains limited, everyday mental health–promoting activities, such as physical activity, adequate rest, social connection, and coping behaviors, may play a crucial role in managing stress and supporting psychological well-being.

Objectives: To assess the level of mental health–promoting activities among adolescents and examine their association with perceived stress, coping self-efficacy, and psychological well-being.

Methodology: A cross-sectional study conducted among 332 students across grades 9 and 10 attending public secondary schools in Arjunthara Municipality, Nepal. Data were collected using self-administered questionnaires incorporating standardized tools and statistical analyses were performed to identify associations between mental health–promoting activities and mental health outcomes.

Findings: The study population comprised of early- to mid-adolescent students from public schools representing diverse family structures. Most of the participants (78.6%) reported a moderate level of mental health–promoting activities, while 18.7% reported low engagement. Nearly half of the adolescents (45.8%) demonstrated good psychological well-being, and moderate perceived stress was prevalent among 77.7% of students. Coping self-efficacy was predominantly moderate to high (94.9%) and showed a significant inverse correlation with perceived stress ($r = -0.279$, $p < .001$). Engagement in mental health–promoting activities was significantly associated with better psychological well-being ($p = 0.041$).

Conclusion: The study highlights how everyday habits and coping confidence shape adolescent mental health. These findings are relevant in environmentally vulnerable settings where daily stressors may be amplified. Promoting balanced daily routines and resilience-oriented lifestyles can support sustainable mental well-being.

Keywords: psychological well-being, perceived stress, resilience-oriented lifestyles.

Morbidity, Healthcare Expenditures, and Overall Life Satisfaction among Geriatric Population

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Background: Aging results as a variety of molecular and cellular damage that accumulates over time and causes a steady decline in physical and mental ability, a rise in the risk of illness, and finally mortality. An increase in life expectancy has raised a concern about whether these extra added years are characterized by good health and independence or health problems and dependency on others for care. Maximum life satisfaction (LS) is necessary to have healthy aging. The current study aimed to analyze the morbidity burden, associated expenditure, and life satisfaction among old age population.

Methodology: A cross-sectional study was conducted at four different Municipalities of Bhaktapur district from February 1 to Sep 31, 2023 after obtaining ethical approval from Institutional Review Committee of Kathmandu Medical College. A total sample size of 212 participants above 60 years were included in this study. Stratified sampling method was applied where each municipality represented a stratum. Convenient sampling method was applied to find out the participants in those municipalities. The questionnaire consisted of: a) socio-demographic b) morbidity and treatment cost c) coping strategy d) life satisfaction (LISAT-11). Descriptive statistics, chi-square (χ^2) test, T-test and Anova was applied.

Results: This study revealed Chronic conditions were prevalent among females and illiterate individuals. Cardiovascular issues were common. The out-of-pocket expenditure for OPD care was 20.88% of monthly household income. Hospitalized service cost was about 31.25% of annual household income. Females used outpatient services more, while males were hospitalized. Health expenses were significant, mainly covered by insurance and personal savings. Life satisfaction varied based on demographics and lifestyle factors.

Conclusion: The old age population bear a burden of morbidity, marked by a notable presence of health conditions and diseases. This burden leads to considerable personal expenses on healthcare services, especially concerning medication costs. Despite the financial pressures from healthcare expenditures, older individuals exhibit diverse degrees of life satisfaction.

Keywords: Aging, Health expenditure, Mental health, Morbidity, Quality of life

Nicotinic Dependence and Effect of Pictorial Health Warning among Tobacco Consumers of Sundar Haraicha, Morang, Nepal

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Background: Nicotine dependence remains a major public health concern, with both smoking and smokeless tobacco contributing to addiction and health risks.

Methods: A descriptive cross-sectional study was conducted among 385 tobacco product consumers. Data were collected using a structured interview questionnaire covering socio-demographic characteristics, tobacco use patterns, and perceptions of pictorial health warnings. Nicotinic dependence was assessed using the Fagerstrom Test for Nicotine Dependence, with scores categorized as mild, moderate, or severe.

Results: The mean age of participants was 37.6 ± 15.2 years; 76.1% were male and 23.9% female. Smoking was reported by 83.4%, and smokeless use by 16.6%. Among smokers, 65.1% had mild dependence, 29.0% moderate, and 5.9% severe. In contrast, smokeless users showed 40.6% mild, 37.5% moderate, and 21.8% severe dependence. Most participants (87%) acknowledged the importance of pictorial warnings, and 54.6% reported fear upon viewing them. Significant associations were found between residence and occupation with nicotine dependence of smoking scores ($p=0.000$) and age of initiation with nicotine dependence of smokeless scores ($p=0.000$).

Conclusion: Nicotine dependence varies between smoking and smokeless users, with socio-demographic factors influencing levels of addiction. Pictorial warnings appear effective in raising awareness and eliciting fear, supporting their continued use in tobacco control strategies.

Keywords: Nicotine dependence: Fagerstrom Test, Pictorial Health Warning, Smoking, Smokeless Tobacco

Perception of Learning Environment among Nursing Students at Purbanchal University and its Affiliated Colleges in Morang

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Background: An effective learning environment encompasses teaching learning interactions, pedagogic approaches and adequate physical as well as institutional facilities. Supportive, collegial and good learning environment can promote better student involvement in nursing sector that leads to improved readiness for clinical training. The study aimed to assess perception of learning environment among nursing students of Purbanchal University and its affiliated colleges in Morang

Methodology: A descriptive cross-sectional design was conducted among 286 nursing students through total enumerative sampling technique. Data were collected through self-administered methods using DREEM Inventory standard tool. The data obtained were analyzed by descriptive statistics such as frequency, percentage, mean, standard deviation and inferential statistics namely ANOVA using SPSS version 16.0.

Results: Among 286 students, most of the respondents (90.9%) perceived more positive learning environment followed by (6.6%) perceived it as excellent and very few (2.4%) reported having plenty of problems in learning environment. The highest mean score among the sub scale of DREEM inventory was students' perception of learning i.e. 34.37 ± 4.537 indicating a more positive than negative approach. There is a statistically significant association between students' perception of learning environment and selected socio- demographic variables like gender ($p = 0.001$), ethnicity ($p = 0.036$).

Conclusion: Most of the nursing students had positive perception on learning environment. Among the five sub-scales of DREEM Inventory, students' perception of learning reported the highest mean score, indicating more positive than negative approach. The lowest mean score was seen in students' social self- perception, which shows that still some improvement is needed in social and emotional support within the learning environment. These results highlight the need for continuous assessment and enhancement of the learning environment, particularly in strengthening its social components.

Keywords: learning environment, nursing students, perception

Perception of Nursing Students Toward their profession in a selected college of Morang district

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Background: Nursing is widely regarded as a noble and essential profession due to its core value of caring for life. Nursing students' perceptions of the professional image of nursing significantly influence their self-concept, self-esteem, recruitment, retention, and performance. Positive professional perception among nursing students is also associated with better knowledge retention and professional commitment.

Methodology: A descriptive cross-sectional study was conducted among nursing students at the Purbanchal University School of Health Sciences. Data were collected using a self-administered questionnaire to assess students' perceptions toward the nursing profession. A census method was used for participant selection. The chi-square test was applied to examine the association between perception of the profession and selected demographic factors.

Results: A total of 126 nursing students participated in the study, of whom 60.8% were first-year students. More than half of the respondents (51.6%) demonstrated a positive perception toward the nursing profession. A statistically significant association was found between students' age and their perception of the profession, indicating that perception varied according to age.

Conclusion: More than half of the nursing students demonstrated a positive perception of the nursing profession. Age was found to be a significant factor influencing professional perception. Early academic support and positive professional socialization may help improve students' perceptions and strengthen the future nursing workforce.

Keywords: Nursing students/Perception/Profession

Practice regarding Herbal Remedies among Selected community people of Jhapa District

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Background: Herbal Medicines are substances one can eat or drink, may be vitamins, minerals or herbs or parts of these substances. They can be defined as plants or parts of plant used for their scent, flavour, therapeutic properties etc. The use of herbal medicines has increased remarkably throughout the world, for many people now using this product for the treatment of many health problems in health care practice across countries.

Objectives: To assess the practices regarding herbal remedies among selected community people of Birtamode, Jhapa

Methods and materials: Descriptive cross-sectional research designed was adopted to assess the practice of herbal remedies among community people of Birtamode-5, Jhapa. Sample of 125 people were selected using non-probability sampling technique. Data were collected through structured interview schedule and was analysed by using descriptive statistics in SPSS version 20.

Result: The result showed that 125 respondents, more than half i.e.56.8% had good practice and 43.2% had poor practice regarding herbal remedies. The study had found no significant difference between sociodemographic variables of the respondents.

Conclusion: Practice of herbal remedies among community people plays a significant role in solving their health problems due to accessibility, affordability, cultural relevance, and perceived safety.

Keywords: Practice, herbal remedies, community people

Prevalence of Multiple Behavioural Risk Factors of NCDs among Young Adult in Kerabari Rural Municipality, Morang

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Non-communicable diseases (NCDs) have emerged as a major public health challenge in Nepal. Tobacco use, harmful alcohol consumption, physical inactivity, and unhealthy dietary practices remain key modifiable contributors. The Co-existence of these modifiable risk factors synergistically increase the risk of NCDs. This study aimed to assess the prevalence and clustering of multiple behavioural risk factors of NCDs among young adults in Kerabari Rural Municipality, Morang. A community-based descriptive cross-sectional study was conducted among 372 young adults aged 20–40 years who were selected using a multistage sampling technique. Face to face interview guided by structured questionnaire adapted from the Nepal STEPS Survey was used for data collection. Ethical approval and informed consent were ensured. Descriptive statistical analysis was performed using frequencies and percentages. A composite behavioural risk score (0–3) was developed based on smoking, alcohol consumption, and physical inactivity to assess clustering of risk behaviours. The findings revealed a substantial prevalence of behavioural risk factors. Smoking was reported by 14% of respondents, with higher prevalence among males. Alcohol consumption was common, with 52.5% consuming alcohol for 1–2 days and 39.8% for 3–5 days in the past 30 days. Physical inactivity was highly prevalent, affecting 82.3% of participants. Dietary practices were suboptimal, with only 0.8% consuming fruits daily and inadequate vegetable intake observed among most respondents. Out of three behavioural risk factors, 62.1% has no behavioural risk factor, 24.7% has one risk factor, 11.6% had two, and 1.6% has three behavioural risk factors, indicating the co-existence of unhealthy behaviours. The study concludes that multiple behavioural risk factors for NCDs are highly prevalent among adults in Kerabari Rural Municipality. Integrated community-based interventions focusing on lifestyle modification, health awareness, and preventive strategies are urgently needed to reduce the synergistic risk for future NCD burden.

Keywords: Non-communicable diseases; Multiple behavioural risk factors; Smoking, Alcohol use; physical inactivity; Rural Nepal

Prevalence and Determinants of Low Birth Weight in Nepal: A Complex Sample Analysis of the 2022 Nepal Demographic and Health Survey

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Low birth weight remains a significant public health concern in many low- and middle-income countries, including Nepal, and continues to be a major contributor to neonatal morbidity and mortality. Therefore, we carried out this study to investigate the prevalence and identify the determinants of low birth weight. This study used the nationally representative, latest cross-sectional survey data, NDHS 2022. The data kids record (KR) file was downloaded from the NDHS website. The survey employed a stratified two-stage cluster sampling design with probability proportional to size (PPS). Data were collected through face-to-face interviews using a standardized questionnaire by trained enumerators among women aged 15–49 years. The study included 1551 most recent singleton births within the two years prior to the survey. Data was analyzed using SPSS software. Weighted descriptive statistics were used to estimate frequencies and percentages. Bivariate and multivariate logistic regression analysis were performed using complex sample analysis to identify independent determinants of low birth weight. Both unadjusted and adjusted odds ratios with 95% CI were reported, and $p < 0.05$ were considered statistically significant. The result showed that the prevalence of LBW in Nepal was 12.0% with a mean (standard deviation) birth weight of 2,989(588)gm. Low birth weight was significantly associated with having fewer than four antenatal care visits (AOR = 2.1; 95% CI: 1.2–3.5), use of non-piped water sources (AOR = 1.7; 95% CI: 1.0–2.8), poor maternal self-reported health status (AOR = 1.6; 95% CI: 1.1–2.4), and first birth order (AOR = 1.5; 95% CI: 0.6–3.9; $p < 0.05$). These results point to enhancing antenatal care utilization, improving access to safe water sources, promoting maternal health, and providing targeted support for first-time pregnancies as critical strategies for reducing the burden of low birth weight.

Keywords: Low birth Weight, NDHS 2022, Determinants

Prevalence and factors influencing the self-use of antibiotics among Purbanchal University students

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Background: Easy access to antibiotics and inadequate implementation of prescription regulations have contributed to the growing practice of self-medication. Medical students are formally trained in antibiotic stewardship and rational drug use, while non-medical students often self-medicate without adequate knowledge or professional guidance. This study aimed to assess the prevalence and factors influencing the self-medication of antibiotics among undergraduate students of Purbanchal University, Nepal.

Methodology: A descriptive cross-sectional study was conducted among 705 medical and non-medical undergraduate students. Data were collected using a structured self-administered questionnaire that included socio-demographic characteristics, knowledge, attitudes, and antibiotic self-medication practices. Knowledge and practice scores were expressed as means and standard deviations, and the chi-square test was used to identify factors associated with self-medication practices.

Results: The participants had a mean age of 22.21 ± 2.67 years, with 36.2% males and 63.8% females. The common indications for antibiotic use were fever (63.3%), cold and cough (49.2%), and skin infections (46.0%). Azithromycin (48.2%) was primarily used for sore throat, cough, typhoid fever, and pneumonia; amoxicillin (23.0%) for chest infections, fever, and common cold; and metronidazole (46.0%) for diarrhea. Self-medication was primarily influenced by previous prescriptions (44.4%), personal knowledge (39.4%), and family advice (31.1%). While 70.4% showed adequate knowledge of antibiotic use, 53.5% demonstrated poor practice. Knowledge was significantly associated with age ($p < 0.001$) and academic status ($p = 0.014$). Practice was associated with age, parental education, occupation, and residence ($p < 0.001$).

Conclusion: Self-medication with antibiotics was common among participants, primarily for minor infections, including fever, cough, and diarrhea. Most students demonstrated adequate knowledge of antibiotic use. Age, academic status, and sociodemographic factors significantly influenced the use of antibiotic knowledge and practice. These findings highlight the need for targeted educational interventions and stricter regulations to promote the rational use of antibiotics and reduce the risk of antimicrobial resistance.

Keywords: Antibiotics, Knowledge, Non-Medical Students, Practice, Self-Medication

Prevalence and Patterns of Birth Defects in the Tertiary Hospital of Eastern Nepal

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Introduction: Birth defects are structural changes that are present at birth and may vary from mild to serious conditions. Birth defects have significant impacts on individuals, families, healthcare and society. This study aims to assess the prevalence and pattern of birth defects, which can help to establish baseline data on birth defects in Eastern Nepal. It will be helpful to provide antenatal counseling about the prevention of birth defects.

Methods: Descriptive Cross-Sectional Study was conducted at a tertiary-level hospital in eastern Nepal from 14th April 2023 to 16th October 2025. Ethical approval was obtained from the institutional review committee (Ref. IRC-60-2082/83) of Birat Medical College Teaching Hospital. Data related to birth defects were abstracted from existing hospital records, which was documented through WHO SEARO Birth Defect Recording Form. Further analysis was done using Excel and SPSS version 23.

Results: In a total of 10,892 live births, the prevalence of the birth defect was 109 (1%). Among the child with birth defects, males were 68% and female were 32%. The commonly occurring birth defects were musculoskeletal 57 (52.3%), followed by oro-facial defects 25 (22.9%), genitourinary 17 (15.6%), central nervous system 5 (4.6%) and gastrointestinal 5 (4.6%).

Conclusion: Birth defect plays a major role in the mortality and morbidity of children. The most commonly occurring birth defect was the musculoskeletal system, for which early identification and diagnosis during ANC period is very crucial for management and acceptance of diagnosis by the parents.

Keywords: Birth defect, Newborn, Prevalence.

Prevalence of Health Risk Behaviour of Adolescence of Selected Higher Secondary Schools in Biratnagar

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Adolescence is a period of rapid physical, psychological, and emotional development. During this stage, several health risk behaviors begin, which may affect health both during adolescence and later in life. These risk behaviors contribute to increased morbidity and mortality among adolescents. Therefore, this study was conducted to find out the prevalence of health risk behaviors among adolescents in Biratnagar. A descriptive cross-sectional research design was adopted for the study. A total of 300 adolescents were randomly selected from three higher secondary schools of Biratnagar. Data were collected using a modified Youth Risk Behavior Surveillance questionnaire through a structured self-administered method after obtaining approval from the concerned authorities. The collected data were edited, coded, and analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 16.0. Descriptive statistics such as mean, standard deviation, and percentage, along with inferential statistics including the chi-square test, were used for data analysis. The study revealed that 21.3% of respondents had used at least one type of substance, and 5% had used all substances. Substance use was higher among males (16%) compared to females (3%). One-third of respondents consumed green vegetables, while more than half consumed canned juice. Nearly two-thirds of adolescents were physically active. About 45% of respondents reported parental substance use, and 23.3% were influenced by friends. In addition, 72.7% of respondents spent two or more hours per day engaged in sedentary activities on school days. The study concludes that adolescents are adopting health risk behaviors. Therefore, awareness programs should be increased among college students using appropriate mass media. School management and parents should pay greater attention to adolescents, and the school curriculum should emphasize the negative consequences of risky behaviors.

Keywords: Health risk behavior, Substance abuse, Physical activity, Dietary behavior

Public Awareness of Colorectal Cancer and Attitudes Towards its Screening among Community People Residing at Biratnagar

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Introduction: Cancer remains a major public health concern and is one of the leading causes of death worldwide. Colorectal cancer (CRC) is largely preventable through the avoidance of risk factors, the adoption of a healthy lifestyle and early screening.

Objective: The objective of this study was to assess the level of awareness regarding colorectal cancer and the attitudes towards its screening among community people residing at Biratnagar.

Method: A quantitative, descriptive cross-sectional research design was used to assess the level of awareness of colorectal cancer and attitudes towards its screening among community people residing at Biratnagar, Morang. Simple random sampling technique was used to select 237 community people. Face to face interview technique was used. The data was analyzed by descriptive statistics and inferential statistics.

Result: Out of the 237 respondents, the majority were aware that a low intake of fruits and vegetables (70.9%) and a low intake of dietary fiber (70.5%) are risk factors for colorectal cancer. The findings revealed that approximately 47.3% of the respondents had a high level of awareness regarding colorectal cancer, while nearly all respondents (96.6%) exhibited a favorable attitude toward colorectal cancer screening. A statistically significant association was found between the level of awareness regarding colorectal cancer and selected socio-demographic variables, including level of education ($p = 0.029$) and occupation ($p = 0.040$). Furthermore, there was a significant association between the level of awareness regarding colorectal cancer and the attitudes towards colorectal cancer screening ($p = 0.011$).

Conclusion: These findings underscore the need to expand awareness and preventive programs for colorectal cancer, particularly through mass media and public awareness campaigns. Moreover, the implementation of community-based colorectal cancer screening programs may enhance early detection, as most respondents demonstrated a favorable attitude towards screening.

Keywords: Colorectal Cancer, Awareness, Attitudes

Respectful Maternity Care among Postnatal Mothers Giving Birth at Tertiary Hospital of Koshi Province

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Background: Worldwide, many women experience disrespectful and abusive treatment by healthcare professionals during childbirth, violating their fundamental rights. Respectful Maternity Care (RMC) is a critical human right essential for the health and wellbeing of both mothers and newborns. Ensuring RMC improves maternal satisfaction, birth outcomes, and promotes dignity during childbirth.

Objective: This study aimed to assess the level of respectful maternity care provided to mothers and identify factors influencing RMC at the referral hospital in Koshi, Nepal.

Methodology: A cross-sectional quantitative study was conducted at Koshi Hospital, Biratnagar, the only tertiary-level government hospital in Koshi. The study sample included 219 postnatal mothers admitted to the postnatal ward following vaginal delivery. A purposive sampling technique was employed, and data were collected using a structured, pre-tested questionnaire focused on key components of RMC. Four dimensions of RMC: Friendly care, Abuse-free care, Timely care and Discrimination-free care were assessed using seven, three, three and two items respectively with Five-point Likert scale. The responses were summated to obtain dimension scores and aggregate score of RMC. Bloom's classification criteria were applied to classify level of RMC.

Results: The mean score for the friendly-care component was 25.2 out of 35 (SD = 4.2), indicating generally positive experiences. The abuse-free care component scored a mean of 10.9 (SD = 1.9) out of 15, suggesting low levels of abuse. The timely care component had a mean score of 9.9 out of 15 (SD = 1.78), revealing acceptable but improvable punctuality. Notably, discrimination-free care was highly rated with a mean score of 8.2 out of 10 and low variability (SD = 1.2), although some instances of discrimination were reported. Based on Bloom's classification criteria, 21% mothers rated their RMC experience as good, 69.9% as moderate, and 9.1% as poor.

Conclusion: Most mothers perceived their respectful maternity care experience as moderate, highlighting the need to improve care quality, especially regarding timely services, to ensure dignified and respectful childbirth for all women.

Key words: Postnatal Mothers, discrimination-free care, dignified, Bloom's classification

Retention And Utilization of Child Health Card by Primary Caretakers of Under-Five Children in Selected Wards of Itahari Sub- Metropolitan City

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Background: The initial years of children's lives set the groundwork for their subsequent physical, mental and cognitive development. Tracking of immunization and nutritional status of children during five years is crucial so that corrective actions can be taken early to avoid complications and abnormalities. Home-based record like child health cards (CHC) acts as vital tools for documenting children's health information and supporting care continuity between homes and health facilities.

Objective: This research aims to examine the retention and utilization of child health cards by primary caretakers of children under five years of age in selected wards of Itahari sub-metropolitan city.

Method: A community-based cross-sectional study was conducted in ward 3 and 7 of Itahari sub metropolitan where Primary caretakers of under 5 children were selected as study participants. Face to face interview with structured questionnaires were conducted for data collection followed by data management and analysis using appropriate statistical methods.

Result: Among 200 respondents, overall retention of child health card was observed 63% and was partially utilized. Multivariate analysis revealed that Child's age and knowledge about utilization of CHC have substantial impact on the retention of CHC. While caretakers whose children were 2 years or less were 3.05 times more likely to have retained CHC as compared to those with older children, lack of knowledge on utilization of the card was associated with lower retention. The factors that significantly affect utilization were found to be caretaker's educational status, father's education status, number of antenatal and postnatal visits and knowledge about utilization.

Conclusion: The finding highlights that the retention and utilization of child health cards in Itahari sub-metropolitan area is limited. Strengthening caregiver knowledge through counseling on CHC use during routine maternal and child health services is essential for continuum of care and improving child health outcomes in Nepal.

Keywords:Primary caretakers, retention, continuum of care

Role of Parenting Style on Psychosocial Status among School going Adolescents in Nagarjun Municipality, Kathmandu

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Background: The World Health Organization (WHO) defines adolescence as the phase of life between childhood and adulthood from ages 10 to 19. Difficulties faced by adolescents in different areas of personal and social functioning are psychosocial problems. Parenting style is a psychological construct that is defined as standard strategies used by parents to bring up their children. Adolescents often face number of crises and dilemmas; lack of adequate care and attention poses the risk of developing various psychosocial problems. These problems may have detrimental effects in their potential adult life if early identification and proper management are not done.

Objective: To assess parenting style, psychosocial status and its associated factors among school-going adolescents in Nagarjun Municipality, Kathmandu.

Methodology: A school based cross-sectional study was conducted utilizing both qualitative and quantitative approaches among 336 school going adolescents. Two focus group discussions were conducted for the qualitative study. For quantitative study, data were collected using structured questionnaire, Pediatric Symptom Checklist-Youth Report (Y-PSC) and Parental Authority Questionnaire (PAQ) were used. Simple random sampling was used. Data were exported and analyzed using SPSS 11.5. Bivariate and binary logistic regression analysis were performed to assess the association between the variables at 95% confidence interval. Thematic analysis was conducted for qualitative study.

Results: The mean age of the school-going adolescents was 14.57 years with a standard deviation of 1.106. More than half (53.9%) of the respondents had psychosocial problems. Most parents (both father and mother) used authoritative parenting style followed by authoritarian and permissive parenting style. Moreover, psychosocial status was significantly associated with ethnicity, exam stress, conflict of parents in presence of respondents, disagreements with teachers and bullying in school.

Conclusion: This study offers valuable insights into the factors associated with psychosocial problems in adolescents. It identifies ethnicity, exam stress, conflict of parents in presence of participants, disagreement with teacher and bullying to be the factors associated with psychosocial problems of school going adolescents

Keywords: Adolescents, psychosocial problems, parenting style, school, pediatric symptom checklist-youth report.

Social Media Engagement and Mental Health Outcomes: A Systematic Review

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Background: Social media use has grown rapidly, especially among adolescents and young adults, offering social benefits but also posing mental health risks such as anxiety, depression, distress, and sleep problems when use is excessive or maladaptive. Evidence shows that active and intensive engagement is more harmful than passive use, highlighting the importance of usage patterns and the need for culturally contextualized, longitudinal research and targeted interventions.

Objective: This systematic review aimed to synthesize available evidence on the association between social media use and mental health outcomes, with particular attention to patterns of use, psychosocial mechanisms, and findings from Nepal and comparable settings.

Methods: A systematic review was conducted following PRISMA guidelines on Pub Med, Google Scholar and Research Rabbit, a literature search from 2017 to 2024. Peer-reviewed articles published in English were identified from electronic databases using predefined search terms related to social media use and mental health outcomes. Data were extracted on study design, population characteristics, measures of social media use, mental health outcomes, and key findings. Cross-sectional, systematic review, scoping review, meta-analysis and longitudinal studies were considered.

Results: The literature shows that higher and more intense social media use is linked to poorer mental health, including depression, anxiety, distress, and sleep problems. Harmful outcomes are more strongly associated with addictive or active use and negative content exposure than with time spent alone. Studies from Nepal report high social media addiction among adolescents and significant links to depression, while longitudinal evidence suggests frequent active use can worsen mental health over time, though differences in methods and contexts limit cross study comparability.

Conclusion: Social media use is associated with poor mental health among young people, with risks depending more on how it is used than on screen time alone. In Nepal, limited evidence points to emerging concerns, underscoring the need for longitudinal, culturally relevant research and integration of social media literacy and mental health promotion into public health strategies.

Keywords: Social media use, mental health, dual effects, adolescents

The role of Perceived Social Support on Burden among Family Caregivers of Cancer Patients: A cross-sectional study of Nepal

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Background: Large numbers of cancer patients have cared at home by family members as caregivers due to limited and high-priced facilities in Nepal. Various studies have identified that caregivers experience a heavy burden in caring for sick family members also got high social support, yet family caregiver burden among cancer patients are less studied. **Objective** To identify the role of perceived social support on burden among family caregivers of cancer patients.

Methods: A quantitative cross-sectional analytical research design was used to collect data among family caregivers of cancer patients from Bhaktapur Cancer Hospital (BCH). After obtaining ethical approval data collection was done through face-to-face interview by using socio-demographic information and Burden Scale for Family Caregivers (BSFC) and Multidimensional Scale of Perceived Social Support (MSPSS). Family caregivers aged 18 years and above living with cancer patients admitted in hospital were included in the study. Spearman's correlation analysis was used to find out the associations between burden and perceived social support (PSS).

Results: Among 409 family caregivers, more than one third (34.7%) of them were son/daughter by relation. More than half felt moderate level of burden (56.7%) and agreed that they got high (57.9%) PSS from family respectively. The overall PSS was 60.92 ± 16.31 scoring highest from family and revealed a weak correlation with burden.

Conclusions: More than half of caregivers had moderate levels of burden and high PSS respectively. Level of burden and PSS is significantly associated with patient's relations revealing weak correlation between PSS and caregiver burden. Thus, the hospital authority could be recommended for the development of programs including psycho-education interventions, support groups, and problem-solving strategies, to help caregivers manage their responsibilities more effectively and improve their overall wellbeing.

Keywords: cancer patient, caregivers, family caregiver, burden, perceived social support

Treatment Adherence and Quality of Life among Hypertensive Patients: A Review of Quantitative and Qualitative Evidence

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Background: Hypertension is a major global and local risk factor for cardiovascular disease and a leading cause of mortality. Uncontrolled blood pressure damages blood vessels and leads to complications such as heart disease, stroke, and kidney disorders. Effective management through sustained lifestyle modification and adherence to antihypertensive medication is essential for blood pressure control and improved quality of life (QoL). Poor adherence results in adverse outcomes and reduced QoL. Understanding the interplay between treatment adherence, QoL, and their influencing factors is crucial for strengthening patient-centered hypertension care.

Objective: This review aims to synthesize evidence on treatment adherence and QoL among hypertensive patients, focusing on influencing factors and implications for primary health care.

Methods: A PRISMA-aligned narrative review integrated quantitative, qualitative, and mixed-methods studies (2010–2025) from PubMed and Google Scholar. Search terms covered hypertension, treatment/medication adherence, QoL/HRQoL, and associated factors using MeSH, free-text keywords, and Boolean operators. Quantitative studies used validated adherence and QoL tools, while qualitative studies explored patient experiences and barriers/facilitators. Global and Nepalese evidence was included. Editorials, protocols, and studies without full text were excluded. Findings were thematically synthesized.

Results: Treatment adherence among hypertensive patients is found to be mostly suboptimal, with 24–49% showing low adherence; 30.2% in Europe, 34.9% in China, 85% in Lebanon and 43.5–72% in Nepal. Common determinants included forgetfulness, polypharmacy, inadequate monitoring, and limited health literacy. QoL was generally moderate, with anxiety/depression commonly impaired. QoL scores varied across measurement tools, with mental health domains frequently more impaired than physical domains. Quantitative findings showed a positive association between adherence, self-efficacy, and QoL, while qualitative findings highlighted the influence of patient factors, treatment burden, family dynamics, and patient-provider relationships on adherence and QoL.

Conclusion: Treatment adherence and QoL are closely inter-linked and influenced by individual, social, and health system factors. Patient-centered, tailored interventions are essential to improve adherence, blood pressure control, and QoL in hypertensive patients.

Keywords: Treatment Adherence, Quality of Life, Hypertensive Patients

Utilization of adolescent friendly services among college students in Morang district

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Introduction: Adolescents are vulnerable to various sexual and reproductive problems such as unintended pregnancy, HIV, sexually transmitted infections(STI), unsafe abortions. Adolescent friendly services offer sexual and reproductive health services(SRH) like counselling on SRH, contraceptive services, STI and HIV services, abortion related services which help to prevent these risks. Optimal utilization of services with wider accessibility is required to address sexual and reproductive health problems faced by adolescents

Objective:The aim of the study was done to find out the utilization of adolescents' friendly services in college students of Morang district.

Methods:A descriptive cross sectional study design was carried out among 315 higher secondary students studying in grade 11 and 12 of Morang district Nepal. Stratified random sampling technique was followed in this study. Data was collected using semi structured self-developed questionnaire.

Result:The mean age of the respondents was 17.35 ± 0.478 . Only 22.5% of the respondents had utilized adolescent friendly health services. More than one third (40%) of the respondents mentioned the need for adolescent friendly health services. Half of respondents (49.5%) of the respondents had received sexual and reproductive counselling during service utilization. Factors positively associated with the utilization of services included waiting time and privacy maintained during service provision.

Conclusion:The utilization of adolescent-friendly services was very low. Most of the adolescents were unaware of the existence of the adolescent friendly services which emphasizes the need to focus on the increasing awareness of Sexual and reproductive health and adolescent friendly services by the government in coordination with local schools' clubs. Creating enabling environment in the service delivery sites and ensuring same gender service providers to adolescents could increase service utilization

Keywords Adolescent Health Services, Utilization, Health needs

Track: Engineering

A Diagnostic Framework for Progress Disparities in Linear Highway Construction Projects

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Linear highway construction projects are typically executed through multiple parallel sections under uniform contractual, technical, and institutional arrangements. Despite this uniformity, significant section-wise disparities in physical progress are frequently observed, leading to inefficiencies and reactive management interventions. Existing research largely examines delays at the project level and offers limited insight into intra-project progress divergence. This paper proposes a structured diagnostic framework for analyzing section-wise progress disparities in linear highway construction projects. The framework integrates four empirically observable parameters ex. pre-construction readiness, scope variations and design changes, administrative approval efficiency, and external or interface-related constraints, operationalized through indicators derived from project records and administrative correspondence. To enhance objectivity and comparability, a semi-quantitative Section Diagnostic Index (SDI) is developed by normalizing and aggregating parameter intensities at the section level. The framework is applied to a large Engineering, Procurement, and Construction (EPC) mode highway project comprising four parallel construction sections and validated against cumulative physical progress trends. Results show that sections with higher SDI values consistently exhibit delayed progress inflection points and sustained lag in cumulative progress, confirming that progress disparities are predominantly process-driven rather than execution-capacity driven. The proposed framework provides a practical tool for early diagnosis of section-wise performance divergence and targeted intervention in linear highway construction projects.

Keywords: Linear highway projects, progress disparity, diagnostic framework, EPC contracts, construction management

Assessment of Reinforcement Workmanship Practices in RCC Building Construction

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Reinforcement workmanship is a critical parameter governing the structural performance, durability, and safety of reinforced cement concrete (RCC) buildings. Deficiencies in reinforcement placement, detailing, and supervision can significantly compromise the intended load-carrying behavior and service life of concrete structures. This study presents a quantitative assessment of reinforcement workmanship practices in RCC building construction with the objective of identifying key workmanship deficiencies and the factors contributing to them. A structured questionnaire survey was conducted among engineers, owners, contractors, and skilled and unskilled workers involved in building construction projects. The collected data were analyzed using statistical techniques to evaluate variations in technical knowledge, awareness, and perception of reinforcement workmanship among different stakeholder groups. The results reveal substantial disparities in workmanship awareness, with reinforcement activities such as bar placement accuracy, tying methods, and verification of structural dimensions being ranked as more critical than reinforcement delivery and storage practices. The findings further indicate that inadequate technical training, limited field experience, and insufficient inspection and quality control procedures are major contributors to poor reinforcement workmanship. Considering the direct relationship between reinforcement workmanship and the load-bearing capacity, serviceability, and long-term durability of RCC structures, this study emphasizes the necessity of improved supervision, adherence to standard construction guidelines, and targeted skill development programs. The outcomes of this research provide practical insights for enhancing quality assurance practices and improving the structural performance and safety of RCC buildings.

Keywords: Reinforced Cement Concrete (RCC); Reinforcement Workmanship; Construction Quality Control; Structural Performance; Building Construction

Availability Assessment Framework for Converter-based Generation for Investment Planning of Reliable and Sustainable Energy Systems

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The global community is collectively working towards achieving a net-zero emission target to combat impending catastrophes of global warming. This has led to a rapid increase in renewable energy resources in electric power generation to offset fossil energy. These resources, mainly wind and solar, are known as converter-based generation, which pose number of challenges in reliable operation of a power system. This paper focuses on the availability challenges of wind power generation characterized by the variability and uncertainty of the wind resource, and the topology and reliability of the converter components. This study presents a method to evaluate the availability of a converter-based generation resource. A detailed reliability modeling framework based on sub-component failure and repair characteristics is developed to evaluate the availability of wind power generation system with different converter topologies. The developed method is then employed to perform comparative reliability analyses of widely used converter topologies in wind power generation technologies. It is found that traditional six-leg converter configuration yields a relatively low generation availability, whereas the availability of the redundant converter topology is significantly enhanced with the additional investment required for this configuration. The FTC-based five-leg converter offers a compromise trade-off between cost and reliability. The proposed evaluation framework and its application offer valuable methods and guidelines to make investment decisions on existing topologies and to develop new topologies based on the reliability requirement of the power system objectives.

Keywords: Net-zero Emission Target, Renewable Energy, Converter-based Generation, Wind Turbine Generator, Reliability, Availability, Converter Topology. Major

Biodegradable materials in Architecture

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This paper aims to study the use of biodegradable materials in architectural construction and building envelopes, with a focus on their application, benefits, and potential as alternatives to conventional materials. It also aims to examine the factors that influence the properties of these materials, considering the challenges associated with cost and technology. The research addresses several key questions, including the availability of materials for biodegradable construction, the advantages of biodegradable and biomaterials, the desired properties and characteristics required to fulfill multiple functions, and the parameters that positively or negatively impact their performance. To conduct this study, a scoping review methodology was adopted. The Google Scholar database was chosen because it is one of the most widely used search engines for scholarly literature. Through this research, the paper explores the applications of biodegradable materials in building construction and provides an understanding of the design principles associated with biodegradable buildings. It also investigates the potential for these materials to contribute to the goal of achieving almost zero waste production. By examining the benefits and limitations of biodegradable materials and analyzing the parameters that impact their performance, this study provides valuable insights into the use of sustainable materials in architectural practice.

Keywords: Biodegradable material, Architecture, Building Design

Comparative analysis of COVID-19 severity of pneumonia

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This research focuses on investigating the severity of pneumonia on patients infected by this virus using data mining approach. With the aid of the data (X-ray) about infected patients of COVID-19 of Nepal comparative analysis of the severity of pneumonia on COVID-19 infected patients were analyzed. The tools used for comparison is CNN (Convolutional Neural Network), which is one of the most popular data mining algorithms. So, two popular architectures of CNN are used to comparatively analyze the outcome, the architecture that will be used is DenseNet and ResNet. In order, to train the model ImageNet is used to train the data and prototypical network is used for classification purposes after the features have been extracted by ImageNet. The above-mentioned algorithms will be applied in the dataset obtained from the Nobel Hospital Laboratory. The model is supposed to predict the severity of the pneumonia on a COVID-19 infected patient. It is generally considered an infected patient recovers after 14 days but that can vary due to various factors like age, immune system, vaccination, etc.

Keywords: patients, mining algorithms, severity

Conservation of Khokana (World Heritage Tentative List) through reviving heritage values and pedestrianization

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Khokana, a unique medieval town located in Lalitpur metropolitan city was listed into world heritage tentative list in 1996 under UNESCO's cultural criteria: I, iii, iv and v. Its cultural values are being degrading due to gentrification of the indigenous community from the core area and haphazard reconstruction of traditional houses after 2015 April earthquake. Against such a backdrop, this paper aims to conserve Khokana through reviving heritage values and pedestrianization with threefold objectives of studying the existing built form and its transformation; of demonstrating the degradation of heritage values; and proposing pedestrianization with revival of community activities associated with heritage values. The study method combines both qualitative and quantitative techniques by visiting the site, mapping the activities and conducting questionnaire surveys with residents, retail shop owners and vehicle owners, and consulting ward officials, besides abstracting information from the literature review and case study analysis. Case studies of Bandipur and Thamel revealed that success of pedestrianization of streets requires additional efforts – improvement of infrastructure and addition of amenities, conservation and promotion of tourist attraction facilities including conservation of cultural heritage and protection of built form. The study identified rapid transformation of built environment; earlier pedestrian friendly streets have been occupied by vehicular movement and haphazard parking. New construction of individual buildings often mismatches with the existing adjacent houses in terms of building bulk and envelop, scale and proportion, architectural style and construction technology. Enhancement of street network improvement through pavement, regulating transitional space between individual house and streets (or public open spaces), conserving traditional streetscape and individual buildings, introduction of tourist attraction activities, which are also associated with livelihoods of the inhabitants are suggested. Urban design and architectural design guidelines are also suggested.

Key words: Conservation, pedestrianization, Khokana, community spaces, heritage value.

Cross-Border Electricity Trade (CBET): Nepal's Strategic Opportunity in a Surplus Future

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Objective: This research aims to reveal a conceptual structure of current literature related to Cross Border Electricity Trade (CBET): Nepal's Strategic Opportunity in a Surplus Future.

Research Design & Methods: We applied methods of reviewing literature review to identify the CBET: Nepal's Strategic Opportunity in a Surplus Future. The reference records were found from the literature, articles and publications.

Findings: Our review of recent literature on CBET: Nepal's Strategic Opportunity in a Surplus Future indicates that electricity surplus may create investment insecurity due to limited domestic market absorption. This is driven by youth migration abroad and a generation rate that exceeds consumption across households, industry, and appliances. The theme highlights CBET as a key future market mechanism to evacuate surplus power, especially from projects currently in Nepal's electricity generation pipeline.

Implications & Recommendations: The findings of this research provide valuable guidance and a way forward for future researchers to pursue research on various sectors related to topics related to CBET. An extensive literature review conducted using literature reviewing methods can serve as a reference to developing a better understanding of how CBET literature and discourse has evolved in recent times. **Contribution & Value Added:** This article presents a pictorial overview of the current status of cross-border electricity trade (CBET) in Nepal, linking it to energy security and the United Nations Sustainable Development Goals. In Nepal, CBET is not merely economic but also political, emotional, and developmental. Hydropower, often called Nepal's "white gold," was long underused, forcing dry-season imports and load-shedding. Today, growing monsoon surplus electricity has sparked national debate on regional cooperation and future energy planning with neighboring countries.

Keywords: cross border electricity trade; electricity surplus; energy security; renewable energy trade; hydro-electricity.

Detecting Weather Anomalies Across Nepal with Unsupervised Machine Learning

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Weather variability in Nepal presents significant challenges for climate monitoring and sustainable planning. Detecting unusual patterns in historical weather data is therefore important for understanding local climatic behavior. This study presents a machine learning-based approach for anomaly detection using daily weather observations from all 77 districts of Nepal between 2020 and 2025, totaling 120,933 records. The dataset includes multiple meteorological variables, such as temperature, humidity, pressure, precipitation, and wind metrics. Exploratory data analysis (EDA) was conducted to examine trends, distributions, and variability across districts and years. Anomaly detection was performed using Z-score, Isolation Forest, One-Class Support Vector Machine (OCSVM), and Autoencoder models, identifying 1,339, 3,628, 3,631, and 3,628 anomalous records, respectively. The results highlight unusual weather events and demonstrate the effectiveness of unsupervised machine learning for large-scale climate data analysis, providing valuable insights for early warning systems, environmental monitoring, and climate-resilient planning in Nepal.

Keywords: Weather anomaly detection, Machine Learning, Unsupervised Learning, Z-score, Isolation Forest, One-Class SVM, Autoencoder, Exploratory Data Analysis, Climate Monitoring

Experimental Investigation on Axial Load Enhancement of RC Columns Retrofitted with Hot-Rolled Steel Angles

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Retrofitting interventions play a crucial role in improving the structural performance of reinforced concrete (RC) buildings in Nepal, where many structures were constructed without adequate seismic detailing. In framed systems designed according to the strong column–weak beam philosophy, column capacity directly governs overall structural stability during seismic actions. This study experimentally evaluates the effectiveness of hot-rolled steel angle retrofitting in enhancing the axial load resistance of RC columns. Three column specimens with cross-sectional dimensions of 200 mm × 200 mm and a height of 1400 mm were cast using M25 grade concrete and reinforced with four 12 mm longitudinal bars and 8 mm lateral ties, following IS 456:2000 and SP-16 provisions. The theoretical axial capacity was calculated as 553.75 kN; however, destructive testing using a Universal Testing Machine recorded peak loads of 500 kN, 430 kN, and 290 kN, corresponding to a maximum compressive strength of 12.5 MPa, lower than the theoretical value of 13.83 MPa due to eccentricity, flexural effects, and construction imperfections. The columns were strengthened using hot-rolled steel angles installed along the full height with three confinement configurations: horizontal striping, horizontal striping with diagonal alternate bracing, and vertical–horizontal striping. Post-retrofitting tests showed enhanced axial capacities of 590 kN, 565 kN, and 507 kN, resulting in strength improvements of 18 %, 31.4 %, and 74.8 %, respectively. On average, retrofitting increased axial load capacity by 41.4 %, raising compressive strength to 17.68 MPa. While the vertical–horizontal configuration exhibited the highest improvement under axial loading, performance may vary under combined loading conditions. Overall, steel-based retrofitting proved to be a practical and cost-effective approach for strengthening RC columns and improving seismic safety of existing structures in Nepal.

Keywords: Structural Retrofitting, Post Retrofitting, Reinforced Concrete Columns, Hot-Rolled Steel Strengthening, Axial Load Capacity

Fabrication of PU/PEG Electrospun Nanofibers Loaded with Mupirocin for In Vitro Skin Tissue Regeneration

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Effective skin tissue regeneration requires materials that not only provide structural support but also possess antimicrobial properties to prevent infection. Present materials fail in some way to meet these demands, and the need for creative approaches to obtain long-lasting antimicrobial protection has emerged. In this study, we intended to develop and assess nanofibers made of Polyurethane (PU) and polyethylene glycol (PEG), incorporated with Mupirocin (MUP), a usually used antibiotic in skin tissue regeneration. These nanofibers were prepared using electrospinning techniques due to their capacity to create fibers with large surface area and with control parameters though the process has limitations like solution instability and critical control parameters. We effectively electrospun PU/PEG/MUP nanofibers with MUP concentrations of 5% and 10% and characterized those using Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), and contact angle measurements. The FTIR spectra confirmed the successful incorporation of Mupirocin. XRD analysis confirmed that PU/PEG nanofibers are of a proper structure, and the mupirocin is in amorphous state in the PU/PEG nanofibers. In synthesis, the water contact angle and surface energy results show that hydrophilicity of PU/PEG nanofibers decreases with increase in Mupirocin concentration where 5% MUP has higher hydrophilicity than 10% MUP. The initial biocompatibility analysis revealed that the MUP incorporated nanofibers had low cytotoxicity effect, with the cell viability percentage found to be at 106.8% for 5% MUP concentration and 108.53% for 10% MUP concentration after the 5-day incubation which confirms that these nanofibers are biocompatible and safe for use in tissue regeneration applications. The fabricated PU/PEG composite scaffolds also possessed good antibacterial property, especially on *Staphylococcus aureus*. Mupirocin release kinetics indicate that 5% and 10% Mupirocin-loaded nanofibers exhibit a bi-phasic release, burst effect, and a sustained release of 83.6 % and 92.3% at 96 hrs., respectively. These outcomes suggest that the PU/PEG/MUP nanofibers could be a promising candidate to support skin tissue regeneration offering controlled drug delivery, hydrophilicity, and antimicrobial efficacy.

Keywords: nanofibers, skin tissue regeneration, polyurethane, polyethylene glycol, mupirocin, electrospinning.

GPS Tracker With Call and SMS Alert System

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This paper presents the design and implementation of a low-cost and reliable emergency tracking system titled “GPS Tracker with Call and SMS Alert”, which enables real-time location monitoring and rapid alert generation during critical situations. The system integrates a NEO-6M GPS module for accurate positioning and a SIM800L GSM module for cellular communication, operating independently of internet connectivity. The fundamental working principle of the proposed system is based on event-triggered activation using a push button mechanism, which ensures power efficiency by keeping the device in a low-power state until required. Upon activation, the ATmega328P microcontroller initializes the GPS module to acquire latitude and longitude data. These location coordinates are then processed and transmitted to predefined contacts through SMS alerts. Additionally, the system is capable of automatically initiating a voice call, providing immediate attention during emergencies. The communication process relies on basic GSM cellular networks rather than mobile data services, allowing the system to function effectively even in regions with weak or unavailable internet connectivity. This ensures timely alerts, accurate location reporting, and dependable emergency response under diverse operating conditions. The developed prototype emphasizes compactness, portability, and affordability, utilizing a 3.7 V Li-ion battery and commonly available electronic components. The system has been tested and verified for stable operation, demonstrating safe, effective, and consistent performance. The results indicate that the proposed GPS tracking system is functional, scalable, and cost-effective, making it suitable for applications such as personal safety, vehicle tracking, ship monitoring, and hiker tracking. By minimizing power consumption and eliminating the need for complex infrastructure, the design offers a practical engineering solution that enhances emergency response capability while supporting sustainable and resilient technological development.

Keywords: GPS tracking system, GSM communication, emergency alert system, low-cost embedded solution, real-time location monitoring

How Effective Is NEA's Online Performance Appraisal System? Insights From Qualitative Study

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Employee performance appraisal is one of the most important components of human resource management. Human resource management activities have been rapidly shifted towards digital systems after Covid-19 pandemic and with the provision based on Sustainable Development Goal (SDG) which focus on innovation as: SDG 9(Industry, innovation and infrastructure) SDG 16 (Strong Institution). Nepal Electricity Authority (NEA) introduced Online Performance Appraisal System (OPAS) for the first time in history of Nepal's public sector in July 2025. Primary objective of this study was to explore the effectiveness of newly implemented online performance appraisal system in NEA. This study has adopted qualitative research methods, and an in-depth interview was conducted with seven key informants of NEA. Results from this research showed that online employee performance appraisal system implemented by NEA is highly effective albeit with minor limitations. Findings from this research also provide valuable insights for Nepalese civil service, other public institutions in Nepal as well as similar developing countries like Nepal that aim to implement online employee performance appraisal system.

Keywords: Performance Appraisal, NEA, Qualitative Method, HRM

Hydrological Response of a Rapidly Urbanizing Catchment in Kathmandu Valley Using the SCS-CN Method

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The rapid urbanization has greatly changed the natural hydrologic cycle of most urban catchments, especially in the developing cities. The Kathmandu Valley, Nepal, has undergone massive land use change during past decades where agricultural and open lands have been substituted with impervious surfaces, which include buildings, roads, and pavements. These changes have significantly altered the hydrological behavior of local catchments which has led to more surface runoff, less infiltration and higher occurrence of urban flooding. This paper measures the hydrological reaction of a fast-urbanizing catchment area in Kathmandu Valley through Soil Conservation Service Curve Number (SCS-CN) techniques formulated by the Natural Resources Conservation Service (NRCS). The imagery of the land-use and land-cover was obtained with the help of satellite imagery and processed with GIS techniques to reflect pre-urbanization and contemporary urbanization. According to the existing literature and local soil characteristics, the soil characteristics were categorized into hydrologic soil groups. NRCS Curve Numbers were applied to various land-use classes, and weighted Curve Numbers were obtained under various urbanization conditions. To simulate the generation of runoff under specific rainfall events, rainfall information of local weather stations was utilized. The changes in the behavior of the runoff that included runoff depth, peak discharge, and the overall runoff behavior were analyzed based on the urban expansion. It is anticipated that surface runoff and peak discharge increase significantly with urbanization and that impervious surfaces have a powerful effect on the catchment hydrology. The research will also determine the vulnerable sub-catchments that can more easily fall prey to flooding because of the accelerated land-use transformation. The findings offer useful quantitative data regarding hydrological effects of urban development in Kathmandu Valley and can be used to design sustainable urban drainage, reduction of flood risks, and sound land-use planning in urbanizing areas.

Keywords: imagery, urbanization, vulnerable sub-catchments

Integrated Assessment of Sediment Load Dynamics & Predictive Modeling in the Kankai River Basin Using Classical Rating Curve and Advanced Machine Learning Approaches

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Existence of complex topography and sediment transport in Nepalese river system is highly intense and dynamic in both basin and reach scale. Over time, accurate quantification of suspended sediment load (SSL) has been an intimidating issue in hydraulics and water infrastructure field. Various empirical methods exist but this research includes the formulation, calibration, and comparison of five classical SRC models and three machine learning models i.e. Random Forest, XG-Boost, and CNN-LSTM sequence modelling. Research carried out with a daily temporal resolution data spanning seven years (1973-1979) to examine the suspended sediment load, river discharge, and rainfall from six meteorological stations in the Kankai River Basin, Nepal. The Stationary analysis shows nonlinearity exists in sediment discharge relationship i.e. slope of fitted lines get shifted in each year. From hysteresis analysis, 1973 showed strongest counterclockwise loop ($HI=+0.54$) indicates transport limited system with delayed sediment delivery whereas 1978 shows strongest clockwise loop ($HI=-0.58$) indicates supply limited system with rapid sediment exhaustion. Therefore, among all traditional SRC models, Proportional method yielded R^2 (~ 0.444) which indicates strength of correlation is moderate with lowest PBIAS (0.00) and MAPE (~ 1) between SSL and discharge relationship ($SSL = 0.2690 * Q^{2.1658}$). Further, on evaluation of Machine Learning Model, it captures the nonlinearity with better performance by resulting approximately 15-20% lower bias compared to traditional SRC models. Therefore, XG-Boost with ($R^2=0.633$, $NSE=63.4\%$, $PBIAS=0.6852$) indicates strong correlation and robust predictive ability with observed trend, followed closely by other two models. It revealed that short-term rainfall variables (Q_{Rain3}) were most influential predictors showing strong antecedent rainfall effects on sediment dynamics. From this research, a fortified adaptive framework is developed for enhancing sediment load prediction by consolidating the data driven approaches with hydrological hyperparameter understanding.

Keywords: Sediment Dynamics, Hysteresis Index, Sediment rating curve, Suspended Sediment load, Machine Learning models, Hydrological hyperparameter.

Mitigating Climate Change in Nepal using Artificial Intelligence: A Comprehensive Review

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Nepal, situated in the Hindu Kush Himalaya region, faces unprecedented climate change challenges including accelerated glacier retreat, glacial lake outburst floods (GLOFs), extreme weather events, agricultural disruptions, and water resource stress. As a mountainous nation with limited technological infrastructure, Nepal requires innovative approaches to climate adaptation and mitigation. Artificial intelligence (AI) and machine learning (ML) technologies have emerged as powerful tools for addressing these challenges through enhanced monitoring, prediction, and decision-support capabilities. This comprehensive review examines the current state of AI applications for climate change mitigation in Nepal. A systematic analysis using AI applications across five critical domains includes: (1) glacier monitoring and GLOF prediction, (2) disaster early warning systems, (3) agriculture and water resource management, (4) climate modeling and prediction, and (5) environmental monitoring. The analysis reveals that deep learning approaches, particularly convolutional neural networks (CNNs) for remote sensing analysis, have achieved significant advances in glacier mapping, GLOF risk assessment, and landslide prediction. Critical research priorities have been identified including the development of hybrid AI-physical models, multi-hazard early warning systems, and scalable solutions adapted to Nepal's socio-economic context. This review provides a comprehensive foundation for researchers, policymakers, and practitioners working to leverage AI technologies for climate resilience in Nepal and similar mountain regions.

Keywords: Artificial Intelligence, Machine Learning, Climate Change, Glacier Monitoring, GLOF Prediction, Disaster Management, Deep Learning

Observational Excavation: A Key to Modern Underground Space Technology

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While New Austrian Tunnelling Method (NATM) facilitates adaptive observational excavation based underground development, the classical reliance on a composite, phase-dependent support assembly creates significant mechanical and logistical inherent idle time. The discrete application of shotcrete and systematic rock bolting often results in staggered advance rates and underutilized structural capacity. Addressing these constraints requires the integration of high-performance materials that unify initial stabilization and long-term support, thereby mitigating the bottlenecks inherent in sequential tunnelling protocols.

This research investigates a paradigm shift in tunnelling support systems by integrating Ultra-High-Performance Fiber-Reinforced Concrete (UHPFRC) infused with Shape Memory Alloy (SMA) Fibers lining. Utilizing a case study of a tunnel project in basaltic rock formations, categorized via the Rock Mass Rating (RMR) system, a Finite Element Analysis (FEA) was conducted to evaluate structural performance and validated using Relative Convergence Index (Icr). The findings demonstrate that the superior mechanical properties of UHPFRC-SMA allow for a streamlined "single-shell" approach. Specifically, in Type II and Type III rock mass conditions. By eliminating traditional rock bolting and the shotcrete, reduced primary support time gives robust NATM Cycle while, maintaining allowable distortion limits. This study offers significant utility for future underground infrastructure projects encountering similar geology, providing a blueprint for enhancing efficiency, economy, and sustainability. It represents a pivotal contribution to modern underground space technology, advocating for smart, observational-based tunnelling approaches combined with advanced material science.

Keywords: Observational excavation, RMR, UHPFRC using SMA fibers, FEA, Relative convergence index, NATM time cycle

Multi-Criteria Analysis in Construction Projects Using Point Allocation Approach

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Construction project planning traditionally emphasizes cost and duration, often neglecting other critical parameters that influence construction project success. This research paper proposes the development of a weighted criteria-based model for enhancing activity planning in construction projects. The model integrates both quantitative and qualitative factors such as cost, activity duration, resource cost share, criticality, safety, risk level, technical complexity, regulatory compliance, quality and rework criticality, importance, and manageability. Using the Point Allocation Method, expert opinions were gathered to assign relative weights to each criterion. Activities were then normalized and scored on a fixed scale to ensure comparability. The weighted scores allowed for systematic prioritization of construction project activities, thereby providing a more balanced reflection of their true contribution to overall project performance. The model was tested with real project data and validated using case study analysis. Results indicate that this approach enables more accurate identification of high-priority activities, improves resource allocation, minimizes delays, and strengthens decision-making in project planning. Ultimately, the model offers a structured framework that enhances transparency, efficiency, and control in construction project management.

Keywords: Construction Project Management; Activity Prioritization; Multi-Criteria Decision Making; Point Allocation Method; Weighted Criteria Model

Optimization Techniques for Enhancement of Power Quality in Grid-Connected Solar Photovoltaic Systems

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The large-scale integration of grid-connected solar photovoltaic (PV) systems has introduced significant power quality challenges, including harmonic distortion, voltage fluctuations, reactive power imbalance, and poor power factors. Conventional control methods are often insufficient to address these dynamic and nonlinear issues under varying irradiance and load conditions. Consequently, optimization-based techniques have emerged as effective solutions for enhancing power quality in grid-connected PV systems. This paper presents a comprehensive study of optimization techniques applied to power quality improvement, focusing on harmonic mitigation, voltage regulation, and current control. Techniques such as Particle Swarm Optimization (PSO), Genetic Algorithm (GA), Grey Wolf Optimization (GWO), Whale Optimization Algorithm (WOA), and hybrid optimization approaches are reviewed and analyzed. The paper highlights their effectiveness in minimizing Total Harmonic Distortion (THD) and improving grid compliance in accordance with IEEE-519 standards. Simulation-based performance evaluation from recent literature demonstrates that optimization-assisted controllers significantly outperform conventional methods. The study concludes with future research directions emphasizing intelligent hybrid optimization frameworks for next-generation grid-connected PV systems.

Keywords: Grid-connected PV system, Power quality, Optimization techniques, Harmonic mitigation, Total Harmonic Distortion (THD), IEEE-519

Performance of Commercial biogas in achieving a sustainable Bio economy and Waste Management

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Large biogas plants address waste management challenges, supplement insufficient chemical fertilizers, cut carbon emissions, and decrease reliance on petroleum imports. This study assesses Nepal's commercial biogas plants' technical performance across input, transformation (anaerobic digestion), and output (product chain) through the organic waste management. It examines average biogas yield and economic viability. Field visits and in-depth discussions with plant managers were conducted based on modeled questionnaire. The provided information was grouped and thoroughly analyzed based on similar study on the topic through the available literature, articles, research papers, etc. The study identifies that a single biogas plant operating at full capacity on average can process around 40 tons per day of organic waste. However, inconsistent feedstock input is due to overestimating organic waste collection, leading to plants operating at 80% below capacity. Facilities lacked instruments for testing the parameters of feedstock like C:N ratio, pH, TS and VS of organic waste which are often unregulated and it heavily influenced the calculation of the results that followed in unrealistic technical outcomes. Upon financial analysis conducted on full capacity operation and sales, operation and investment in biogas plant looks feasible and sustainable. However, practically the biogas facilities operating in Nepal are suffering losses. The challenges in operation have arisen due to Covid-19 impacts and project delays, weak supply chains and market issues, leading to wastage of biogas and fertilizer. Stakeholders must address technical weaknesses, storage and upgradation of biogas within the standard, set legal frameworks, and conduct public awareness for a sustainable bio economy.

Keywords: Biogas, Anaerobic Digestion, Waste Management, Organic Fertilizer

Post-Fire Assessment of damage patterns observed in local government buildings affected during a recent Gen-Z Movement in Nepal by Fire

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Civil disturbance events can cause significant functional disruption to public infrastructure, yet systematic engineering assessments of such damage remain limited. This paper presents a post-event engineering assessment of damage patterns observed in local government buildings affected during a recent Gen -z Movement in Nepal. The study is based on detailed field observations of more than 30 local-level government buildings, including Municipality Building, Rural Municipality building, Ward office Building and police station offices. The assessment focused on identifying nature, extent, and spatial distribution of damage from a structural engineering perspective. Results indicate a consistent and selective damage pattern across the surveyed buildings. In addition, the study aimed to identify the most severely affected localized areas within the buildings and to investigate the underlying reasons for the observed localized damage. In conclusion, the damage profile reveals a deliberate targeting office of Mayer, Deputy Mayer, chief administrative officer and engineers. The structural outcome was a systemic weakening of the gravity load path, moving these structures into a high-risk category. The findings emphasize the need for improved building planning that considers resilience not only against natural hazards but also against social unrest. Strengthening non-structural components, improving spatial zoning of critical offices, and incorporating protective design measures are recommended to enhance the functional resilience of government buildings during future socio-political movements. Structural damaged pattern observed will be presented in separate paper.

Keywords: structural engineering, social unrest, protective design

Prediction of River Discharge Using Response Surface Method and Artificial Neural Networks

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River water is used for various purposes like water supply, irrigation, and hydropower generation. Accurate estimation of river flow is required for managing water demands, predicting floods, and operation of dams. Many hydrological models are developed for modeling river runoff with respect to rainfall and basin characteristics. However, calibration of model parameters is tedious and time consuming. The data driven models can capture the non-linear relationship between rainfall and runoff and are computationally efficient than physical models. In this paper, a mathematical model namely Response Surface Method (RSM) and Artificial Neural Network (ANN) are used to predict the river discharge. The models are developed based on historical discharge data from the Kulekhani river at the section where the dam is currently located. The results of the presented models are compared with those obtained from a hydrological model (HEC-HMS). The results show RSM and ANN are effective in rainfall-runoff modelling and can be used for fast and accurate predictions.

Keywords: response surface, neural networks, runoff modelling, calibration

Role of Geomatic Engineering in Achieving Sustainable Development Goals in Nepal

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Geomatic Engineering plays a vital role in supporting sustainable development through the generation, management, and analysis of spatial information. The United Nations Sustainable Development Goals (SDGs) emphasize balanced economic growth, social equity, and environmental protection, all of which require accurate geospatial data for effective planning and monitoring. In Nepal, geomatic applications are increasingly essential for addressing development challenges in the Himalayan region. This paper aims to examine the contribution of Geomatic Engineering to achieving the Sustainable Development Goals in Nepal. The study is based on a review of national geospatial initiatives, government reports, and development programs implemented by institutions such as the Survey Department and the National Planning Commission. Key applications analyzed include land resource mapping, infrastructure surveying, environmental protection, biodiversity conservation, and climate-resilient development. The use of modern geomatic tools such as Geographic Information Systems (GIS), Global Navigation Satellite Systems (GNSS), remote sensing, unmanned aerial vehicles (UAVs), and emerging artificial intelligence techniques is highlighted. The study finds that geomatic technologies have significantly improved accuracy, efficiency, and decision-making in infrastructure development, natural resource management, and SDG monitoring. However, challenges such as political instability, financial limitations, data security risks, and insufficient technological capacity persist. The paper concludes that strengthening geomatic infrastructure, digitizing critical records, and enhancing professional capacity are crucial for sustainable development planning in Nepal.

Keywords: Geomatic Engineering, Sustainable Development Goals, GIS, Land Resource Management

Spatial Decision Support for Sustainable Wind Energy Planning: A GIS and Fuzzy AHP-Based Study of Gandaki Province, Nepal

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Wind energy has significant potential to help Nepal transition to a more sustainable and diverse renewable energy system, particularly in mountainous areas where conventional infrastructure development is limited by complex terrain and environmental concerns. However, determining viable locations for wind energy development in the Himalayan region necessitates a thorough examination of numerous environmental, topographic, and infrastructural factors. This study presents a spatial decision support framework for sustainable wind energy planning in Gandaki Province, Nepal, based on Geographic Information Systems (GIS) and the Fuzzy Analytic Hierarchy Process (FAHP). Eight key criteria wind speed, slope, elevation, land use/coverage, distance to roads, transmission lines, settlements, and airports were chosen after a thorough review of relevant literature and regional planning considerations. FAHP was used to assess the relative importance of these criteria while accounting for uncertainty in expert judgment. GIS-based spatial analysis and weighted overlay techniques were then used to combine the criteria and create a wind energy suitability map for the study area. According to the findings, only a small portion of Gandaki Province is classified as high to very high suitability, with the majority concentrated in the northern mountainous areas. This finding emphasizes the importance of terrain, accessibility, and land-use constraints on wind energy development in Himalayan landscapes, where high wind potential does not guarantee feasibility. Validation using the locations of existing wind turbine installations reveals good agreement with the identified suitable zones, demonstrating the proposed approach's reliability. The study offers useful insights for planners and policymakers by demonstrating how geospatial multi-criteria decision-making can help with informed, context-sensitive planning of sustainable wind energy infrastructure in Nepal and other Himalayan regions.

Keywords: renewable energy system, multi-criteria decision-making weighted overlay techniques,

Water Hyacinth (*Eichhornia Crassipes*) and its Removal Efficiency of Lead from Industrial Wastewater

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Increasing urbanization, industrialization and overpopulation is leading to the degradation of the environment. Contamination of water and wastewater with heavy metals is emerging as a global environmental challenge. This study is, to evaluate the efficiency of water hyacinth (*Eichhornia Crassipes*) in removal of lead (Pb) from industrial wastewater with different concentration of lead content. The removal of heavy metals from industrial wastewater using aquatic macrophytes could be an effective, environment-friendly and affordable technical option for the developing countries like Nepal. In this study, the range of lead concentration used in the sample in mg/l were: 2.2, 2.62, 3.24, 4.52, 6.58, 7.82, 8.7, 13.0 obtained from various level of dilution ranging from 1:0 to 2:1. The potential of an aquatic macrophyte water hyacinth to remove lead from industrial wastewater and its removal efficiency of lead was evaluated using batch method for 20 days. Lead removal continued for all 20 days with higher rate of removal in initial 10 days for all concentration. Lead uptake per plant in 20 days increased with concentration of Lead in wastewater following linear equation. Lead uptake per kg of plant mass also followed a linear equation except for two points that may be because plant did not grow and Lead is deposited in the root. The lead uptake per kg mass of plant and lead uptake per plant was found to be maximum of 98.88 mg/kg plant and 14.10 mg/plant in 13 mg/l lead concentration of wastewater respectively.

Keywords: wastewater, water hyacinth, lead, concentration, efficiency, macrophytes

Web-Based Tool for Image Metadata EXIF Data Analysis and Privacy Protection

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Digital images today are more than just visual content, they carry hidden information known as metadata or EXIF (Exchangeable Image File Format) data. This metadata can include details such as the camera make and model, date and time of capture, software used for editing, image resolution, and GPS location. While such information is valuable for photographers and professionals to organize and manage images, it also poses significant privacy and security risks when shared online. Sensitive data like location coordinates or device identifiers can be exploited if not properly handled. It aims to provide users with a simple and effective way to view and remove image metadata directly within a web browser, without relying on server-side processing. Using standard web technologies such as HTML, CSS, and JavaScript, users can upload an image to the application, inspect all EXIF metadata in a readable format, and remove sensitive information like GPS coordinates, camera details, and other identifying data. The system enhances user awareness by clearly presenting metadata and gives control over privacy by allowing the removal of sensitive details. It employs JavaScript libraries such as Exif.js for metadata extraction and HTML Canvas for generating a “clean” version of the image without embedded metadata. The application is lightweight, platform-independent, and does not require internet access after loading, making it suitable for personal and professional use. The contributes to digital privacy by helping users understand and manage the hidden information in their images. It demonstrates how web technologies can be leveraged to create tools that enhance privacy, security, and user control over digital content, making it an ideal solution for both casual users and professionals who handle sensitive visual data.

Keywords: EXIF Metadata, Image Privacy, Web-Based Tool, Metadata Removal, Data Privacy

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