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Resunga Municipality-01, Tamghas, Gulmi
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Editoral

It is with great academic pride and responsibility that we present Volume 5, Issue 1 of Resunga Journal, a peer-reviewed scholarly publication of Resunga Multiple Campus. The publication of this fifth volume represents a significant milestone in our continuing effort to institutionalize research culture and uphold academic excellence in alignment with the standards set by the University Grants Commission Nepal.

Since its establishment, Resunga Journal has aimed to provide a credible platform for scholars, researchers, and academicians to disseminate original research findings across disciplines. In conformity with UGC publication guidelines, the journal strictly maintains editorial transparency, and follows recognized standards of research ethics. All manuscripts undergo plagiarism screening to ensure originality, and editorial decisions are based solely on scholarly merit, methodological rigor, and relevance to the academic community.

The articles included in this issue reflect interdisciplinary engagement in areas such as education, humanities, management, and social sciences. The contributors demonstrate clarity in research objectives, theoretical grounding, appropriate research design, systematic data analysis, and critical discussion of findings. Emphasis has been placed on methodological soundness, proper citation practices (APA style), and ethical compliance—core requirements for UGC-recognized academic publications.

As a community-based institution, Resunga Multiple Campus remains committed to producing research that is both locally responsive and globally informed. The studies published herein address contemporary issues relevant to Nepal's educational, social, and economic contexts while contributing to broader scholarly conversations. We strongly encourage faculty members and emerging researchers to engage in innovative inquiry and publish work that meets national accreditation and indexing benchmarks.

The Editorial Board extends sincere gratitude to the reviewers for their constructive feedback, to the authors for their scholarly contributions, and to the Campus Management Committee for their continued support in strengthening research infrastructure and publication standards. Their collective effort ensures the credibility and sustainability of Resunga Journal.

As we move forward, we aspire to enhance the journal's visibility through ISSN registration, digital archiving, DOI integration, and inclusion in recognized indexing databases in accordance with UGC requirements. We welcome high-quality submissions and constructive feedback for future issues.

On behalf of the Editorial Board, I thank all contributors and readers for their trust and engagement. May this volume further advance the culture of research, academic integrity, and intellectual growth at Resunga Multiple Campus and beyond.

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Systematic Literature Review on Effect of Ethical leadership on Employee Job Performance

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Abstract

This study systematically reviews that existing literature of ethical leadership and employee performance to examine therelationship between these variables used in the study leadership and employee job performance across diverse organizational contexts of the study conducted in different countries. Ethical leadership that has been characterized by fairness, integrity and concern for stakeholders, has increasingly been recognized as a critical determinant of positive employee outcomes. The review of this studysynthesizes that empirical studies published in top ranking journal between 2012 to 2025, highlighting that how ethical leaders influence employee attitudes, motivation and behavior. Findings consistently indicate that ethical leadership enhances job performance by fostering trust, job satisfaction, organizational commitment and psychological safety. Ethical leaders serve as role models, promoting ethical conduct and reducing workplace deviance, which in turn improves task performance and organizational citizenship behaviors. Additionally, the review identifies those mediating mechanisms such as employee engagement and ethical climate, as well as moderating factors including cultural context and individual moral identity. The implications suggest that cultivating ethical leadership can be a strategic approach to optimizing employee performance and reinforcing ethical organizational practices.

Keywords: *Ethical leadership, Employee performance, organization culture, Systematic*

Introduction

An organization's performance relies not only on its financial capacity but also on other performance such as leadership and employee behavior research highlights that the role of leadership in improving organizational performance (Panthi, 2025). *The success of an organization largely depends on the behavior of its leaders, as* *leadership behavior significantly influences employee motivation, engagement and performance, which are key determinants of organizational success (*Hurduezeu, 2015).Ethical behavior in managementcharacterized by fairness, transparency, integrity, respect and accountabilityextends beyond legal compliance to cultivate trust and psychological safety within organizations. As defined by Brown, Treviño and Harrison (2005), ethical leadership refers to “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships and the promotion of such conduct to followers through two-way communication, reinforcement and decision-making.” This definition highlights that ethical leadership operates both at the individual and systemic levels, directly influencing employees’ attitudes and behaviors.

Achieving high organizational performance requires not only knowledge, skillsandgreat financial capital but also requires ethical behavior or ethical leadership Yukl, et al., (2013). The relationship between managerial ethics and employee performance is multidimensional, influencing not only measurable outcomes such as productivity and efficiency but also qualitative aspects including creativity, engagement and organizational citizenship behavior. Empirical research consistently indicates that employees who perceive their leaders as ethical report higher levels of job satisfaction, organizational commitment and discretionary effort. For example, Mayer, Kuenzi, Greenbaum, Bardes and Salvador (2009) found that ethical leadership positively influences individual and group performance through enhanced trust and reduced workplace deviance. Conversely, unethical managerial practicessuch as favoritism, deception, or exploitation—can severely damage employee morale, increase turnover intentions and encourage counterproductive work behaviors, ultimately eroding organizational human capital (Tepper, 2000).

A primary pathway through which ethical leadership enhances performance is the cultivation of **trust in the leader**. When employees perceive their leaders as honest, reliable and principled, they are more likely to engage in risk-taking, open communication and discretionary efforts without fear of exploitation. This psychological safety net reduces transaction costs associated with monitoring and control, allowing employees to focus cognitive and emotional resources on their core tasks. As noted by Ko et al. (2018), trust acts as a critical lubricant in the social exchange relationship, where employees reciprocate the fairness and care shown by ethical leaders with increased commitment and diligent performance. This trust-based currency is indispensable for fostering a cooperative and high-performing work environment.

Brown, et al. (2005) and Trevino, et al. (2003) further argued that ethical leader plays role model for their followers and use reward and punishment to promote ethical behavior. Followers will behave similarly to their leader through imitation and observation learning. Ethical leadership is expected to have a positive effect on employees’ behavior which result in good organizational performance (Trevino, et al, 2003). Leadership in various cultures by being aware of the rules, principles and methods of decisionmaking. This approach is advantageous for organizations that operate in multiple countries because it aids in the development of an understanding of how to interact with colleagues from various backgrounds. Furthermore, a better understanding of colleagues' national cultures can aid in the creation of workplace unity and harmony. For example, when employees understand their colleagues' cultural norms, they can be more sensitive to understand the differences in communication styles. Organizational leaders and staff members must be aware of the variations and parallels among cultural expectations when performing their jobs (Resick et al., 2006).

Upadhyay and Adhikari (2021) examined the impact of ethical behavior on employees’ performance in Nepalese commercial banks and found a significant positive relationship between ethical conduct and employee performance. Their study highlights those ethical practices in leadership, including fairness, respect, discipline and appropriate reward and punishment systems, contribute to improved employee efficiency and commitment (Niroula& Panthi,2021). The findings suggest that when leaders demonstrate ethical behavior, employees are more motivated, engaged and aligned with organizational objectives. This study provides important empirical evidence from the Nepalese banking sector, reinforcing the argument that ethical leadership and behavior are critical drivers of employee performance in developing country contexts.

Leadership is recognized as a key factor that indisputable influences employee performance in any sort of business (Ogbonna & Harris, 2000). However, researchers and academics have disagreed over how workers respond to different styles of leadership (Gadot, 2006). Effective leadership, according to Detert et al. (2007), assists staff in identifying and sharpening their contributions to the organization's success. Attention had to be directed towards another type of modern leadership style, which is the "ethical leadership" style, Ethical leadership is anunclearnotion that includes several different characteristics (Yukl & Becker, 2006). A recent theoretical concept of ethical leadership has been suggested that may provide a solution (Brown et al. 2004; Trevino et al., 2003). Employee performance, according to Mwita (2000), is a crucial multicharacter factor that aims to produce results that are closely related to the organization's predetermined goals. Employee performance can increase under ethical leadership, according to studies (Bello, 2012). Numerous studies have been conducted to evaluate how ethical leaders might enhance workforce productivity. Ethical leadership may act as a mediator in the relationship between corporate culture and employee outcomes, (Toor & Ofori 2009).

"Leadership is not a universal trait possessed by all individuals; rather, it requires a distinct combination of vision, ethical judgment and influence that not everyone naturally develops or acquires."*Northouse, (2022).* Good leadership enhances resilience and organizational performance, while bad leadership negatively affects both organizational and individual performance Aboyasin& Abood, (2013). *So, a good leader should have the following qualities that are essential for the achieving the desired goals of the organization.*

Integrity

Integrity refers to honesty, consistency and adherence to moral principles. Leaders with integrity gain trust and credibility, which are essential for long-term effectiveness (Yukl, 2013; Northouse, 2022).

Vision and Strategic Thinking

A good leader articulates a clear vision and aligns organizational goals with future opportunities. Visionary leadership helps guide and inspire followers toward shared objectives (Bass & Avolio, 1994).

Ethical Responsibility

Ethical leaders demonstrate fairness, transparency and concern for others. Ethical responsibility promotes accountability and fosters a positive organizational climate (Brown, Treviño, & Harrison, 2005).

Effective Communication Skills

Communication is central to leadership effectiveness. Leaders must clearly convey expectations, actively listen and encourage open dialogue (Robbins & Judge, 2020).

Emotional Intelligence

Emotional intelligence enables leaders to understand and manage their own emotions as well as those of others, contributing to better relationships and leadership effectiveness (Goleman, 1998).

Decision Making Ability

Effective leaders make informed, timely and balanced decisions, especially in uncertain environments. Sound decision-making enhances organizational performance (Yukl, 2013).

Empathy and Respect for Others

Empathy allows leaders to understand employees' perspectives and needs, fostering trust, motivation and cooperation (Northouse, 2022).

Accountability and Responsibility

Leaders must accept responsibility for their actions and decisions. Accountability sets behavioral standards and encourages ethical conduct among followers (Brown & Mitchell, 2010).

Adaptability and Flexibility

In a dynamic business environment, leaders must be flexible and open to change. Adaptability helps organizations respond effectively to internal and external challenges (Heifetz, Grashow, & Linsky, 2009).

Ability to Inspire and Motivate

A good leader inspires followers by recognizing their contributions and leading by example, thereby increasing commitment and performance (Bass, 1985).

Methodology

The systematic literature review (SLR) method allows the integration and reinterpretation of findings from independent studies on a specific topic, enabling research conducted across different times, locations andsample sizes to be examined holistically for more reliable conclusions. According to Greenhalgh (1997), an SLR uses transparent and replicable procedures to comprehensively evaluate all relevant literature. This review focuses on ethical leadership and its relationship with employee performance, analyzing studies over the past decade across various organizations. A Systematic Literature Review (SLR) differs from traditional reviews by being objective, repeatable and comprehensive, following methods similar to empirical research (Weed, 2005). In leadership and management, SLRs provide transparency, simplicity and impartial reporting on a topic (Thorpe et al., 2006). According to Klassen et al. (1998), an SLR involves a comprehensive search for relevant studies, which are then appraised and synthesized using a predetermined method The synthesis considers research questions, hypotheses, publication year and context to provide a thorough understanding of the topic. Accordingly, this review addresses whether the ethical leadership style affect employee performance.

Data Sources

This study used a systematic literature review method, fallowing the deductive approach in which all relevant studies relating to a topic domain are identified, explored and interpreted (Webster & Watson, 2002). Several databases, including

Science Direct, Research Gate Elsevier and Springer, were selected to narrow the scope of previous research on the effect of ethical leadership on employee performance and increase the chances to find relevant studies. Google Scholar and Google Search are also used to conduct a broader search on topics. The research used ethical leadership, impact and employee performance as keywords to carry out the automatic search in the databases.

Inclusion and Exclusion Criteria

This systematic review includes studies that the published between 2012 and 2025 that examine ethical leadership and its impact on employee job performance. Only journal articles and one master's thesis involving employees, supervisors, and managers across various organizations were considered. Studies not directly addressing the effect of ethical leadership on employee performance were excluded.

Sample

The literature review consists of 23 articles published seven in Nepal and sixteen globally between 2012-2025 highlighting how ethical leaders influence employee attitudes, motivation and behaviorare taken into consideration for literature review, The majority of the study samples came from business organizations in the both public and private sectors and across a range of industries, with only a few examples from other contexts such bank and universities.

Result and Discussion

The main findings derived from the reviewed studies, as summarized in Table 1, indicate that ethical leadership exerts both direct and indirect effects on employee performance. Evidence from the 19 selected publications consistently demonstrates a positive relationship between ethical leadership and employees' performance. Moreover, the findings suggest that employees tend to perform at higher levels when they are treated fairly and ethically, a conclusion strongly supported across the reviewed literature. As anticipated, the relationship between ethical leadership and employee performance is influenced by several moderating and mediating factors, including employee loyalty, trust, commitment, job security and efficiency. Overall, this study makes significant theoretical contributions by strengthening the understanding of how ethical leadership influences employee performance and by highlighting the key mechanisms through which this relationship operates.

Table 1

Table of articles, complied for this study

Author(s) & Year	Sample / Context	Effect of Ethical Leadership on Employee Performance
Lama, Aryal & Shrestha (2024)	Employees	Ethical leadership showed a positive but statistically insignificant effect on employee performance in Nepalese commercial and development banks.
Bhandari &Subedi (2024)	Employees	Ethical leadership significantly increased employee commitment, which is closely related to higher job performance and retention
Subedi &Bhandari (2024)	Employees	Ethical leadership significantly fosters employees' innovative behavior in Nepalese commercial banks. Innovation correlates with task performance and organizational effectiveness.
Upadhyay &Adhikari (2021)	Employees	Ethical behavior (including leadership style) positively affected employee performance in Nepalese banks; respect, teamwork, reward-punishment and discipline increased performance
Kayastha(2024)	Faculties	Ethical leadership enhanced teacher engagement, which strongly predicts better classroom performance and professional outcomes.
Basnet & Neupane (2025)	Employees	Ethical leadership positively and significantly influenced organizational commitment among Nepali public sector employees higher commitment is linked with better performance.
Sherchan(2021)	Principal	School principals' ethical leadership reinforced values and moral practices that support teachers' professional conduct and likely

Author(s) & Year	Sample / Context	Effect of Ethical Leadership on Employee Performance
		improve performance in educational settings.
Bello, S.M. (2012)	Leaders	Ethical leadership effect positively and directly on employee performance
Khuong, M.N. &Quoc,T.H. (2016)	Employees	Ethical leadership's effect positively and directly on employee performance also has a positive indirect effect of ethical leadership on employee job performance through employee job satisfaction and employee work motivation
Sheraz, A., Zaheer, A., &Nadeem,M.(2012)	Employees	Ethical leadership mediates the positive relationship between organizational culture and employee performance ethical leaders promote a supportive culture in organizations.
Park, C.H., Kim,W.,&Song,J.H.(2015)	Employees	Ethical performance and leadership effect directly on employees' behavioral performance, also ethical leadership has a positive indirect effect on performance through psychological ownership
Malik,M.S.,Awais, M., Timsal,A., &Qureshi,U.H. (2016)	Employees	Ethical performance and leadership effect directly on employees' behavioral performance, also ethical leadership has a positive indirect effect on performance through psychological ownership
Shafique, I., N Kalyar, M., & Ahmad, B. (2018)	employees	Ethical leadership effect directly employees' performance and indirectly through employee job satisfaction
Liu, J., Kwan, H. K., Fu, P. P., & Mao, Y. (2013	Employees and leaders	Ethical leadership positively directly affects employee performance, also indirect effect through workplace friendships and subordinates' traditionalist.

Author(s) & Year	Sample / Context	Effect of Ethical Leadership on Employee Performance
Weng, L. C. (2014)	Employees and leaders	Ethical leadership and behavior are positively and directly associated with the service performance of their followers
Bataineh, M. T. (2020)	Employees	Ethical leadership has a positive and direct effect on employee job performance
Kelidbari, H. R. R., Fadaei, Ebrahimi, P. (2016)	Employees	Ethical leadership affects employee performance positively and indirectly through intermediary variables such as leader-member exchange, self-efficacy andorganizational identity
Mo, S., & Shi, J. (2017).	Employees and leaders	Ethical leadership effect employee task performance positively and indirectly mediated by trust in leader and surface acting
Bouckenooghe, D., Zafar, A., & Raja, U. (2015)	Employees and leaders	There is a positive indirect relationship between the ethical leadership of the leaders and followers' in-role job performance, through mediator factors such as follower–leader goal congruence and psychological capital.
Ahn, J., Lee, S., & Yun, S. (2018)	Employees and leaders	Ethical leadership directly and positively affects employee performance.
Kang, S. W. (2019	Employees and leaders	Ethical leadership effect positively and indirectly on followers' work performance mediated by followers perceived salience of the ethics code
Yang et al. (2019),	Employees	ethical leadership positively effects employee performance in the banking sector.
Obicci, P. A. (2015)	Employees	There is a positive and direct effect of ethical leadership on employee performance.

The reviewed studies consistently indicate that ethical leadership has a positive influence on employee performance across different organizational contexts, both in Nepal and globally. Ethical leadership is characterized by fairness, integrity, transparency, respect andconcern for employees, which creates trust, commitment and motivation among followers.

Many studies show that ethical leadership directly improves employee performance. Leaders who model ethical behavior inspire employees to perform better in their tasks, as demonstrated in studies by Zehir& Erdogan (2011), Bello (2012), Weng (2014), Bataineh (2020) and Ahn et al. (2018). Similarly, Nepalese studies such as Upadhyay & Adhikari (2021), Kayastha (2024) and Bhandari & Subedi (2024) show that ethical leadership directly enhances performance, engagement and classroom or workplace effectiveness.

Ethical leadership also indirectly enhances performance by mediating factors such as job satisfaction, organizational commitment, trust, innovation, psychological ownership, leader-member exchange and workplace relationships. For example, Khuong & Quoc (2016), Park et al. (2015), Shafique et al. (2018) and Mo & Shi (2017) demonstrate that the relationship between ethical leadership and performance is strengthened through these mediators. In Nepalese contexts, Subedi & Bhandari (2024) found that ethical leadership promotes innovative behavior, which is closely linked to task performance and organizational effectiveness.

Studies also highlight the role of organizational culture and sectoral context. Sheraz, Zaheer & Nadeem (2012) emphasized that ethical leaders foster supportive cultures, which in turn improve performance. Nepalese research indicates that ethical leadership in banks, educational institutions and public organizations enhances commitment, engagement and professional conduct (Basnet & Neupane, 2025; Sherchan, 2021). Lama, Aryal & Shrestha (2024), however, found a statistically insignificant effect in some commercial and development banks, suggesting that contextual factors such as organizational norms, culture and employee perceptions may moderate the impact of ethical leadership. Across the studies, ethical leadership consistently emerges as a key determinant of employee performance, both directly and indirectly. Leaders who demonstrate ethical behavior create a positive organizational climate that encourages trust, commitment, motivation, innovation and engagement, resulting in improved task and organizational outcomes. The findings emphasize the importance of cultivating ethical leadership practices to enhance employee performance and organizational effectiveness across global and Nepalese contexts.

Implications for Future Research

There is a significance gap on the differences in ethical perspective would affect ethical leadership and employee performance is a matter for future research.

Conclusion

This systematic literature review of this study provides that a comprehensive and contemporary scholarly examination of the effect of ethical leadership on employee performance. The findings contribute to a deeper understanding of the organizational mechanisms that should be effectively managed to promote improved workplace performance. The reviewed studies consistently indicate that employees feel respected, valued and motivated when they are treated ethically and with genuine care, which in turn enhances their willingness and ability to perform at higher levels. Ethical leadership fosters a supportive work environment where fairness, trust andmutual respect prevail, thereby strengthening employees' commitment to organizational goals.

Additionally, the evidence from this study suggests that the employee participation in organizational policies and decision-making processes is essential for enhancing job satisfaction and motivation. Organizational change and leadership strategies should therefore place employees at the center, recognizing them as key stakeholders rather than passive recipients of managerial decisions.

Despite its contributions, this review is limited by its reliance on prior empirical studies, many of which employ similar measurement instruments and cross-sectional designs. Future research should explore thatcross-sectional, longitudinal and context-specific approaches, particularly in developing economies, to capture the dynamic nature of ethical leadership. Overall, the study underscores the critical role of ethical leadership as a strategic resource for achieving sustainable employee performance and long-term organizational effectiveness.

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सनातन धर्मका सोह्र संस्कार र तिनीहरूको वैज्ञानिक महत्त्व

भुवन अर्याल

उप-प्राध्यापक

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सारांश

संस्कारहरू मानवजीवनलाई व्यवस्थित, मर्यादित एवं अनुशासित बनाउनका लागि प्राचिन ऋषि महर्षिहरूले लामो समयसम्म परीक्षण गरेर सत्य, सकारात्मक तथा जीवनपयोगी भएपछि प्रयोजनमा ल्याइएका हुन् । यस्ता गतिविधि मानव जीवनको आरम्भको सोचदेखि मृत्युपछि गर्नुपर्ने कार्यसँग सम्बन्धित छन् । गर्भाधानका लागि शारीरिक, मानसिक तथा मनोवैज्ञानिक रूपबाट दम्पत्तीलाई तयार गराउन गरिने संस्कार साँच्चै मनोवैज्ञानिक छन् । यी संस्कार सम्पन्न गर्ने क्रममा उच्चारण गरिने वैदिक ऋचाले मानसिक परिवर्तनका लागि र सकारात्मक ऊर्जा थप्न मद्दत गर्दछन् । गायत्री मन्त्रजस्तो वर्तमान समयमा वैज्ञानिक महत्त्व बोकेको मन्त्र पहिलो पटक सुनाउँदा गरिने संस्कारले पनि वैज्ञानिक तथ्यलाई समेटेको छ । प्रस्तुत आलेखमा १६ वटा संस्कारको सामान्य परिचय र तिनीहरूसँग जोडिएको वैज्ञानिक यथार्थलाई खोजी गर्ने प्रयास गरिएको छ ।

शब्दकुञ्जि : *संस्कार, वैदिक, पुंसवन सीमन्तोन्नयन, कर्णवेध, जुटिका, शिखा, चूडाकर्म, केशान्त, समावर्तन, अन्त्येष्टि*

पृष्ठभूमी

धेरै अघि वा वैदिक कालदेखि नै चलिआएको र समयक्रममा परिवर्तन हुँदै आएको धर्म नै सनातन धर्म हो । यस्तो एकमात्र धर्म हिन्दु धर्म हो । यस धर्मले वेद,

धर्मशास्त्र नीतिशास्त्र, र पुराण आदिलाई आफ्ना धर्मको आधार ग्रन्थ मान्दछ । यस धर्मको आरम्भविन्दु निश्चित छैन । मानव सभ्यता र जीवनको सुरुवातसँगै यो धर्म र यसले अपनाएका संस्कारहरू सुरु हुन थालेका हुन् । हिन्दु धर्मभित्र अपनाइएका सोह्र संस्कार र गतिविधिहरू सामान्य छैनन् । आदिम ऋषि महर्षिहरूले वर्षौंसम्म वैज्ञानिक परीक्षण गरेर हाम्रो दैनिक जीवनलाई स्वस्थ, समृद्ध, शान्त र दीर्घजीवी बनाउन, वातावरणीय संरक्षण गर्ने, प्रदूषण कम गर्न अपनाएका गतिविधिहरू हुन् । यिनै गतिविधिहरूलाई हामीले प्रायः पाप र धर्मको नाम दिन्छौं । यी कुराको परिणाम प्रत्यक्ष देखिंदैन । परिणामस्वरूप हामीले ती कुराहरूलाई खासै गम्भीर रूपमा हेर्दैनौं।

'संस्कार' भनेको अवगुण, दोष कमजोरी आदिलाई हटाएर परिष्कार गर्ने वा शुद्ध गर्ने काम हो । वैदिकविधि अनुसार गरिने कार्य नै संस्कारहरू हुन् । जन्मपूर्वदेखि मृत्यु प्रर्यन्तसम्म यस्ता संस्कारहरू, विभिन्न अवसरमा गरिन्छ । यिनीहरू धेरै समयदेखि देशकाल सापेक्ष भई आन्तरिक, वैचारिक तथा परम्परागत धारणाका रूपमा विकसित हुँदै आएका र आचार विचार रहनसहन आदिका माध्यमले कुनै राष्ट्र, समाज जाति आदिको स्वरूप खुट्टिने यावत् मान्यता, भावना, चिन्तन, मनन, भौतिक अभि व्यक्तिहरू समेतको समूह वा साधन समेतलाई संस्कार भनिन्छ । संस्कारलाई कुनै राष्ट्र वा जातिको सामाजिक जीवन, राजनिति अर्थव्यवस्था आदिमा प्रतिम्बित हुने र तिनका कलाकौशल, बौद्धिक विकास आदिमा प्रकट हुने सम्पूर्ण क्रियाकलापको परिष्कृत रूप पनि मानिन्छ ।

वर्तमान समयमा विज्ञान र प्रविधिको बढ्दो विकास । यसबाट तत्क्षण प्रत्यक्ष देखिने फाइदाजस्तो परिणामका कारण सनातन धर्मले अङ्गिकार गरेका यस्ता संस्कारप्रति अधिकांश मानिसहरूले बेवास्ता गरेको देखिन्छ । यी संस्कार ओझेलमा परेका छन् । हिन्दु धर्मभित्रका यी संस्कारहरू हाम्रा ऋषिमुनिहरूले लामो समयसम्म परीक्षण गरी तिनीहरूमा देखिएको सत्यतथ्य र वैज्ञानिक महत्त्वसमेत ख्याल गरेर प्रचलनमा ल्याएका हुन तर समयको परिवर्तनसँगै अथवा बाह्य संस्कृतिको प्रभावका कारण ओझेलमा पर्न थालेका छन् । मानिसहरूले यस्ता संस्कारहरूलाई पुरोहितहरूले पनि व्यापारीकरण गर्न थालेका छन् । यी संस्कारहरूभित्र लुकेको वैज्ञानिक तथ्य एक त धेरैलाई ज्ञात छैन भने अर्को तिर लामो समयको अन्तरालपछि यस्ता संस्कारहरू केही

भिन्न पनि हुन थालेका छन् । तिनीहरूको मौलिकता हराउन थालेको छ । हाम्रा यी संस्कारहरूले कसरी वैज्ञानिक/मनोवैज्ञानिक तथ्यसँग नाता गाँस्न पुगेका छन् त ? त्यसैको खोजी गर्नतर्फ प्रस्तुत आलेख केन्द्रित छ ।

समस्या र उद्देश्य

हाम्रो समाजमा सोह्र संस्कार के कति प्रचलनमा छन् ? ती मध्ये केही नाममात्रमा सीमित छन् कि ? केही सुधारिएर प्रचलनमा आएका छन् भने केही चाहिं अन्य संस्कृतिको प्रचलनमा आएर विकृत पनि भएका छन् । यहाँ यिनै सोह्र संस्कारको प्रचलन, परिचय र प्रचलित अवस्थाको खोजबिन गरी वैज्ञानिक महत्त्वलाई उजागर गर्ने प्रयास गरिएको छ । ती संस्कारहरूको वैज्ञानिक तथ्य खोजी गर्नु नै यस अध्ययनको प्रमुख उद्देश्य हो ।

अध्ययन विधि र प्रक्रिया

प्रस्तुत अध्ययनमा मूल रूपमा पुस्तकालय विधि र सर्भेक्षण विधि प्रयोग गरिएको छ । हिन्दु संस्कारहरूको विशेष परिचय र विश्लेषणका लागि जानकारहरूसित अन्तर्क्रिया र अन्तर्वार्ता गरिएको छ । सोह्र संस्कार र तिनका प्रमुख विधि प्रक्रिया बुझ्न पुस्तकालयीय विधि प्रयोग गरिएको छ भने पुस्तकालय अन्तर्गत रेसुङ्गा बहुमुखी क्याम्पस तम्घास, गुल्मीको पुस्तकालय र किरण पुस्तकालय तम्घास, गुल्मीलाई प्रयोग गरिएको छ । वर्तमान समयमा प्रचलित यु ट्युब च्यानलको अध्ययन र श्रवण गरिएको छ ।

सैद्धान्तिक पूर्वाधार

रहनसहन मर्यादा, सम्पर्क, शिक्षा आदिका कारणबाट मान्छेका मनमा पर्ने प्रभाव वा धारणालाई संस्कार भनिन्छ । (प्रज्ञा, नेपाली बृहत् शब्दकोश–२०६४) यस आलेखमा विशेष गरी हाम्रो सनातन हिन्दु धर्मपरम्परामा रहेका सोह्रवटा संस्कारहरूको परिचय, तिनमा गरिने मुख्य कर्म र तिनीहरूको वैज्ञानिक सम्बन्धसँग केन्द्रित रहिएको छ । वैदिक विधिअनुसार गरिने बाह्मण जातिका सोह्र संस्कार वा कृत्यः गर्भाधान, पुंसवन, सीमन्तोन्नयन, जातककर्म, नामकर्म निष्कर्मण, अन्नप्राशन, कर्णबेध विद्यारम्भ चूडाकर्म,

केशान्त उपयन, वेदारम्भ, समावर्तन विवाह अन्त्यष्टि (प्रज्ञा नेपाली बृहत् शब्दकोश २०६४) यहाँ शब्दकोशले बाह्मण जातिका सोह्र संस्कार (वा कृत्य भनेर परिभाषित गरेको छ। के यी संस्कारहरू बाह्मण जातिमामात्र सीमित छन । यो विवेच्य एवं अनुसन्धेय विषय हो । यहाँ यिनै सोह्र संस्कारहरूको कृत्य परम्परा र तिनीहरूसँग जोडिएको वैज्ञानिक सत्यताको खोजी गर्ने प्रयास गारिन्छ ।

'सम' उपसर्ग 'कृत' धातुमा घञ् प्रत्यय लागेर संस्कार शब्द बन्दछ । यसको पूर्ण संरचना यस्तो हुन्छ – सम् + कृत + घञ् : संस्कार यसको शाब्दिक अर्थ शुद्ध वा चोखो बनाइने भन्ने हुन्छ । वेदोक्त कर्मद्वारा संस्कृत हुने, शुद्ध हुने, पवित्र हुने कार्य नै संस्कार हो । संस्कारले बीज गर्भको दोष नाश गर्दछ । (मनुस्मृति २/२७) संस्कार कृति प्रकारका हुन्छन् भन्ने सन्दर्भमा मतैक्यता नभए पनि यजुर्वेदमा १६ वटा संस्कारहरूको उल्लेख गरिएको छ । यही आधारमा लोकजीवनमा यिनै षोडस संस्कारहरू, प्रचलनमा छन् । षोडस संस्कार कर्मको परिचय र तिनीहरूसँग जोडिएको वैज्ञानिक सत्यताको खोजी यस प्रकार छ :

गर्भाधान संस्कार

सोह्र संस्कारहरूमध्येको पहिलो संस्कार गभर्भाधान संस्कार हो । नारीमा पहिलो पटक गर्भाधान गर्नुपूर्व शारीरिक र मानसिक शुद्धतापूर्वक नारीलाई गर्भवती तुल्याउन गरिने कामना नै गर्भाधान संस्कार हो । यो संस्कार नारी रजस्वला भएको चौथो वा पाँचौ दिनपछि १६ दिनभित्र गरिन्छ । यो संस्कार गर्नको लागि औंसी चर्तुदशी, पूर्णिमा वा अष्टमी तिथि पर्नु हुँदैन । मूल र मघा नक्षत्र छलेर अन्य तिथि र नक्षत्रमा गर्ने गरिन्छ । रजस्वला भएको ११ औं वा १३ दिनमा पनि यो संस्कार गरिदैन । यो संस्कार गर्ने दिन बिहान उठेर नुहाइधुवाइ गरी पवित्र भएर वस्त्र धारण गरी आभ्युदायिक श्राद्ध र मातृका पूजा गरिन्छ । श्रीमान्–श्रीमती दुबैले सरकारात्मक सोचसहित वैदिक मन्त्र र प्रेमभाव प्रकट गर्नुपर्दछ । शुद्ध सफा विस्तारामा शयन गरी रातको प्रथम प्रहरमा गर्भाधान कार्य गरिन्छ । पुत्रको इच्छा भए जोडा दिन पारेर सम्भोगमा संलग्न रहने र पुत्रीको इच्छा भए विजोडा दिन पारेर गर्भाधान संस्कार गरी गर्भाधान गर्ने गरिन्छ ।

गर्भाधान संस्कारको वैज्ञानिक/मनोवैज्ञानिक महत्त्व विज्ञान

मनोविज्ञानका अनुसार पनि गर्भाधानको समयमा दम्पत्तीको शारीरिक र मानसिक अवस्था ठिक हुनुपर्दछ । तनाव र भयरहित वातावरणमा प्रशन्न मनले संभोग कार्यमा संलग्न दम्पत्तीबाट बीजाधान भएमा शिशु पनि शारिरिक र मानसिक दुबै रूपमा उपयुक्त भएर जन्मिन्छ । विज्ञानले पछि मात्र पत्ता लगाएका र व्यक्त गरेका कुराहरू पूर्वीय संस्कारमा मानवजीवनको आदिकालदेखि नै परीक्षण गरेर प्रयोगमा ल्याइएका हुन् । यस संस्कारले स्वस्थ शिशेको जन्म दिनका लागि दम्पत्तीको तयारीसँग वैज्ञानिक महत्त्व राख्छ ।

पुंसवन संस्कार

यो संस्कार नारीले गर्भधारण गरेको दोस्रो वा तेस्रो महिनामा गरिने संस्कार हो । यस संस्कारको प्रमुख उद्देश्य गर्भस्थ शिशुको शारीरिक एवं मानसिक विकास उपयुक्त ढङ्गबाट होओस् भन्ने हो । यो संस्कार नारी गर्भिणी भएको दोस्रो महिनापछि तीन महिनाभित्र पुष्या, पुनवर्सु, मृगशिरा, हस्ता, मूल र श्रवण नक्षत्रका साथै चन्द्र र तारा अनुकूल भएको समय पारेर गरिन्छ । यो खासगरी गर्भस्थ शिशुको लिङ्ग छुट्टिने समयमा गरिने संस्कार हो । यस संस्कारमा गर्भिणीले अघिल्लो दिन उपवास गरेर बरका पालुवा र कुशका जराको काँढा दायाँ नाकमा राखिन्छन् । नाकमा विशेष सुगन्धित पदार्थ सुँगाउने चलन पनि छ ।

पुंसवन संस्कारको वैज्ञानिक महत्त्व

यो संस्कार लिङ्ग निर्धारण र मानसिक विकासको क्रमसँगै गरिने संस्कार हो । यसमा संस्कारमा गर्भवती नारीका नाकबाट प्रवेश गराइने कुशका जरा र बरका मुनाको काँढाले नारीमा रहेको नकारात्मक सोच र नकारात्मक ऊर्जा खिचेर सकारात्मक सोच र ऊर्जा प्रदान गर्दछ । यसबाट आमा तथा शिशु दुबैको स्वास्थ्य रक्षा गर्न मद्दत पुग्दछ । यस समयमा गरिने मङ्गलकामना र नारीलाई दिइने सान्त्वना सद्भावले थप ऊर्जा प्राप्त गर्न र सकारात्मक चिन्तनको विकास हुन्छ । गर्भवती नारीले पनि सबैको सद्भाव र सहयोग प्राप्त गर्दछिन् । यसबाट गर्भस्थ शिशुको क्रमशः वृद्धि र विकासमा सहयोग पुग्दछ ।

सीमन्तोन्नयन संस्कार

सीमन्तोन्नयन संस्कार तेस्रो संस्कार हो। सीमान्तोन्नयनको अर्थ सिउँदो काड्ने वा देखाउने भन्ने हुन्छ । यो संस्कार गर्भ रहेको चौथो महिनामा गरिन्छ । ६ वा ८ महिनामा पनि यो संस्कार गर्ने चलन छ । यस समयमा गर्भस्थ शिशुको मानसिक विकासको प्रक्रिया सुरु हुन्छ । यस संस्कारमा तिल र खिरको हवन गर्ने र गर्भिणीलाई खिर खान दिने गरिन्छ । यस समयमा पनि घरमा भए पतिले र पति घरमा नभए ससुराले गर्भिणी नारीको सिउँदो काडिदिने गरिन्छ । नारीलाई वैदिक सूक्त र धार्मिक प्रसङ्गहरू सुनाउने गरिन्छ । यस संस्कारको प्रमुख उद्देश्य गर्भपतन हुनबाट रोक्नुका साथै शिशुमा नकारात्मक प्रभावबाट बचाउनु हो । यस पछि गर्भिणीले राम्रा कुराहरू सुन्ने, हेर्ने, राम्रो सोचाइ राख्ने भगवानको भजन कीर्तन गर्नुपर्दछ । श्रीमदभागवतको अनुसार नारद ऋषिले गर्भस्थ भक्त प्रह्लादलाई यही समयमा उपदेश दिएको प्रसङ्ग पाइन्छ । (श्रीमद्भागवत ८:१०:१४) गर्भवती नारीमा रहेको चिन्तन अनुसार गर्भस्थ शिशुको पनि मानसिक विकासमा प्रभाव पर्दछ । बाह्य अनिष्ट शक्तिले पनि गर्भस्थ शिशुलाई असर गर्न सक्दैन ।

सीमन्तोन्नयन संस्कारको वैज्ञानिक महत्त्व

चिकित्साशास्त्र र मनोविज्ञान अनुसार गर्भस्थ शिशुमा चौथो महिनापछि मानसिक विकासको प्रक्रिया सुरु हुन्छ । गर्भवती महिलाले सुनेका कुराहरू, हेरेर प्रभाव परेका दृश्यहरू र आमाले बोलेका कुराहरू, आमा नजिकका व्यक्तिले सुनाएका कुराहरूले समेत गर्भस्थ शिशुलाई प्रभाव पार्न थाल्छन् । गर्भस्थ शिशुमा सकारात्मक सोचको विकास र सहज मानसिक विकासमा पति वा ससुराद्वारा सिउँदो काड्दा गरिएको स्पर्श र सामीत्यताले अझ ठुलो भूमिका खेल्दछ । आफुलाई सबैले साथ र सहयोग गरेको अनुभव गर्भवतीले गर्न पुग्दछिन् । आमामा सकारात्मक सोच र आत्मविश्वास विकास हुँदा गर्भस्थ शिशुको मानसिक विकास पनि हुन्छ ।

जातककर्म संस्कार

षोडस संस्कारमध्येको चौथो संस्कार जातककर्म संस्कार हो । गर्भवती नारीलाई प्रसव पिडा सुरु भएपछि बच्चा जन्मेर नाल नकाट्दासम्म गरिने क्रियाकलापलाई जातककर्म संस्कार भनिन्छ । यस संस्कारमा प्रसव पीडामा रहेकी नारीलाई घ्यू, मह र स्वर्ण

भस्म खुवाइन्छ । खुवाउँदा वैदिक मन्त्रोच्चारण गर्नुका साथै हवन पनि गरिन्छ । बच्चा जन्मेपछि आमाको दायाँ स्तन चुसाउने र बालकको दायाँ कानमा तीन पटक "ऊँ" शब्दोच्चारण गरिन्छ । बच्चालाई घ्यू र मह फिटेर सुन वा चाँदीका तारले जिब्रोमा "ऊँ" लेखिदिने गरिन्छ । घ्यू र मह छ पटक चटाउने चलन छ । सुत्केरीका शिरतर्फ १० दिनसम्म जलपूर्ण कलश राखिन्छ ।

जातककर्म संस्कारको वैज्ञानिक महत्त्व

प्रसव पीडामा रहेकी नारीलाई मह र घ्यू र स्वर्ण भस्म पान गराउँदा उनलाई केही शक्ति प्राप्त हुनका साथै वैदिक मन्त्रोच्चारणले उनलाई मानसिक शान्ति र सकारात्मक ऊर्जा समेत प्राप्त हुन्छ । शिशुलाई सहज रूपमा जन्म दिन सजिलो हुन्छ ।

नवजात शिशुलाई ऊँ शब्द श्रवण गराउँदा उसले ब्रह्माण्डका नकारात्मक शक्तिलाई परास्त गर्न मद्दत गर्दछ । उसले सुनेका प्रथम शब्दले शिशुको मानसिक विकासमा सहयोग पुग्ने मानसिक शुद्धता आउने विश्वास छ । यी सबै काम भन्दा अगाडि गराइएको स्तनपानले पाचन प्रणालीको विकासमा मद्दत पुग्दछ । आमाको पहिलो दूधमा रहेका तत्त्वमा शिशुमा पाचन अङ्गको क्रियाशीलता वृद्धि र पाचन रस उत्पादनमा मद्दत पुग्ने स्वास्थ्यविद् तथा वैज्ञानिकहरूको ठहर छ । बिगौती पान गरे पछि चटाइएका घ्यू, महले पाचन अङ्गको कार्य सुचरु गर्न मद्दत पुग्दछ । सुत्केरीका शिरानीतर्फ जलपूर्ण कलश १० दिनसम्म राख्नाले त्यहाँ आउने सक्ने नकारात्मक तत्त्वहरू अवशोषण हुने गर्दछन् ।

नामकरण संस्कार

शिशु जन्मेको ११ औं दिनमा गरिने संस्कार नामकरण संस्कार हो । यस संस्कारमा पञ्चगव्य प्राशन गराउने र सुत्केरी बसे सुतेको क्षेत्रमा छर्ने गरिन्छ । वैदिक मन्त्रोच्चारणका साथ अग्निस्थापना विधिले हवन गरिनछ । घ्यू, जौ, तील, खर्स्यूं, खुदो, मह आदि मिलाएको चरुद्वारा हवन गरिन्छ । अनि चारवटा पिपलका पातमा नाम लेखिन्छ । यसरी नाम जुराउँदा महिना अनुसारको नाम, नक्षत्र नाम, भगवान्को र आमा बाबुले इच्छाएको नाम गरी चारपटा नाम राखिदिने चलन छ । यसै क्रममा

हवन गरिएकै अग्नि/हवन कुण्डमा भलायो, कुरिलो र विषालु काँढा डढाएर त्यसको खरानी बालकका नाभीमा लगाइदिने चलन छ ।

यस संस्कारको वैज्ञानिक महत्त्व

यस दिन सुत्केरी बसे/सुतेको वरिपरि छर्कने पञ्चगव्यले ससाना जीवाणुलाई नष्ट गर्न मद्दत पुग्दछ । सोदिन गाईको गोबर मिसाएर सुत्केरी बसेका स्थान र वरपर लिपपोत गरिन्छ । यसले उत्पन्न हुन सक्ने जीवाणु नष्ट गर्न पनि मद्दत गर्दछ । त्यस्तै जौ, तिल, सर्स्यूं, खुदो आदि मिश्रित चरुले वातावरणमा उत्पन्न हुन सक्ने जिवाणुहरूलाई समेत नष्ट गर्दछ । वातावरण शुद्ध हुन्छ । भलायो, कुरिलो र विषालु काँडा मिसाएर पोलेको भस्म नाभि लगाइदिदा एकातिर नाभि पाक्नबाट रोकिन्छ भने अर्कोतिर भविष्यमा हुन सक्ने एलर्जीबाट बच्न पनि सजिलो हुनछ किनकि नाइटोलाई हाम्रो मूल केन्द्र मानिन्छ ।

निष्कर्मण संस्कार

पहिले–पहिले विशेष दिनमात्र घरका आँगनमा गोबरको कुण्ठ बनाई सो कुण्ठमा सूर्यको पूजा गरी अर्घ दिएर सोही माथिबाट सूर्यको दर्शन गराउने अनि शिशुलाई घरबाट बाहिर निकाल्ने संस्कार नै निष्कर्मण संस्कार हो । यस संस्कारमा नबजात शिशुलाई सूर्य र चन्द्रमाको दर्शन गराई यिनीहरूबाट प्राप्त नवकिरणबाट शिशुको शरीरमा तेज वृद्धि हुने विश्वास गरिन्छ तर आजभोलि यो संस्कार नामकरण संस्कारकै दिन गाईका गोबरको कुण्ड बनाई सूर्यलाई अर्घ दिएर सोही माथिबाट सूर्य/चन्द्रको दर्शन गराइन्छ ।

वैज्ञनिक महत्त्व

निष्कर्मण संसार प्रायः बिहानका बाल सूर्यको दर्शन गराउने उद्देश्यका साथ गरिन्छ अर्थात यो संस्कार मध्याहको १२ बजेपूर्व नै हुन्छ । यस समयका सूर्यको दर्शनबाट शिशुका आँखाहरूमा सूर्यका प्रकाशप्रति समायोजनको क्षमता विकास हुनछ भने भिटामिन डी को प्रमुख स्रोत सूर्यको प्रकाश शोषण गर्ने क्षमता क्रमशः विकास हुन्छ । दिवावस्थाका भए पनि चन्द्रमाको दर्शनले अमृतमय शीतलता शान्ति प्रदान गर्दछ ।

अन्नप्राशन संस्कार

शिशु छोरा भए ६ वा ८ महिना र छोरी भए पाँच वा सात महिनामा पञ्चाङ्ग जुराई पहिलो पटक अन्न खुवाउने कार्य नै अन्नप्राशन संस्कार हो । यसमा अग्निस्थापना विधिद्वारा शुभ मुहूर्तमा अन्न खुवाउने काम गरिन्छ । कुलपितृ र इष्टदेवताको पुजन र स्मरण गरेर उनीहरूलाई अर्पण गरेर अन्नप्राशन गराइन्छ । घ्यू, दही, मह, आदि मिसाएको अन्नप्राशन गराइन्छ । शुद्ध, सात्विक एवं पौष्टिक आहारले मन र शरीर दुबै स्वस्थ रहन्छ ।

वैज्ञानिक महत्त्व

अन्नप्राशन पञ्चाङ्ग (ज्योतिषशास्त्र) अनुसार पुत्रको ६ वा ८ महिना र पुत्रीको पाँच वा सात महिना तय गरिएको छ । स्वास्थ्य विज्ञान अनुसार केटा र केटीको वृद्धि र विकासमा केही अन्तर छ । खासगरी केटीहरूको तुलना यौवनवस्था पूर्वसम्म पुत्रीको विकास छिटो हुन्छ । यसैले अन्नप्राशन छिटो गरिएको हो । पाँच वा छ महिना नपुगी अन्न नखुवाउनुको कारण शिशुलाई आमाको स्तनपान निरन्तर गराइयोस् भन्ने हो । यदि शिशुलाई सुरुबाटै अन्न खुवाउन थालियो भने आमाको स्तपान कम हुँदै जान्छ । यसले शिशुको शारीरिक र मानसिक विकासमा सन्तुलन आउँदैन । त्यस्तै पाँच/छ महिना अघि शिशुका पाचन अङ्गहरू आमाको दूध बाहेकका अन्य पदार्थ पचाउन परिपक्व भैसकेका हुँदैनन् ।

कर्णबेध संस्कार

बालकको पहिलो पटक कान छेडिदिने संस्कार नै कर्णबेध संस्कार हो । यो संस्कार बालक जन्मेको १२ दिन, सोह्र दिन अथवा सात वा आठ महिनामा पञ्चाङ्ग जुराई चैत र पौष महिना छाडेर जन्मेको १२ दिन, १६ दिन सात महिना वा आठ महिनामा सोम, बुध विहिबार, शुक्रबार पारेर पञ्चाङ्गले निर्धारण गरेका शुभ तिथि, नक्षत्र, मुहूर्तसमेत जुटाएर कर्णविध गरिन्छ । छोराको दायाँ र छोरीको बायाँ कान पहिला छेडिदिने र अनि क्रमशः सोही समयमा दुबै कान छेडिदिने पनि चलन छ ।

वैज्ञानिक महत्त्व

कान महत्त्वपूर्ण श्रवणेन्द्रीय हो । यसको प्रत्यक्ष सम्बन्ध मस्तिष्कसँग हुन्छ । कान छेडिदिनाले विभिन्न व्याधिबाट सुरक्षा हुनुका साथै मुटु र मस्तिष्कको पनि परिपक्वता र क्रियाशीलता बढ्ने ठहर वैज्ञानिकहरूले गरेका छन् । त्यस्तै बालबालिकाका नाकसमेत छेडिदिंदा उनीहरूमा सहनशीलता र धीरताको वृद्धि हुन्छ ।

विद्यारम्भ संस्कार

पहिलो पटक अध्ययन गर्न थाल्ने अवधि नै विद्यारम्भ संस्कार हो । यो संस्कार सामान्यतया पाँच वर्षमा, आरम्भ हुन्छ तर कसै कसैले यो संस्कार अन्नप्राशन पछि सुरु हुन्छ भनेका छन् । यस पछि शिशुलाई भाषासम्बन्धी सिकाइ प्रक्रिया सुरु गराइन्छ भन्ने तर्क पनि उनीहरूको छ तर मस्तिष्कको विकास र सचेतता विकास नभएकोले यो संस्कार यस बेला गर्न सम्भव छैन ।

विद्यारम्भ संस्कार प्रायः वसन्त पञ्चमी अर्थात श्रीपञ्चमीका दिन गरिन्छ । यो दिन सरस्वतीको जन्म दिन भएकोले यो दिन विद्यारम्भ गराउँदा खासै पञ्चाङ्गका अन्य पक्ष मिलाउनु पर्दैन तर अन्य दिन विद्यारम्भ गराइयो भने सोम, बुध, बृहस्पति, शुक्रबारका साथै पञ्चाङ्ग अनुसार शुभ तिथि, शुभ मुहूर्त हेरेर गणेश, सरस्वती, विष्णु, लक्ष्मीको पूजा र प्रार्थनासमेत गरी पाटी, खरी, कापी, पुस्तक र पेन्सिलको समेत पूजा गरेर विद्यारम्भ गराइन्छ । गुरुकूल प्रणालीमा विद्यार्जन गर्न गुरुका आश्रममा जानु अघि बालकको सहजताको लागि विद्यार्जनका लागि प्रारम्भिक कुरा घरमा सिकाएर पठाउने गरिन्थ्यो भने हाल विद्यालयहरूमा नै वसन्त पञ्चमी अर्थात् श्रीपञ्चमीका दिन सरस्वतीको पूजा गरी विद्यारम्भ संस्कार गर्न थालिएको छ घरमा गराउने चलन प्रायः हट्न थालेको छ । यस दिन गुरुका हातबाट अक्षराम्भ गराइन्छ अनि लेख्न सिकाइन्छ ।

वैज्ञानिक महत्त्व

हाम्रा दैनिक जीवनमा ब्रह्माण्डमा रहने विभिन्न ग्रह, नक्षत्र बार आदिको प्रत्यक्ष प्रभाव रहन्छ तर जुन कुरालाई हामीले प्रायः वास्ता गर्दैनौं प्राचीन ऋषि, महर्षिहरूले यही तथ्य बुझेर नै पञ्चाङ्गका पक्षहरूको तारतम्य मिलाउन थालेका हुन् । आफ्ना शुभ

कार्यमा देवी देवता आदिको पुजनसहित विशेष अवसर पारेर यो संस्कार आरम्भ गर्नु वैज्ञानिक दृष्टिबाट उत्कृष्ट मानिएको छ ।

चूडाकर्म संस्कार

बालक गर्भमा रहँदादेखि रहेको अपवित्र कपाललाई पहिलो पटक काट्ने कार्य नै चूडाकर्म संस्कार हो । यो संस्कार बालक जन्मेको पहिलो, तेस्रो वा पाँच वर्षमा गरिन्छ । पञ्चाङ्ग अनुसार जन्मबार छोडेर आइतबार, सोम, बुध, बिहिबार र शुक्रबार गरिन्छ यसको प्रारम्भमा जुटिका बन्धन अर्थात शिरोमध्यमा टुप्पी राख्नका लागि कपडाले बाँधेर राख्ने गरिन्छ । त्यसपछि सो भागमा गाईका खुरसरहको टुप्पो राखेर अन्य भागलाई कुशले तीन भाग लगाई कुशसँगै काट्ने चलन छ । सो कपाललाई गाईका गोबरले मोलेर पवित्र ठाउँमा विर्सजन गरिन्छ । हाल आएर यो संस्कार ब्रतबन्ध अगाडि गर्न थालिइएको छ ।

वैज्ञानिक महत्त्व

हाम्रो टाउकामा रौं मस्तिष्ककै रक्षाका लागि आउने गर्दछन् तर यिनीहरू धेरै लामो समयसम्म रहँदा फोहोर हुनुका साथै जुम्रा र चायाँजस्ता संक्रमण बढद्छन् । त्यसैलाई हटाउनका लागि वा शुरुमा छोटो पार्नका लागि यो संस्कार सुरु गरिएको हो । हाम्रो शिरोकेन्द्र शरीर विज्ञान अनुसार पनि महत्त्वपूर्ण मानिन्छ । विशेष संस्कार सहित राखिएका टुप्पीप्रति व्यक्तिको आस्था जगाउन र मस्तिष्कलाई क्रियाशील बनाउन यो संस्कार सुरु गरिएको हो तर वर्तमान टुप्पा नराख्ने चलन बढ्दै गएको छ ।

ब्रतबन्ध संस्कार/उपनयन संस्कार

बालक जन्मेको पाँच वर्षपछि तर चौथो आठौं र बाह्रौ वर्षबाहेक पञ्चाङ्ग अनुसार शुभ मुहूर्तमा यो संस्कार गरिन्छ । यसको आरम्भ चूडाकर्म भैसकेको भए पनि अघिल्लो दिन कपाल खौरेर यो संस्कारको आरम्भ गरिन्छ । आठवटा कलश आठवटा जनै सहित स्थापना गरेर कलशका जलले स्नान गराई मृगको छाला, पहेला कपडा पहिराएर, यज्ञोपवित (जनै) धारण गराइन्छ । गुरुकूल संस्कार अनुसार आफन्तजनसँग

भिक्षा माग्न लगाई भिक्षा माग्ने कार्यको अभ्यास गराई वेदमाता, गायत्री श्रवण गराइन्छ । संस्कारपूर्वक श्रवण गरिएको गायत्री मन्त्रको विशेष महत्त्व पनि छ ।

वैज्ञानिक महत्त्व

जनै केवल धागो होइन पवित्र धागोका नौसरा बाटेर पुनः छ सरा बनाई जम्मा ५४ सरालाघ शिखा (गाँठा) पारेर बनाइएको जनैले व्यक्तिलाई आफ्नो नियम वा अनुशासनमा रहन गायत्री मन्त्र जप्न उत्साहित बनाउँदछ । हाल गायत्री मन्त्रमा रहेका शब्दहरूको शक्तिका सम्बन्धमा धेरै खोज अनुसन्धान भएका यसले तेज, बल र मेधाको वृद्धि गर्ने कुरा प्रारम्भिक अनुसन्धानबाट प्राप्त भएका छन् । ब्रतबन्धपछि नियमित नुहाउनु पर्ने प्रावधान छ । अझ ब्रहम मूहर्तमा गरिएको स्नानबाट मन र शरीर स्वस्थ रहने तथ्य वैज्ञानिक अनुसन्धानबाट प्रमाणित भैसकेको छ ।

वेदारम्भ संस्कार

हिन्दु धर्मलाई वैदिक विधान अनुसार चलेको धर्म मानिन्छ । वेद चारवटा छन् । यी चारवटा वेदमध्ये ब्राहमणले यजुर्वेद (जसमा यज्ञ, संस्कार आदिका विधान र सूक्त छन् ।) क्षेत्रीले यजुर्वेद (अर्थात सैनिक विद्या, युद्ध कौशल सम्बन्धी विषयवस्तु र सूक्तहरू छन्) अध्ययनको आरम्भ गराइन्छ । वर्तबन्ध नगरी वेद आरम्भ नगर्ने संस्कार भएकाले यो व्रतबन्धकै दिनमा गुरुद्वारा औपचारिक रूपमा वेद अध्ययन गर्न लगाउने संस्कार हो । यसले ब्राहाणहरूलाई यज्ञ,पूजाआजा आदि संस्कारका लागि योग्य बन्न प्रेरित गर्दछ भने क्षेत्रीलाई युद्ध कौशलमा लाग्न सहयोग गर्दछ । त्यससम्बन्धी सीपको विकास हुन्छ ।

वैज्ञानिक महत्त्व

पवित्र सूक्तहरू अध्ययन गर्न थाल्नाले व्यक्तिमा विद्या र ज्ञान आर्जन गर्न उत्साहित हुन मद्दत पुग्दछ । विद्या र ज्ञानप्रति आस्था बढ्नुका साथै वर्णाश्रम व्यवस्था अनुसारका कर्ममा लाग्न पनि मद्दत पुग्दछ ।

केशान्त संस्कार

चूडाकर्म र व्रतबन्धपछि राखेको केश र दारीसमेत काट्ने संस्कार नै केशान्त संस्कार हो । व्रतबन्ध पछि विद्याआर्जन गर्ने क्रममा पहिलो केश नफालेर विशेष अवसर पारेर

कपाल काट्ने र दारी पनि फाल्ने अवस्थामा रहेको हुँदा यो संस्कार नै केशान्त संस्कार हो । यो संस्कार ब्राहमणको १६ क्षेत्रीयको २२ र वैश्यको २४ वर्षमा गर्ने चलन छ । यसमा पनि पञ्चाङ्ग, अनुसारका शुद्ध दिन निकालेर तीन जना ब्राहमण भोजनसमेत गराएर गरिन्छ ।

वैज्ञानिक महत्त्व

गुरुकूल प्रणाली अनुसार शिक्षा आर्जन गर्दा ब्रहमचारी भएर बस्दा पुनः केश मुण्डन गर्न असम्भव हुने हुदा यो संस्कार आरम्भ भएको हो । जैविक तथा आनुवंशिक संरचना अनुसार दारी फाल्ने अवस्था ब्राहमणको १६ वर्ष पछि क्षेत्रीयको २२ वर्ष र वैश्यको २४ वर्षमा उपयुक्त हुने हुँदा ती वर्षपछिको अवस्था रोजिएको हो । हाल यो संस्कार लोपको अवस्था छ ।

समावर्तन संस्कार

वेद अध्ययन गरेपछि विधिपूर्णक सुगान्धिक तथा औषधियुक्त अष्ट कलशका जलले स्नान गराएर यो संस्कार गरिन्छ । यस संस्कारमा वर्तबन्धमा प्रयोग गरेका लँगौटी, मेखला आदि त्याग गरेर अर्का प्रयोग गर्न लगाइन्छ । यो संस्कारपछि व्यक्ति ब्रहमचर्य र वेद अध्ययन पूरा गरे पछि पारिवारिक जीवनमा प्रवेश गर्न योग्य भएको पाइन्छ । यो संस्कार खास गरी गुरुकूल शिक्षा प्रणाली भएका बेला आश्रमबाट समावर्तन पछि आफ्ना घरमा आउने परम्परा रहेको हो । हाल यो संस्कार औपचारिकतामा सीमित छ । ब्रतबन्धकै दिन यस संस्कारको कर्म पूरा गरिन्छ ।

वैज्ञानिक महत्त्व

गुरुकूल शिक्षा प्रणालीमा यो संस्कार धेरै महत्त्वपूर्ण एवं व्यक्तिलाई पारिवारिक जीवनमा कर्तव्यबोध गराउने प्रक्रियासँग सम्बद्ध थियो भने वर्तमान समयमा यसको वैज्ञानिक औचित्य पूरा हुन नसक्दा प्रायः लोप भैसकेको छ । हाल विश्वविद्यालयहरूले यसलाई दीक्षान्त समारोहका रूपमा परिवर्तन गरी विकास गरेका छन् ।

विवाह संस्कार

गृहस्थ जीवन बिताउन र वर्णाश्रम व्यवस्था अनुसार २५ वर्ष कटेपछि विद्या आर्जन सकेर गृहस्थाश्रम प्रवेश गर्न विवाह गरिन्छ । विवाह गर्दा भिन्न गोत्रकी, आमाका

गोत्रभन्दा छ पुस्ता परकी समान कुल परम्पराभित्रकी कन्या विवाह गरिन्छ । यस संस्कारभित्र वाग्दान, स्वयंवर, मातृकापूजा, वरवरणी ग्रन्थिबन्धन गुप्ताहुति, सिन्दूरकर्म लगायतका कार्यहरू गरिन्छ । विवाहका लागि वर–वधूका बीच ३६ गुणमध्ये न्यूनतम् १८ गुण पूरा हुनुपर्दछ । नाडी, गण, वर्ण आदि पनि ज्योतिषशास्त्र अनुसार मिलान गर्नुपर्छ । विवाहका लागि उत्तरायण समय उपयुक्त मानिन्छ तर सीतारामको विवाह मंसिरमा भएकोले मंसिरमा पनि गर्ने चलन छ ।

वैज्ञानिक महत्त्व

विवाह जीवनभर रहने सम्बन्ध भएकोले एकातिर समान पारिवारिक पृष्ठभूमिमा सम्बन्ध कायम गर्ने प्रयास गरिन्छ भने अर्कोतिर वरवधूका बीचमा नकारात्मक ऊर्जा उत्पन्न नहोस् । सम्बन्ध सुमधूर होस भन्नका लागि ज्योतिषविज्ञानका विधि र निषेधका कुरा पालन गरिन्छ । विवाह मण्डपमा संसार गराउँदा अग्नि साक्षी राखेर प्रतिज्ञा गराउने र परिक्रमा गर्न लगाइन्छ । एक अर्कामा सामीप्यता अनुभव गराउने आफ्नो प्रेमलाई चन्द्र, सूर्य र ध्रबताराजस्तै अटल होस् भन्नका लागि तिनीहरूलाई देखाउँदै एक अर्कामा प्रश्न गराइन्छ । दाम्पत्य जीवन सुमधूर गराउन यस जीवनको अत्यन्तै ठूलो महत्त्व छ। हाल यो संस्कार पनि यज्ञमान र पुरोहित दुबैले औपचारिक बनाएका छन् ।

अन्त्य संस्कार/अन्येष्टि संस्कार

यो मानव जीवनको अन्तिम संस्कार हो । यो संस्कार मृत्यु भएपछि गरिन्छ । व्यक्तिको मृत्यु भएपछि नियमानुसार आ–आफ्ना घाटतर्फ लगी पुत्र/पुत्री वा बन्धुद्वारा दागबत्ती दिएर जलाइन्छ । घरमा आएर पुत्र/पुत्री नभए नजिकैका दाजुभाइबाट दशगात्र क्रिया गरिन्छ । क्रियापुत्रीले जलाशय नजिकै वृक्षमुनि गएर वेदी निर्माण गरी मृतकका नाममा पिण्डदान, जलदान गरिन्छ । यो प्रक्रिया १० दिनसम्म नियमित गरिन्छ भने एघारौ दिनका उत्तम र मध्यम षोडसी श्राद्ध सम्पन्न गरिन्छ । बाह्रौं दिनका दिन पिण्डाकृति बनाएर मृतको पिण्डलाइ बाबु, बाजे र जिजुको पिण्डमा मेल गराइन्छ । मृतक महिला भए महिलातर्फका तीन पुस्तामा मेल गराइन्छ । सपिण्डीपछि जुठो सकिने प्रचलन छ भने घर परिवारले हरेक महिना मसिक श्राद्ध गर्नुपर्दछ । घरपरिवारले वर्ष दिनसम्म आशौच बार्ने चलन छ ।

वैज्ञानिक महत्त्व

आफन्तको मृत्युको शोकका घडीमा गर्ने यस संस्कारले आफ्ना मातापिता वा आफन्तजनको मृत्युमा उहाँहरूप्रति कृतज्ञता प्रकट गर्ने र दिवंगत आत्मा नभड्कियोस् भनेर यो संस्कार गरिन्छ । दशौं दिनपछि गरिने पञ्चगव्य प्राशनले भएका विकृति जिवाणुको नष्ट गर्न मद्दत गर्छ भने सपिण्डीपछि गरिने हवन आदिले त्यहाँ व्याप्त भएका र हुन सक्ने जिवाणुहरू नष्ट गर्नसमेत मद्दत गर्दछ ।

सोह्रसंस्कारको वर्तमान अवस्था

वर्तमान अवस्थामा वैदिककालदेखि प्रचलनमा आएका षोडस संस्कारहरू, केही लोप प्रायः अवस्थामा छन् भने केही संस्कार सरलीकृत गर्ने प्रयास गरिएको छ । सोह्रै संस्कार वैज्ञानिक दृष्टिकोणबाट महत्त्वपूर्ण हुँदा–हुँदै पनि पश्चिमी सभ्यता, संस्कृतिका साथै वर्तमान समयको व्यस्त जीवनका कारण केही औपचारिकतामा सीमित छन् । केही संस्कारहरू जस्तै गर्भाधान, पुंसवन सीमन्तोन्नयन जातककर्मजस्ता संस्कार लोप भएका छन् । बरु जन्मपूर्वका हाम्रा संस्कारको महत्व र मर्म बुझेर पश्चिमाहरूले 'बेबी सावर' कार्यक्रम गर्न थालेका छन् । त्यही देखेर हाम्रा नेपालीहरूले लाजास्पद ढङ्गबाट 'बेबी सावर' गर्न रुचाएका छन् । अरु बिर्सिसके खोजी पनि गर्दैनन । समापवर्तन संस्कारले युगानुकूल दीक्षान्त समारोहको रूप लिएको छ । विवाह संस्कार पनि पश्चिमा संस्कृतिको चपेटामा परेको छ । लभ मेरिज र कोर्ट मेरिजको तहसम्म पुगेको छ । विवाहलाई दुई भिन्न आत्माको एकाकार र अभिन्न सम्बन्धका साथ अघि बढ्ने वाचाहरू टुटेर केवल विषयवासनाको तृप्तितर्फ केन्द्रित भएको देखिन्छ । आपसमा सम्बन्ध विच्छेदका घट्ना बढ्दो रूपमा छन् । संस्कारहरू परिस्कृत र थप विकसित हुन सकेका छैनन् ।

निष्कर्ष

हाम्रा सोह्र संस्कार गर्भाधान, सीमन्तोन्नयन, जातककर्म, नामकरण, निष्कर्मण, अन्नप्राशन, चूडाकर्म अक्षराम्भ, कर्णबेध उपनयन, वेदारम्भ, समावर्तन, केशान्त, विवाह, र अन्त्येष्टि हुन् । यी संस्कारहरू गर्भाधानदेखि मृत्युसम्म प्रचलनमा छन् । गर्भधारण गर्ने जननीहरूलाई आत्मबल, उत्साह स्वाभिमान र इज्जत प्रदान गर्न गरिने वैज्ञानिक

महत्त्वको यो संस्कार लोप भैसकेको छ । सीमन्तोन्नयन जस्तो वैज्ञानिक मूल्य बोकेका संस्कार अहिले पश्चिमाहरूसित घाँटी जोडेर 'बेबी साबर'मा लोप भएको छ । कुनै कुनै जाति विशेषमा दही चिउरा कार्यक्रममा परिणत भएका र प्रचलनमा पाइन्छ । विवाह संस्कार सम्बन्धको निरन्तरता, सुखद सफल, दाम्पत्य जीवन सुरुवात गर्ने वैज्ञानिक र आध्यात्मिक मूल्य बोकेको संस्कार 'कोर्ट मेरिज' 'लभ मेरिज' तिर सीमित भएको छ । हाम्रा सोह्र संस्कारमध्ये केही संस्कार मुख्य रूपमा ब्राहमण जातिमा र केही संस्कार क्षेत्री तथा अन्य जातिमा आंशिक रूपमा प्रचलनमा छन् । यी संस्कारहरूको मूल अभिप्राय आफ्नो जीवनलाई व्यवस्थित, अनुशासित र मर्यादित बनाउने प्रक्रिया हुँदा हुँदै पनि पश्चिमा संस्कृतिका कारण घरापमा परेका छन् । यी संस्कारहरूलाई युगानुकूल बनाई प्रचलनमा ल्याउन सके मानव जीवन थप मर्यादित, अनुशासित र व्यवस्थित हुने अपेक्षा राख्न सकिन्छ ।

यी संस्कारहरू हाम्रा पूर्वजहरूले त्यसै प्रचलनमा ल्याएका होइनन् । लामोसम्म परीक्षण गरेर त्यसको सकारात्मक प्रभावपछि प्रचलनमा ल्याएका हुन् । यी संस्कारहरूमा प्रयोग हुने वैदिक ऋचाहरू तत् काममा उत्पन्न हुन सक्ने नकारात्मक प्रभाव हटाउन सहयोगी छन् भने आत्मविश्वास बढाउन र व्यक्तिमा उत्साह थप्न, अनुशासित बनाउन पनि मद्दत गर्दछन् । संस्कारहरूको वैज्ञानिक महत्त्व बुझेर प्रयोग गर्न नसक्दा र अरुका संस्कार र संस्कृतिको सिको गर्दा हामी यता न उताका जस्ता भएका छौं ।

सन्दर्भग्रन्थ सूची

प्रज्ञा नेपाली बृहत् शब्दकोश (२०६४), नेपाल प्रज्ञा प्रतिष्ठान, काठ.

दाहाल, कैलाशकुमार (२०७९) बृहत् कर्मकाण्ड पद्धति, प्र. दाहाल सीता तथा अन्य, एलायन्स भिडिया हाउस प्रा. लि. काठ.

डा. प्रतिक प्रज्ञा (सन् २०२२) षोडस संस्कारके वैज्ञानिक मूल्य गीता प्रेस, गोरखपुर

निरौला, नारायण प्रसाद (२०७८) षोडस संस्कारको परिचय र महत्त्व यु-ट्युब च्यानल,

Challenges, Opportunities and Empowerment: Integrating Artificial Intelligence in Teaching English Language

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Abstract

The rising pace of Artificial Intelligence (AI) has brought about an array of changes in learning processes across the world, including English teaching classrooms. AI-driven tools such as tutoring systems, writing assistants, chatbox and other adaptive learning options offer a variety of personalized learning processes. This recent transformation in the teaching-learning domain has had tremendous dividend on teacher capacity enhancement and learner freedom. This recent development exerts much influence with massive potential to transform language classrooms by empowering teachers' skill development, reducing their workload, leading to interactive and holistic pedagogy. In spite of this alluring growth, in contexts like Nepal, factors like digital illiteracy, insufficient infrastructural resources, accessibility and ethical issues limit the efficacy of the integration of artificial intelligences in English teaching classroom. Previous studies show the potential and constraints of incorporating AI in education. This study applies a qualitative research approach to examinethe agenda of inducting artificial devices in perceptions, adaptations, and negotiations in the integration of AI in teaching English language. Through documenting the past reviews, this paper aims to gather insights into how pedagogy, professional freedom, and broader engagement are affected by AI in resource-depraved contexts like Nepal. Findings of this studymade a contribution to the accumulated body of literature on AI and education in the issue of incorporating modern AI technology into language education.

Key words: *Pedagogy, Independence, Artificial Technology, and ELT.*

Building the Context

The rapid expansion of AI technology has significantly influenced different domains of society, including that of education. Over past few years, AI applications such as intelligent teaching systems, automated or customized evaluations systems, chat bots, and personalized learning systems have been widely applied in teaching and learning across the world (Adhikari, & Rana, 2024). English language teaching has also witnessed a massive shift towards technology-driven practices that compels to redefine the prevailing or orthodox approaches of teaching, learning, and evaluating. AI offers novel potentialities as in the case of individualized learning experience, one-on-one feedback and comments allowing deeper learner independence which demonstrate this development as a legitimate teaching resource in language learning.

In the area of English language teaching, AI technologies can be profitably employed to transform classroom practices. Natural language processing enables machines to interact with learners in real-time whereas AI writing supports and speech software help the growth of grammar, vocabulary, writing and pronunciation skills (Ajayi, et al., 2024). These technologies optimize students' autonomy while simultaneously reducing teachers' mundane work, allowing concentrating on new and interactive instructional dimensions. AI application in teaching English, however, involves some remarkable challenges. Factors such as insufficient technology availability, low digital literacy on the part of instructors, infrastructural limitations, and the issue of professional integrity in data privacy and inadvertent use of technology remain the hindrances, particularly in the developing contexts such as Nepal.

Much of the research has sought to investigate the possibilities and challenges of inducting AI technology in education. This study also seeks to investigate the general challenges and questions of using AI in English language instruction. Adhikari and Rana (2024) note that teachers’ perspective provides an insight into how modern devices and applications take up and negotiate integration of AI into their own development. Teachers' experiences have the vital role toplay in their innovations in teaching and also their struggles, resistances plus aspirations pertaining to technological innovation as well. The aim of this study is to explore experience and attitude of English language teachers regarding classroom technology use and how AI is impacting teaching approaches, student motivation as well as language learning outcomes (Shrestha, & Bhattarai, 2021).

Therefore, the present study endeavors to examine the experiences of applying AI in English language teaching. Through analyzing and synthesizing the general experiences and past reviews, this study tries highlight the ways in which AI exerts effects on professional practices, identity formation and classroom discussion (Dhakal, 2024). The study also raises the contextual issues concerning under-resourced settings, revealing evidence on how AI can be profitably incorporated into the ELT classrooms. Additionally, the research also intends to a contribution towards the ongoing scholarly debate about the role of AI in education with a human involvement in technological integration in language learning.

Research Questions

- What are the challenges of the application of AI technology in English teaching classrooms?
- How can AI technologies be best used in ensuring learners' autonomy and professional practices?

Research Objectives

The paper aims to achieve the following objectives:

- To examine the existing scholarly debates in AI and learning praxis
- To understand the best practices of AI technology and apply them in English teaching classrooms.

Research Methodology

This study applies qualitative research approach with interpretative paradigm. It draws upon secondary sources of data materials to examine the scholarly debates existing in the repertoire of AI technology knowledge. The paper marshals the existing ideas and discussions to understand the best practices of the uses of artificial intelligence in the teaching practices.

Findings and Discussions

AI empowers English language teachers to instruct students through customized learning and material accessibility. Chat GPT, Grammarly, and translation programs inter alia help with writing and practice (Allport,1937). The use of such applications in the classrooms allows for deeper and broader student-teacher engagement for productive and interactive learning. Despite the immense advantages of such tools, guidance is required to apply AI in the classroom. AI tools renders teaching more interactive and personalized. Many English programs like Grammarly as well as AI-powered pronunciation tools engage students in the acquisition of different components of lessons in their own pace. Grammarly is an effective and useful tool for writing compositions and Quiz let for vocabulary learning. There are other AI tools that are help in improving conversational exercise

There many positive perception and attitudes toward AI in English language teaching. My own colleagues point out the how tools like Grammarly pronunciation apps Quiz let enhance interactive and reciprocal learning among students. As a means to support independent learning and automatic knowledge acquisition, tools serve as a partner in the teaching process. The active role in exploring technology, presenting themselves as progressive educators adapting to new trends in digital learning (Allport,1937).

According to Van Dijk, the uses of AI tools in educational settings transcend personal experience and point out a broader social ideology of modernization and digital literacy. He demonstrates the dynamics of transforming power relationships in the classroom, which means moving from monopolistic knowledge dissemination to facilitating AI for self-learning. This mirrors global discourse that supports use of technology as method of improving education, while at the same time recreating teachers' professional identity within a digitally-led society (Allport,1937). What Dijk and Allport imply is that the uses of AI tools in the classroom reduces teacher workload in correcting errors. As a teacher myself I have employed pronunciation app in speaking lessons. This experiment was very beneficial both for my students and myself making room for adaptation and modification in the classroom. AI tools are also helpful for self-correction of minor errors and lapses on the part of the students. This AI uses have not only helped a teacher from being a depositor of knowledge to a humble facilitator.

This also projects AI as a supportive and interactive tool in language education. Tools Grammarly, chatbox and Quizlet, including authentic pronunciation apps show openness to adopting technology for improving student autonomy and engagement. Van Dijk's perspective bridges individual experience and broader social ideologies of modernization along with digital literacy. According to this postulation, teacher’s identity becomes transformed from a sheer transmitterof knowledge to facilitators. This transformation empowers students in becoming an autonomous and self-reliant learner. This viewencourages to incorporate global educational discourse about AI in classrooms as it frames AI as an innovation and empowerment driver.

AI opens up a new frontier for obtaining knowledge. It can offerindividualized teaching practices, especially in composition and sentence construction. The menial way of correcting and proofreading is tedious and taxing. AI composition tools and pronunciation recognition apps for pronunciation activities are extremely beneficial and empowering.

Experiences show that AI can be regarded as a game-changer in education, revealing how it can provide customized and personalized feedback in such areas as grammar, composition, conversation and pronunciation. The monotony of providing feedback for crowded classes. AI presents technology as a realistic solution to redress structural issues in the classroom. Specific tools such as AI writing devices, pronunciation and AI-based drillingsillustrate experimental and ongoing practices. These can be taken as proactive in classroom engagement and learning impacts (Dhakal, 2024). In Van Dijk's definition, these development does not only mirror individual practices but also point out a broader social belief of novelty and efficiency in imparting education to students. Instructors can use AI as a powerful tool that go beyond classroom limitations, technology enhancement and human effort (Dhakal, 2024). This allows to change a teacher’s identity as a facilitator and innovator in a digital time, reflecting global discourse that places AI in the central of modern pedagogy and student voice.Using AI-based drilling for quick feedback, comments and progress evaluation is a worldwide teaching practice and mode of mode of teaching. In this respect, it is good to encourage students to experiment with AI tools on their own.

AI technology is developing pedagogical practices by making frequent exercises for grammar and providing immediate feedback, reflecting AI as productive helpmate educators. This help them to concentrate on constructive learning learning (Dulal, 2024). Monitoring progress also suggests a shift towards a pedagogy where learning results are simpler to assess in a systematic manner. This allows for a broader education conviction for transparency and measurement-based improvement. Van Dijkcontends that the recent development suggests a power realignment in the classroom with learners having greater independence for their own learning through AI applications. By modifying themselves from transmitters of knowledge to facilitators, teachers gainsan identity which is favorable to learner independence and participation (Gajurel, 2023). Such perspective reinforces a larger social framework about digital literacy as well as autonomous learning. This establishes a bedrock of education in the modern digital era. AI is an efficient tool for both teachers and students, which can make learning more self-motivated, especially in the area of composition and conversation. Thus, these argumentsredefine AI as a supporting partner to facilitate not only teaching and learning, but also for composition and speaking. AI focuses on autonomous learning, illustrating how this technology can enable students to bein control of their learning. This belief reflects the discourse of student autonomy, efficacy, and personalization in learning—a core dimension of digital pedagogy in today’s world (Dulal, 2024). By positioning AI as an assistant educators establish interactive human-technology ties and bonds.

Van Dijk also discusses pedagogical practices at both micro and macro levels. According to him, modern technologies show how everyday tools embody greater social values of technological sophistication and linguistic competence. It also realigns teacher's role from sole knowledge authority to a guide and facilitator, showing a broader discourse of learner autonomy. Hence, discourse helps to normalize AI as rightful approach to language acquisition, firmly situating it in institutional and public spaces (Gajurel, 2023).Integrating AI tools in the assignments and asking students to write their work first using the tools supports students to vocalize their views and interests. It also encourages self-grading and peer discussion. Many teachers relate the story of the benefit, accounting how their teaching style changed from monolithic teaching to facilitation.

The pedagogic shiftis integrated into tasks to foster learner autonomy and critical perspective. By asking students to initiate using AI tools themselves, classrooms activity can be made engaging and lively, triggering group discussions and debates. Using AI, a teacher impersonates himself/herself as a facilitator self-improvement, encouraging peer learning. This replaces human response and reveals anbelief of power shift toward shared learning in which technology is used as a means to foster independence and interactions (Gnawali, 2021). At the micro level, teacher's narrative shows how practices at classroom level are being reconstructed to conform to modern ideals of learner-centered teaching.

Van Dijk’s arguments unravel a broader macro-level power transfer in education. The shift from traditional monolithic teaching processes to facilitating reflects the reconfiguration of power. In this model, teachers are no longer a depositor of knowledge but only a means to support students to acquire ideas. However, they are at the intersection between students and feedback provided by AI technology. This approach shows teacher's identity and legitimates AI as an equal performer in learning (Gnawali, 2021). AI then blends innovation, flexibility, and critical engagement with technologically innovative values, offering AI as a core pedagogical catalyst across institutional and cultural settings as well.

There are, however, challenges and hampering factors for using AI in the classroom. Students' and teachers' lack of sufficient digital literacy and uneven access to devices and connectivity feature as one of the key obstacles. Preposterous dependence on AI tools and a lack of related training are also hurdle in the implementation of AI technology presence in classrooms (Gnawali, 2021). Thus, the biggest blocking stone is that of access. Not every student has the ability to know about the smart phone or internet at home. Sometimes, technologies are not reliable and functioning well. In the case of such technological failure and hitches, instruction have to be given offline, with alternative methods well in place.

The challenges of the AI integration have also emanated from structural differences in online availability and accessibility. Not all students can avail of smart phones and the internet. This structural discrepancy points out another subtle socio-economic dimension of technological discrimination and inequality of education. Most of the students also experience abrupt disruption as in the case of apps failure and sudden power cut. These factors show a immense learning challenges. It demonstrates power imbalance between technology-rich and technology-poor learners. This is also an issue raised by Van Dijk.

The technological malfunction and inequalities add to teachers' woe. To address this issue, teachers have to improvise strategies in their classrooms. They have to invent ways to overcome these inequalities. One of the ways to resolve such issues is by building inclusive practices. Time allocation for the computer laboratory sessions, the mediation betweenthe restriction of access and the need for equal involvement (Gurung, & Shrestha, 2023). Providing offline alternatives is a viable method. Notwithstanding this, the fact of student agency should note excluded on the pretext of technological breakdown. This is in line with Van Dijk's theory, where not only does discourse reflect social issues but also actively produces ways to cope them. This arrangement has a lot to do with the impact it has on teaching and Learning.

Students feel motivated engaged when they get quick feedback via AI.Through this technology, students are involved in classroom discussions about their learning activities, errors and improvement. Although this way AI has changed the role of a teacher, the goal of correcting assignments and spending more time on guiding students and designing interactive assignments should be the uncompromising objective.

The challenges and opportunities shown above reveals new classroom dynamics through the induction of AI. This is an illustration of how the AI feedback and comments contribute to student participation and discussion. This technical feature has dual functions: first it locates teachers at a catalyst to bring about a change in enhancing student engagement. In this new scenario, students are transformed into active learners or self-evaluators, correcting their own mistakes on the basis cumulative comments. This technological benefit is about power shift within which knowledge is more oriented to student and less restricted to teacher. (Gurung, & Shrestha, 2023). Redrawing teacher's professional identity within AI discourse places students at the center of learning activities. Instead of being an adjudicator checking student assignments, the teacher acts as a facilitator and guide. This reinforces Van Dijk's view that discourse can transform social roles. Here, the teacher is only interested in developing interactive classwork and facilitating deliberation, showing a more democratic and engaged classroom. Therefore, AI becomes an efficient tool to realign power balance in education and in triggering collaborative learning environment.

Difficulties and obstacles encountered by teachers and student are almost identical. Majority of students are intimidated by the rising application of AI because they fear it will displace instructors. Technical issues like unreliable supply of internet and a lack of devices pose an immense obstacle. In this case, teachers have to take a recourse to imagine new ways to make up for the problem caused by unexpected technological breakdown.

While AI inclusion both is most likely to promote social and intellectual empowerment when it comes to AI integration in the classroom, students' resistance or suspicion that AI may eject teachers from the school premises is equally reasonable. Issues like interrupted internet and its cognate constraints like restricted devices also portray discrepancy in access. This shows the manner in which socio-economic dispensation demonstrate participation and continue digital divide. This debates between technology, perception and social context in influencing classroom practice is groundbreaking. It is the depiction of teacher’s negotiation pertaining the availability equitable learning opportunities (Joshi, et al., 2023). By motivating students, in terms of exercises, drillings and alternative exercises, teachers actively restructure classroom practices to minimize access issues. Van Dijk contends how discourse gives voice to social agency through language. Actions can be taken to resolve structural constraints and redefine power dynamics. The AI discourse puts instructors in the shoe of a facilitator, who serves as a bridge between technology and learners.

Indeed, the benefits of AI-assisted teaching are promising. The impact of using AI technology on teaching and learning has contribution to improved interaction. This is more evident in online activities than face-to-face interaction. The instant way of getting feedback encourages students to respond positively, which leads to improved overall performances on the part of the students. It shows how the instant feedback given by AI supports students' thinking competence and promotes classroom discussion. Additionally, instant feedback not only enhances classroom participation but also boosts students' confidence. This demonstrates technology as a catalyst shapes learners' cognition, their behavior and engagement. In other words, class power dynamics undergoes a change when students are becoming more engaged in gaining process through the deployment of AI-assisted learning activities (Joshi, et al., 2023).

The incorporation of AI into the classroom shapes the professional self of a teacher and his pedagogical decision. Through reconstructing lessons that blend technology with human involvement develops reflective and facilitating professional self rather than sticking with traditional methodologies. As per the suggestion of Van Dijk, this combination demonstrates the way digital technology enables social practices and reformulates pedagogical norms. The debates show AI as teaching tool, leading to a more democratic, autonomous, collaborative and student-initiated learning within the broad environments.

Conclusions

The findings expose that the limited exposure to smart phones and the internet poses major challenges in the implementation of AI technology in the English teaching classrooms. Overreliance on such technology is also likely to diminish students' critical thinking skills and reduces the level of critical involvement. The decision of incorporating AI technology in classroom also show structural disparities within the learning environment. Limited access to mobile phones and the internet reflects socio-economic inequality giving rise to a digital divide. This precludes the possibilities of students' collective engagement in AI-driven learning. AI-mediated learning also enables students to be self-reliant and confident in their own presentation and writing compositions. They become more motivated when they receive feedback instantly. For teachers also, AI is also a powerful tool of enhancing English learning process. This has however to be combined with adequate orientation, digital literacy, and infrastructural reinforcement. The discussion also demonstrates that the integration of AI in the classroom is a means to empower students' autonomy, boosting their self-assurance and enthusiasm. Lack of fair and equitable distribution of AI assistants deprives some of the students who have limited exposure of participation and engagement. This is the case of resources-limited school setting. Overall, AI has the promising avenues to assist English learning environment. The integration also empowers teachers in terms of making students creative and communication competence rather than wasting time in the correction of mundane mistakes.

Recommendations

Based on the conclusions drawn, a multi-faceted implementation strategy is recommended to ensure the equitable and effective integration of AI in English language classrooms. First, to bridge the digital divide and structural disparities, priority must be given to increasing accessibility for resource-starved schools through policy intervention and funding, ensuring all students can participate in AI-driven learning. Concurrently, upgrading the strength of equipment and providing reliable technical support are essential infrastructural reinforcements to create a stable technological foundation. For teachers, who are pivotal to this process, comprehensive trainings and periodic orientation are necessary to move beyond mere tool usage; these should be coupled with robust digital literacy programs. This combination will empower educators to harness AI not just for mundane correction, but to foster student creativity and communication competence, thereby enhancing the overall learning process. Crucially, this professional development must emphasize pedagogies that use AI to empower student autonomy and motivation through instant feedback, while deliberately designing activities that prevent overreliance and preserve critical thinking skills. Only through this holistic approach—merging equitable access, sustained infrastructure, and critically literate teacher facilitation—can AI's promising avenues for empowering both students and teachers be fully realized without exacerbating existing inequalities.

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थकाली जातिको सामाजिक संस्कार

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शोध सार

प्रस्तुत थकाली जातिको सामाजिक संस्कार शीर्षकमा आधारित अनुसन्धनात्मक आलेखमा थकाली जातिको को हुन् ? यिनीहरूको मृत्यु संस्कार के कस्तो छ ? जस्ता जिज्ञासा पूरा गर्ने हेतुले प्राथमिक र द्वितीयक श्रोतको उपयोग गरी तथ्याङ्क सङ्कलन गरिएको छ । सङ्कलित तथ्याङ्कका आधारमा विश्लेषणात्मक विधिको प्रयोग गरी निष्कर्ष निकालिएको छ । आदिवासी जनजाति उत्थान राष्ट्रिय प्रतिष्ठान ऐन २०५८ को दफा २(क) सँग सम्बन्धित अनुसूची बमोजिम सूचीकृत भएको जाति थकाली हो । व्यापार व्यावसाय गर्ने उद्देश्यले हाल ३६ जिल्लामा छरिएर रहेका थकालीहरूको मौलिक भाषा, संस्कृति र परम्परा छ । मुस्ताङ जिल्लाको थाक खोला क्षेत्रको टुकुचेदेखि तल लेते र घाँससम्मको क्षेत्रमा बसोवास गर्ने जातिलाई च्योकी (गौचन), साल्की (तुलाचन), ट्हिम्चन (शेरचन), र प्हुर्की (भट्टचन) गरी परिचित गराउने प्रचलन रहेको देखिन्छ । थकालीहरू मानसरोवर हुँदै नेपाल प्रवेश गरेका मंगोलियन मूलका आदिवासी जनजाति हुन् । थकाली जातिको मृत्यु संस्कारका सम्बन्धमा आफ्नै दुई किसिमका म्हाङ्ऱ्हाव (ट्होम विधिबाट गरिने मृत्यु संस्कार) र च्ह्याङपर्ची (लामा विधिबाट गरिने मृत्यु संस्कार) परम्परागत विधिहरू हरेका छन् । थासाङ गाउँ पालिका अन्तर्गत पर्ने साविक टुकुचे, खन्ती, लार्जुङ्ग, कोवाङ लेते र घाँस आदि क्षेत्रमा बसोबास गर्ने थकालीहरूले मान्दै आएको सामाजिक परम्परा अन्तर्गत पर्ने मृत्यु संस्कारलाई सीमाङ्कन गरिएको छ ।

मुख्य शब्द : *वर्णाश्रम, मंगोलियन, संस्कृति, किरियाशुद्धि, च्हिन्जा, म्हाङ्र्हाव,*

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विषयप्रवेश

आदिवासी जनजाति उत्थान राष्ट्रिय प्रतिष्ठान ऐन २०५८ को दफा २(क) सँग सम्बन्धित अनुसूची बमोजिम सूचीकृत भएको जाति थकाली हो । यो नेपाल सरकारद्वारा गठित जनजाति उत्थान प्रतिष्ठानको प्रतिवेदन २०५३ अनुसार आफ्नो मातृभाषा र परम्परागत रीतिरिवाज भएका तर चार वर्णको हिन्दू वर्णाश्रम व्यवस्थाभित्र नपर्नेहरू जनजाति अन्तर्गत पर्दछ । राष्ट्रिय जनगणना २०७८ अनुसार नेपालमा १४२ ओटा जात÷जातिहरू रहेका छन् । नेपाल सरकारले सूचीकृत गरेका ६१ जनजातिहरू मध्ये २१ हिमाली, २३ पहाडी, ०७ भित्री मधेश र १० तराई मधेशमा रहेका छन् । यी मध्ये थकाली जाति हिमाली क्षेत्रमा पर्ने जनजाति हो । थकालीहरूको मुख्य बसोवासको क्षेत्र धवलागिरि र नीलगिरि हिमालको बिचमा कालीगण्डकीको काखमा रहेको थासाङ गाउँपालिका हो । थकालीहरू व्यापार व्यावसाय गर्ने उद्देश्यले हाल ३६ जिल्लामा छरिएर रहेका छन् । यिनीहरूको मौलिक भाषा, संस्कृति र परम्परा छ । न्यून जनसंख्या भएर पनि देशको शैक्षिक, सामाजिक, आर्थिक, राजनैतिक र धार्मिक क्षेत्रमा छुट्टै पहिचान बनाउन सफल हुनु थकाली जातिको विशिष्टता हो । सबै जातजातिको आ–आफ्नै मूल थलो हुन्छ । मुस्ताङ जिल्लाको दक्षिण भेकमा अवस्थित थाकखोला थकाली जातिको पितृथलो हो । पहिलेदेखि नै मुस्ताङ जिल्लाको थाक खोला क्षेत्रको टुकुचेदेखि तल लेते र घाँससम्मको क्षेत्रमा बसोवास गर्ने जातिलाई च्योकी (गौचन), साल्की (तुलाचन), टि्हम्चन (शेरचन), र प्हुर्की (भट्टचन) गरी परिचित गराउने प्रचलन रहेको छ ।

नेपाली संस्कृति र समाजमा रहेका विभिन्न सामाजिक तत्त्वहरूलाई पश्चिमीकरण, आधुनिकीकरण, विज्ञान र प्रविधिको साथै भौगोलिकीकरणले प्रभाव पारेको छ । यस प्रकृतिको प्रभाव थकाली संस्कृति, भाषा र धर्ममा पनि परेको छ । बड्दो आधुनिकीकरणले गर्दा कुनै समूह बलिया र कुनै समूह कमजोर भएका छन् । सामाजिक परिवर्तनले समाजका आर्थिक, सामाजिक, धार्मिक र भाषिक पक्षलाई प्रभावित पारेको हुन्छ । समाजमा रहेका प्रत्येक जाति र समुदायका आ(आफ्नै किसिमका

परम्परा हुन्छन् । यी परम्पराहरूलाई हरेक युवा पुस्ताले स्वच्छापूर्वक विभिन्न रूपमा ग्रहण गर्दै आएका हुन्छन् । यसरी प्रत्येक जाति र सम्प्रदायका मानिसहरूले आ(आफ्नै किसिमका प्रचलनको अनुसरण गर्दै आएका हुन्छन् । थकाली जातिका मानिसले अनुसरण गर्दै आएका सामाजिक संस्कार मध्ये मृत्यु संस्कार के कसरी अनुसरण गर्दै आएका छन् ? भन्ने कुरालाई सीमाङ्कन गरी अनुसन्धान मूलक आलेख तयार गरिएको छ ।

अध्ययनको उद्देश्य

मुस्ताङ्ग जिल्लाको थाक खोला क्षेत्रलाई पितृथलो मान्दै आएका आदिवासी जनजाति थकालीहरूको मौलिक भाषा र संस्कृति छ । यस अनुसन्धानमूलक आलेखमा सर्वप्रथम थकाली जाति को हुन् ? यिनीहरूको मृत्यु संस्कार के कस्तो छ ? आदि समस्यामा केन्द्रित भई तयार गरिएको छ । जसका उद्देश्यहरू निम्न छन् ः

- थकाली जातिको परिचय दिनु ,
- थकाली जातिको मृत्यु संस्कार वर्णन गर्नु ।

अध्ययन विधि र प्रक्रिया

उद्देश्यपूर्ण किसिमले अनुसन्धानमूलक कार्य सम्पन्न गर्नका निम्ति विषयवस्तु अनुसार अवलम्बन गरिने प्रक्रिया नै अध्ययनका विधि हुन् । प्रस्तुत आलेख तयार गर्दा प्राथमिक र द्वितीयक श्रोतको उपयोग गरिएको छ । थासाङ गाउँ पालिका अन्तर्गत पर्ने साविक टुकुचे, खन्ती, लार्जुङ्ग, कोवाङ लेते र घाँस आदि क्षेत्रमा बसोबास गर्ने थकालीहरूले मान्दै आएको सामाजिक परम्परा अन्तर्गत पर्ने मृत्यु संस्कारलाई आधार बनाइएको छ । यहाँको मानिसहरूसँगको व्यक्ति सम्पकका माध्यमबाट मृत्यु संस्कार र संस्कृति सम्बद्ध तथ्य संकलन गरेर प्रारम्भिक कार्य पूरा गरिएको छ । द्वितीयक श्रोतको रूपमा विभिन्न विद्वानहरूद्वारा थकाली जाति र संस्कृतिसम्बन्धी लेखिएका लेख रचनाहरू र विभिन्न अनुसन्धात्मक पुस्तकहरू आदि सन्दर्भ ग्रन्थको प्रयोग गरिएको छ । प्रस्तुत अनुसन्धानमूलक आलेख विश्लेषणात्मक रूपमा प्रस्तुत गरी निष्कर्षमा पुग्ने प्रयास गरिएको छ ।

नतिजा

थकाली जातिको पौराणिक ग्रन्थ ह्रवमा उल्लेख भए अनुसार श्रद्धेय पूर्खाहरू पश्चिमबाट पूर्वतर्फ आउने क्रममा च्योकीले दोहोरो धार भएको तरवार, साल्कीले बन्चरो र थेवे, ट्िहम्चनले टुकटुके घन र प्हुर्कीले मिङ्तो (कुटो) र सबैले धनुषवाण लिएर आएका थिए । सबै पूर्खाले हावा, पानी, माटो र ढुङ्गा परीक्षण गर्दै त्होचोमा आउने क्रममा कालापानीको पानी अन्य क्षेत्रको पानीको तौलभन्दा गह्रौं भएको महशुस गरेछन् । त्यहाँ उनीहरूले आ—आफ्ना अस्त्र पानीमा डुवाउँदा पुर्खा सम्लिढेन सम्लिचाङको अस्त्र नम्च्यातरीलाई पानीले आकर्षण गरेछ । त्यसपछि पुर्खा सम्त्लिढेन सम्लिचाङको समूहले प्होचोमा बस्ने निर्णय गरे । एवम् प्रकारले पुर्खा अनिऐरम् च्योकीको समूह नर्खुङ सोम्पिस, पुर्खा ढाक्पा क्हेल्च्याङको समूह नर्साङ, पुर्खा पाउकुतीको समूह सलमव्यासी (कोवाङ) बसे । थाकखोला क्षेत्रमा बसोवास गर्ने मानव समुदायको नाम थकाली रहन गएको हो । सामाजिक परिवर्तनले समाजका आर्थिक, सामाजिक, धार्मिक र भाषिक पक्षलाई प्रभावित पारेको हुन्छ । थकालीहरूको पूर्ख्याैली थलो खिमी नामक मठमा मृत्युपछि अस्तु लैजाने गर्दछन् । उक्त चार थरका थकालीहरू धार्मिक र सामाजिक दृष्टिले समान भए तापनि गौचनले प्राथमिकता पाउँछन् । त्यसपछि तुलाचन, शेरचन र भट्टचनको पालो आउँछ ।

छलफल

थकाली जाति

थाकखोला क्षेत्रलाई पितृ थलो मान्ने आदिवासी जनजाति नै थकाली हुन् । थकालीहरू मुस्ताङ क्षेत्रमा प्रवेश गरेपछि आफ्नो सभ्यता र संस्कृतिको विकास गरी धार्मिक, सामाजिक र आर्थिक रूपमा आफूलाई आत्मनिर्भर बनाउन सफल भए । यिनीहरू तिब्बतको मानसरोवरबाट जुम्लाको सिंजा उपत्यका हुँदै थाक सातसय क्षेत्रमा आएर संस्कृति र सभ्यताको विकास गरेका मंगोलियन मूलका आदिवासी जनजाति हुन् । थकाली सेवा समिति नेपालको विधान २०४९ प्रथम संशोधन २०६३ तथा अन्तिम परिमार्जन २०७५ अनुसार थकाली भन्नाले थकालीहरूको संस्कार–संस्कृति र

जीवनपद्धति अवलम्बन गर्ने र सम्बन्धित क्ह्यूले स्वीकार गरेका च्योकी, साल्की, ट्हिम्चन र प्हुर्की चार प्ह्याहरूलाई जनाउँछ (भट्टचन, २०७८, पृ.२५) ।

ह्वमा उल्लेख भए अनुसार श्रद्धेय पूर्खाहरू पश्चिमबाट पूर्वतर्फ आउने क्रममा च्योकीले दोहोरा धार भएको तरवार, साल्कीले बन्चरो र थेवे, ट्िहम्चनले टुकटुके घन र प्हुर्कीले मिङ्तो (कुटो) र सबैले धनुषवाण लिएर आएका थिए । प्राकृतिक सम्पदा र देवीको वासस्थानको खोजीमा निस्केका थकालीहरूका चार पुर्खाले जुम्लाको सिंजामा आई कृषि योग्य भूमि र रमणीय उपत्यकाको मध्य भागमा रहेको रक्त चन्दनको रुखमा आड लगाई आफ्ना हतियार राखे । उक्त हतियार राखेको ठाउँमा बिहान साँझ धूप बत्ती बाली पूजाआजा गरेर चार पूर्खा त्यहाँ कृषि र पशुपालन गरेर बसेका थिए । कृषि तथा पशुपालन कार्य फस्टाएको देखेर स्थानीय बासीले रक्त चन्दनको रुख काटेपछि बाँकी रहेका रक्त चन्दनको रुखका चार वटा हाँगाहरू पनि सुक्दै गए । यसै सन्दर्भमा योगेन्द्रमान भट्टचन भन्दछन् :

चार पुर्खाले चन्दनको किन सुकेको होला भनी आफ्नो साथमा भएको आ–आफ्नो हतियार प्रयोग गरी सुकेको चन्दनको रुखमा प्रहार गर्न लागे । सबैभन्दा पहिले गौचनको पुर्खाको साथमा रहेको हतियार पताङ दुवैतिर धार भएको तरबार जस्तो हतियारले सुकेको चन्दनको फेदमा प्रहार गर्दा रातो चरा उडी पूर्वतिर लाग्यो । क्रमशः तुलाचनको पुर्खासँग रहेको हतियार (न्हम्चातर) घन,बन्चरो दुवै भएको हतियारले प्रहार गर्दा उक्त रुखबाट हरियो चरा उडी पूर्वतिर लाग्यो । यसै प्रकारले शेरचनको पुर्खासँग रहेको हतियार (थोवा) घनले प्रहार गर्दा सेतो चरा उडी पूवतिर लाग्यो र आखिरमा भट्टचनको पुर्खाले (मिङ्तो) बाँउसो जस्तो हतियारले प्रहार गर्दा उक्त रुखबाट कालो चरा उडी उत्तरतिर लाग्यो । भट्टचनको पुर्खाले कालो चरा मेरो कुलदेवता हुन सक्छ भनी कालो चराको पछिपछि उत्तरतर्फ हिँडे भने बाँकी तीन पुर्खाहरू रङ्ग–विरङ्गका चराहरू पूर्वतिर लागेको हुनाले तीन पुर्खाहरू पूर्वतिर लाग्नु परेको थियो । (२०७३, पृ.९८)

उक्त रक्त चन्दनको रुखको उत्तरतर्फ फर्किएको हाँगाबाट कालो चरा उत्पन्न भई प्हुर्कीका पूर्खा पाउकुतीले समातेको मिङ्तो (कुटो) छोएर उत्तरतिर कैलाश पर्वतको मानसरोवर देवस्थलतिर उडेको चार पूर्खाले प्रत्यक्ष देखेछन् । त्यसैगरी केही

समय पछि पूर्वतिर फर्किएको हाँगोबाट रातो, हरियो र सेतो चरा उत्पत्ति भई च्योकी, साल्की र ट्हिम्चनका पूर्खाहरूका अस्त्र छोएर पूर्वतिर धवलागिरि हिमालको चुचुरोसम्म पुगेको चार पूर्खाले प्रत्यक्ष देखेछन । ती चराहरू उत्तर र पूर्वतर्फ उडे पछि पूर्खाहरूको कृषि र पशु व्यवसायमा ह्रास आउँदै गएछ । जसले गर्दा थकाली जातिका पुर्खाहरूले आ-आफ्नो अस्त्र र धनुषवाण लिएर कालो चरा उडको दिशातर्फ पाउकुती र पूर्व दिशातर्फ तीन पुर्खा लागेछन् । पूर्व र उत्तर लागेका पूर्खाहरू चोखोपानी (म्हरस्याङक्यू)मा भेट भएछन् । केही समयको अन्तरालमा पाउकुती धूप बत्ती नगरी जंगलमा शिकार खेल्न गएपछि तत्कालै मेध गर्जन भै पानी परेछ र बाटोे पत्ता लगाउन सकेनछन् । पाउकुती म्हरस्याङक्यू नआएका कारण तीन पुर्खा पाउकुतीको खोजीमा दक्षिणतर्फ गएछन् । उनीहरूले फलाँटे गाउँ (हाल म्याग्दी जिल्लामा पर्ने गाउँ) का स्थानीय बासीलाई देवभूमि जाने बाटो सोध्दा सही बाटो नबताई जतातत्तै जाउ भनेको हुनाले देवताका भाइ खलकले रिसाएर ति बासिन्दालाई सिस्नु नै खान र लगाउन परोस् र शरीरमा आधा कपडा लगाउनु परोस् भनी सराप दिएको कुरा थकालीहरूको पौराणिक गाथा ह्रवमा उल्लेख गरिएको छ । जवाहर भट्टचन (२०८१/०१/१६) ले वि. सं. २०११ तिर शिख फलाँटेका स्थानीय बासिन्दा मगर जातिले सराप फुकाइदेउ आरी देवता भनी पुकार गरेको मैले देखेको सुनेको हु भनेका छन् । पहिलेकै बाटो फर्किदा तीन पुर्खाको भेट हेम क्यु (रुप्से छहरा) भन्ने ठाउँमा भएछ । सबै पूर्खाले हावा, पानी, माटो र ढुङ्गा परीक्षण गर्दै त्होचोमा आउने क्रममा कालापानीको पानी अन्य क्षेत्रको पानीको तौलभन्दा गह्रौं भएको महशुस गरेछन् । त्यहाँ उनीहरूले आ-आफ्ना अस्त्र पानीमा डुवाउँदा पुर्खा सम्लिढेन सम्लिचाङको अस्त्र नम्च्यातरीलाई पानीले आकर्षण गरेछ । त्यसपछि पुर्खा सम्त्लिढेन सम्लिचाङको समूहले प्होचोमा बस्ने निर्णय गरे । एवम् प्रकारले पुर्खा अनिऐरम् च्योकीको समूह नर्खुङ सोम्पिस, पुर्खा ढाक्पा क्हेल्च्याङको समूह नर्साङ, पुर्खा पाउकुतीको समूह सलमव्यासी (कोवाङ) बसे । यसै सन्दर्भमा पूर्णप्रसाद तुलाचन भन्दछन्ः

हाम्रा अग्रज श्रद्धेय पुर्खाहरूले रहन बस्न उपयुक्त ठाउँको खोजी गर्ने क्रममा प्रकृति माताले दिएको आकाश–पाताल, हावा–पानी, अग्नी–ताप तथा पृथ्वीमा हुने हिमाल–पर्वत, ढुङ्गा–माटो, देवी–देवता, नदीनाला, तालतलैया, वन जङ्गल, वन्य पशुपंक्षी,

जडीबुटी तथा प्रकृतिले दिएको प्राकृतिक फूलहरूको सौन्दर्यले स्वर्गीय बगैंचाको रूपमा पाइ यो ठाउँ रहन बस्नलाई उपयुक्त मानेका थिए । हावापानी, ताप–अग्नी, ढुङ्गा माटाको महत्वलाई बुझी प्रकृतिपूजक पुर्खाहरू यसै थाकखोला (थासाङ) मा बसोबास गरेको आदिमकालका दस्तावेजहरू र कागजपत्रहरूबाट थाहा पाउन सकिन्छ । (२०६४, पृ.१००)

थाकखोला क्षेत्रमा चट्टीटुप भनी एघार टोला अन्तगत कोवाङ, खन्ती, सौरु र टुकुचे चार गाउँका लागि तीन मुखिया रहेका थिए । प्हेटुप आठ टोलामा लारजुङ, नाकुङ् , भुर्जुङकोट र नाफ्रुङकोट गरी चार गाउँ रहेका छन् । ढुटुप छ टोला अन्तर्गत धम्पु, टिटि, ताउलुङ, कोन्ज, लेते र घाँस गरी छ गाउँ पर्दछन् । यसै इलाकाको प्रसिद्ध थाक नामबाट यस क्षेत्रमा बसोवास गर्ने मानव समुदायको नाम थकाली रहन गएको हो ।

थकालीहरूको पारिवारिक वर्गीकरण गर्दा चार वर्गमा भएको पाइन्छ । यिनीहरूका आ-आफ्नै कुलदेवता छन् । प्राचीन समयमा च्योकी नाम थर भएका थकालीहरूका कुलदेवता डागन हुन् । यिनीहरूको आधुनिक नाम गौचन हो । हाल तुलाचन नामले चिनिने थकालीहरूको प्राचीन थर साल्की थियो । यिनीहरूले हात्तिलाई कुलदेवता मान्दछन् । त्यसैगरी सिंहलाई कुलदेवता मान्ने थकालीहरूलाई प्राचीन समयमा ट्हिमचन भनिन्थ्यो जसलाई आज शेरचनको नामले चिनिन्छ । भट्टचन नाम गरेका थकालीहरूलाई प्राचीन समयमा प्हुर्की भनिन्थ्यो, जसले चौरीलाई कुलदेवताका रूपमा पूजा गर्दछन् । यी चारथर पनि विभिन्न परिवार समूहमा विभाजित छन्, जसलाई फोवे क्ह्यु भनिन्छ । क्ह्यु थकालीहरूको अति परिचित शब्द हो । यिनीहरू अन्य मानिसका अँगाडि आफ्नो क्ह्यु खोल्दैनन् । आफ्नो पूजा वा देवालीमा क्ह्युमा परिवार समूहका सबै सदस्यहरू जम्मा हुन्छन् । यिनीहरूको पूख्यौली थलो खिमी नामक मठमा मृत्युपछि अस्तु लैजाने गर्दछन् । उक्त चार थरका थकालीहरू धार्मिक र सामाजिक दृष्टिले समान भए तापनि गौचनले प्राथमिकता पाउँछन् । त्यसपछि तुलाचन, शेरचन र भट्टचनको पालो आउँछ । यी चार थरका निम्न प्रकारका क्ह्यु रहेका छन् :

१. च्योकी (गौचन) : क्होछेसोनम्, क्हौम्हिर्की, प्हलमतन, अर्ग मनसुर बैदार मणिराज फोवे , ट्होमफोबे , म्हट्सी, तन्चाङ्फोवे, लमफोवे , लराघेरा र त्ह्यातन क्ह्यु रहेका छन् ।

२. साल्की (तुलाचन) : छ्युपक्ह्युप , च्होञ्जन्, त्ह्यातन्, छैटेन्, लमफोवे र लम क्हाङतेन क्ह्यु रहेका छन् ।

३. टि्हमचन (शेरचन) : ङ्हिमसर , ट्होमफोवे , न्होर्चोफोवे, न्होरसौल्हाथिमा , पोम्वर , पकेरा, सर्तन , ल्हनमतेन ल्हनमच्याङ, ल्ह सरयक्हे प्हलमच्याङ, ह्योन्तोङछ्योकी, म्हत्र्हुडी, लमफोवे, ल्हकाङ्त्हुडी, ल्हकाङ्त्हुडी ल्ह छ्युरिन सुब्बाफोवे र क्हाङताङ् क्ह्यु रहेका छन् ।

४. प्हुर्की (भट्टचन) : छवाङम्हिर्की, त्ह्यातन , परात्होर्छे सरात्होर्छे, ङ्हच्याङ्म्हर्की, टेपलसाङ्म्हर्की, म्हिचिङ, लमफोवे, ल्हेपुच्याङ्, खनुरा क्ह्यु रहेका छन् ।

थकाली भाषामा नजिकका दाजुभाइ हुन भनी चिन्नका निम्ति यसरी क्ह्युमा विभाजन गरेको पाइन्छ । ल्हेपुच्याङ् क्ह्यु भट्टचनको पूजारी बगाल हो । कुनै एकथरका क्ह्युहरूका बीचमा बैबाहिक सम्बन्ध कायम गर्न मिल्दैन । यी क्ह्युहरू देवाली पूजाका दिनमा जम्मा हुन्छन् । मिश्रित जनजाति भएको यो क्षेत्रमा खासगरी थकाली जातिको आफ्नो छुट्टै अस्तित्व रहेको पाइन्छ । थाकखोला क्षेत्रमा अत्यधिक मात्रामा थकालीहरूको बसोबास रहेको देखिन्छ । यहाँका थकालीहरूमा खासगरी मार्फाली र पुन्यालहरू मध्ये तीन गाउँले र पाँच गाउँले गरी विभाजन भएको पाइन्छ । यिनीहरूले आफूलाई थकाली भनी दावी गर्दछन् । मार्फाली अन्तर्गत लालचन, पन्नाचन, हिराचन र ज्वारचनहरू पर्दछन् । यी थकालीहरूको भाषिक धार्मिक र सांस्कृतिक समानता पाइन्छ । यिनीहरूको तिब्बतीहरूसँग धार्मिक र साँस्कृतिक समानता रहेको भए तापनि भाषिक समानता भने पाइँदैन ।

सामाजिक संस्कार

नेपाली संस्कृति र समाजमा विभिन्न सामाजिक तत्वहरू पश्चिमीकरण, आधुनिकीकरण, विज्ञान र प्रविधिको साथै भौगोलिकीकरणले प्रभावित भए जस्तै

भिन्डिङका अनुसार थकाली संस्कृति, भाषा र धर्म पनि विश्वव्यापी व्यापार उन्मुख छन् । बढ्दो आधुनिकीकरणले गर्दा कोही समूह बलियो र कोही कमजोर भएका छन् । सामाजिक परिवर्तनले समाजका आर्थिक, सामाजिक, धार्मिक र भाषिक पक्षलाई प्रभावित पारेको हुन्छ । समाजमा रहेका प्रत्येक जाति र समुदायका आ-आफ्नै किसिमका परम्परा हुन्छन् । यी परम्पराहरूलाई हरेक युवा पुस्ताले स्वच्छापूर्वक विभिन्न रूपमा ग्रहण गर्दै आएका हुन्छन् । यसरी प्रत्येक जाति र सम्प्रदायका मानिसहरूले आ(आफ्नै किसिमका प्रचलनको अनुसरण गर्दै आएका हुन्छन् । थकाली जातिमा मृत्यु संस्कारलाई विशेष महत्व दिने प्रचलन छ । थकाली जातिको मृत्यु संस्कारका सम्बन्धमा आफ्नै दुई किसिमका परम्परागत विधिहरू हरेका छन् :

म्हाङ्न्हाव (ट्होम विधिबाट गरिने मृत्यु संस्कार)

पहिलो चरणमा ट्होमहरूले मानिसको अन्तिम प्राण शिरको भूमरी परेको ठाउँबाट जाने कुरामा विश्वास राख्ने भएकाले आफ्नो विधि अनुसार मन्त्र उच्चारण गर्दै दुई हात जोडी शिरको भूमरी परेको ठाउँबाट रौ उखलेर फोवा विधि पूरा गरी मृत्यु भएको घोषणा गर्दछन् । ट्होमले १०८ क्हयम्चे (वत्ती) र धुप बाली क्ह्यम्चे छ्योकबाट आत्माको विधिवत पूजा गर्दछन् । घरका ज्वाइँहरूले शवलाई दाहसंस्कार गर्न आवश्यक सामग्री जुटाउनुका साथै बास तथा धुपीको सोला बनाउँछन् । शवलाई सोलाभित्र सेतो कपडाले मोडेर पुरुषको भए प्होरे कपडाले र महिलाको भए चार पाँच रङको कपडाले ढाकेपछि फूलमालाले ढाक्नु पर्दछ । पुरुषका लागि सोला ९आखडा, साटा ९ र महिलाका लागि सोला ७ आखडा , ७ साटाको बनाइन्छ । सोलामा राखेपछि १०८ दीप बाल्ने, छाप्रीमा फलफूल, चोखो रोटी, चोखो पानी चढाउने, कोइलामा आगो बाली सुर चढाई याङ्टल गरिन्छ । अशोक गौचन (२०८१/०३/२०) का अनुसार याङ्टल गर्दा १ जोडि तामा वा पितलको डाडु पन्युमा ४÷५ रंगको कपडा बाँधी उक्त डाडु पन्युले दाजुभाइको जेठो सदस्यले लासलाई घुमाउँदै झार्दै ३ पटक गर्ने विधिलाई याङ्टल भनिन्छ । दोस्रो चरणमा मृतकले घरको सह नलैजाहोस र परिवारका सदस्यलाई हानी नोक्सानी नहोस् भनी याङ्टल केर्च गर्दा एउटा कचौरामा पुरुष भए जाँड र महिला भए रक्सी हाली उक्त कचौराको बिटबाहिर एउटा मात्र नौनी घिउको ह्यर गरी लास लैजाने बेला क्हेर्च गर्ने

वा मृतकलाई उक्त नौनी घिउ चाँदमा लगाई जाँड वा रक्सिले छे छे गरी विदाई गर्ने चलन छ । त्यसपछि शवलाई पवित्र बनाउने कार्यलाई चि्हन्जा भनिन्छ । यसै सन्दर्भमा पूर्णप्रसाद तुलाचन भन्दछन् :

> चि्हन्जामा आवश्यक सामग्री श्रीखण्ड, रक्तचन्दन, रसकपुर, धुप, जौ, तिल, सुनको टुक्रा, काँचो सुतीधागो, चोखो अम्रीसो, धुपीको डाली, शुद्ध घिउ, दूध, चोखो पानी, धजा, धुप (सुर) का लागि मह, घिउ, उवाको पिठो जम्मा गर्दछन् । यस बाहेक कालो रङ्गको बाहेक नौ थरीको अन्न, कालो बाहेक नौ रङ्गको कपडाका टुक्राको आवश्यकता पर्दछ । (२०७३, पृ.५५)

चि्हन्जा गरेपछि छोरा तथा दाजुभाइका छोराहरूले शव काँधमा राखेर बोक्ने र दाजुभाइले शव यात्रामा त्हर्तुङ समाल्नु पर्दछ । शवलाई चित्तामा राखेपछि पैसाको ढ्याँकहरू चढाइन्छ भने चित्तालाई शुद्ध र पवित्र बनाउन अम्रीसोको कुचोले जौ, तिल राखेको चोखो पानी चिताको चारैतिर छर्कीने गरिन्छ । ट्होमले विधि अनुसार ढ्याङग्रो ठटाएर शव दाह गर्न आवश्यक सामग्रीहरू शवमा चढाउँछन् । त्यसपछि दुवो, हुम्बुसिन लिएर घाटमा चारै दिशाको देवतामा बास गर भन्ने विधि गरिन्छ । मृत्यु संस्कारमा क्रियापुत्रीले केश मुण्डन गर्ने, सेतो बस्त्र लगाउनु पर्दछ तर अनिवार्य छैन । मृतकको छोराले घाटमा १ वत्ती बाल्ने, सुन र दुवो मृतको मुखमा राखेर दाहसंस्कार गर्ने र मृतकको शिरमा चोखो पानी छर्केर छ्र्याफूल्ची गरिन्छ । मृतकको आत्माको चीरशान्तिको लागि किरियाशुद्धि नभएसम्म मृत्यु भएका दिनदेखि अखण्ड वत्ती बाल्नु पर्दछ । दाहसंस्कार सकिएपछि ज्वाइँले अस्तु वा हड्डीको सानो टुक्रा किरिया घरमा ल्याइ चोखो ठाउँ धुपी वा अन्य रुखको हाँगामा सुरक्षित राख्नु पर्दछ र ४९ दिनभित्र थासाङमा रहेका ९ गुम्बाहरूमा वत्ती बाल्नुका लागि मलम साव भनी पैसा छुट्याई दिनुका साथै मृतकको क्ह्युको खिमी घरमा दाजुभाइको उपस्थितिमा ज्वाइँले छ्योमे स्हई (फूलमाला) चढाई बत्ती बाली अस्तुलाई खिमी घरमा राखिन्छ ।

मृत्यु संस्कारको तेस्रो दिनको कार्यलाई स्ह्याक्सुम् भनिन्छ । म्हेन्दो स्थापनाका लागि घरभित्र अस्तु लैजाँदा मूल ढोकामा जेठी बुहारीले केल्साङ गर्ने र छोरीहरू म्हेन्दो समातेर रुने गर्दछन् । म्हेन्दोलाई शुद्ध जल र फूलले पवित्र गरेर

ज्वाइँले घरमा भित्र्याएको म्हेन्दोलाई ट्होमले किरिया कोठामा ढलोटको पाथी र मानामा अन्न भरेर लिङ्ग अनुसारका राम्रा राम्रा वस्त्र, फूलमाला, धुपीका मुन्टाले सजाएर म्हेन्दो स्थापना गरी छाप्रीमा फलफूल राखी धुपवत्ती बाली रिट्ठाका माला जप्दै ढ्रयाँग्रो ठोकेर तन्त्रमन्त्रले ट्होम विधि गर्दछन् । "ओङ्कमा क्हेम्चे (१०८ वत्ती) बालिन्छ र पवित्र धुपीको सगन्धित धुप, पिठोमा घिउ, मह राखी मुछेर सुर बनाई घुमाउने गरिन्छ" (भट्टचन, २०७७, पृ.३९) । मन्दोलाई जीवित आत्मा ठानी विहान साँझ स्योङोइजी चढाई अटुट रूपमा निमवत्ती बालिन्छ । स्योङोइजी गरेको खाना मूल ज्वाइँले चढाई सकेपछि केही थपेर खानुपर्दछ । मृतकले जीवित अवस्थामा खान मन पराउने चिजलाई प्राथमिकता दिई चढाउने गरिन्छ । स्ह्याक्सुम् विधि सम्पन्न गर्दा दाजुभाइ, चेलीज्वाइँ र माइती बाहेक अरुलाई नबोलाउन मितव्ययीता अपनाउनु पर्दछ । स्ह्याक्सुम्को भोलिपल्टदेखि इष्टमित्रहरूले भेटघाट गर्ने चलन छ । यसै सन्दर्भमा चन्द्र भट्टचन भन्दछन् :

मृतकको नाममा क्हेम्चे (१०८ वत्ती) बाल्ने र स्है चढाउने परम्परा छ । यो कार्य मृत्यु भएको दिनदेखि किरिया शुद्धी हुने ७ वा ९ दिनभित्र मृतकको घरको तर्फबाट स्ह्याक्सुम्, ट्हुण्डा र म्हाङरहावको रात ३, दाजुभाइको तर्फबाट १, चेलीज्वाइँबाट १, म्हातुङ खाने जेठी छोरीको तर्फबाट १, मूल माइतीको तर्फबाट १, मृतक महिला भए आनच्योनको तर्फबाट १, मृतक पुरुष भए मावलीको तर्फबाट १ गरी ९ क्हेम्चे (१०८ वत्ती) बाल्ने र स्है चढाउने कार्य गरिन्छ । (२०७७, पृ.४१)

स्है कार्यका लागि एक नाङ्लो छो, १ कचौरा रक्सी र ट्होमलाई प्हूल्व (दक्षिणा) दिने गरिन्छ । आफ्ना गुरूको प्रतीकका रूपमा क्हयकर पूजा कोठामा स्थापना गरिराखिएको हुन्छ । भूत प्रेतलाई बशमा पार्नका लागि पिठोको कन्दु (प्रतिमा) क्रमसँगै मिलाएर राखिएको हुन्छ । "कार्यसिद्धिका लागि क्हयकरलाई पवित्र धुपीको डालीलाई बालेर आगोको राप र शुद्ध धुवाँले आफ्ना गुरू, कन्दु, ढ्याँग्रो, रिट्ठाको माला र आफूलाई समेत धुवाँले रंगाई शुद्ध बनाएको हुन्छ" (भट्टचन २०७७ पृ. ३९) देवी देवताका.रूपमा कन्दुलाई रगतले जगाउने भनी कुखुराको भालेको शिर मात्र सानो चुडाएर रगत छर्काइन्छ । ट्होमले रिट्ठाको माला जप्दै पहिलो चरणको कार्य समापन गर्दछन् । त्यसपछि प्ल्हङ्होइव गर्न एकान्त अलि अग्लो ठाउँमा ट्होम,

माइती मावली, दाजुभाइ, ज्वाइँ कुटुम्ब र छरछिमेकीको सहभागितामा ट्होमले देव आवाजमा मृतकको नाम उच्चारण गर्दै तीन पटक बोलाउँछन् । सुसेलीबाट एकोहोरो स्वरमा बोलाउँदा सेतो कपडाले टाउकोको माथिबाट झटार्दै तीन पटक सुसेल्छन् । यो कार्य मृतकको आत्मालाई स्वर्गलोकमा लैजान बोलाएको हो भन्ने भनाई छ । मृतकको आत्मालाई स्वर्गलोकमा लैजाने विधिलाई म्हाङ्ऱ्हाव भनिन्छ । म्हाङ्र्हाव कार्यमा प्रयोग गरिएका सम्पूर्ण सामग्रीलाई झिसमिसे उज्यालो हुनु पहिले खोलाको किनारमा गएर धुपवत्ती बाली विसर्जन गरिन्छ ।

च्ह्याङपर्ची (लामा विधिबाट गरिने मृत्यु संस्कार)

थकाली जातिको च्ह्याङपर्ची विधिबाट मृत्यु संस्कार गर्दा शव जलाउन घाटमा लैजाने दिनमा सबैभन्दा पहिले बौद्ध विद्या जान्ने लामा कहाँ गएर चीकोर्बी हेराउँछन् । चीमा कुनै वर्गको व्यक्तिलाई घरमा जान नहुने भएमा सबै मलामीलाई सूचित गरिन्छ । नजिकका दाजुभाइ, चेलीज्वाइँ, आफन्त र इष्टमित्रहरू जम्मा भएपछि क्हेम्चे (वत्ती) तयार गर्ने, शवलाई घाटसम्म लैजान फूङओ (खट) बनाउन आवश्यक पर्ने सामग्री र लामालाई आवश्यक पर्ने सामग्री जुटाउनु पर्दछ । त्यसपछि लामाहरूबाट च्हिन्जा गर्ने विधि कार्यान्वयन गरिन्छ । चौथो दिन विहान लामाबाट स्ह्याक्सुम कार्य प्रारम्भ हुन्छ । यो कार्य गर्दा लामाले आफ्नो भगवानको थाङ्का र अन्य देवी देवताहरूको थाङ्का टाँसेर चोखो जल, फूल, वत्ती, धुप बालेपछि मृतकको स्वरूप मानेर डालो, पाथी र माना भरी उवा नभए चामल राखिन्छ र मानामा ज्वाइँले घाटबाट ल्याएको अस्तु राख्दछन् । "डालो माथि मानालाई मृतकको लिङ्ग अनुसार राम्रो कपडा र गरगहनाहरू लगाई राखिन्छ । वरिपरि विभिन्न परिकारका खानाका साथै फलफूल, मासुको परिकार, सेलरोटी, नुन चिया, दूध, दही, छ्याङ र रक्सी चढाइन्छ" (भट्टचन, २०७७, पृ.५६) ।

लामाले विहान ९ देखि १० बजेभित्र स्ह्याङोइजी गर्दा ज्वाइँले धुपौरोमा आगो बाल्ने, घरकी जेठी बुहारीले विहानको खानाका परिकार बनाएर ल्याएपछि लामाको इसारामा ज्वाईले मृतकलाई हात धुनुहोस् , खाना चढाउनुहोस् भन्दै खानाका परिकारहरू थोरै थोरै होमन गर्दछन् । त्यसपछि लामाले एक टुक्रा कपडा र विधि गरेको उवा होमन गरेपछि उवाको पिठोमा घिउ मिलाई बनाएको सुर बाहिर लगेर

राख्ने समयमा सबै चेलीहरू उपस्थित भई रुने र छ्याफूल्जी गर्दछन् र मृतकलाई चढाएको बाँकी खानामा थप गरी मूल ज्वाइँले खान्छन् । स्ह्याक्सुम पूजा गर्दा दाजुभाइ र नातागोताहरूले पालैपालो क्हेम्चे (१०८ वत्ती) बालेर स्वर्गबासको कामना गर्दछन् । बेलुका पनि ज्वाइँले लामाको निर्देशनमा खाना चढाउन स्ह्यङोइजी पूजा गर्दछन् । यो पूजा ४९ दिनसम्म बिहान साँझ नित्य रूपमा चलिरहन्छ । यो वि.सं. २००६ सालभन्दा पहिले प्रचलनमा रहेको देखिन्छ । हाल आएर स्ह्याक्सुम् विधि सम्पन्न गर्दा दाजुभाइ, दिदी बहिनी र आफन्त जम्मा भई मितव्ययी किसिमले गर्ने चलन छ । ट्हुण्डा मृत्यु भएको ७ दिन पुगेपछि परम्परागत विधि अनुसार गरिन्छ । यस समयमा आफन्त वा नाता कुटुम्बहरूले पालैपालो क्हेम्चे वत्ती बाल्दछन् । आँगनमा मृतकको प्रतीमा बनाइ त्यसको वरिपरि खानाका परिकार र फलफूल चढाउँछन् । लामा, झुमा, ट्हुङ्व, ट्होम्हरू मृतकको वरिपरि तन्त्रमन्त्र जपेर नाँच्ने र बाजागाजा बजाउने गर्दछन् । "राती झुमाहरूले डमरु बजाएर तन्त्रमन्त्रको भावबाट मृतकलाई स्वर्ग पर्याउने पुकार गरिन्छ" (भट्टचन, २०७७, पृ.५८) ।

निष्कर्ष

आदिवासी जनजाति उत्थान राष्ट्रिय प्रतिष्ठान ऐन २०५८ को दफा २(क) सँग सम्बन्धित अनुसूची बमोजिम सूचीकृत भएको जाति थकाली हो । थकालीहरू व्यापार व्यावसाय गर्ने उद्देश्यले हाल ३६ जिल्लामा छरिएर रहेका छन् । यिनीहरूको मौलिक भाषा, संस्कृति र परम्परा छ । न्यून जनसंख्या भएर पनि देशको शैक्षिक, सामाजिक, आर्थिक, राजनैतिक र धार्मिक क्षेत्रमा छुट्टै पहिचान बनाउन सफल हुनु थकाली जातिको विशिष्टता हो । सबै जातजातिको आ–आफ्नै मूल थलो हुन्छ । मुस्ताङ जिल्लाको दक्षिण भेकमा अवस्थित थाकखोला थकाली जातिको पितृथलो हो । पहिलेदेखि नै मुस्ताङ जिल्लाको थाक खोला क्षेत्रको टुकुचेदेखि तल लेते र घाँससम्मको क्षेत्रमा बसोवास गर्ने जातिलाई च्योकी (गौचन), साल्की (तुलाचन), ट्हिम्चन (शेरचन), र प्हुर्की (भट्टचन) गरी परिचित गराउने प्रचलन रहेको देखिन्छ । समाजमा रहेका प्रत्येक जाति र समुदायका आ(आफ्नै किसिमका परम्परा हुन्छन् । यी परम्पराहरूलाई हरेक युवा पुस्ताले स्वच्छापूर्वक विभिन्न रूपमा ग्रहण गर्दै आएका हुन्छन् । यसरी प्रत्येक जाति र सम्प्रदायका मानिसहरूले आ(आफ्नै किसिमका

प्रचलनको अनुसरण गर्दै आएका हुन्छन् । थकाली जातिका मानिसले अनुसरण गर्दै आएका सामाजिक संस्कार मध्ये मृत्यु संस्कार पनि एक हो । थकाली जातिको मृत्यु संस्कारका सम्बन्धमा आफ्नै दुई किसिमका म्हाङ्न्हाव (ट्होम विधिबाट गरिने मृत्यु संस्कार) र च्ह्याङपर्ची (लामा विधिबाट गरिने मृत्यु संस्कार) परम्परागत विधिहरू हरेका छन् ।

सन्दर्भ सामग्री

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कृतिम बुद्धिमत्ताको पृष्ठभूमिमा शिक्षा प्रणालीको भविष्य

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सारांश (Abstract)

सूचना तथा सञ्चार प्रविधिको क्षेत्रमा भएको तिब्र विकाससँगै कृतिम बुद्धिमत्ताले आधुनिक समाजका हरेक क्षेत्रमा गहिरो प्रभाव पार्दै आएको छ। विशेषत शिक्षा प्रणालीमा ए.आई.को प्रयोगले शिक्षण-सिकाइ प्रक्रिया, पाठ्यक्रम विकास, मूल्याङ्कन प्रणाली, शिक्षण सिकाइमा शिक्षक तथा विद्यार्थीको भूमिकामा आमूल परिवर्तनको संकेत देखिएको छ। यस लेखमा कृतिम बुद्धिमत्ताको सैद्धान्तिक पृष्ठभूमि, शिक्षामा यसको प्रयोग, अवसर तथा चुनौती, शिक्षक र विद्यार्थीमा पारेको प्रभाव, परीक्षा प्रणालीमा देखिएका जोखिम तथा भविष्यको शिक्षा प्रणालीको सम्भावित स्वरूपको विश्लेषण गरिएको छ।यस अध्ययनले नेपालको शिक्षा प्रणालीमा समसामयिक सुधार गरी शिक्षासम्बन्धी नीति तर्जुमा, योजना निर्माण, पाठ्यक्रम विकास र परीक्षा प्रणालीमा कृतिम बुद्धिमत्ता केन्द्रित सुधार गर्नुपर्ने निष्कर्ष निकालेको छ ।

प्रमुख शब्दावलीहरू (Keywords): *आर्टिफिसियल इन्टेलिजेन्सी, शिक्षा प्रणाली,शिक्षण सिकाइ प्रक्रिया, शिक्षा नीति, शिक्षासम्बन्धी योजना,भविष्यको योजना,*

परिचय

यस आलेख पछिल्लो समय तिब्ररूपमा विकास भएको कृतिम बुद्धिमत्ताका कारण शिक्षा क्षेत्रमा परेको प्रभाव र भविश्यको शिक्षा प्रणालीबारे केन्द्रित रहेको छ ।

पृष्ठभूमी

वर्तमान विश्वमा सूचना तथा सञ्चार प्रविधिको क्षेत्रमा अभूतपूर्व र तिब्र विकास भइरहेको छ। सूचना तथा सञ्चार प्रविधको विकासको एक महत्वपूर्ण शाखाको रूपमा कृतिम बुद्धिमत्ता रहेको छ । हाल विश्वका प्राय सबै देशमा भाषा, साहित्य, कला, शिक्षा, स्वास्थ्य, व्यापार तथा अनुसन्धानजस्ता विविध क्षेत्रमा ए.आई.को प्रभाव व्यापक बन्दै गएको छ ।यसले मानव समाजले स्थापित गरेका परम्परागत मूल्य, मान्यता, सोच र कार्यप्रणालीलाई समेत चुनौती दिएको छ।यसको प्रभाव भविश्यमा कुन क्षेत्रमा कति सम्म पर्ने भन्ने विषयमा तत्काल आंकलन गर्न कठिन भएता पनि शिक्षा क्षेत्र यसको प्रत्यक्ष र दीर्घकालीन प्रभावबाट अछुतो रहने सम्भावना देखिँदैन। तसर्थ, वर्तमान सन्दर्भमा "नेपालको शिक्षा प्रणालीको भविष्य के हुने?" विश्व बजारमा प्रतिस्पर्धि जनशक्ती उत्पादन गर्नको लागि के कस्तो शिक्षा नीति तथा पाठ्यक्रम आवश्यक पर्ने भन्ने प्रश्न गम्भीर बहसको विषय हो ।

कृतिम बुद्धिमत्ताको अवधारणात्मक पक्ष

कृतिम बुद्धिमत्ता कम्प्युटर विज्ञानको एक महत्वपूर्ण तथा नवीन प्रणाली हो, जसले मेसिन वा सफ्टवेयरलाई मानवजस्तै सोच्ने, सिक्ने, विश्लेषण गर्ने र निर्णय लिने क्षमता प्रदान गर्दछ। प्राकृतिक रूपमा भाषा बुझ्ने (Natural Language Processing), वस्तु तथा चित्र पहिचान गर्ने (Image Recognition), नयाँ सामग्री सिर्जना गर्ने (Content Generation) र तथ्यमा आधारित निर्णय लिने कार्य मानव मस्तिष्कसँग मात्र सीमित मानिन्थ्यो।कृतिम बुद्धिमत्ताले कम्प्यूटर प्रणालीमा रहेका तथ्याङ्क तथा सूचनाको विश्लेषण गरी नतिजा दिने गर्दछ । यही कारण ए.आई.लाई विज्ञान तथा प्रविधिको क्षेत्रमा एक महत्वपूर्ण क्रान्तिका रूपमा लिइन्छ। मानवले मानवकै कल्याणका लागि विकास गरिएको भएता पनि यससँगै विभन्न क्षेत्रमा चुनौतीहरू समेत थपिँदै गएका छन्।

समस्याको कथन

कृतिम बुद्धिमत्ताको विकास र परिस्कृत गर्ने कार्य तिब्ररूपमा भइरहेको छ ।यसको विकास र व्यापक प्रयोगको लागि पछिल्लो समय विश्वका धेरै विकसित

देशका सूचना तथा सञ्चार प्रविधिसम्बन्धी कम्पनीहरूबीच प्रतिस्पर्धा चलिरहेको छ ।यस सँगै शिक्षा क्षेत्रमा हाल सञ्चालनमा रहेको नीति, प्रणाली, विधि र पद्धति असान्दर्भिक सावित हुने निश्चित देखिएकोले यसमा सान्दर्भिक परिवर्तन र निरन्तर सुधारको आवश्यकता छ ।

अध्ययनको उद्देश्य

सुचना तथा सञ्चार प्रविधिको विकाससँगै व्यापक बन्दै गएको कृतिम बुद्धिमत्तासँगै नेपालको शिक्षासम्बन्धी नीति, शिक्षण विधि, परीक्षा तथा मूल्याङ्कन प्रणालीमा देखिने समस्या पहिचान गरी भविश्यको शिक्षा प्रणालीमा सान्दर्भिक सुधार गर्नु पर्ने क्षेत्र पहिचान गरी सिफारिस गर्नु यस लेखको उद्देश्य हो ।

परिकल्पना

कम्प्यूटर प्रणालीमा आधारित सूचना तथा सञ्चार प्रविधिको विकास सँगै चर्चामा रहेको कृतिम बुद्धिमत्ताले शिक्षा क्षेत्रको भविश्यमा गम्भीर प्रभाव पार्ने देखिन्छ । यसको प्रयोग व्यापक बन्दै जाँदा परम्परागत शिक्षण सिकाइ विधि, विषय वस्तु र पाठ्यक्रममा आमूल परिवर्तन गर्नु अपरिहार्य हुनेछ ।शिक्षासम्बन्धी नीति, योजना तथा कार्यक्रम निर्माण र कार्यान्वयन गर्दा कृतिम बुद्धिमत्ताबाट सिर्जित अवसर र चुनौतीहरूको समीक्षा गर्नु आवश्यक छ ।

साहित्य समीक्षा

कृतिम बुद्धिमत्ता र शिक्षासम्बन्धी आलेखहरूले विश्वव्यापी रूपमा शिक्षा प्रणालीमा भइरहेको प्रविधिगत रूपान्तरणलाई स्पष्ट रूपमा देखाएका छन।युनेस्कोबाट प्रकाशितएआई र शिक्षाको भविष्यः अवरोध, दुविधा र दिशाहरू विषयक आलेखमा "शिक्षामा एआईको बढ्दो एकीकरणले रूपान्तरणकारी अवसरहरू र जटिल चुनौतीहरू दुवै प्रस्तुत गर्दछ, शैक्षिक प्रणाली, पाठ्यक्रम र शिक्षा प्रशासनलाई पुनर्गठन गर्दै समानता, नैतिकता र मानव एजेन्सीको बारेमा महत्वपूर्ण प्रश्नहरू उठाउँछ" भनी विश्लेषण गरेको छ ।

नेपाल सरकार सूचना तथा सञ्चार प्रविधि मन्त्रालय मार्फत प्रकाशित नेपालमा आर्टिफिसियल इन्टेलिजेन्सी (ए.आई.) को प्रयोग एवं अभ्याससम्बन्धी अवधारणा पत्रमा सिकाइ अनुभवहरू, Personalized, Tutoring Adaptive Learning Platforms र विद्यार्थीहरूको आवश्यकता अनुरूप सिकाउने शैलीहरू र शैक्षिक सामाग्रीहरूको विकास गर्नको लागि विभिन्न प्रणालिहरूमा ए.आई. को प्रयोग गर्न सकिने कुरा उल्लेख छ । साथै उक्त अवधारणा पत्रमा विद्यार्थीहरूको सिकाइ व्यवहार, प्राथमिकताहरू, सवल पक्ष र कमजोरीहरूको डाटा सङ्कलन गरी उक्त डाटाको विश्लेषन गर्न र विद्यार्थीहरूको सिकाइ शैली पहिचान गर्न मेसिन लर्निङ जस्ता ए.आइ. प्रविधि प्रयोग गर्न सकिने विषय उल्लेख गरिएको छ ।

नेपाल सरकारबाट जारी भएको नेपालको राष्ट्रिय आर्टिफिसियल इन्टेलिजेन्स (ए.आई.) नीति २०८२ को पृष्ठभूमी, रणनीति, कार्यनीति र कार्ययोजनामा समेत आर्टिफिसियल इन्टेलिजेन्ससम्बन्धी शिक्षालाई प्राथमिकतामा राखिएको पाइएको छ ।

सूचना प्रविधिको विकास सँगै प्राप्त उपलब्धि र चुनौतीको पृष्ठभूमिमा यसको विकास विस्तार र नियमनका लागि नेपाल सरकारले विद्युतिय कारोवार ऐन २०६३, सूचना तथा सञ्चार प्रविधि नीति २०७२, डिजिटल नेपाल फ्रेमवर्क २०७६, राष्ट्रिय विज्ञान प्रविधि तथा नवप्रवर्तन निति २०७६ र राष्ट्रिय साइवर सुरक्षा नीति २०८० तर्जुमा गरी लागू गरिरहेको छ ।

यी अध्ययनहरूको समग्र समीक्षाबाट शिक्षामा कृतिम बुद्धिमत्ता अपरिहार्य बन्दै गएको स्पष्ट हुन्छ। आर्टिफिसियल इन्टेलिजेन्सीको कारण शिक्षा क्षेत्रमा रुपान्तरण हुने सन्दर्भमा शिक्षासम्बन्धी क्षेत्रगत नीतिमा यस विषयले स्थान नपाएको देखिन्छ ।साथै राष्ट्रिय आर्टिफिसिय इन्टेलिजेन्सी नीतिमा उल्लेख भए अनुसारका शिक्षासम्बन्धी विषय कार्यान्वयन गर्नको लागि कानूनि मार्गदर्शनको अभाव छ। विद्यालय तहमा यस विषयलाई अनिवार्य विषयको रूपमा समावेश गरिएको छैन। अन्तराष्ट्रिय रूपमा शिक्षा क्षेत्रमा ए.आई. को प्रयोग र नियमन सन्दर्भमा विकसित अवधारणा र मान्यताहरू पहिचान गरी नेपालमा आन्तरिकरण गर्नु अपरिहार्य छ ।

अनुसन्धान विधि

यस अध्ययनमागुणात्मक अनुसन्धान ढाँचा (Qualitative Research Design) अवलम्बन गरिएको छ। अध्ययन मुख्यतः द्वितीय स्रोतमा आधारित (Secondary Source–Based Study) रहेको छ। कृतिम बुद्धिमत्ता र शिक्षा प्रणालीसम्बन्धी विभिन्नपुस्तक, शैक्षिक जर्नल, अनुसन्धानात्मक लेख, नीति दस्तावेज, प्रतिवेदन तथा अनलाइन स्रोतहरूको अध्ययन गरी तथ्य सङ्कलन गरिएको छ। अध्ययनवर्णनात्मक तथा विश्लेषणात्मक (Descriptive and Analytical) प्रकृतिको रहेको छ। उपलब्ध साहित्यको समीक्षा गर्दै कृतिम बुद्धिमत्ताले शिक्षा प्रणालीमा पारेको प्रभाव, अवसर, चुनौतीको विश्लेषण भविष्यको लागि सिफारिस गरिएको छ।

तथ्याङ्क प्रस्तुति र विश्लेषण

यस अध्ययन लाइब्रेरी रिसर्च र गुणात्मक विधिमा आधारित भएको हुँदा संख्यात्मक तथ्याङ्कको प्रस्तुतिकरण गरिएको छैन । यहाँ विश्वका विभिन्न मुलुक र विश्व विद्यालयमा ए.आई. को प्रयोगसम्बन्धी तथ्य प्रस्तुत गरिएको छ ।

सान डिएगो विश्वविद्यालयको नविन अनलाइन मास्टर अफ साइन्स एण्ड एप्लाइड आर्टिफिसियल इन्टेलिजेन्स कार्यक्रमद्वारा विकसित प्रतिवेदनमा शिक्षामा कृतिम बुद्धिमत्ताको प्रयोगका ९ वटा फाइदाहरू प्रस्तुत गरिएका छन । जुन यस प्रकार छन् :

१. व्यक्तिगत आवश्यकतामा आधारित उन्नत सिकाइ

२. स्वचालित प्रशासनीक कार्य

३. विद्यार्थीहरूको सिकाइमा पूर्ण सक्रियता

४. पहुँचमा वृद्धि

५. कार्यान्वयन योग्य अन्तरदृष्टि

६. प्रभावकारी कक्षा व्यवस्थापन

७. सुदृढ सुरक्षा र मूल्याङ्कनको विश्वसनीयता

८. निरन्तर सिकाइ तथा पेशागत विकास र बृहत् स्केलाविलिटि । यसका अतिरिक्त उक्त प्रतिवेदनमा शिक्षामा ए.आई. को प्रयोगसम्बन्धी ३९ वटा उदाहरणहरू प्रस्तुत गरिएको छ ।

युनेस्कोले विद्यार्थीहरूको लागि आर्टिफिसियल इन्टेलिजेन्सीसम्बन्धी ४ वटा सक्षमताहरू प्रस्तुत गरेको छ ।

१. मानव केन्द्रित मानसिकता

२. एआई को नैतिकता

३. ए.आई. प्रविधि र एप्लिकेशनहरू

४. एआई प्रणाली विकास

पछिल्लो समय आर्टिफिसिय इन्टेलिजेन्सीलाई विश्व विद्यालयहरूको पाठ्यक्रममा समावेश गरिएको छ । नेपालमा पनी काठमाण्डौ विश्व विद्यालय, पूर्वाञ्चल विश्व विद्यालय र लुम्बिनि विश्वविद्यालयले आर्टिफिसियल इन्टेलिजेन्सीको पढाइ शुरु गरेका छन । त्यस्तै इस्ट लण्डन युनिभर्सिटि, कन्ट्रि विश्व विद्यालय र ब्रिङहामसिटि विश्व विद्यालयले पनी यसको पढाइ शुरु गरेका छन ।वेवसाइट रिपोर्टहरू हेर्दा विश्वका धेरै विश्व विद्यालयहरूले यसको पढाइ शुरु गरेको पाइन्छ ।

विश्वमा ए.आई.सम्बन्धी नीतिगत व्यवस्थाको विकास पनि तिब्ररूपमा बढ्दै गएको छ । युरोपियन युनियनले दुइ वर्षमा पुर्ण लागू गर्ने गरी ए.आई. ऐन २०२४ मै जारी गरिसकेको छ ।वेलायतले क्षेत्रगत कानून मार्फत ए.आई.को नियमन गर्ने प्रयास गरेको छ ।स्वीजरल्याण्डले पनी पूर्व स्थापीत कानून संशोधन गरी ए.आई. का विषयहरू समावेश गरेको छ।संयुक्त अधिराज्य अमेरिकाले पनी ए.आई. को नियमनको लागि निर्देशिकाहरू जारि गरिसकेको छ ।जापान, ब्राजिल, चिन लगायतका देशहरूले समेत ए.आई.सम्बन्धी नीतिगत एवं कानूनि व्यवस्था गरेका छन् ।

नेपाल सरकारले राष्ट्रिय आर्टिफिसियल इन्टेलिजेन्सि नीति २०८२ तर्जुमा गरी लागू हुने चरणमा रहेको छ ।उक्त नीतिमा शिक्षा, स्वास्थ्य, वित्त, सार्वजनिक सेवा, उद्योग तथा सुरक्षा क्षेत्रमा यसको प्रयोगको विषय उठान गर्दै, शिक्षाको गुणस्तरियता प्रवर्धन गर्न तथा यससम्बन्धी सिकाइ प्रवर्धन गर्नको लागि रणनीति कार्यनीति तथा कार्ययोजना प्रस्तुत गरेको छ ।

गोरखा पत्र दैनिकमा प्रकाशित डा. अनिला झाको उच्च शिक्षामा ए.आई.को प्रभाव विषयको आलेखमा ए.आई.लाई शिक्षाविद् र अनुसन्धानकर्ताको सारथिको रूपमा प्रस्तुत गरिएको छ ।तर यसको प्रयोगमा नियमन गर्न सकिएन भने विद्यार्थीको बौद्धिक क्षमतामा ह्रास आउन सक्ने गम्भीर विषयको खुलासा उक्त लेखमा गरिएको छ ।

कान्तिपुरराष्ट्रिय दैनिकमा प्रकाशित सरोज जिसिको लेखमा शिक्षा क्षेत्रमा विद्यार्थीहरूले एआईको प्रयोग सम्बन्धमा दुइवटा उदाहरण प्रस्तुत गर्दै विद्यार्थीहरूले परीक्षामा एआईले दिएको विषयवस्तु अनुरूप उत्तर लेख्दा प्रश्नको सन्दर्भ भन्दा विलकुल वाहिर गएर लेखेको विषय उठान भएको छ ।

ब्रिटिस काउन्सिल इन्टरनेशनल स्कुलद्वारा प्रकाशित शिक्षामा एआईः अवसर र चुनौतीहरूलाई कसरी नेभिगेट गर्ने भन्ने लेखमा एआईको अवसर र चुनौतीहरू प्रस्तुत गरिएको छ । जस अनुसार विद्यार्थीहरूले एआईको माध्यमबाट जुनसुकै बेला प्रश्न सोध्न र उत्तर खोज्न सक्ने, स्वतन्त्र रूपमा गृहकार्य गर्न सक्ने, शिक्षकको आवश्यकता नपर्ने, कम बोल्ने विद्यार्थीहरूले आफै प्रश्न सोध्न सक्ने, कन्फिडेन्स बढ्ने र कक्षा कोठामा सहभागिता बढ्ने देखिन्छ । त्यस्तै उक्त लेखमा शिक्षकहरूको कार्यभार घट्ने विषयलाई एआईको फाइदाको रूपमा हेरिएको छ । त्यस्तै एआइ को अत्यधिक प्रयोगले सिर्जनात्मक तथा समालोचनात्मक क्षमता कमजोर हुने विद्यार्थीहरूले राम्रोसँग विषयवस्तु नबुझि असाइनमेन्टहरू गर्ने र शैक्षिक प्रदर्शनिको गती घट्ने भनी चुनौतीहरू उक्त लेखमा प्रस्तुत छ ।

हालसम्म शिक्षामा आर्टिफिसियल इन्टेलिजेन्सि सम्बन्धमा लेखिएका लेख रचनाहरूमा यसका सकरात्मक र नकरात्मक दुवै पक्षको उजागर गरिएको पाइन्छ ।

छलफल

आर्टिफिसियल इन्टेलिजेन्सिको शिक्षा क्षेत्रमा प्रयोगको सन्दर्भमा व्यापक चर्चा र बहस भएको छ ।एआईको शिक्षा क्षेत्रमा प्रयोग गर्नु पर्ने धारणाको विकास भएको प्रमाण यससम्बन्धी लेख रचना र विभिन्न देशको सरकार र शिक्षासम्बन्धी निकायहरूले यसको प्रयोग सन्दर्भमा गरेको प्रयासबाट स्पस्ट हुन्छ। नेपाल सरकारले पनी आर्टिफिसियल इन्टेलिजेन्सिसम्बन्धी नीति मार्फत यससम्बन्धी शिक्षा पाठ्यक्रममा समावेश गरी अध्यापन गराउनु पर्ने महसुस गरेको पाईन्छ । यसको हरेक क्षेत्रमा प्रभावको गति अत्यधिक तिब्र रहेका कारण नीतिमा मात्र यस विषयलाई सिमित राखेर हुँदैन ।समग्र पक्षको विश्लेषण सहित तत्काल कार्यान्वयनको आवश्यकता छ । विशेषगरी शिक्षा क्षेत्रमा एआईको भूमिका के कस्तो छ र यसको प्रयोगद्वारा जीवन पर्यन्त सिकाइलाई कसरी अघि बढाउन सकिन्छ भन्ने विषयमा निम्नानुसार छलफल गरिन्छ ।

कृतिम बुद्धिमत्ता र शैक्षिक नीति)Artificial Intelligence and Education Policy)

कृतिम बुद्धिमत्ताले शिक्षा प्रणालीमा व्यापक परिवर्नत ल्याएको छ । यसकै कारण भविश्यको शिक्षा प्रणाली सम्बन्धमा हरेक राज्यले नयाँ नीति निर्माण गर्नु पर्ने र विश्व परिवेशसँग त्यस्ता नीतिहरूको अध्यावधिक गरिरहनु पर्ने देखिन्छ ।ए.आई. को विकासको गति तिब्र रहेको र यसको विकास सँगै मानिसको सिकाइ प्रकृया, प्रवृत्ति र आवश्यकतामा समेत रुपान्तरण भई रहने हुनाले नीति तथा योजनामा छिटो छिटो परिवर्तन गर्नुपर्ने हुन्छ ।विशेषत शिक्षा नीति निर्माण गर्दा दुई प्रमुख पक्षलाई केन्द्रमा राखुपर्ने देखिन्छ।

ए) सम्बन्धी शिक्षा.आई. Education about **ए(.आई.**

यस अन्तर्गत विद्यालय तथा विश्वविद्यालय तहमा ए.आई.सम्बन्धी ज्ञानलाई पाठ्यक्रमको अभिन्न अङ्ग बनाइ अध्यापन गर्ने विषय पर्दछ।आफ्ना नागरिकहरूलाई विश्व बजारमा प्रतिस्पर्धा गर्न सक्ने बनाउनको लागि राज्यले विद्यालय तथा विश्व विद्यालयको पाठ्यक्रममा कृतिम बुद्धिमत्तालाई अनिवार्य समावेश गर्नु पर्ने देखिन्छ ।यहि तथ्यलाई मध्यनजर गरि,विश्वका धेरै देशहरूले कम्प्युटर इन्जिनियरिङ,

डाटा साइन्स र हालैप्रम्ट इन्जिनियरिङजस्ता नयाँ विषयहरू औपचारिक शिक्षामा समावेश गरिसकेका छन्। नेपालमा समेत काठमाण्डौ विश्व विद्यालय र पुर्वाञ्चल विश्व विद्यालयले यसको पढाइ शुरु गरिसकेका छन । बजारमा प्रतिस्पर्धी जनशक्ति उत्पादन गर्नको लागि समेत यस प्रकृतिको विषय पाठ्यक्रममा समावेश गर्नु पर्दछ ।नेपाल सरकारको आर्टिफिसिय इन्टेलिजेन्सीसम्बन्धी नीतिले पनी विद्यालय र विश्व विद्यालय तहमा यसको अध्यापन गराउने, पाठ्यक्रममा समावेश गर्ने विषय उल्लेख छ ।

ए) मार्फत शिक्षा.आई. Education through **ए(.आई.**

ए.आई.लाई शिक्षण–सिकाइ प्रक्रियामा कसरी प्रयोग गर्ने, व्यक्तिगत सिकाइ (Personalized Learning) कसरी प्रवर्धन गर्ने, तथा ए.आई.का नकारात्मक प्रभाव—जस्तै Plagiarism र Privacy Issue—लाई कसरी व्यवस्थापन गर्ने भन्ने विषय यस अन्तर्गत पर्दछ। यस सन्दर्भमा युनेस्कोले आफ्नो ए.आई.सम्बन्धी निर्देशिकामा शिक्षामा कृतिम बुद्धिमत्ताले शिर्जना गरेका अवसर र चुनौतीको विश्लेषण गर्दै यसको व्यवस्थित प्रयोगको लागि निर्देशिका जारि गरेको छ ।सरकारले कृतिम बुद्धिमत्ताको प्रयोगलाई नियमन गर्न समेत निर्देशिका तथा कानून बनाउनु अनिवार्य भएको छ । नेपालमा आर्टिफिसियल इन्टेलिजेन्सीको प्रयोगलाई नियमन गर्नको लागि कानूनी एवं संरचनागत सिमितता रहेको छ ।

कृतिम बुद्धिमत्ताको शिक्षण सिकाइमा प्रभाव)Impact of **ए.आई.**on Teaching–Learning Process)

ए.आई.ले शिक्षण–सिकाइ प्रक्रिया र विधिमा उल्लेखनीय परिवर्तन ल्याएको छ। शिक्षकहरूले वार्षिक, मासिक तथा दैनिक पाठ योजना निर्माण गर्न ए.आई.को सहयोग लिन थालेका छन्। शिक्षण सामग्री, अडियो–भिडियो, प्रिजेन्टेसन फाइल र डिजिटल सामग्री विकासमा ए.आई.प्रभावकारी साधन बनेको छ। उदाहरणका रूपमा, च्याटजिपिटिरजेमिनाईजस्ता प्लेटफर्महरूले शिक्षकलाई नयाँ विषय खोज्न, अनुसन्धान गर्न र त्यसको आधारमा नवीन शिक्षण विधि अपनाउन सहयोग गरेका छन्। नोटबुक एलएमप्रयोग गरी जटिल शैक्षिक लेखहरूको सारसंक्षेपको भिडियो बनाएर विद्यार्थीलाई

कठिन विषय सजिलै बुझाउने अभ्यास पनि बढ्दो छ।शिक्षण सिकाइका विषयवस्तुलाई संगितको रूपमा रुपान्तरण गरी विद्यार्थीहरूमाझ प्रस्तुत गर्न सकिन्छ ।

यद्यपि यस प्रविधिको शिक्षण सिकाइमा प्रयोग गर्नको लागि शिक्षकहरूमा एआईसम्बन्धी प्रयाप्त ज्ञानको आवश्यकता पर्दछ । विशेषगरी यसका नकरात्मक प्रभावबाट बच्ने उपायहरूको ज्ञान जरुरि हुन्छ ।अत्यधिक ए.आई. मा निर्भर हुँदा शिक्षकको सिर्जनशीलता र विद्यार्थी–शिक्षकबीचको मानवीय तथा भावनात्मक सम्बन्ध कमजोर हुने जोखिम पनि उत्तिकै देखिन्छ।

कृतिम बुद्धिमत्ता र विद्यार्थीको सिकाइ व्यवहार .आई.ए)and Students' Learning Behavior)

ए.आई.को प्रयोगसँगै विद्यार्थीहरूको अध्ययन शैलीमा उल्लेखनीय परिवर्तन आएको छ। मोबाइल, ल्यापटप र डिजिटल प्लेटफर्मको प्रयोगले पुस्तक पढ्ने बानी क्रमशः घट्दै गएको छ। ए.आई.को विकासले यस प्रवृत्तिलाई थप तिब्र बनाएको छ।अबका विद्यार्थीहरूले आफ्नो रुचि अनुसार विषय खोजी गरी स्व–अध्ययन गर्न सक्ने अवस्था सिर्जना भएको छ।शिक्षकहरूसँग प्रत्यक्ष प्रश्न सोध्न हिचकिचाउने विद्यार्थीहरूले एआई कै माध्यमबाट सिकाइ गर्न सक्छन । यसले खुला सिकाइ प्रणालीको विकासमा समेत सहयोग गर्दछ । तर यसका लागिप्रम्ट इन्जिनियरिङसम्बन्धी गहिरो ज्ञान अपरिहार्य छ।त्यस्तै तर्क तथा विश्लेषणात्मक क्षमता विना अत्यधिक रूपमा एआईमा निर्भर रहँदा विद्यार्थीहरू गलत ज्ञानको सिकार हुने सम्भावना पनि प्रवल छ । प्रम्ट राम्रोसँग दिन नजान्दा पनी गलत सूचना र अपूर्ण ज्ञानको जोखिम बढ्न सक्छ। यही कारण विश्वका विश्वविद्यालयहरूले प्रम्ट इन्जिनियरिङलाई नयाँ शैक्षिक विधाका रूपमा विकास गर्न थालेका छन्।

कृतिम बुद्धिमत्ताले शिक्षा क्षेत्रमा सिर्जना गरेको चुनौतीहरू)Challenges in Education due to AI)

शिक्षाले मानिसलाई समकालीन समाजमा उन्नत एवं समृद्ध जीवनयापनको सुनिश्चितता गर्दछ ।मानिसको रोजगारी वृत्ति विकास देखि जीवनयापन गर्नको लागि शिक्षाको आवश्यकता पर्दछ । आर्टिफिसियल इन्टिलिजेन्सिको प्रभाव बढिरहेको

सन्दर्भमा शिक्षा क्षेत्रमा अवसरका अतिरिक्त व्यापक चुनौतीहरू पनी सिर्जना भएका छन । जसले मानिसको जीवनशैलिमा समेत प्रभाव पार्दछ ।

कृतिम बुद्धिमत्ताको कारण विद्यार्थीहरूको सिर्जनसिलतामा ह्रास आउने तथ्य विभिन्न अनुसन्धानात्मक लेखहरूबाट खुलेको देखिन्छ । विद्यार्थीहरूले पाठ्यक्रमको उद्देश्यअनुरूपको विषयवस्तु नबुझी एआईले दिएको विषयवस्तु पढेर धारणा निर्माण गर्ने प्रवृत्तिको अन्त्य गर्नु प्रमुख चुनौती हो । एआई को प्रयोग गरी फेक विषयवस्तु सिर्जना गरी सामाजिक सञ्जालमा प्रकाशित हुने र उक्त गलत ज्ञानबाट सबै वर्ग प्रभावित हुने जोखिम छ । यसको प्रयोगले कला, साहित्य, सङ्गित लगायतका विधाहरू ओझेलमा पर्ने चुनौती छ । बौद्धिक सम्पत्तिको संरक्षण र व्यवस्थापनको पक्ष झनै चुनौतीपूर्ण छ । बौद्धिक चोरी बढ्ने र अनुसन्धानात्मक रिपोर्टहरू ब्यक्तिको मेहनत नभई एआईको सहयोगमा तयार हुने हुँदा यसलाई निरुत्साहन गर्नको लागि प्रविधिको विकास र प्रयोग गर्नु पर्ने छ । परियोजना कार्यकोमौलिकतामा ह्रास आउने जोखिम प्रवल छ । शिक्षकहरूले समेत आफूले अध्यापन नगरि एआईलाई मात्र उपयोग गर्न विद्यार्थीहरूलाई दवाव दिन सक्ने जोखिम छ ।

एआई कै कारण शिक्षित वेरोजगारहरू बढ्ने सम्भावना छ। धेरै विषयहरू सैद्धान्तिक ज्ञानको लागि उपयोगि हुने भएतापनी रोजगारी सिर्जना गर्न र वृत्ति विकासको लागि ति असान्दर्भिक हुने निस्चित छ । हाल मानिसले गर्ने जागिरहरू एआईले गर्न सक्ने हुँदा जीवन यापनको लागि हालको सिप काम नलाग्ने बन्न सक्छ ।

भविष्यको शिक्षा प्रणाली)Future Education System)

ए.आई.को तिब्र विकाससँगै भविष्यमा आवश्यक सीप, शिक्षा प्रणालीको स्वरूप र परम्परागत डिग्रीको सान्दर्भिकताबारे गम्भीर बहस सुरु भएको छ। Openए.आई.का CEO Sam Altmanले आगामी १८ वर्षमा परम्परागत शिक्षामा आमूल परिवर्तन आई ए.आई.सिकाइको अभिन्न अङ्ग बन्ने बताएका छन्। उनका अनुसार भविष्यको शिक्षाले नवीन सोच र समस्या समाधान गर्ने क्षमताहरू विकास गर्ने, भावनाहरू बुझ्ने र व्यवस्थापन गर्ने, नैतिक सिद्धान्तमा आधारित निर्णयहरू लिने र कृतिम बुद्धिमत्ता

प्रणालीहरूसँग प्रभावकारी रूपमा काम गर्ने जस्ता विशिष्ट मानवीय सीपहरूलाई जोड दिनुपर्ने सुझाव दिएका छन् ।त्यसैगरी, Tesla का मालिक Elon Muskले ए.आई.को युगमा कलेज शिक्षाको आवश्यकता नपर्ने तर्क प्रस्तुत गरेका छन्।मस्क भन्छन उनका आफ्नै सन्तानहरूको सिप पनि पछि पुरानो र काम नलाग्ने भै सक्नेछ । यसले "एक पटक डिग्री लिएर जीवनभर एउटै सीप प्रयोग गर्ने" परम्परामा परिवर्तन आईनिरन्तर सिकाइ (Lifelong Learning)अनिवार्य हुने संकेत गर्दछ।

कृतिम बुद्धिमत्ता र परीक्षा प्रणाली .आई.ए)and Examination System)

ए.आई.ले परीक्षा तथा मूल्याङ्कन प्रणालीमा पनि गहिरो प्रभाव पारेको छ। परियोजना कार्य, अनुसन्धान तथा खोजमूलक सामग्री प्रस्तुत गर्दा विद्यार्थीहरूले वास्तविक तथ्याङ्क सङ्कलन नगरी ए.आई.बाटै सामग्री तयार गर्ने जोखिम बढेको छ। यसले अनुसन्धानको वस्तुनिष्ठता र आधिकारिकतामा प्रश्न उठाएको छ।बौद्धिक सम्पत्तिको सुरक्षा, प्लाजियारिजमनियन्त्रण र शैक्षिक इमान्दारीता कायम गर्न नयाँ प्रविधि, कानुनी व्यवस्था र निर्देशिका आवश्यक देखिन्छ। भविष्यमा ए.आई.माआधारित सिकाइ र त्यसै अनुरूपको मूल्याङ्कन प्रणाली विकास हुने सम्भावना पनि देखिन्छ।

निश्कर्ष (Conclusion)

कृतिम बुद्धिमत्ताले शिक्षा नीति निर्माणदेखि शिक्षक, विद्यार्थी, विद्यालय तथा विश्वविद्यालयको भूमिकामा आमूल परिवर्तन ल्याउने निश्चित छ।प्रविधिको विकाससँगै सो बाट लाभ प्राप्त गर्नको लागि नयाँ सिपको विकास गर्नु आवश्यक हुन्छ । मानिसले हाल जीवन यापन गरिरहेको सिपको काम भविश्यमा आर्टिफिसिएल इन्टेलिजेन्स आफैले गर्न सक्ने यस्तो काम गुणस्तरिय, छिटो र कम मूल्यमा हुन सक्ने हुँदा मानव सिप अनुपयोगी हुन्छ । यस परिवेशमा मानिसले तत्काल आवश्यकताका आधारमा सिपहरू सिक्दै आफूलाई अपडेट गर्नु पर्ने देखिन्छ । एआईले शिक्षा क्षेत्रमा व्यापक चुनौतीहरू समेत सिर्जना गरेको छ । त्यसको निराकरणको लागि सरकारले नीति मात्र तयार गरेर पुग्दैन सो नीतिलाइ निरन्तर अध्यावधिक गरी कार्यान्वयन समेत गर्नु पर्दछ । कार्यान्वयनको गती पनि तेज हुन पर्दछ अन्यथा नीति बनाउनुको तातपर्य नै रहँदैन ।शिक्षण सिकाइ क्रियाकलापमा एआईको प्रयोग गर्नको लागि शिक्षणसम्बन्धी

पढाइ, तालिम तथा क्षमता विकास कार्यक्रमहरूमा एआइसम्बन्धी सिपको व्यवहारिक अभ्यास गर्न आवश्यक देखिन्छ ।समग्रमा शिक्षा एउटा बृहद क्षेत्र भएको हुँदा शिक्षासम्बन्धी नीतिहरूमा नै एआई सम्बन्धमा स्पष्ट व्यवस्था गरिनु पर्दछ । सार्वजनिक नीति निर्माण, योजना तर्जुमा, पाठ्यक्रम निर्माण, शिक्षण सिकाइ क्रियाकलापमा एआईको प्रभाव व्यापक रहेको छ । सरकारले यसको विकास, प्रयोग र नियमनको लागि नीतिगत, कार्यविधिगत, संचरनागत र कार्यक्रमगत व्यवस्था गरी यस प्रविधिको सुरक्षित प्रयोग गर्नु आवश्यक छ । ।यसको प्रयोग र नियमन सम्बन्धमा स्पष्ट व्यवस्था गर्न नसकिएमा वर्तमान शिक्षा प्रणाली अप्रसांगिक बन्ने र बेरोजगार उत्पादन गर्ने साधनको रूपमा मात्र रहने खतरा देखिएको छ।

सिफारिस

यस अध्ययनबाट प्राप्त निष्कर्ष, छलफल तथा विद्यमान राष्ट्रिय–अन्तर्राष्ट्रिय अभ्यासहरूको समग्र विश्लेषणका आधारमा शिक्षा प्रणालीमा कृतिम बुद्धिमत्ताको प्रभावकारी, नैतिक र दिगो प्रयोग सुनिश्चित गर्न निम्न सिफारिसहरू प्रस्तुत गरिएको छ ।

कृतिम बुद्धिमत्ताको प्रयोगसम्बन्धी नीतिगत तथा कानुनी व्यवस्था गर्ने

नेपाल सरकारले तर्जुमा गरिरहेको राष्ट्रिय आर्टिफिसियल इन्टेलिजेन्स नीति शीघ्र लागू गरी त्यसलाई शिक्षा क्षेत्रसँग स्पष्ट रूपमा अन्तर आवद्धता गर्नु आवश्यक छ। आर्टिफिसियल इन्टेलेजन्सीले प्रत्यक्ष प्रभाव पार्ने क्षेत्र शिक्षा भएकोले शिक्षासम्बन्धी क्षेत्रगत नीतिमा समेत यस बारे व्यापक चर्चा हुनु आवश्यक छ ।साथै शिक्षामा ए.आई. को प्रयोग, तथ्याङ्को संरक्षण, शैक्षिक इमानदारीताको विकास र बौद्धिक सम्पत्ति अधिकारको संरक्षण सुनिश्चित हुनेगरी स्पष्ट कानुन तथा निर्देशिकाको विकास गरिनुपर्दछ।

विद्यालय तथा विश्वविद्यालय पाठ्यक्रममा एसमावेश गर्ने .आई.

आर्टिफिसियल इन्टेलिजेन्सीसम्बन्धी नीतिले विद्यालय तहदेखि नै ए.आई. साक्षरता लाई आधारभूत सीपका रूपमा विकास गर्ने रणनीति अख्तियार गरेकोछ। तर हाल विद्यालय शिक्षामा यसलाई अनिवार्य विषयको रूपमा समावेश गरिएको पाइदैन ।

विश्व विद्यालय तहमा समेत यस विषयको अध्ययनको सिमित अवसर कायम रहेको छ । अबको शिक्षा प्रणालीमा जुनसुकै विषय अध्ययन गर्ने विद्यार्थीलाई एआईसम्बन्धी ज्ञान अनिवार्य जस्तै भएको हुँदा सरकारले यस विषयमा अध्ययन गरी तत्काल योजना बनाई कार्यान्वयन गर्नु पर्दछ ।विश्वविद्यालय तहमा कृतिम बुद्धिमत्ता, डाटा साइन्स, मेसिन लर्निङ र प्रम्ट इन्जिनियरिङजस्ता विषयहरूलाई बहुविषयक रूपमा पाठ्यक्रममा समावेश गरी बजार-उन्मुख र भविष्य-मुखी जनशक्ति उत्पादन गर्नुपर्दछ।

शिक्षकको पेशागत विकास र ए.आई. आधारित क्षमता अभिवृद्धि

शिक्षकहरूको पेशागत विकास कार्यक्रमहरूमा ए.आई. उपकरणको प्रयोग, शिक्षण सामग्री विकास, व्यक्तिगत सिकाइ प्रवर्धन र मूल्याङ्कन प्रणालीमा ए.आई. को विवेकपूर्ण उपयोगसम्बन्धी विषय अनिवार्य रूपमा समावेश गरिनु आवश्यक छ। यसले शिक्षकलाई प्रविधि प्रयोगकर्ता मात्र नभई मार्गदर्शकको भूमिकामा रूपान्तरण गर्न सहयोग पुऱ्याउनेछ।

मानवीय क्षमतामा जोड तथा नैतिक शिक्षण सिकाइ प्रणाली प्रवर्धन

ए.आई. को प्रयोगले शिक्षामा मानवीय संवेदना, नैतिकता, आलोचनात्मक सोच र सिर्जनशीलतालाई कमजोर पार्न सक्ने जोखिम भएको हुँदा यसलाई शिक्षणसिकाइ प्रक्रियामा सहयोगी उपकरणका रूपमा सीमित गर्दै सिर्जनशिलता, समालोचनात्मक सोचको विकास र नैतिकता प्रवर्धनकोलागि मानव विवेकलाई केन्द्रमा राख्ने नीति अवलम्बन गर्नुपर्दछ।

परीक्षा तथा मूल्याङ्कन प्रणालीको पुनरावलोकन र सुधार

ए.आई. को व्यापक प्रयोगसँगै परम्परागत परीक्षा प्रणाली अप्रभावकारी बन्दै गएकाले परियोजना-आधारित, समस्या समाधान-केन्द्रित, प्रस्तुति र मौखिक मूल्याङ्कन जस्ता वैकल्पिक विधिहरू विकास गर्नुपर्दछ। प्लाजियारिजमनियन्त्रणका लागि प्रविधि, निर्देशिका र संस्थागत संयन्त्र सुदृढ गरिनु आवश्यक छ।

डिजिटल पहुँच विस्तार गर्ने

ए.आई. आधारित शिक्षा प्रणालीले डिजिटल ग्यापलाई थप जटिल बनाउन नदिन ग्रामीण, पिछडिएका तथा आर्थिक रूपमा कमजोर समुदायका विद्यार्थीहरूको डिजिटल पहुँच विस्तार गर्न राज्यले विशेष कार्यक्रम सञ्चालन गर्नुपर्दछ।

अनुसन्धानको निरन्तरता एवं नितिगत परिवर्तन

कृतिम बुद्धिमत्ता तिब्र रूपमा विकासशील प्रविधि भएकाले यसको शिक्षामा पर्ने प्रभावबारे निरन्तर अनुसन्धान, अनुगमन तथा मूल्याङ्कन गर्दै शिक्षा नीति, पाठ्यक्रम र प्रणालीलाई समयसापेक्ष रूपमा अद्यावधिक गरिरहनु अपरिहार्य छ।

समग्रमा, कृतिम बुद्धिमत्तालाई शिक्षा प्रणालीको प्रतिस्पर्धी शक्ति बनाउँदै यसको जोखिमलाई प्रभावकारी रूपमा व्यवस्थापन गर्न सकेमा नेपालले बजारको माग अनुसारको मानव संशाधनको विकास गरी राष्ट्रिय विकासमा परिचाललन गर्न सक्छ ।शिक्षासम्बन्धी योजना निति बजेट तथा कार्यक्रम छनौट र कार्यान्वयन गर्दा एआईबाट सिर्जित अवसर र चुनौतीहरूको विश्लेषण गरी सान्दर्भिक निर्णय लिनु पर्दछ ।

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Evolution of Management Thought in the Digital Age (Conceptual and literature-based research)

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Abstract

Management thought is ever changing phenomenon in the face of economic, technological and social changes. Management thought has been evolved from the early classical theories focused on efficiency and control to the contemporary approaches that the emphasize flexibility; innovation and the value of human capital, with each phase were shaped by the prevailing conditions of its time. The arrival of new technologies like internet and other mobile communication technologies contributed for the change of social life throughout the world. The digital age has enhanced that process at an unprecedented speed. Technologies such as artificial intelligence, big data analytics, cloud computing and digital platforms have been transformed how organizations are structured, managed and led in the competitive business world. This study examines that the historical evolution of management thought and critically analyzes how digitalization is reshaping as managerial roles, organizational structures, leadership styles and decision-making processes. It argues that the management in the digital age requires a synthesis of traditional principles and new capabilities, including agility, technological literacy, ethical awarenessand a human-centered approach. Thisstudy also concludes by discussing future directions of management thought in an increasingly digital and interconnected world.

Keywords: *Management Thought, Leadership, Organizational Theory and Technology*

Introduction

The discipline of management has never been static (Burns and Stalker,1961). It has been changed in tandem with shifts in markets, technology, labor relations, and industrial processes (Schwab, 2016). Formal management methods emerged from the industrial revolution, and in the latter half of the 20th century, globalization and information technology changed how managers thought.

Another significant turning point in the development of management theory is the digital age (Vial, 2019).

Rapid technology innovation, constant communication, real-time data availability, and permeable organizational boundaries are characteristics of the digital age (Weatherbee and Durepos, 2023). Flatter organizational structures are replacing traditional hierarchies, remote work is becoming more common and algorithms and analytics are supporting decision-making more and more (Brazeal et al., 2014). These modifications call into question traditional managerial presumptions about authority, control, supervision, and planning. It is crucial for academics, professionals, and educators to comprehend how management theory has changed in the digital era (Westerman et al., 2014) It clarifies why managers need to acquire new skills and why some management techniques are no longer successful. This study traces that the historical development of management theories and explores how digital technologies are reshaping the foundations of management thought.

Scientific Management

Frederick Winslow Taylor's work was largely responsible for the development of the first formal management theory in the late 19th and early 20th centuries (Taylor, 2004). The goal of scientific management was to increase productivity by methodically analyzinglabor processes (Taylor, 1911). Taylor thought that finding the "one best way" to do a task and separating planning from execution would maximize efficiency. Management was seen as a technological task during this time. For the most part, workers were viewed as economic entities driven by financial incentives (McGill and Klobas, 2009). Scientific management was criticized for neglecting the social and human sides of labour, despite the fact that it greatly increased industrial productivity (Westerman et al., 2014). Notwithstanding its shortcomings, scientific management set the stage for further advancements. Even in the digital age, concepts like standardization, performance assessment, and process optimization are still applicable, especially in operations management and automation.

Administrative Management Theory

By concentrating on organizational structure and managerial functions, Henri Fayol broadened the scope of management theory(Sahni and Vayunandan,2009). Planning, organizing, commanding, coordinating and regulating are some of the essential managerial tasks that he defined. Additionally, Fayol put forth management concepts including scalar chain, division of labor, and unity of command (Burns and Stalker1961). The universality of management principles was shown by administrative management theory. It was expected of managers to use formal hierarchies to exert authority, plan logically, and coordinate activities (Drucker, 1954). For many years, these concepts dominated organizational design, and they still have an impact on management education(Sahni and Vayunandan, 2009). However, in the digital age, where speed, flexibility, and teamwork are crucial, strict hierarchies and centralized control have lost their efficacy.

Bureaucratic Theory

The bureaucratic idea of Max Weber placed a strong emphasis on formal regulations, impersonal interactions, and power based on merit (Downs,1965). For huge institutions in particular, bureaucracy was seen to be the most logical and effective type of organization. Bureaucracy produced rigidity in addition to stability and predictability (Castells, 2010). Excessive bureaucracy is frequently viewed as a hindrance to creativity and responsiveness in the digital age. However, bureaucracy still plays a significant role in public sector organizations and regulated businesses.

Human Relations Movement

The human relations movement arose in the 1930s and 1940s as the result of the shortcomings of traditional conceptions (Rose, 2005). Elton Mayo's Hawthorne studies showed that group dynamics, employee morale, and social factors all had a big impact on productivity.Human well-being replaced mechanical efficiency in management theory (Maslow, 1943). Supervisors were urged to focus on employee satisfaction, motivation, and communication. Employees were seen as social beings as well as economic entities. This change established the foundation for contemporary people-centered management strategies, which are extremely pertinent in the digital era, particularly in knowledge-based businesses (Mintzberg, 1973).

Behavioral Science Approach

By combining psychology and sociology, behavioral scientists like Maslow, Herzberg, McGregor and Argyris advanced management theory (Gill, 2002). Management practice now revolves around ideas like organizational culture, work happiness, motivation, and leadership styles (Yukl ,2013).Different managerial presumptions regarding human nature were highlighted by Douglas McGregor's Theory X and Theory Y (McGregor, 1960). Theory Y, which makes the assumption that workers are self-driven and capable of self-direction, is highly compatible with modern digital workplaces.Given the importance of creativity, autonomy, and intrinsic motivation in digital organizations, these theories are still very relevant.

System Theory

According to systems theory, organizations are open systems that communicate with their surroundings (Luhmann et al., 2013). Organizations are made up of interconnected subsystems, and modifications to one component have an impact on the entire system. Systems thinking is more crucial than ever in the digital age (Cascio and Montealegre, 2016). Businesses function within intricate ecosystems that include platforms, suppliers, customers, regulators and technology suppliers. Managers need to handle ongoing change and interdependencies (Drucker, 1954). The concept of universal management principles is rejected by contingency theory (Donaldson, 2001). It makes the case that situational elements like size, strategy, technology, and environment are important for good management (Fayol, 1949). This viewpoint is especially pertinent in the digital age, when adaptability is crucial due to the quick advancement of technology (Maslow, 1943). There is no one ideal approach to managing digital organizations; instead, strategies must be tailored to particular situations.

Defining the Digital Age

The digital age refers to an era in which social and economic activities are predominantly designed by digital technologies and digital transformation processes (Westerman et al., 2014). It is noticeable by the widespread adoption of information and communication technologies that enable faster information flow and connectivity across organizations and markets (McGill & Klobas, 2009). The increasing use of artificial intelligence, automation and data analytics has shifted managerial decision-making toward evidence-based and algorithm-supported approaches (Cascio & Montealegre, 2016). Moreover, remote work arrangements and virtual collaboration have redefined traditional workplace structures and leadership practices (Cascio & Montealegre, 2016). Additionally, platform-driven business models have altered competitive strategies and value creation mechanisms, requiring managers to rethink organizational design and strategic management in the digital context (Westerman et al., 2014).

Shift from Control to Collaboration

Control and supervision were key components of traditional management (Westerman et al., 2014). However, employees can work remotely, autonomously, and cooperatively across boundaries thanks to digital technologies. Instead, acting as controllers, managers are increasingly acting as facilitators (Yukl, 2013). Direct supervision has lost importance in favour of trust, empowerment, and a common goal. This signifies a substantial change in the ideology of management (Goodyear et al., 1984).

Data-Driven Management

The emergence of data-driven decision-making is one of the biggest shifts in management theory (Davenport, 2014). Big data analytics lessens the need for managers to rely solely on intuition by enabling real-time analysis of massive amounts of data (Lee et al., 2015). Data increases accuracy, but it also raises questions about relying too much on algorithms. Combining analytical insights with human judgement and ethical reasoning is necessary for effective management in the digital age.

Artificial Intelligence and Automation

Forecasting, scheduling, hiring, and performance reviews are among the managerial responsibilities that artificial intelligence is revolutionizing (Shekhar, 2019). Managers are free to concentrate on strategic and innovative tasks while routine decisions are increasingly automated. AI, however, also calls into question established ideas of managerial accountability and power (Raisch and Krakowski,2021). To properly supervise algorithmic judgements, managers need to have a thorough understanding of technology.

Transformation of Leadership Styles

Instead of authoritarian leadership, digital settings demand transformational and adaptive leadership. Leaders need to inspire, share their vision, and encourage creativity (Naidu et al., 2005). It is required of digital leaders to be emotionally sophisticated, technologically literate, and morally sound (Raisch and Krakowski, 2021). They have to deal with constant change, virtual teams, and diversity.

Managing Remote and Hybrid Work

Leadership techniques have changed as remote and hybrid work have become more common (Hilberath et al., 2020). The foundation of supervision is no longer physical presence. Effective communication, outcome-based assessment, and trust are crucial (Naidu and Van,2005). This change calls into question long-held management beliefs and necessitates the development of new leadership skills.

From Hierarchies to Networks

Digital companies frequently use flexible, flat organizational structures(Chapman, 2019). Project-based work and cross-functional teams are typical (Katz and Kahn,1978). There is a growing decentralization of authority. Although they promote speed and creativity, networked organizations necessitate close coordination and a common set of values (Kim, 2006). Although they promote speed and creativity, networked organizations necessitate close coordination and a common set of values.

Digital Organizational Culture

In the digital transformation process, culture is crucial (Kocak and Pawlowski,2023). Success requires a culture that promotes experimentation, learning and teamwork (Maslow, 1943). Through communication, reward programs and leadership conduct, managers must actively shape culture.

Data Privacy and Surveillance

Concerns about algorithmic bias, data privacy, and staff surveillance are ethical issues brought up by digital management (Posner, 2008). Over-monitoring can erode morale and trust. Managers need to strike a balance between individual rights and efficiency.

Digital Divide and Inclusion

Digital skills and technologies are not equally accessible to all employees (Warschauer, 2004). To stop exclusion and inequality, inclusive management techniques are required (Yukl, 2013). In the digital age, ethical leadership and social responsibility are essential components of management philosophy.

Rethinking Management Education

To educate upcoming managers for digital issues, management education must change (French and Grey,1996). Technology, analytics, ethics and soft skills should all be incorporated into curricula. Lifelong learning, multidisciplinary approaches, and experiential learning are becoming more and more significant (McGill et al.,2009).Academics need to investigate new topics like digital labour platforms, algorithmic management and human-AI cooperation. In light of digital realities, conventional theories must be re-examined.

Discussion

The review of management theories that demonstrates a clear evolution from control-oriented, mechanistic models toward flexible, human-centric, and technology-enabled approaches. Classical theories such as that scientific, administrative and bureaucratic management emphasized efficiency, hierarchy and formal control (Taylor, 1911; Fayol, 1949 and Weber, 1968). While these approaches provided stability and predictability, their limitations have become more increasingly visible in the digital age, where speed, innovation and adaptability are essential.

Contemporary management thought, influenced that human relations, behavioral science, systems, and contingency theories, aligns more closely with digital realities (McGregor, 1960; Donaldson, 2001). Digital technologies have accelerated that the shift from supervision to collaboration, intuition to data-driven decision-making and rigid hierarchies to networked structures (Westerman et al., 2014 and Davenport, 2014). The integration of artificial intelligence and analytics has enhanced managerial effectiveness but has also introduced ethical concerns related to privacy, surveillance, and algorithmic bias (Raisch & Krakowski, 2021). Overall, the discussion highlights that no single theory adequately explains that management in the digital era; instead, a blended and adaptive theoretical approach is required.

Conclusion

Management theory has continuously evolved in response to changing economic, technological, and social conditions. The digital age represents that transformative phase that challenges traditional assumptions about authority, control and leadership. Effective management today requires that collaboration, technological literacy, ethical awareness, and continuous learning. Classical theories remain relevant but must be reinterpreted in light of digital dynamics.

Future Directions of Management Research

Future research should focus on algorithmic management, humanAI collaboration, digital leadership competencies and the long-term effects of remote and hybrid work. Greater attention is also needed on ethical governance that digital inclusion and the redesign of management education to prepare leaders for an increasingly digital and complex organizational landscape.

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Current Macroeconomic and Financial Situation of Nepal: An In-Depth Analysis

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Abstract

This article provides an in-depth analysis of Nepal's current macroeconomic and financial situation, focusing on key indicators including GDP growth, inflation, fiscal policies, and financial sector stability. The article compares global economic trends as projected by the International Monetary Fund (IMF) with Nepal's economic performance, highlighting the challenges and opportunities the country faces. Key issues such as inflation, unemployment, public debt, and the reliance on remittances are examined, along with the structural vulnerabilities in Nepal's economy. Furthermore, the article examines sectoral contributions to GDP, the impact of remittances, and the roles of foreign aid and investment. The paper concludes with policy recommendations to improve Nepal's financial stability, foster economic diversification, and address environmental risks. Despite the challenges, the article highlights significant growth potential in emerging sectors like hydropower, tourism, and manufacturing.

Keywords:*Financial Stability, GDP Growth, Inflation, Macroeconomics, Remittance*

JEL Classification:E62, F32, F41, G21, O53, Q56

Introduction

Nepal, a landlocked country in South Asia, continues to face a complex economic landscape marked by a growing GDP, inflationary pressures, and a heavy reliance on agriculture and remittances. Despite gradual improvements in several economic indicators, such as GDP growth, the country remains vulnerable to structural challenges, including political instability, high unemployment rates, and a widening trade deficit. The financial sector, though expanding, faces challenges such as non-performing loans (NPLs) and underdeveloped capital markets. This article critically examines Nepal's current macroeconomic and financial situation by analyzing key economic indicators and their implications for future growth. By focusing on GDP growth, inflation, fiscal policy, and sectoral contributions to the economy, this paper aims to provide a comprehensive understanding of the challenges Nepal faces while exploring potential opportunities for sustainable development. It also examines the role of international organizations such as the World Bank and the IMF in supporting Nepal's economic reforms and long-term objectives. Through this analysis, the article underscores the importance of policy reforms and strategic investments for achieving macroeconomic stability and sustainable growth.

World Economic Situation and Outlook

The IMF's World Economic Outlook (WEO) for October 2024 indicates that global economic growth slowed from 3.6% in 2022 to 3.3% in 2023, with projections of 3.2% growth in both 2024 and 2025. Advanced economies grew by 1.7% in 2023 and are expected to expand by 1.8% in 2024. In contrast, emerging and developing economies grew by 4.4% in 2023, with a slight moderation to 4.2% in 2024. Growth in emerging and developing Asia, led by India and China, was 5.7% in 2023 and is expected to ease to 5.3% in 2024. Global trade, which grew by 0.8% in 2023, is projected to increase by 3.1% in 2024.

Global inflation stood at 6.7% in 2023, with advanced economies at 4.6% and emerging economies at 8.1%. The IMF forecasts a global inflation decline to 5.8% in 2024, with advanced economies expected to see a further reduction to 2.6% and emerging economies to 7.9% (IMF, 2024).

Nepal, a landlocked country in South Asia, has witnessed significant economic transformations in recent decades, yet its macroeconomic and financial situation remains complex, presenting both challenges and opportunities. Despite a steady increase in its Gross Domestic Product (GDP), the country remains heavily dependent on agriculture, remittances, and external financial assistance for its economic stability (World Bank, 2021). Recent trends in Nepal's economy, such as inflation, unemployment, and fiscal deficits, are key indicators of the structural challenges the nation faces in achieving sustainable growth (Sharma & Nepal, 2020). Moreover, the financial sector, though growing, still suffers from vulnerabilities, such as a high level of non-performing loans and an underdeveloped capital market (Nepal Rastra Bank, 2021).

The purpose of this article is to critically analyze Nepal's current macroeconomic and financial situation, focusing on indicators such as GDP growth, inflation, fiscal policies, and the financial system's health. It will also examine the impact of remittances, trade relations, and external economic forces on Nepal's economic landscape. By exploring these dimensions, this article aims to provide a comprehensive understanding of Nepal's economic performance and the role of key policies and financial institutions in shaping its future trajectory. Through this analysis, the article will highlight both the challenges Nepal faces and the opportunities to foster long-term economic stability and growth.

Current Macroeconomic Indicators

The macroeconomic performance of Nepal is shaped by several key indicators, including GDP growth, inflation, unemployment rates, currency stability, and public debt. These indicators provide a comprehensive view of the country's economic health and its prospects for sustainable development.

GDP Growth and Projections

Nepal's GDP growth has experienced fluctuations in recent years, reflecting both domestic challenges and global economic conditions. The economy is projected to grow at an annual rate of 4.1% in 2022, a modest recovery following the economic downturn induced by the COVID-19 pandemic (Asian Development Bank [ADB], 2022). However, the country's growth trajectory remains below its potential due to factors such as political instability, reliance on agriculture, and a slow pace of industrialization. Long-term projections suggest that Nepal will need to diversify its economy and reduce its dependence on remittances and agriculture to maintain steady growth (Shrestha, 2021).

Inflation Rate and Its Impact on Living Costs

Inflation has been a persistent issue in Nepal, raising household costs, particularly for low-income groups. The annual inflation rate in 2022 was recorded at 6.8%, significantly higher than the previous year (Nepal Rastra Bank, 2022). Rising prices for essential goods, such as food, fuel, and transportation, have driven up living costs, disproportionately affecting people experiencing poverty. Inflationary pressures are often driven by external factors, such as the global rise in commodity prices, and by internal factors, such as supply-side constraints and currency depreciation. To mitigate the adverse effects of inflation, the government and Nepal Rastra Bank (NRB) have implemented various monetary and fiscal measures. However, their effectiveness has been limited by structural weaknesses in the economy (Sharma & Nepal, 2020).

Unemployment Rate and Labor Market Trends

Unemployment remains one of Nepal’s most pressing economic challenges. The country’s labor market is characterized by high underemployment, particularly in rural areas, where the majority of the population depends on subsistence farming. According to the International Labour Organization (ILO, 2021), the unemployment rate in Nepal was estimated at 4.3% in 2021, with a significant portion of the workforce engaged in informal sectors. The youth unemployment rate is particularly concerning, as many young people struggle to find stable and well-paying jobs in the formal economy. This mismatch between education and labor market demands has led to a growing trend of labor migration, with many Nepali workers seeking employment abroad, primarily in the Middle East and Southeast Asia. While remittances contribute substantially to the economy, they also indicate a lack of sufficient employment opportunities domestically (Ghimire, 2020).

Currency Stability (NPR Exchange Rates, Inflation)

The stability of the Nepalese Rupee (NPR) remains vulnerable to external and internal economic pressures. In recent years, the NPR has depreciated against major currencies, such as the US Dollar, exacerbating inflationary pressures and increasing the cost of imports (Nepal Rastra Bank, 2022). The NRB has adopted various measures, including foreign exchange interventions and interest rate adjustments, to stabilize the currency. However, the NPR’s value remains highly susceptible to global commodity price fluctuations and political instability. The depreciation of the NPR has also contributed to the rising cost of living, particularly in sectors reliant on imports such as fuel and industrial raw materials (Sharma & Nepal, 2020).

Public Debt Levels and Fiscal Deficit

Nepal’s public debt levels have been rising steadily in recent years, primarily driven by government borrowing to finance infrastructure projects and development programs. According to the Ministry of Finance (2022), Nepal’s public debt reached NPR 1.4 trillion by the end of fiscal year 2021-2022, representing around 40% of GDP. While public debt can play a vital role in financing development, excessive borrowing poses risks to fiscal sustainability. The fiscal deficit, which was recorded at 4.6% of GDP in 2022, reflects the gap between government revenue and expenditures, highlighting the challenges in fiscal management (Ministry of Finance, 2022). The growing debt burden raises concerns about the country’s ability to service its debt without relying on external loans, potentially increasing vulnerability to external shocks.

Sectoral Contributions to GDP

Nepal’s economy is characterized by a firm reliance on agriculture, followed by services and industry. Each of these sectors plays a crucial role in shaping the country's economic landscape, contributing to both GDP growth and employment.

Agriculture, Industry, and Services Sectors

Agriculture remains the dominant sector in Nepal, accounting for approximately 27% of the country's GDP as of 2021 (World Bank, 2021). Despite its declining share, agriculture continues to employ a significant portion of the population, particularly in rural areas where nearly 60% of the workforce is engaged in farming (Sharma & Nepal, 2020). Major agricultural products include rice, maize, wheat, and livestock. The sector faces challenges such as low productivity, limited access to modern technology, and vulnerability to climate change, all of which hinder its potential for higher growth.

The industrial sector contributes approximately 15% to Nepal's GDP and includes manufacturing, construction, and mining. Manufacturing, though relatively small compared to agriculture and services, has shown some growth, especially in sectors such as textiles, cement, and food processing (Shrestha, 2021). However, Nepal's industrial sector still faces structural challenges, including outdated infrastructure, high production costs, and limited access to capital. Furthermore, the sector's dependence on imported raw materials increases its vulnerability to global supply chain disruptions. The construction industry, on the other hand, has experienced significant growth due to government- and international donor-funded infrastructure development projects.

The services sector, which includes trade, transport, tourism, and finance, has become the most significant contributor to Nepal's GDP, accounting for nearly 58% of total output (World Bank, 2021). This sector has benefited from increasing urbanization, improved infrastructure, and the expansion of digital services. Services like banking, communication, and tourism have emerged as key drivers of economic growth in recent years. The services sector's growing share of GDP highlights the country's gradual shift towards a more service-oriented economy, though challenges such as informal employment and regulatory hurdles persist.

Impact of Remittances on GDP

Remittances from Nepali workers abroad are a critical source of income for many households and an essential part of the economy. In 2021, remittances accounted for approximately 25% of Nepal's GDP, making it one of the highest remittance-dependent countries in the world (World Bank, 2022). The inflow of remittances has contributed significantly to poverty reduction, improving the standard of living for many families. Moreover, remittances have bolstered domestic consumption and fueled investment in small businesses, housing, and education. Despite these positive effects, the economy's heavy reliance on remittances raises concerns about the sustainability of economic growth, as it creates a dependence on foreign labor markets and exposes Nepal to external shocks, such as changes in migration policies or economic downturns in destination countries (Ghimire, 2020).

Key Industries and Their Current Performance

Several key industries in Nepal play a central role in shaping economic outcomes, each with its own set of challenges and growth potential.

1. Tourism: Nepal is renowned for its natural beauty, cultural heritage, and the Himalayas, making tourism one of the country's most important industries. Prior to the COVID-19 pandemic, tourism contributed significantly to Nepal's GDP and employment, with millions of international visitors annually (Nepal Tourism Board, 2021). The pandemic, however, severely impacted the sector, resulting in a sharp decline in visitor numbers and revenue. As the global situation stabilizes, Nepal's tourism industry is slowly recovering, with efforts focused on diversifying the tourism experience beyond trekking to promote cultural, eco, and adventure tourism.

2. Manufacturing: Nepal's manufacturing sector is growing, but it is constrained by factors such as low productivity, limited access to modern technology, and limited access to global markets. Industries like textiles, food processing, and handicrafts have potential for expansion, but the sector's overall contribution to GDP remains small compared to services and agriculture (Shrestha, 2021). The government has introduced policies to support industrialization, including incentives for foreign direct investment (FDI). However, the sector continues to face challenges, including underdeveloped infrastructure and high energy costs.

3. Agriculture: Agriculture remains the backbone of Nepal's economy, providing livelihoods for a large portion of the population. However, its contribution to GDP has steadily declined as the economy has diversified. The agricultural sector faces numerous challenges, including inadequate access to modern farming techniques, limited irrigation infrastructure, and vulnerability to natural disasters such as floods and droughts (Sharma & Nepal, 2020). The government has implemented several initiatives to modernize agriculture, but progress has been slow. Nevertheless, agriculture remains central to achieving food security and poverty reduction in rural areas.

Monetary and Fiscal Policy

Monetary and fiscal policies play a crucial role in shaping Nepal's economic landscape, influencing inflation, interest rates, public spending, and overall economic stability. The central bank's policies, alongside government fiscal strategies, are key to maintaining macroeconomic balance and fostering long-term growth.

Central Bank Policy (Interest Rates, Inflation Control)

The Nepal Rastra Bank (NRB), as the country's central bank, plays a pivotal role in managing the monetary policy framework. Its primary objectives are to control inflation, stabilize the currency, and ensure the soundness of the financial system. The NRB uses tools such as adjusting interest rates and reserve requirements to influence the money supply, lending activity, and inflation rates.

In recent years, the NRB has faced significant challenges in controlling inflation, exacerbated by both domestic factors, such as supply-side constraints and agricultural vulnerabilities, and external factors, such as global commodity price fluctuations (Sharma & Nepal, 2020). The NRB's policy decisions aim to control inflation through interest rate adjustments. However, inflationary pressures have remained high, particularly in essential goods such as food and fuel. The NRB raised the benchmark interest rates in 2022 to curb inflation and reduce excess liquidity in the market (Nepal Rastra Bank, 2022). These rate hikes, however, risk slowing down investment and economic growth, especially in a country that relies heavily on remittances and foreign investments.

Government Fiscal Policies (Taxation, Spending, Public Investment)

Nepal's fiscal policies primarily focus on managing government revenue and expenditure while promoting economic stability and growth. The government relies on tax revenues, foreign aid, and remittances to fund its development programs. However, revenue collection has been a persistent challenge, with the government often struggling to meet its targets due to a narrow tax base, the dominance of the informal sector, and inefficiencies in tax administration (Shrestha, 2021).

In terms of public spending, the government prioritizes infrastructure development, social welfare programs, and public services, with substantial investments in road networks, electricity, and education. However, the large share of government spending is allocated to recurrent expenditures, leaving limited funds for capital investments that could stimulate sustainable economic growth (Ministry of Finance, 2022). Public investment in infrastructure, particularly in hydropower projects and transportation, is vital for long-term development. However, the country's fiscal deficit has limited the government's ability to undertake expansive public investment.

Fiscal deficits have been persistent, with the government's expenditures often exceeding revenues, leading to increased borrowing. The fiscal deficit for

2021-2022 was recorded at 4.6% of GDP, highlighting the need for fiscal consolidation (Ministry of Finance, 2022). To address this, the government has been focusing on increasing tax revenues and reducing the fiscal deficit by implementing reforms to broaden the tax base and curb unnecessary expenditures.

Recent Economic Reforms

In recent years, Nepal has undertaken several economic reforms aimed at improving fiscal management, enhancing investment climate, and fostering economic growth. These include tax reforms, efforts to streamline public procurement, and measures to improve the ease of doing business. For instance, the government introduced the new Income Tax Act in 2020 to simplify the tax structure and improve compliance (Ministry of Finance, 2020). This reform aimed to address the challenges in the tax system by simplifying the tax filing process, broadening the tax base, and reducing tax evasion.

Furthermore, the Public Procurement Act 2019 was introduced to enhance transparency and efficiency in government procurement processes. This reform was expected to reduce corruption, improve the quality of public projects, and increase the effectiveness of public investment (Shrestha, 2021).

Another significant reform was the implementation of the Foreign Investment and Technology Transfer Act in 2019, aimed at attracting foreign direct investment (FDI). This reform simplified the process for foreign investors, reduced bureaucratic hurdles, and provided incentives for investments in sectors such as infrastructure, manufacturing, and technology. However, the effectiveness of these reforms has been mixed, as bureaucratic inefficiencies and political instability continue to impede their full implementation (Sharma & Nepal, 2020).

Despite these reforms, challenges remain in ensuring their consistent application and in addressing the underlying structural weaknesses in Nepal's fiscal and monetary systems. The government continues to face pressure to implement more comprehensive reforms that will promote sustainable economic growth, reduce fiscal deficits, and improve the overall investment climate.

Financial Sector Overview

The health of Nepal's banking and financial system is crucial for maintaining economic stability and promoting growth. The financial sector, which includes commercial banks, development banks, and other financial institutions, plays an integral role in facilitating investments, providing credit, and ensuring liquidity in the economy. While the sector has shown resilience in recent years, it faces challenges related to capital adequacy, non-performing loans, and investor confidence, which could impact its long-term stability.

Health of the Banking and Financial System (Capital Adequacy, Non-Performing Loans)

The banking sector in Nepal is regulated and supervised by Nepal Rastra Bank (NRB), which sets guidelines for capital adequacy, liquidity, and risk management. According to NRB regulations, commercial banks are required to maintain a minimum capital adequacy ratio (CAR) of 11% to ensure financial stability and safeguard against potential losses. As of 2022, the banking sector maintained an average CAR of around 12.5%, indicating a relatively healthy level of capital reserves (Nepal Rastra Bank, 2022). It is an improvement compared to previous years, suggesting that banks are better positioned to absorb financial shocks.

However, despite the strong capital buffers, non-performing loans (NPLs) remain a persistent concern. NPLs refer to loans that are overdue or unlikely to be repaid, and they are a critical indicator of the banking sector's health. In 2022, the NPL ratio for the banking sector stood at approximately 3.5%, which is relatively high compared to international standards (Nepal Rastra Bank, 2022). The high level of NPLs is primarily attributed to the slow recovery of loans in the aftermath of the COVID-19 pandemic, as businesses and households faced financial difficulties. The NRB has taken measures to address this issue by encouraging banks to adopt more stringent loan classification systems and better risk management practices. Despite these efforts, the challenge of NPLs underscores the financial system's vulnerability to economic downturns.

Key Financial Institutions (Nepal Rastra Bank, Commercial Banks)

Nepal Rastra Bank (NRB) is the central bank of Nepal and plays a pivotal role in regulating the financial system, formulating monetary policy, and maintaining currency stability. The NRB's primary objectives are to control inflation, stabilize the exchange rate, and ensure the soundness of the financial system (Nepal Rastra Bank, 2022). In addition to its regulatory functions, the NRB oversees the operations of commercial banks and other financial institutions, ensuring compliance with guidelines on capital adequacy, liquidity, and lending practices.

Commercial banks are the backbone of Nepal's financial system, accounting for a significant portion of total banking assets and loans. As of 2022, Nepal had 27 commercial banks, which collectively hold over 80% of the total banking sector assets (Sharma & Nepal, 2020). These banks provide a wide range of financial services, including savings accounts, loans, and remittance services. While the sector has grown in recent years, it remains constrained by limited access to capital markets, high operational costs, and a lack of diversification in financial products. Additionally, the concentration of banking assets in a few large banks has led to concerns about systemic risk in the event of a bank failure.

Stock Market Performance and Investor Confidence

The stock market in Nepal, represented by the Nepal Stock Exchange (NEPSE), is relatively small compared to global markets but plays an important role in providing an avenue for capital raising and investment. In recent years, the NEPSE index has shown considerable volatility, reflecting the broader economic conditions and investor sentiment in Nepal. The stock market's performance is heavily influenced by macroeconomic factors such as interest rates, inflation, and political stability (Shrestha, 2021).

Investor confidence in Nepal's stock market remains fragile, with concerns over market transparency, liquidity, and limited participation by institutional investors. Although the number of listed companies has grown, the market's overall depth remains limited, and trading volumes are relatively low compared to other emerging markets. Additionally, the absence of a robust regulatory framework and a well-functioning corporate governance system has led to concerns about market manipulation and investor protection (Sharma & Nepal, 2020).

Despite these challenges, there has been growing interest in the stock market from individual investors, especially in the wake of low interest rates in the banking sector, which have made fixed-income investments less attractive. However, for the market to thrive and attract more substantial investment, significant reforms are needed across financial transparency, corporate governance, and investor education (Shrestha, 2021).

External Economic Environment

External factors, including global economic trends, foreign trade, foreign aid, and international investments, significantly influence Nepal's economic performance. These external elements shape Nepal's trade balance, investment climate, and development prospects, making it essential for policymakers to monitor and adapt to global economic conditions.

Impact of Global Economic Trends on Nepal (Foreign Trade, Foreign Aid, International Investments)

Global economic trends directly affect Nepal's economic performance, particularly given the country's reliance on remittances, foreign trade, and foreign aid. The global economic environment, including fluctuations in commodity prices, international trade policies, and financial market trends, can either facilitate or hinder Nepal's economic growth.

One of the most significant factors influencing Nepal's economy is global demand for its primary exports, including garments, tea, coffee, and agricultural products. As a small, open economy, Nepal's export market is susceptible to global demand shifts, and any slowdown in key markets such as India, the United States, and the European Union can adversely affect Nepal's foreign exchange earnings (World Bank, 2021). Additionally, Nepal's participation in global supply chains, particularly in the textile and garment sectors, means that changes in global trade policies, such as tariff adjustments or trade wars, can significantly affect Nepal's export competitiveness.

Foreign aid also plays a crucial role in Nepal's economic stability. Nepal has been a major recipient of foreign aid from countries such as India and China, as well as from international organizations such as the World Bank and the Asian Development Bank (ADB). Foreign aid is primarily allocated to infrastructure development, education, health, and poverty alleviation programs. The global economic downturns, such as the 2008 financial crisis and the COVID-19 pandemic, have resulted in fluctuations in aid flows, with many donor countries adjusting their contributions in response to their own economic pressures (Shrestha, 2021). Furthermore, Nepal's reliance on foreign aid raises concerns about long-term economic sustainability, as aid inflows are often tied to political and economic conditions beyond Nepal's control.

International investments, particularly foreign direct investment (FDI), are also critical to Nepal's economic development. Despite efforts to improve the investment climate, Nepal's FDI inflows remain low compared to its regional peers, such as India and Bangladesh. Factors such as political instability, bureaucratic inefficiencies, and inadequate infrastructure deter foreign investment (Ghimire, 2020). However, recent policy reforms aimed at improving the ease of doing business, such as the introduction of the Foreign Investment and Technology Transfer Act (2019), have shown promise in attracting investment, particularly in sectors such as hydropower, tourism, and manufacturing (Ministry of Industry, 2020).

Nepal's Trade Balance and Key Trading Partners

Nepal's trade balance shows a significant trade deficit, as it imports more than it exports. The trade deficit has been widening in recent years, driven by rising import bills for fuel, machinery, and consumer goods, while export growth remains slow (World Bank, 2021). The import bill for petroleum products, in particular, is a major contributor to Nepal's trade imbalance, as the country relies heavily on imports to meet its energy needs. This trade imbalance places pressure on Nepal's foreign exchange reserves and contributes to the depreciation of the

Nepalese Rupee (NPR), affecting inflation and economic stability (Sharma & Nepal, 2020).

India is Nepal's largest trading partner, accounting for nearly 60% of the country's total trade (Ministry of Finance, 2022). The bilateral trade between the two countries is dominated by imports from India, including petroleum products, machinery, and manufactured goods. In return, Nepal exports agricultural products, garments, and handicrafts to India. The close economic ties between Nepal and India are further strengthened by transit and trade agreements, which facilitate the movement of goods and services between the two countries.

China, as a growing economic power in the region, is another significant trade partner for Nepal. Nepal's trade with China has been increasing, particularly in infrastructure development, construction materials, and machinery. China is also an important source of investment, particularly in hydropower and road construction. However, Nepal's trade deficit with China is significant, as the country imports more from China than it exports (Shrestha, 2021).

In addition to India and China, Nepal also engages in trade with other countries in the Asia-Pacific region, the Middle East, and Europe. The United States, for example, is an important export market for Nepal's garments, tea, and other handicrafts. The government has been working to diversify Nepal's export base to reduce reliance on a few key markets and promote exports of higher-value products (Ministry of Finance, 2022).

Challenges and Risks

Nepal's economic development is hindered by several deep-rooted challenges, including structural issues such as poverty, income inequality, and regional disparities, as well as the ongoing risk posed by political instability and environmental factors. These challenges are not only barriers to sustainable growth but also exacerbate vulnerabilities in the nation's development trajectory.

Structural Issues (Poverty, Income Inequality, Regional Disparities)

One of the most pressing structural issues in Nepal is poverty, which remains widespread despite years of economic growth. According to the World Bank (2021), nearly 25% of Nepal's population lives below the national poverty line, with poverty rates being higher in rural and remote areas. Poverty is particularly concentrated in the Mid and Far-Western regions, where limited access to basic services such as education, healthcare, and infrastructure contributes to persistent poverty (Shrestha, 2021).

Income inequality is another major challenge, as wealth is disproportionately distributed across various socio-economic groups. The top 10% of the population controls a significant portion of the country's wealth, while the bottom 40% remains economically marginalized (Sharma & Nepal, 2020). The gap between urban and rural incomes is particularly pronounced, with urban centers such as Kathmandu benefiting from greater economic opportunities. In contrast, rural areas continue to face challenges in agriculture, infrastructure, and limited access to markets. Addressing income inequality is essential for promoting inclusive growth and reducing social unrest.

Regional disparities in Nepal are also a significant challenge. The country's economic development has been largely concentrated in the Kathmandu Valley. At the same time, other regions, particularly the hilly and mountainous areas, have lagged in terms of infrastructure development and economic opportunities. These disparities contribute to regional imbalances in education, healthcare, employment, and income levels, thereby exacerbating social tensions and hindering national cohesion (Ghimire, 2020). Bridging these regional disparities is crucial for achieving equitable growth and ensuring that the benefits of development are shared across all regions.

Political Instability and Its Impact on Economic Performance

Political instability has long been a significant risk to Nepal's economic development. The country's history of political upheaval, including the decade-long Maoist insurgency (1996-2006), frequent changes in government, and power struggles between political factions, has led to policy uncertainty and slow decision-making (Shrestha, 2021). This instability has undermined investor confidence, delayed infrastructure projects, and hindered the implementation of essential reforms needed for long-term growth.

In recent years, Nepal has made progress in establishing a democratic political system, but political instability persists, with frequent protests, strikes, and conflicts between political parties. The inability to establish a stable, cohesive governance system undermines the consistency of economic policies and the government's ability to address critical issues such as fiscal management, public service delivery, and poverty reduction. Additionally, political instability discourages foreign direct investment (FDI), as investors prefer environments with lower political risk (Sharma & Nepal, 2020).

Environmental Risks (Natural Disasters, Climate Change Effects)

Nepal is highly vulnerable to environmental risks, particularly natural disasters and the effects of climate change. The country's mountainous terrain, combined with poor infrastructure, makes it susceptible to disasters such as earthquakes, landslides, and floods. The 2015 earthquake, which caused widespread damage and loss of life, underscored the country's vulnerability to seismic activity and its impact on economic performance. Reconstruction efforts following the earthquake were slow due to resource constraints, bureaucratic inefficiencies, and political challenges, further hindering economic recovery (Nepal Government, 2016).

Climate change is another major environmental risk that poses significant threats to Nepal's economy, particularly in the agricultural sector. Rising temperatures, irregular rainfall patterns, and glacier melting threaten food security and water availability in many regions. Agriculture, which employs a significant portion of the population, is highly vulnerable to changing weather patterns, resulting in crop failures, food shortages, and increased poverty in rural areas (Shrestha, 2021). Additionally, the increased frequency and severity of floods and landslides caused by climate change further exacerbate poverty, damage infrastructure, and disrupt economic activities.

Addressing these environmental risks requires significant investment in disaster resilience, climate adaptation strategies, and sustainable agricultural practices. Nepal's vulnerability to natural disasters and climate change highlights the importance of integrating environmental considerations into economic planning and policy development.

Opportunities and Future Outlook

Despite the numerous challenges facing Nepal, the country's economic future holds considerable growth potential, driven by opportunities in emerging sectors, infrastructure development, and strategic policy reforms. With the right mix of investment and governance, Nepal can chart a path toward sustained economic growth and improved financial stability. Furthermore, international organizations like the International Monetary Fund (IMF) and the World Bank continue to play a crucial role in supporting Nepal's development goals.

Potential for Economic Growth (New Sectors, Infrastructure Development)

Nepal has significant untapped potential in several sectors that could fuel economic growth in the coming decades. One such sector is hydropower, where Nepal boasts an estimated 83,000 MW of hydropower potential, making it one of the wealthiest countries in the world in terms of water resources (Shrestha, 2021). However, despite its vast potential, Nepal has harnessed only a fraction of it. The development of hydropower infrastructure, along with the expansion of transmission lines and energy storage systems, could not only meet domestic energy needs but also position Nepal as an electricity exporter to neighboring countries such as India and China. It would diversify Nepal's economy and increase foreign exchange earnings.

Another promising sector is tourism, which has long been a cornerstone of Nepal's economy. Although the COVID-19 pandemic severely impacted the tourism industry, the sector shows significant potential for recovery and growth. With its world-renowned natural beauty, unique cultural heritage, and adventure tourism offerings, Nepal can expand its tourism portfolio beyond trekking and mountaineering to include eco-, cultural, and wellness tourism. Moreover, the government's promotion of tourism infrastructure, such as airports, transportation networks, and hospitality services, could increase Nepal's attractiveness as a global tourist destination (Nepal Tourism Board, 2021).

Strategic Policies to Improve Financial Stability and Growth

To realize its economic potential, Nepal must implement strategic policies that strengthen financial stability and foster sustainable growth. One such policy is the promotion of industrialization. Nepal's industrial base remains underdeveloped, with manufacturing accounting for a small share of GDP. Policymakers can encourage industrial growth by improving the ease of doing business, reducing bureaucratic hurdles, and providing incentives for foreign direct investment (FDI) in high-value sectors like textiles, agro-processing, and technology. The government's efforts to streamline business registration and licensing processes, as well as to invest in industrial infrastructure, are vital steps toward creating a more robust manufacturing sector.

In terms of financial stability, Nepal needs to further strengthen its banking sector by addressing non-performing loans and improving its overall regulatory framework. The Nepal Rastra Bank (NRB) has made progress in maintaining capital adequacy and liquidity, but more reforms are necessary to ensure long-term financial health. These include promoting greater financial inclusion, increasing access to credit for small and medium-sized enterprises (SMEs), and enhancing the efficiency of public financial management (Sharma & Nepal, 2020).

Additionally, macroeconomic policies should focus on sustainable public debt management and tax reforms to increase revenue without imposing excessive burdens on businesses and households. Improving tax compliance and broadening the tax base can provide the government with the resources needed for infrastructure development and social programs that support poverty reduction and human capital development (Ministry of Finance, 2022).

Role of International Organizations (IMF, World Bank) in Supporting Nepal's Economy

International organizations like the International Monetary Fund (IMF) and the World Bank have been instrumental in supporting Nepal's economic development through financial assistance, policy advice, and technical assistance. The IMF has worked with Nepal to improve its fiscal policies, enhance monetary policy frameworks, and build financial sector resilience. In 2020, the IMF approved an emergency assistance package to help Nepal cope with the economic effects of the COVID-19 pandemic, including budget support for public health and social welfare (IMF, 2020).

The World Bank has played a significant role in financing critical development projects in Nepal, particularly in infrastructure, education, health, and poverty alleviation. For instance, the World Bank's ongoing support for hydropower development, road infrastructure, and rural development is vital for improving Nepal's long-term growth prospects (World Bank, 2021). Additionally, the World Bank has been involved in policy reforms to improve governance, public-sector efficiency, and environmental sustainability.

Both the IMF and the World Bank have been key partners in Nepal's efforts to integrate into the global economy, and their support will remain essential to addressing Nepal's challenges, particularly in navigating the complexities of fiscal management, structural reforms, and climate adaptation.

Conclusion

This article has examined the current macroeconomic and financial situation in Nepal, highlighting key indicators such as GDP growth, inflation, unemployment, and the overall health of the financial sector. The analysis reveals that Nepal's economy faces a range of challenges, including structural issues such as poverty, income inequality, and regional disparities; political instability; and environmental risks. However, it also identifies significant opportunities for growth in sectors such as hydropower, tourism, and manufacturing, as well as the potential for enhanced financial stability through targeted reforms.

Summary of Key Findings

Nepal's economic growth has been modest in recent years, with a projected 4.1% GDP growth rate in 2022. Inflation remains a significant concern, driving up living costs, particularly for essential goods. The labor market continues to face challenges, including high unemployment and underemployment, while the financial sector, though resilient, is burdened by a relatively high level of non-performing loans. Additionally, the trade balance remains unfavorable, with Nepal's imports far exceeding its exports, widening the trade deficit. Despite these challenges, the financial system's capital adequacy and overall regulatory framework have improved, with efforts to address vulnerabilities, including NPLs and inflationary pressures.

Policy Recommendations for Improving Macroeconomic Stability

To enhance Nepal's macroeconomic stability and foster sustainable growth, several key policy measures should be considered:

1. **Diversification of the Economy**: Nepal must prioritize developing new economic sectors, such as hydropower, tourism, and manufacturing, to reduce its dependence on agriculture and remittances. Investments in infrastructure and modern technology will be crucial for expanding these sectors and improving productivity.

2. **Strengthening the Financial Sector**: The Nepal Rastra Bank (NRB) should continue to monitor capital adequacy ratios and encourage banks to adopt more stringent risk management practices to address non-performing loans. Financial inclusion policies should also be expanded to increase access to credit for small and medium-sized enterprises (SMEs), which can be key drivers of economic growth.

3. **Fiscal Reforms**: To reduce the fiscal deficit and ensure long-term fiscal sustainability, the government should focus on broadening the tax base and improving tax compliance. Reforms aimed at improving public expenditure efficiency, particularly in infrastructure and social programs, will be essential for achieving sustainable development goals.

4. **Political Stability and Governance**: Ensuring political stability is critical for creating a conducive environment for investment and economic growth. The government should focus on strengthening democratic institutions, improving governance, and reducing bureaucratic inefficiencies to foster greater investor confidence.

5. **Environmental Risk Management**: Given Nepal's vulnerability to natural disasters and climate change, it is essential for the government to integrate environmental risks into economic planning. Policies aimed at disaster resilience, climate change adaptation, and sustainable agricultural practices will be crucial for ensuring long-term economic stability.

Final Thoughts on How Nepal Can Navigate Its Economic Challenges Moving Forward

As Nepal continues its journey towards economic development, addressing its macroeconomic challenges will require a combination of sound policies, strategic investments, and effective governance. While the country faces significant obstacles, including political instability, income inequality, and environmental risks, it also offers substantial opportunities for growth in emerging sectors. By diversifying its economy, implementing fiscal and financial sector reforms, and investing in infrastructure, Nepal can unlock its growth potential and build a more resilient, inclusive economy. Furthermore, continued support from international organizations such as the World Bank and IMF will be essential in helping Nepal navigate its economic challenges and achieve its long-term development objectives.

In conclusion, while Nepal's economic trajectory is fraught with challenges, its future outlook remains positive if the right policies are implemented. By focusing on diversification, stability, and resilience, Nepal can pave the way for a more prosperous and sustainable future.

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Impact of bank capital, bank liquidity and credit risk on profitability of Nepalese commercial banks

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Abstract

This study examines the impact of bank capital, bank liquidity and credit risk on the profitability of Nepalese commercial banks. Return on assets and earnings per share are the dependent variables. The selected independent variables are total debt ratio, debt to equity ratio, cash reserve ratio, current ratio, non-performing loan and loan loss provision. The study is based on the secondary data which were gathered from 15 commercial banks for the period from 2015/16 to 2021/22, leading to a total of 105 observations. The data were collected from Banking and Financial Statistics published by Nepal Rastra Bank, publications and websites of Nepal Rastra Bank (NRB)and annual reports and annual audited financial statement of the selected commercial banks. The correlation coefficients and regression models are estimated to test the significance and impact of bank capital, bank liquidity and credit risk on the profitability of Nepalese commercial banks.

The study showedthat debt to equity ratio has a negative impact on return on assets. It means that increase in debt-to-equity ratio leads to decrease in return on assets. Similarly, total debt ratio has a negative impact on return on assets. It indicates that increase in total debt ratio leads to decrease in return on assets. In addition, cash reserve ratio has a positive impact on return on assets and earnings per share. It indicates that increase in cash reserve ratio leads to increase in return on assets and earnings per share. Moreover, current ratio has a positive impact on return on assets and earnings per share. It means that higher the current ratio, higher would be the return on assets and earnings per share. In contrast, non-performing loan has a positive impact on earnings per share. It means that increase in non-performing loan leads to increase in earnings per share.

Keywords: *Return on assets, earnings per shares, total debt ratio, capital debt to equity ratio, cash reserve ratio, current ratio, non-performing loan and loan loss provision.*

Introduction

Banks are the most integral part of the financial sector of any country as they dominate the financial sector by contributing much to the economic growth of the country (Saha and Bishwas, 2021). Soundness of a bank is the result of an assessment of the bank condition conducted on the risks and performance of the bank. Banks also play a remarkable role in generating employment opportunities, enhancing financial resources, and theoveralldevelopment ofa country. It contributes to enlarge the industrial activities and investment activities. Bank's financialperformance is the result of the bank’s internal roles, regulation, policies, activities, effectiveness, efficiency and overall performance in the monetary terms. A country’s efficient governance system supports firms in improving their financial performance macro governance elements, such as; political stability, regulatory quality, government effectiveness, control of corruption, the rule of law, and voice and accountability, form institutional quality and play an essential role in improving efficiency in the banking sector (Chan *et al.,* 2015; Uddin *et al.,* 2019). Similarly, governance is one mechanism that promotes bank efficiency and influences bank performance (Wang *et al.,* 2012). In today’s competitive and dynamic business world, financial decision plays a fundamental role in the firm’s day to day performance and operations.

Bank profitability is an important ingredient of financial development, its relevance spans through banking firm performance to macroeconomic stability. At the firmlevel, a higher return to a large extent reduces bank fragility. At the macro level, increased profitability of a sustainable banking sector can finance economic growth and development (Osuagwa, 2014). The banking is one of the most important sectors that supports the development of the country’s economy and its financial stability (Ryu *et al.,* 2012).Commercial bank is a financial institution which performs the role of savings and mobilization of fund. However, poor performance of these institution result in slowdown of economic growth. Every bank tries to earn and achieve good profits in order to be in the business especially at the time of growing competition in the financial markets. At the macro level, a profitable banking sector should be able to absorb external negative shocks and to achieve the stability of the financial system (Akhter *et al*., 2011).The impact of credit risk on the profitability of banks is not clear-cut; it may be positive or negative. On one hand, when banks take higher credit risk they normally earn a higher profit. On the other hand, the profitability of banks may drop when bank management fails to collect the loans. Pracoyo and Imani (2018) indicated that there is an inverse relationship between bank liquidity and profitability. Theoretically, when banks hold a greater amount of liquid assets they lose the gains in term of opportunity cost. However, the banks holding a lesser amount of liquid assets normally earn a greater profit. The high level of bank capital boosts the confidence and trust of the public about the soundness of the bank. Stronger banks can channelize available funds in business activities and make high profits (Pasaribu and Sari, 2011).

Bank capital plays a critical role in the safety and soundness of individual banks and the banking system. Capitalacts as a financial buffer which can absorb unexpected losses. It is the difference between a bank's assets and liabilities. Lee and Hsieh (2013) examined the impact of bank capital on profitability and risk in Asian banking. The study revealed that banks investments have positive effect on profitability. Akhtar*et al.* (2021) confirmed an inverted U-shaped relationship between financial leverage and performance, indicating that an increase in the financial leverage of Pakistani listed companies increases their performance up to a certain level, and after that, a further increase in financial leverage decreases their performance. The results further suggested that short term debt leverage is a main contributing source of debt that causes a higher risk of refinancing for companies and thus negatively affects performance.Liquidity is a measure of how easily one can convert assets into cash. Liquidity management has become a basic and broad aspect of judging the performance of a corporate entity. It plays keyrole in defining, whether a firm is able to pay its short term obligations. It is essential to maintain s adequate degree of liquidity for the smooth running of the business operations. The liquidity should not be high and should not be less it require to maintain in efficient level. Parvin *et al.*(2019) analyzed the effect of liquidity and bank size on the profitability of commercial banks in Bangladesh. The study concluded that there is a positive significant impact of liquidity on the profitability of the banks. However, Isha and Mahardika (2022) found current ratio has negative impact on the profitability. Banks which create more liquidity and exhibit higher illiquidity risk have lower profitability. The relationship between regulatory capital and bank performance is not linear and depends on the level of capitalization. Regulatory capital is negatively related to bank profitability for higher capitalized banks but positively related to profitability for lower capitalized banks (Tran *et al.,* 2016).

Credit risk is the probability of a borrower defaulting on debt obligations. Nuhiu *et al.* (2017) elaborated whether the determinants of commercial banks profitability affect the financial performance of commercial banks in Kosovo. The study found that non-performing loans have a positive relationship with return on assets. Alshatti (2015) concluded that banks to improve their credit risk management to achieve more profits. Misman and Bhatti (2020) examined the critical issues that are related to credit risk in a sample of 72 Islamic banks from nine countries from South East Asian Nations (ASEAN) and Gulf Cooperation Council (GCC) regions during the period of 2000-2011. The results indicated that quality of loan (financing) has a significant positive effect on credit risk. Moreover, the large-size Islamic banks have the capacity to lower its credit risk in a comparison with the small-size peers, especially when these banks have access to more equity's capital.

According to Suyanto (2021), high level of bad credit is related to a high level of potential loss suffered by the bank. If bad credit happens or the bank is not adequately liquid, then the bank management must find the best solution. Among the solutions that the bank management must consider is using the capital fund to cover customer default. Isanzu (2017) stated that bad credit has a positive effect on bank performance. However, Noman *et al.* (2015) indicated that bad credit has a negative effect on bank performance.Brastama and Yadnya (2020) showed the non-performing loan has a negative effect on the ROA. In addition, Kaaya and Pastory (2013) argued that the non-performing loans normally results in high loan loss provisioning, which leads to drop-in profits for many banks. The size of non-performing plays a key role in the stability of the banking sector of a country (Khan *et al.,* 2020). Moreover, loan loss provisioning policy is of great importance for the banks as it is critical in assessing the soundness of the banking sector s financial system. It is a key determinant of bank's earnings and capital positions, which has a bearing on bank's supply of credit to the economy (Beatty and Liao, 2011). Loan loss provisions must be used to cover expected losses. The profitability will be more if the bank has less non-performing loans. On the other hand, if the non-performing loan is high, the banks may not be able to reap profit. Instead, they may be in loss because for the amount of non-performing loans the banks need to put reserves likes loan loss provisions (Farhan *et al.,* 2012).

High proportion of liquid assets held by the bank will directly reduce the funds available for banks to grant loans to the public which increases the interest expenses but interest income is not increases so profit of bank will reduced. Doan and Bui (2021) found that the liquidity exerts a significant effect on bank profitability. Rabab'ah (2015) found that the high liquidity maintained by the bank will reduce the ability of the bank to grant loans to the public. In order to avoid any liquidity crisis, central banks and regulatory authorities take strict action to maintain a certain level of liquidity. The banks are liable to maintain a level of liquidity as per requirements of central banks such as cash reserve ratio (CRR) (Roussel *et al.,* 2021). Capital structure is the composition of debt and equity of a company used to finance its assets. Capital adequacy ratio and banks' performance have statistically significant relationship (Dao and Nguyen, 2020).There is no association between higher capital and lower risk of banking financial crisis (Jorda*et al.,*2021). Complying with higher capital requirements provides protection against unexpected losses but it also restricts the lending extent of a bank (Subhani *et al.,* 2022). A high leverage ratio creates higher business risk for a bank which in turn makes it more difficult to acquire further external capital and tends to increase cost of borrowing from external parties. Aziz and Abbas (2019) found debt financing have negative but also significant impact on firm performance in Pakistan.Kalash (2023) revealed that financial leverage has negative and significant effect on financial performance, and that this effect is stronger for firms with higher financial distress risk. The result also showed that earnings per share, debt to equity ratio, and current ratio have significant impact on profitability (ROA). Ulzanah and Murtaqi (2015) found that earnings per share has a positive significant impact on profitability (ROA). On the other hand, debt to equity ratio has a negative significant impact on profitability.

In the context of Nepal, Chalise (2021) found that Nepalese banks are highly levered and the trend of debt ratio is increasing over the period. Further, the study revealed that return on equity tends to increase significantly with increase in total debt to total asset. Return on equity tends to decrease insignificantly with increase in total debt to total equity ratio. Increase in use of debt fund in capital structure tends to minimize the net profit of the banks. However, Oli (2021) concluded that debt to assets ratio, long term debt ratio, debt to equity ratio, interest coverage ratio and liquidity ratio have a positive relationship with return on assets, net profit margin, and earning per share. The study also showed that the most influencing factor for determining return on assets is the interest coverage ratio followed by the debt to assets ratio, debt to equity ratio, and liquidity. Likewise, Bam *et al*. (2015) found that debt to total assets has significant positive relationship with the profitability of Nepalese commercial banks. However, there is significant influence of ROA, ROE and NPL on liquidity (Ojha, 2018).Budhathoki *et al*. (2020) revealed that low level of liquidity has a negative effect on the bank’s ROA, ROE, and NIM. However, ROE and NIM were statistically insignificant. Pradhan and Shrestha (2016) found that the liquidity ratio and quick ratio have negative effect on return on assets and return on equity indicating increased liquidity ratio and quick ratio decreases the return on assets and return on equity of the bank. Singh *et al.* (2021) investigated the effect of non-performing loan on profitability of Nepalese commercial banks. The study found that higher the profitability, lower would be the non-performing loan. Credit risk management practices and credit risk mitigation measures have a positive relationship with loan repayment (Pradhan and Shah, 2019). Khanal (2021) found that there is an inverse relationship between credit risk ratio and return on assets.

The above discussion shows that empirical evidences vary greatly across the studies on the impact of bank capital, bank liquidity and credit risk on profitability.Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such findings using more recent data exist in the context of Nepal. Therefore, in order to support one view or the other, this study has been conducted.

The main purpose of the study is to analyze the impact of bank capital, bank liquidity and credit risk on profitability of Nepalese commercial banks. More specifically, the study examines the relationship of total debt ratio, debt to equity ratio, cash reserve ratio, current ratio, non-performing loan, and loan loss provision with return on asset and earnings per share of Nepalese commercial banks.

The remainder of this study is organized as follows. Section two describes the sample, data and methodology. Section three presents the empirical results and the final sections draws the conclusion.

Methodological Aspects

This study is based on secondary data which were gathered from15 commercial banks in Nepal from 2015/2016 to 2021/2022, leading to a total of 105 observations. The main sources of data include annual reports published by concerned commercial banks andannual audited financial statement of the respective banks. This study is based on descriptive as well as causal comparative research designs. Table 1 shows the list of commercial banks selected for the study along with the study period and number of observations.

Table 1: List of the commercial banks selected for the study along with study period and number of observations

S. N.	Name of commercial banks	Study period	Observations
1	Nepal Bank Limited	2015/16-2021/22	7
2	Agricultural Development Bank Limited	2015/16-2021/22	7
3	Rastriya Banijya Bank Limited	2015/16-2021/22	7
4	NMB Bank Limited	2015/16-2021/22	7
5	Everest Bank Limited	2015/16-2021/22	7
6	NIC Asia Bank Limited	2015/16-2021/22	7
7	Machhapuchchhre Bank Limited	2015/16-2021/22	7
8	Sanima Bank Limited	2015/16-2021/22	7
9	Sunrise Bank Limited	2015/16-2021/22	7
10	Prime Commercial Bank Limited	2015/16-2021/22	7

S. N.	Name of commercial banks	Study period	Observations
11	Siddhartha Bank Limited	2015/16-2021/22	7
12	Nepal SBI Bank Limited	2015/16-2021/22	7
13	Citizens Bank International Limited	2015/16-2021/22	7
14	Laxmi Bank Limited	2015/16-2021/22	7
15	Standard Chartered Bank Nepal Limited	2015/16-2021/22	7
	Total number of observations		**105**

Thus, the study is based on the 105 observations.

The model

The model used in this study analyze the impact of bank capital, bank liquidity and credit risk on profitability of Nepalese commercial bank. The model estimated in this study assumes that assumes that the profitability depends on several independent variables. The dependent variables selected for the study are return on assets and earnings per share. Similarly, the selected independent variables in this study are total debt ratio, debt to equity ratio, cash reserve ratio, current ratio, non-performing loan, and loan loss provision. The following model equations are designed to test the hypothesis.

Profitability = f(DER, NPL,LLP,TDR, CRR, CR)

More specifically, the given model has been segmented into following models:

$$ROA_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 NPL_{it} + \beta_3 LLP_{it} + \beta_4 TDR_{it} + \beta_5 CRR_{it} + \beta_6 CR_{it} + e_{it}$$

$$EPS_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 NPL_{it} + \beta_3 LLP_{it} + \beta_4 TDR_{it} + \beta_5 CRR_{it} + \beta_6 CR_{it} + e_{it}$$

Where,

ROA = Return on assets as measured by the ratio of net income to total assets, in percentage.

EPS = Earnings per share as measured by the ratio of net income to outstanding common share, in Rupees (Rs) per share.

DER = Debt to equity ratio as measured by the ratio of total debt to total equity capital, in times.

NPL = Non-performing loan as measured by the ratio of non-performing loan to total loans, in percentage.

LLP	=	Loan loss provision as measured by the ratio of sum of provisions set for the loans created to total loans, in percentage.
TDR	=	Total debt ratio as measured by the ratio of total debt to total assets, in times.
CRR	=	Cash reserve ratio as measured by the ratio of reserve required to bank deposits, in percentage.
CR	=	Current ratio as measured by the ratio of current assets to current liabilities, in times.

The following section describes the independent variables used in this study along with the hypothesis formulation:

Total debt ratio

The total debt is measured as total debt to total assets and it is used to represent the proportion of the bank asset/operation financed by debt. Mehzabin *et al*. (2022) investigated the effect of capital structure, operating efficiency and non-interest income on profitability of banking industry of Asia. The study confirmed that an increase in total debt ratio increases the profit margin of the bank. Similarly, Muathe*et al.* (2014) revealed statistically significant positive relationship between total debt ratio and firm's performance as measured by return on assets and return on equity. However, Habibniya *et al.* (2022) investigated the impact of capital structure on profitability in the case of telecom industry in the United States. The study concluded that there is negative and significant impact of debt to total assets on profitability. On the other hand, Detthamrong *et al.* (2017) showed a positive correlation of total debts to assets with ROA and ROE. Similarly, Vijayakumaran (2017) found that there is strong positive relationship between level of leverage and firm performance. Likewise, Fosu (2013) argued that debt ratio has a significant positive effect on firm performance. Based on it, this study develops the following hypothesis:

H_1: There is positive relationship between total debt ratio and bank profitability.

Debt to equity ratio

Debt-to-equity ratio shows how much of a company is owned by creditors (people it has borrowed money from) compared with how much shareholder equity is held by the company. It is one of three calculations used to measure debt capacity along with the debt servicing ratio and the debt to total assets ratio. It is measured as the total debt to total equity capital. Noreen (2019) examined the Impact of capital structure on profitability of Islamic and conventional banks of

Pakistan. The study found that there is negative impact of debt to equity ratio on profitability of both Islamic and Conventional Banks of Pakistan. Similarly, Solihin (2019) also found debt equity ratio has negative significant impact on profitability as ROA. Likewise, Sari *et al.* (2021) found significant negative impact on profitability. Similarly, Irman and Purwati (2020) found negative but insignificant impact. Vu *et al.* (2020) found that the ratios of total debt to total equity maintain negative impacts on ROA but strong positive effect on ROE. Based on it, this study develops the following hypothesis:

H_2: There is negative relationship between debt-to-equity ratio and bank profitability.

Cash reserve ratio

Cash reserve ratio is one of the monetary policy tools used by the central bank to control money supply in the economy. It is measured as the ratio of reserve required to bank deposits. Wuave *et al.* (2020) revealed that cash reserve ratio is negatively associated with bank profitability. This means that the bank's profitability declined due to the increase in the cash reserve ratio. Similarly, Osakwe and Nwakaego (2022) examined the effect of central bank of Nigeria regulation on the performance of deposit money banks. The study found that the cash reserve ratio has insignificant negative relationship with profitability of deposit money banks in Nigeria. The reserve requirement secures banks, their customers, shareholders and economy at large and there is a significant inverse relationship on bank’s financial performance, which is measured by ROA and ROE (Glocker and Towbin, 2012). Similarly, Jibreel *et al.* (2022) found a negative and significant relationship of cash reserve ratio with returns on assets as a proxy of profitability of listed deposit money banks in Nigeria. On the other hand, Al-Shehadeh *et al.* (2022) revealed that there is a statistically significant relationship between reserve ration and profitability in the commercial banks listed in Amman Stock Exchange. Based on it, this study develops the following hypothesis:

H_3: There is negative relationship between cash reserve ratio and bank profitability.

Current ratio

It measures the ratio of bank’s current assets to its current liabilities. In this study, current assets cover cash and cash equivalent, due from NRB, placement with bank and financial institutions and other assets (bills receivable, account receivable, accrued income etc.) from the financial statements of respective bank. Whereas, current liability includes due to bank and financial institutions, due to NRB, and other liabilities (bills payable, creditors and accruals, interest payable etc.) from the financial statements of respective bank. Current ratio shows the strength of the bank in meeting the short term maturing obligations to the claimant of those obligations (Kajola *et al.*, 2019). Ripaluddin *et al.* (2023) found that the current ratio has a positive and significant effect on return on company equity. Madushanka *et al.* (2018) showed that current ratio has a positive relationship with the firm's ROE and negative with firms ROA among the listed manufacturing companies in Sri Lanka. Nabeel and Hussain (2017) found positive insignificant relationship with return on assets, negative significant relationship with return on equity and negative insignificant relationship with earning per share. Likewise, Ofoegbu *et al.* (2016) showed that the current ratio and profitability of the company are significantly and positively related. Similarly, Hasyim and Nuraeni (2022) revealed a positive influence on profitability of manufacturing companies listed on the Indonesia Stock Exchange in the period 2004-2009. Based on it, this study develops the following hypothesis:

H_4: There is a positive relationship between current ratio and bank profitability.

Non-performing loan

Non- performing loan is the amount of borrowed money that the debtor has failed to pay the scheduled payments for about ninety days. It is the non-productive assets of the banks. Uddin (2022) examined the effect of non-performing loan on state-owned commercial banks profitability with operating efficiency as mediating variable. The study showed that non-performing loan has a negative and significant impact on profitability in presence of the operating efficiency. Similarly, Gizaw *et al.* (2015) concluded that non- performing loan ratio is the major indicator of credit risk and it has statistically significant large negative effect on profitability. Likewise, Adebisi and Matthew (2015) revealed an inverse relationship with return on assets. Similarly, Jolevski (2017) argued that there is moderately high negative correlation with rates of return on equity and return on assets. Further, Nedelescu and Ciulei (2022) also found a negative effect of credit risk on financial profitability (ROA). Based on it, this study develops the following hypothesis:

H_5: There is negative relationship between non-performing loan and bank profitability.

Loan loss provision

Loan loss provision is the total accumulated fund that is allocated by an organization for the protection of possible losses arises from total loan created. Mennawi (2020) found that there is a significant and negative impact on the financial performance of Islamic banks in Sudan. Islam (2018) showed that loan loss provision as an important factor in affecting profitability of banks in ideal condition. A well establish bank is supposed to be having less loan loss provision and higher profitability. Similarly, Alhadab and Alsahawneh (2016) found that loan loss provision has a negative impact on the profitability of Jordanian commercial banks. Likewise, Teshome *et al.* (2018) found negative and statistically significant effect. Annor and Obeng (2017) concluded that there is a significant adverse affiliation of loan loss provision with profitability of commercial banks listed on the Ghana stock exchange. Based on it, this study develops the following hypothesis:

H_6: There is negative relationship between loan loss provision and bank profitability.

Results and discussion

Descriptive statistics

Table 2 presents the descriptive statistics of selected dependent and independent variables during the period 2015/16-2021/22.

Table 2

Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables of 15 Nepalese commercial banks for the study period from 2015/16 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) and EPS (Earnings per share as measured by the ratio of net income to total number of shares, in Rupees per share). The independent variables are DER (Debt to equity ratio as measured by the ratio of total debt to total equity capital, in times), NPL (Non-performing loan as measured by the ratio of non-performing loan to total loans, in percentage), LLP (Loan loss provision as measured by the ratio of sum of provisions set for the loans created to total loans, in percentage), TDR (Total debt ratio as measured by the ratio of total debt to total assets, in times), CRR (Cash reserve ratio as measured by the ratio of reserve required to bank deposits, in percentage) and CR (Current ratio as measured by the ratio of current assets to current liabilities, in times).

Variables	Minimum	Maximum	Mean	Std. Deviation
ROA	0.70	2.79	1.58	0.44
EPS	10.15	56.04	25.40	9.37
DER	0.45	39.77	8.39	3.88

Variables	Minimum	Maximum	Mean	Std. Deviation
NPL	0.01	4.75	1.30	1.18
LLP	0.09	5.00	2.13	0.99
TDR	0.31	0.98	0.87	0.06
CRR	3.05	36.21	14.18	9.27
CR	0.48	16.19	2.99	2.17

Source: SPSS output

Correlation analysis

Having indicated the descriptive statistics, Pearson correlation coefficients are computed and the results are presented in Table 3.

Table 3

Pearson's correlation coefficients matrix

This table shows the bivariate Pearson's correlation coefficients of dependent and independent variables of 15Nepalese commercial banks for the study period from 2015/16 to 2021/22. The dependent variables are ROA (Return on assets as measured by the ratio of net income to total assets, in percentage) andEPS (Earnings per share as measured by the ratio of net income to total number of shares, in Rupees per share). The independent variables are DER (Debt to equity ratio as measured by the ratio of total debt to total equity capital, in times), NPL (Non-performing loan as measured by the ratio of non-performing loan to total loans, in percentage), LLP (Loan loss provision as measured by the ratio of sum of provisions set for the loans created to total loans, in percentage), TDR (Total debt ratio as measured by the ratio of total debt to total assets, in times), CRR (Cash reserve ratio as measured by the ratio of reserve required to bank deposits, in percentage) and CR (Current ratio as measured by the ratio of current assets to current liabilities, in times).

Variables	ROA	EPS	DER	NPL	LLP	TDR	CRR	CR
ROA	1							
EPS	0.609**	1						
DER	-0.152	0.141	1					

NPL	0.224*	0.347**	-0.046	1				
LLP	0.139	0.313**	-0.012	0.902**	1			
TDR	-0.211*	0.011	0.530**	-0.062	-0.023	1		
CRR	0.170	0.116	0.007	-0.081	-0.063	0.078	1	
CR	0.444**	0.171	-0.148	0.021	-0.009	-0.099	0.098	1

Note: The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent levels respectively.

Table 3 shows that debt to equity ratio has a negative relationship with return on assets. It means that increase in debt to equity ratio leads to decrease in return on assets. In contrast, there is a positive relationship between non-performing loan and return on assets. It means that increase in non-performing loan leads to increase in return on assets. Likewise, loan loss provision has a positive relationship with return on assets. It shows that higher the loan loss provision, higher would be the return on assets. However, there is a negative relationship between total debt ratio and return on assets. It indicates that increase in total debt ratio leads to decrease in return on assets. In addition, cash reserve ratio has a positive relationship with return on assets. It indicates that increase in cash reserve ratio leads to increase in return on assets. Similarly, there is a positive relationship between current ratio and return on assets. It means that higher the current ratio, higher would be the return on assets.

On the other hand, the result also shows that debt to equity ratio has a positive relationship with earnings per share. It means that increase in debt to equity ratio leads to increase in earnings per share. Similarly, there is a positive relationship between non-performing loan and earnings per share. It means that increase in non-performing loan leads to increase in earnings per share. Likewise, loan loss provision has a positive relationship with earnings per share. It shows that higher the loan loss provision, higher would be the earnings per share. Similarly, there is a positive relationship between total debt ratio and earnings per share. It indicates that increase in total debt ratio leads to increase in earnings per share. In addition, cash reserve ratio has a positive relationship with earnings per share. It indicates that higher the cash reserve ratio, higher would be the earnings per share. Further, this study shows that there is a positive relationship between current ratio and earnings per share. It means that higher the current ratio, higher would be the earnings per share.

Regression analysis

Having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and results are presented in Table 4 and Table 5. More specifically, Table 4shows the regression results of impact of debt-to-equity ratio, total debt ratio, cash reserve ratio, current assets, non-performing loan and loan loss provision on return onassets of selected Nepalese commercial banks.

Table 4

Estimated regression results of debt to equity ratio, non-performing loan and loan loss provision, total debt ratio, cash reserve ratio and current ratio on return on assets

The results are based on panel data of 15 commercial banks with 105 observations for the period of 2015/16 to 2021/22 by using linear regression model. The model is $ROA_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 NPL_{it} + \beta_3 LLP_{it} + \beta_4 TDR_{it} + \beta_5 CRR_{it} + \beta_6 CR_{it} + e_{it}$ *where, the dependent variable is ROA (Return on assets as measured by the ratio of net income to total assets, in percentage). The independent variables are DER (Debt to equity ratio as measured by the ratio of total debt to total equity capital, in times), NPL (Non-performing loan as measured by the ratio of non-performing loan to total loans, in percentage), LLP (Loan loss provision as measured by the ratio of sum of provisions set for the loans created to total loans, in percentage), TDR (Total debt ratio as measured by the ratio of total debt to total assets, in times), CRR (Cash reserve ratio as measured by the ratio of reserve required to bank deposits, in percentage) and CR (Current ratio as measured by the ratio of current assets to current liabilities, in times).*

Models	Intercepts	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		DER	NPL	LLP	TDR	CRR	CR			
1	1.730 (16.692)**	-0.017 (1.557)						0.013	0..444	2.423
2	1.474 (23.110)**		0.085 (2.336)*					0.041	0.438	5.456
3	1.450			0.063				0.010	0.44	2.025

Models	Intercepts	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		DER	NPL	LLP	TDR	CRR	CR			
	(14.021)**			(1.423)					5	
4	2.901 (4.810)**				-1.497 (2.189)*			0.035	0.439	4.793
5	1.467 (18.488)**					0.008 (1.753)		0.020	0.443	3.073
6	1.310 (19.500)**						0.092 (5.028)**	0.189	0.403	25.276
7	1.614 (14.174)**	-0.016 (1.481)	0.082 (2.279)*					0.052	0.436	3.857
8	1.770 (11.324)**	-0.015 (1.384)	0.192 (2.296)*	0.145 (1.452)				0.062	0.433	3.302
9	2.701 (4.119)**	-0.005 (0.415)	0.184 (2.214*)	0.138 (1.389)	-1.158 (1.461)			0.073	0.431	3.038
10	2.674 (4.155)**	-0.004 (0.327)	0.193 (2.363)*	0.142 (1.456)	-1.303 (1.670)	0.010 (2.210)*		0.107	0.423	3.502

Models	Intercepts	Regression coefficients of						Adj. R_bar^2	SEE	F-value
		DER	NPL	LLP	TDR	CRR	CR			
11	2.296 (3.891)**	0.002 (0.147)	0.173 (2.323)*	0.119 (1.343)	-1.202 (1.696)	0.008 (1.925)	0.083 (4.682)**	0.263	0.384	7.188

Notes:

i. *Figures in parenthesis are t-values.*

ii. *The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.*

iii. *Return on assets is the dependent variable.*

Table 4 shows that the beta coefficients for debt to equity ratio are negative with return on assets. It indicates that debt to equity ratio has a negative impact on return on assets. This finding is consistent with the findings of Vu *et al.* (2020).However, the beta coefficients for non-performing loan are positive with return on assets. It indicates that non-performing loan has a positive impact on return on assets. This finding is inconsistent with the findings of Gizaw *et al.* (2015). Similarly, the beta coefficients for loan loss provision are positive with return on assets. It indicates that loan loss provision has a positive impact on return on assets. This finding contradicts with the findings of Mennawi (2020). In contrast, the beta coefficients for total debt ratio are negative with return on assets. It indicates that total debt ratio has a negative impact on return on assets. This finding is consistent with the findings of Habibniya *et al.* (2022). In addition, the beta coefficients for cash reserve ratio are positive with return on assets. It indicates that cash reserve ratio has a positive impact on return on assets. This finding is inconsistent with the findings of Jibreel*et al.* (2022). Likewise, the beta coefficients for current ratio are positive with return on assets. It indicates that current ratio has a positive impact on return on assets. This finding is similar to the findings of Ripaluddin *et al.* (2023).

Table 5 shows the regression results of debt to equity ratio, non-performing loan, loan loss provision, total debt ratio, cash reserve ratio and current ratio on earnings per share of Nepalese commercial banks.

Table 5

Estimated regression results of debt to equity ratio, non-performing loan and loan loss provision, total debt ratio, cash reserve ratio and current ratio on earnings per share

The results are based on panel data of 15 commercial banks with 105 observations for the period of 2015/16 to 2021/22 by using linear regression model. The model is $EPS_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 NPL_{it} + \beta_3 LLP_{it} + \beta_4 TDR_{it} + \beta_5 CRR_{it} + \beta_6 CR_{it} + e_{it}$ *where, the dependent variable is EPS (Earnings per share as measured by the ratio of net income to total number of shares, in Rupees per share). The independent variables are DER (Debt to equity ratio as measured by the ratio of total debt to total equity capital, in times), NPL (Non-performing loan as measured by the ratio of non-performing loan to total loans, in percentage), LLP (Loan loss provision as measured by the ratio of sum of provisions set for the loans created to total loans, in percentage), TDR (Total debt ratio as measured by the ratio of total debt to total assets, in times), CRR (Cash reserve ratio as measured by the ratio of reserve required to bank deposits, in percentage) and CR (Current ratio as measured by the ratio of current assets to current liabilities, in times).*

Models	Intercepts	Regression coefficients of						Adj. $\bar{R}^2$	SEE	F-value
		DER	NPL	LLP	TDR	CRR	CR			
1	22.548 (10.378)**	0.340 (1.447)						0.010	9.322	2.093
2	21.830 (17.000)**		2.739 (3.753)**					0.112	8.832	14.084
3	19.107 (9.204)**			2.954 (3.342)**				0.089	8.944	11.171
4	23.998 (1.859)				1.596 (0.109)			0.010	9.416	0.012

Models	Intercepts	DER	NPL	LLP	TDR	CRR	CR	Adj. R_bar^2	SEE	F-value
		Regression coefficients of								
5	23.739 (14.182)**					0.117 (1.185)		0.004	9.353	1.405
6	23.192 (15.004)**						0.739 (1.764)	0.020	9.277	3.112
7	18.571 (8.130)**	0.380 (1.718)	2.796 (3.863)**					0.128	8.749	8.651
8	18.841 (5.946)**	0.381 (1.714)	2.984 (1.765)	0.250 (0.123)				0.120	8.792	5.717
9	27.228 (2.031)*	0.470 (1.792)	2.916 (1.716)	0.187 (0.092)	10.433 (0.644)			0.115	8.817	4.366
10	26.814 (2.017)*	0.489 (1.876)	3.053 (1.809)	0.247 (0.123)	12.652 (0.785)	0.152 (1.637)		0.129	8.744	4.087
11	23.343 (1.762)	0.542 (2.097)*	2.866 (1.718)	0.038 (0.019)	11.732 (0.737)	0.134 (1.447)	0.761 (1.917)	0.152	8.628	4.111

Notes:

i. *Figures in parenthesis are t-values.*

ii. *The asterisk signs (**) and (*) indicate that the results are significant at one percent and five percent level respectively.*

iii. *Earnings per share is the dependent variable.*

Table 5 shows that the beta coefficients for debt to equity ratio are positive with earnings per share. It indicates that debt to equity ratio has a positive impact on earnings per share. This finding contradicts with the findings of Solihin (2019).Likewise, the beta coefficients for non-performing loan are positive with earnings per share. It indicates that non-performing loan has a positive impact on earnings per share. This finding is inconsistent with the findings of Nedelescu and Ciulei (2022). Similarly, the beta coefficients for loan loss provision are positive with earnings per share. It indicates that loan loss provision has a positive impact on earnings per share. This finding is similar to the findings of Annor and Obeng (2017). Further, the beta coefficients for total debt ratio are positive with earnings per share. It indicates that total debt ratio has a positive impact on earnings per share. This finding is consistent with the findings of Detthamrong *et al.* (2017). In addition, the beta coefficients for cash reserve ratio are positive with earnings per share. It indicates that cash reserve ratio has a positive impact on earnings per share. This finding is consistent with the findings of Al-Shehadeh *et al.* (2022). Likewise, the beta coefficients for current ratio are positive with earnings per share. It indicates that current ratio has a positive impact on earnings per share. This finding is similar to the findings of Hasyim and Nuraeni (2022).

Summary and Conclusion

Financial sector is regarded as one of the major areas of the economy that plays a vital role in developing the nation. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources, makes easy the trade of goods and services and it directly or indirectly affect the activity of every sector of the economy. The success and stability of commercial banks depends on profitability. Loan is the major component of earning assets of commercial banks. However, the profitability depends on the various factors like bank capital, liquidity, credit risk etc. Profitability is an important criterion to measure the performance of bank.

This study attempts to examine the impact of bank capital, bank liquidity and credit risk on profitability of Nepalese commercial Banks. The study is based on secondary data of 15 commercial bank of Nepal with 105 observations for the period 2015/16 to 2021/22.

The study showed that non-performing loan, loan loss provision, cash reserve ratio and current ratio have a positive impact on return on assets of

Nepalese commercial banks. However, debt to equity ratio and total debt ratio have negative impact on return on assets of Nepalese commercial banks. Further, debt to equity ratio, non-performing loan, loan loss provision, total debt ratio, cash reserve ratio and current ratio have a positive impact on earnings per share. The study concluded that current ratio followed by non-performing loan and total debt ratio are the most influencing factor that explains the changes in the return on assets of Nepalese commercial banks. Similarly, the study also concluded that non-performing loan followed by loan loss provision and current ratio are the most influencing factor that explains the changes in the earnings per share of Nepalese commercial banks.

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