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प्रकाशक
बागमती प्रदेश सरकार
प्रदेश नीति तथा योजना आयोग,
हेटौंडा, नेपाल

यस जर्नलमा प्रकाशित लेखहरूमा व्यक्त विचारहरू सम्बन्धित लेखकहरूका निजी विचारहरू हुन् र सोले बागमती प्रदेश सरकार प्रदेश नीति तथा योजना आयोगको विचारको प्रतिनिधित्व गर्दैनन्।

(Opinions expressed in the articles published in this Journal are the views of respective authors and do not represent the views of Bagamati Province Government Province Policy and Planning Commission.)

सम्पादकीय

सङ्घ, प्रदेश र स्थानीय तहलाई नीति, योजना र कार्यक्रम तय गर्न सहयोग पुग्ने अनुसन्धानात्मक लेख रचनाहरू प्रकाशन गर्ने हाम्रो मुख्य लक्ष्य हो।

प्रदेश विकास जर्नलको यस अङ्कमा नौ ओटा अङ्ग्रेजी र दुई ओटा नेपाली भाषाका गरी जम्मा एघार ओटा लेखहरू समावेश गरिएका छन् । यस अङ्कमा दिसाजन्य फोहर व्यवस्थापन, वैदेशिक व्यापार, दिगो विकास लक्ष्य, कुल गुणस्तर व्यवस्थापन, बसाइँसराइ, वनकरीया समुदायको खेती प्रणाली, विद्यालय छाड्ने समस्या, बेरुजु फछ्यौंट, बजेट व्यवस्थापन, बजेट बाँडफाँट र वनडढेलोसँग सम्बन्धित लेखहरू समावेश गरिएका छन् । हाम्रो आग्रहलाई स्वीकार गरी आफ्ना अमूल्य लेख रचना मार्फत सहयोग पुऱ्याउनु हुने विद्धान लेखकहरूप्रति सम्पादक मण्डल हार्दिक कृतज्ञता व्यक्त गर्दछ।

यस जर्नलमा प्रकाशित लेखहरू तीनै तहका सरकारका नेतृत्व वर्ग, योजनाकार, उच्च अधिकारी, विश्वविद्यालय, अनुसन्धानात्मक संस्थाहरू, अध्येताहरू, निजी क्षेत्र, सहकारी, विकास साझेदार, नागरिक समाज, सञ्चार जगत, गैरसरकारी संस्था र विकासमा चासो राख्ने सबैका लागि उपयोगी हुन सक्दछ।

यस अङ्कमा केही कमजोरीहरू रहेका हुन सक्छन्। ती कमजोरीहरू औल्याइ दिनुहुन र आगामी अङ्कलाई थप स्तरीय बनाउन उपयुक्त सुझाव तथा सहयोग उपलब्ध गराई दिनुहुन विद्वान पाठक र लेखकहरूमा सम्पादक मण्डल हार्दिक अनुरोध गर्दछ।

विषय सूची

An Environmental Challenge: Fecal Sludge Management for Citywide Inclusive Sanitation in Nepal

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Abstract

Nepal has made significant achievements in providing access to basic sanitation (toilets), culminating in the country declaring Open Defecation Free (ODF) status in September 2019. As the Multiple Indicator Cluster Survey 2019 indicates, about 89 percent of the population relies on on-site sanitation systems (septic tanks, holding tanks, and pit latrines). The sector is behind in terms of addressing the challenges of emptying onsite containment systems and ensuring that the growing amounts of fecal sludge is safely managed during transport, treatment, and disposal and/or reuse. Currently FSM has been started Government of Nepal's Sustainable Development Goal (SDG) 6.2 target is to increase households connected to sewer systems and proper FSM from 30 percent in 2015 to 90 percent by 2030.

This includes both centralized and decentralized sewerage and recognizing that FSM will be the main approach to safely managed sanitation for on-site sanitation. However, there are no FSM targets for SDG 6.3, and key sector policy, strategy, budgets, and enabling documents. But FSM is visibly in federal plans, policies, and budgets and assesses the status of the service chain elements. Nepal has limited practical experience of FSM implementation to date, which mainly focus on urban centers and municipalities. Nepal produces between 2,000 to 3,000 m3 of fecal sludge each day in urban areas (Source: USAID WASH-FIN 2021). With growing urbanization and limited programs for sewered sanitation and dependency on FSM systems to empty on-site containments, FSM is expected to grow in Nepal. While 89 percent of homes rely on on-site sanitation, FSM is in beginning stage of development in Nepal, with unregulated and haphazard disposal of untreated liquid waste, which is posing to the public health risk and ultimately livelihoods, and the environment.

Key Words: Sustainable, environment, sanitation, sludge and containment

1. Background

Nepal has made significant achievement in providing access to basic sanitation, as country declared Open Defecation Free (ODF) status in September 2019. Fecal Sludge Management (FSM) is the waste contained on-site is collected, transported, and treated. In Nepal's growing Municipalities, FSM service is limited, which is poorly run, and unregulated, also haphazard disposal of it into water bodies and land, which results significant risk to public health and the environment. Towards regularize Nepal has prepared an Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas,[1] but

[1] Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas of Nepal. (2017).

in practice majority of 753 local level governments have to invest for the viable sanitation solutions. The Framework is for the clarifying the role of local government for planning and regulation.

To cope the challenge: government started to emerge it from the federal support including the framework to start the interventions right from local level. At the policy level, FSM is implicit, and is usually in the context of wastewater management, which is related, but distinct technically and operationally. While municipalities are responsible for local sanitation services, including FSM, institutional, technical, management. and finance capacity to plan and manage FSM services is the key barrier. From the lack of interconnected policies, regulation, standards, and associated guidelines on FSM has discouraged action from municipalities to initiate, prioritize. and invest in FSM. Urban sanitation is largely delivered by informal and unregulated private actors to meet the demand of growing cities, and the financial and technical challenges and coverage of dependency on on-site containments. While the FSM market is expected to grow toward the scope and potentiality of FSM business.

1.1 Sanitation Target and Sustainable Development Goal (SDG)

The government target for SDG 6.2 is to increase households with toilets connected to sewer systems/proper FSM to 90 percent (2030) from 30 percent (2015). “Proper FSM” is not defined however, and there is no specific SDG target for treatment of domestic wastewater; however, it targets a reduction in the proportion of untreated industrial wastewater to ten percent (2030) from 99 percent (2015). Table 3 extracts the SDG targets from the road map at inception (blanks indicate targets were not established).

Table 1: Ensure availability of sustainable management of Sanitation for all

	Target and Indicators	2015	2019	2022	2025	
Target 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations						
6.2.1	Proportion of population using safely managed sanitation services, including a handwashing facility with soap and water					
1	Households using improved sanitation facilities, which are not shared (%)	60	69.3	78.7	85.7	95
2	Proportion of population using latrine (%)	67.6	75.7	83.8	90	98
3	Sanitation coverage (%)	82	86.5	89.9	93.3	99
4	Urban households with toilets connected to sewer systems/proper FSM (%)	30	46	62	74	90
Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and increasing recycling and safe reuse						
6.3.1	Proportion of wastewater safely treated					

1	Proportion of untreated industrial wastewater (%)	99	75.3	57.5	39.7	10
6.3.2	Proportion of bodies of water with good ambient water quality	NA	NA	NA	NA	NA

Source: Nepal's Sustainable Development Goals; Status and Road Map (2016-2030) (Government of Nepal, National Planning Commission, 2017).

2. Methodology

The study mainly a descriptive and analytical research, utilizing both secondary data and qualitative indicators to assess country level target and SDG progress. This study concentrated on descriptive research that aims systematically describe a process, phenomenon and upward situation. This method solely focused on "what," "where," "when," and "how" questions, rather than "why" questions. This approach is often used to explore a topic, identify characteristics, and establish trends before conducting more in-depth experimental research.

- Provincial, National and Global SDG reports (especially from 2015 to 2022).
- Statistical data from Central Statistics Office (CSO), Nepal.
- USAID's WASH-FIN project report (2023).
- Open resources of Fecal Sludge Management (FSM) development and process.

3. Opportunities for Fecal Sludge Management (FSM)

Decentralization devolution under federalism have placed the local level are the key actor for the water supply and sanitation service provision. FSM is well suited for this as it is a locally driven process requiring significantly reaching out to the respective communities and the private sector. However, the lack of clear policies, dedicated funding sources, and local capacity to act in a new service area has created uncertainty from municipalities. The Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas has clarify the role of local government and aid planning and regulation. But in practice, the majority of Nepal's 753 municipalities have yet to invest for the viable sanitation solutions. The few systems that have been implemented till date are in very limited scale and mostly non-functioned, either due to operating below capacity, technology requiring high upfront or ongoing O&M costs that are not funded, and/or inadequate capabilities to design, operate, and maintain systems. This is unfortunate as there are strong indications that with proper planning and service/business models, FSM can be less expensive and quicker to implement than sewered systems.

As a public good, market creation for FSM services requires visible public sector funding and committed leadership for the service chain to function optimally. Public funding of FSM has been poor to date, hindering expansion and growth. Public sanitation investments gravitate towards sewered infrastructure, reaching small proportions of urban areas, primarily wealthier populations. Beyond sewered areas, households are forced to cover the costs of on-site sanitation and FSM services for themselves. The limited public funding in FSM to date mainly targets the treatment component without due attention to other parts of the sanitation service chain such as containment, emptying, and transportation services, as well as the regulations and enforcement that drive demand for safely managed services.

3.1 Service Delivery and Business Models

The adoption of public center service-oriented approaches in which improved infrastructure and technology contribute to efficiency and effectiveness. It is good develop models for integrating FSM with Solid Waste Management (SWM) to customize the land, logistics, and disposal, with the preparation of specific national guidelines for recycle and reuse.

- Capacity building and awareness raise to the municipality for the proper containment system design and construction.
- Ensure service delivery including the long-term community engagement, and marketing to promote and maintain demand for improved FSM services.
- Develop viable cost recovery models to ensure a sustainable service that customers are willing to pay with own source revenues at least to cover operating expenditure (OpEx).
- Provide technical assistance to formalize emptying and transport operators and also access to finance, the capital expenditure (CapEx).
- Tracking and recording system for the emptying and transportation to optimize the logistics and discharge at treatment unit.
- Outsourcing of services from the private operators, which enhances the private sector businesses.

3.2 Treatment Disposal and Reuse

For the safe management and increase considering the different international practices and knowledge. The local FSM technical knowledge specific to Nepal and encourage the feedback between design, operation, monitoring, and regulation. It is good to have benchmarking of technical design and regularize the operation, and performance parameters for existing FSTPs and upcoming new construction.

- Cost comparison specific for Nepal context to evaluate the existing and planned networked sewerage, and FSM on CapEx and OpEx perspective.
- Improve design and operation considering access for safe operation and maintenance,
- Feasibility study of fecal sludge treatment plants, with excess capacity, with separation facility for fecal sludge and undergoing further treatment at FSTP.
- Standard Operating Procedures (SOP) are important essential for technical operations but also customer orientation on monitoring of performance indicator.
- Land management for the construction of FSTP for the attention of early planning and prefeasibility phase.

4. Enabling Environment and FSM Promotion

After flushing of your toilet, where does it go? The 11% of it is discharging the untreated wastewater, and sludge from on-site systems is 89% from home is largely dumped into water bodies or lowlands, without any treatment. It shows that the efforts have not thought for the extent of sanitation crisis and the risks to the public health, the environment. While MICS 2019 reported that 93% of households with improved sanitation services. Due to inadequate information, new information and analysis at the municipal and national levels is needed for decision making.

4.1 Regulatory Framework: Policy and Planning

Constitution of Nepal (2015) recognizes the citizen's right of access to safe water and sanitation services as laid out in Article 35. In addition, Article 30 recognizes that: (1) every person shall have the right to

live in a healthy and clean environment, (2) and the victim of environment pollution and degradation shall have the right to be compensated by the pollutant as provided for by the law. These clauses are interpreted as including the management of wastewater and human waste to ensure these rights. It is the responsibility of national government to seek progress year by year on the right to access to safe water and sanitation services. The key revisions to acts and policies underway includes:

- New water supply and sanitation bill includes fecal sludge implicitly as part of wastewater management yet FSM does not appear receives inadequate attention.
- Draft water supply and sanitation policy (replacing 2004—rural water and sanitation policy and 2009—urban water and sanitation policy) underscores addressing the proper collection, treatment, and discharge of fecal sludge; and
- Draft water, sanitation and hygiene sector development plan (2016 – 2030).

4.2 Service Delivery Business Model

The regulations are the foundation of viable cost recovery business model. The efficient service delivery model of FSM is the well-established principles for septic tank design, construction and emptying regulation. This becomes more challenging in slums and unplanned settlements, where house building permits are not utilized. So, important actions need to be taken to overcome existing challenges include capacity building of municipal officials charged with building permits and designers and masons on proper septic tank design and construction; awareness campaigns on proper septic tank practices among the general public; and to these same audiences on containment improvement to name a few. To the extent to which municipalities provide the emptying service directly, or funding for private sector emptiers, there may be a need to support household level funding as improving containment will improve overall FSM throughput and efficiency of operations and business models across the service chain

4.3 Financing Mechanism

For the proper management of FSM service chain households need to cover the costs of basic sanitation services. To protect the public health and the environment, the households should pay and to be attended for the primary purposes of safely managed sanitation. The private operators emptying services and engage for other service chain, need to readiness for accessing the commercial finance. In Nepal those FSM projects in operation, only public funding was mobilized for infrastructure development and treatment component only without due attention to improving other parts of the sanitation service chain such as containment, emptying and transportation services, regulation, and demand for services. Municipalities are getting financial constraints, which limits their ability to appropriately fund safely managed sanitation services for the population.

Other option can be coordination and collaboration with Town Development Fund (TDF), the only autonomous financial institution for urban investment at country context. TDF can provide loans for investment in basic urban infrastructure and services including sanitation infrastructure development. Also TDF encourage to prepare the projects that have a relatively short payback period or a cost recovery component from revenue generation through user fees and service charges. But the COVID-19 pandemic has reinforced the essential role that safe sanitation and water services play in protecting people from disease. The key issue therefore, an urgent action by strengthening policy, institutional arrangements, regulation, financing, practices, and incentives to ensure toilets are connected to

systems and services that treat and safely dispose of human waste to protect public health and prevent environmental pollution.

4.4 Public-Private Partnerships (PPP) Model

For the sustainable FSM operations from municipalities, an improved FSM service system need to be established by community offering something that will run the existing service options by the informal /private operator. In Nepalese context, internal capacity to know how and financial resources is limited. To achieve full recovery to run the system good to adopt a service-oriented PPP approach in which improved infrastructure and technology are associated. Those improvements include easy access to service providers, to run the service chain with treatment and safe disposal or reuse. The private sector has flexibility, ability to innovate, and the commercial incentive to improve efficiency. It is good option for municipalities. The private sector can still prove to be an effective partner in providing fecal sludge collection and transport services, and may also have capacity to undertake treatment and production of biosolids for sale based on different contract models. Nepal has experience developing the PPPs in Solid Waste Management, and indeed the Gulariya Municipality of Bardiya district have able to integrate FSM and SWM in an existing FSTP and outsource to a private operator under a Service Level Agreement.

5. Conclusion

FSM is in beginning stage of development in Nepal and services in growing municipalities is poorly run, and unregulated with haphazard disposal of fecal sludge on water bodies, significant risk to public health and the environment. The Institutional and Regulatory Framework for Fecal Sludge Management (FSM) in Urban Areas was issued in 2017 to clarify the role of local government and aid planning and regulation, in practice, the majority of Nepal's 753 local governments have yet to invest in viable post open defecation free sanitation solutions. Few treatment facilities that exist were generally developed for demonstration or piloting of projects were not completed to run as a viable public service on a cost recovery basis. For the improvement of sludge treatment facilities requires expertise, information and skills. To find place / the land to construct FSTP is a major challenge in most of the municipalities. It is need of today to think for Resource recovery (RR) as an opportunity to increase revenue.

The level of interest and stated commitment to improve the enabling environment and capacity enhancement is encouraging. It is anticipated to increase the public funding and development partner initiatives to support leveraging of new sources of finance through cost recovery service and business models with private sector participation.

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Nepal's Export Journey: Identifying Comparative Advantage in Commodities Trade

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Abstract

This study aims to identify the comparative advantages of commodities for the economic development of Nepal. It utilizes secondary annual data from 1975 to 2017 obtained from the Central Bank of Nepal. The study employs the Comparative Advantage Index method to analyze the data and derive results. The findings indicate that mineral fuels and lubricants, commodity transactions not classified, including tobacco or beverages, manufactured goods, and machinery and equipment, possess a comparative advantage for export trade. Therefore, it is recommended that policies prioritize the export of commodities with higher comparative advantages to stimulate economic growth. Additionally, growth-enhancing policies should focus on exporting products with relative advantages to India, China, and other countries.

Key Words: Comparative Advantage, Export Commodities & GDP growth rate.

1. Introduction

Nepal faces numerous challenges in achieving sustainable economic growth as a developing country. These challenges include a protracted political transition, a landlocked geographic location, power shortages, poor transportation infrastructure, labor unrest, and susceptibility to natural disasters. The lack of political consensus has hindered much-needed economic reform for several years. As a result, Nepal's Gross Domestic Product (GDP) growth rate has been negatively impacted, with a growth rate of -2.62% in 2020/21(MOF, 2022).

The ongoing disruptions caused by the COVID-19 pandemic have further compounded Nepal's economic struggles. Structural constraints, such as slow domestic consumption and investment goods production, have led to a heavy reliance on imports to meet domestic demand. This reliance on imports, coupled with limited external financing sources and slow budget execution rates, poses significant vulnerabilities to achieving inclusive and sustainable growth in Nepal. Despite these challenges, Nepal has experienced substantial growth in its GDP over the years. From 2001 to 2017, Nepal's GDP grew significantly from Rs. 69.762 billion to Rs. 881.8 billion respectively. The agricultural and trade sectors are considered the most significant pillars of the economy, with foreign exchange contributing 38% to the GDP in 2018 (MOF, 2022).

Nepal has undertaken economic liberalization programs since the 1990s, including policies and programs such as financial sector deregulation, trade liberalization, privatization, and revision of trade treaties. Nepal became a World Trade Organization (WTO) member in 2004. However, the export share

in GDP remains relatively small, at just 3.1% in 2015, and the trade deficit continues to increase. Nepal's foreign trade with immediate neighbors constituting 58.8% of its trading partners. However, Nepal faces the challenge of an ever-increasing trade deficit, with imports increasing compared to exports.

This research paper analyzes Nepal's comparative advantage in trade and explores the potential for increasing business. It will examine the export products with a comparative advantage, trade flow patterns, and the benefits of trade agreements. The findings will provide insights into strategies for achieving inclusive and sustainable economic growth in Nepal.

2. Literature Review

David Ricardo's comparative advantage theory states that a country can produce those goods and services comparatively better than the other country in terms of opportunity cost the financial cost. He has focused that comparative advantage is the best way for a country to specialize in efficiently producing goods and services. Mostly, specialization following the comparative advantage leads to increased global production than better living standards for people. The Foundation of his theory carries from Adam Smith, and it has been identified that countries should produce products with comparatively better production opportunities than other countries have. His principle of comparative advantage provided ideas for the then-trend of world trade. However, it is still guiding the trade trend, but it is becoming less relevant in a globalized world and the face of modern theories (Ricardo, 1817), as cited from Nyaupane (2018).

Karmacharya (2004) conducted a study on Nepal's foreign trade, which found that increasing competitiveness is vital to enhancing export performance in Nepal. The researcher provided five suggestions to achieve this goal: such as Sustain sound macroeconomic policies to keep the economy competitive with low and stable inflation and interest rates and a competitive exchange rate. Lower transport costs should be reduced to promote trade and competitiveness. Reform regulatory barriers that prohibit labor and capital mobility includes labor laws that hinder flexible labor markets, investments in labor training and productivity, and lower incentives for productivity. Diversify the export base by promoting non-traditional exports. Address the unrecorded trade between Nepal and India by improving border management, reducing tariffs, and simplifying customs procedures. The study also reviewed various external and internal factors affecting recorded export performances, explored the extent, commodity composition, and possible causes of unrecorded trade between Nepal and India, and analyzed Nepalese economic growth, design, and direction of Nepalese foreign trade.

Regmi (2004) studied Nepal's export performance using the constant market share model for two sub-periods, 1977-88 and 1986-98. The study found that the rapidly expanding world trade was the most critical factor behind accelerating export growth in Nepal. However, Nepal has specialized in products for which demand is growing relatively slowly in the world market, such as readymade garments and seeds for other field oils. The study also found that the export sector has been dominated by slow-growth items directed at stagnant markets. The researcher concluded that due to adhoc and unsound plans and policies, the government could not effectively expand exports of high-growth commodities in high-growth markets.

Prasai (2014) studied Nepal's overall trade pattern using the gravity model with a comprehensive panel dataset for 29 years, covering Nepal's 94 trading partners. The study focused on the structural shift in the economy after economic liberalization in Nepal and applied pooled ordinary least squares (OLS) along with a one-year lag in the gross domestic product (GDP). The empirical results were consistent with the fundamental gravity model, revealing positive economic size coefficients and negative coefficients for distance. The study found that trade with India compared to China was quite substantial. The results suggested that Nepal needs trade diversification in general and a trade agreement with China to reap the benefits from trade.

Previous studies have shown that international trade positively affects economic growth, mainly through export trade. Nepal's revenue is collected through foreign trade, and within the trade, import trade volume is higher than export. Therefore, Nepal should focus on export trade to maintain its trade balance and earn foreign currency. However, Nepal has a limited number of commodities are difficult to compete in the global market. In this situation, Nepal should identify the comparative advantage commodities to enhance trade. Therefore, this study focuses on determining the relative advantage commodities for the economic prosperity of Nepal. In this regard, this article summarizes into a statement of problems, objectives, methodology, results & discussion, conclusion, and policy implication as the following section.

3. Statement of Problems

Nepal is landlocked between two vibrant world economies, China and India. With significantly low tariffs on imports, Nepal is an attractive location for trade and investment. However, the Global Competitiveness Report (2018) shows that Nepal's infrastructure level could be better, with the quality of overall infrastructure ranked 117th out of 140 countries. Nepal's productive capacity to generate an export surplus and strength to compete in price and quality in foreign markets are low, ranking 108th among 141 countries in the Global Competitiveness Index prepared by the World Economic Forum. The cost of trading reflects transportation and logistics infrastructure and the efficiency of customs and border procedures. Inefficient logistic support is vital in foreign trade, especially in global value chains. The World Bank's Logistic Performance Index shows Nepal ranked 114th among 160 countries, with an overall score of 2.51. Despite these challenges, Nepal presents unprecedented opportunities for growth and development with its new federal structure.

Similarly, the trade facilitation indicators prepared by the Organization for Economic Co-operation and Development (OECD) show that Nepal’s performance on most indicators is weaker; its average score is only 0.68. According to USAID, Nepal's trade percent of GDP of Nepal in 2021 is only 40.65% and 152nd Rank out of 179 countries. Those indicators show a weaker trade situation even though it has high potential for trade diversification and growth.

The trade deficit is one of the major problems of the Nepalese economy. The leading causes of trade deficit are lengthy export and import times, cost escalation in transit due to very cumbersome procedures, and weak governance at customs points have remained pressing problems in making trade facilitation a means to enhance competitiveness from the perspective of both export promotion and import substitution linked to industrialization (Nepal Human Development Report, 2020).

Nepal imports preliminary and industrial raw materials (due to decreasing domestic raw material production) and processed agricultural products. The range of exports is concentrated in a narrow set of manufactured and agricultural products, such as carpets, readymade garments, pashmina, handicrafts, pulses, jute goods, and palm oil. The Export market is concentrated in India, China, the United States of America, and European countries.

The various constraints have prevented Nepal from successfully exporting products with a comparative advantage. Increasing consumption patterns, low levels of production and productivity, heavy reliance on raw materials and fuel, and import and export of low-value products are some key contributors to the ballooning trade deficit. Moreover, Nepal relies heavily on two major trading partners, India and China, and the trade deficit has widened. Inadequate economic, social, and trade-related infrastructure has also affected Nepal's trade performance. The Challenges included infrastructure for transportation, vocational and technical education, and certification mechanisms (Trade Policy, 2018).

Trade significantly contributes to Nepal's economy, with foreign trade contributing 38% in 2018 and 42.12% in 2016. However, the GDP growth rate was higher in 2018 at 7.62% compared to 0.43% in 2016 (MOF, 2019). Nepal has limited production, and its exportable products are smaller than imports. Therefore, identifying potential effects with a comparative advantage for export is crucial for economic growth. Based on previous studies and data, the research question is as follows:

- Which commodity groups have a higher comparative advantage in export trade that can contribute to Nepal's economic growth?

4. Objectives

The research objective of the study is twofold. Firstly, to identify the comparative advantage of commodity groups for Nepal's export trade, which will draw insights from existing research on Nepal's trade flow patterns, export choices, and competitiveness. Secondly, to provide appropriate suggestions for export trade promotion and economic growth in Nepal. It will contribute to the existing literature on Nepal's trade, competitiveness and provide policymakers with valuable insights into promoting Nepal's trade and economic growth.

5. Methodology

Secondary data from 1975 to 2017 of Nepal Rastra Bank retrieved through the E-views software are analyzed to achieve the above objectives. The test of comparative advantage commodities revealed comparative advantage (RCA) index developed by Balassa (1965) has used. Moreover, this measure will not have import bias as Nepal has almost disjointed sets of exported and imported commodities. Following Balassa (1965), the RCA is calculated as the share of commodity *'i'* in a country *k's* exports to the share of commodity *'i'* in world trade.

That is, $RCD = \frac{\frac{x_{ki}}{x_k}}{\frac{x_{wi}}{x_w}}$.....(i)

Where, X_{ki} = Export of commodity by k_{th} country

X_k= Total export of k^{th} country
Xwi= World's export of commodity i
X= Total World's export
In other worlds,

$$RCA = \frac{Share\ of\ commodity\ i' in\ country's\ export}{Share\ of\ commodity\ i' in\ world' sexport} \quad \text{.....(ii)}$$

Therefore, as argued above, the RCA measures the relative importance of commodity 'I' on country *K's* export to that of the world's trade of that commodity. If country *K* has a large share of commodity *'I'* in her total export, then commodity *'I'* share on world's export. The RCA value will be greater than unity. In such cases, country *K* is said to have a revealed comparative advantage in commodity *'I'* on the country. If the RCA index is less than unity, the government will not have an RCA on that commodity as country *k* has a smaller share than expected from the world's average. In a typical case, if the RCA is equal to unity, implying that two rations are similar, country *K* does not have RCA on that particular commodity.

6. To Identify the Comparative Advantage of Export Commodities

The Nepal Trade Integration Strategy (NTIS) 2016 has identified nine goods and three services as priority export potentials. This identification is based on export performance and inclusive and sustainable development parameters. These nine goods include large cardamom, Ginger, Tea, Medicinal and Aromatic plants, all Fabrics, Textiles, Yams and Ropes, leather, Footwear, Chyangra Pashmina, and Knotted Carpets.

NTIS (2016) has also identified 12 potential export goods: Hydroelectricity, All Fabricated Steel and Metals, Coffee, Fruit and Vegetable Juices, Honey, Instant Noodles, Lentils, Paper Products, Ready-made Garments, Semi-precious stones, Silver Jewelry, and Wool Products. Table 1 shows that the Nepalese export commodities are in small numbers. Ginger, Tea, Noodles, Handmade Paper, and Silver Jewelry are higher export commodities, and a large amount of revenue is collected from these export commodities. The rest of the commodities, such as Cardamom, Tea, Medical and Aromatic plants, all fabrics, Textile Yan and Rope, Leather, Footwear, Pashmina, Hand Knotted carpet, Coffee, Vegetables, Fruits, Honey, Ready-made Garments, Woollen Products, Flowers, Handcraft, Lentils, Felts products, and Allo are also essential commodities for exporting trade for Nepal.

Table 1: (NTIS) 2016, the high priority of export Commodities FY 2017/18

S.N.	Products type	Export Rs. Billion	Export Destinations
1	Cardamom	4.84	India, China and France
2	Ginger	772	India
3	Tea	3.25	India, Germany, Russia, the Czech Republic, China, Japan
4	Medical and Aromatic plants (Maps)	1.13	India, China, Pakistan, Bangladesh, Singapore, UAE, Japan, South Korea, Germany, France
5	All fabrics, Textile, yarn, and Rope	11.65	India, South Korea, Turkey, Germany, USA, Australia, Brazil

S.N.	Products type	Export Rs. Billion	Export Destinations
6	Leather	8.37	Italy, India, Canada, Japan, USA, U.K
7	Footwear	1.28	India, and other countries
8	Chyangra Pashmina	2.27	USA, Italy, Canada, UK, France, Japan, Germany and India
10	Hand Knotted carpet	7.08	USA, Italy, Canada, UK, France, China, Japan, Germany and Belgium
11	Coffee		Japan, Germany, Canada and South Korea
12	Vegetable & Vegetable Seeds		India, Bhutan and Bangladesh
13	Fruit and Fruit Juices		India, China and Bangladesh
14	Honey	6.8	China, UAE and Malaysia
15	Instant Noodles	834.19	more than 40 countries (India, Qatar, USA, Bhutan
16	Handmade Paper	577.8	USA, UK, France, Germany, Japan, Australia
17	Readymade Garments	5.97	USA, Canada, Germany, France, Netherlands, UK, Switzerland, Spain
18	Semi-Precious stone	5.97	USA, Netherlands, Japan, Australia, Germany, France, China, Switzerland
19	Silver Jewellery	154	USA, Japan, Germany, Switzerland, and UK
20	Woollen Products	9.4	Canada, Japan, Europe, USA and UK
21	Flowers		India, USA, Netherland, Germany, Denmark, UK China, Thailand USE and Qatar
22	Handicrafts	5.21	USA, UK, India, Canada, Germany, Japan, Chain, Italy, Australia, Netherlands
23	Lentils	1.01	Bangladesh, Singapore, India and UAE
24	Jute Bags and Sacks	2.1	India, UAE and Australia
25	Felt Products	1.57	USA, Denmark, Germany, UK
26	Rosin and Rosin Acid	1.59	India, USA, Turkey, Germany, UK and China
27	Allow (Himalayan Nettle)		China, Germany, Japan, France, India etc.

Note: Department of Customs, Ministry of Finance, Government of Nepal

Those primary export commodities are exported to different countries. The main trade partners include India, the USA, Bangladesh, China, and Germany. However, France, Russia, Japan, South Korea, Turkey, Australia, Brazil, the UK, Canada, UAE, Indonesia, Thailand, and other countries are Nepal's main export trade partners of Nepal. Nepal's largest trade partner; nearly 60% of export trade is with India. This is attributed to the proximity and socio-cultural similarities. The study of ADB on potential exports and non-tariff barriers to trade in Nepal (2019); shows that Nepal’s 93 commodities are on the list of identified potential products for export to India. The majority of products in the list include textile and clothing products.

The list of potential commodities that are essential for economic development in Nepal and significantly contribute to the real GDP of Nepal includes substantial amounts of agricultural and food products, pharmaceutical products, chemical products, plastic products, raw hides and skins, leather articles, paper products, ceramics, glassware, jewelry, iron and steel products, aluminum products, machinery and equipment, and miscellaneous manufactured articles. These commodities are crucial for further analysis of Nepal's economic development.

Adhikari (2010) found that Nepal exports 91 products with comparative advantages, which are divided into ten groups. Nepal exports 822 commodities, among which 307 commodities have revealed comparative advantage, with greater than one value within ten commodities groups. However, this study's result of RCA found that export commodities groups such as mineral fuels & lubricants, commodity & transaction not classified, tobacco & beverages, manufacturing goods, and Animal & Vegetables, which showed in Table 2. Those commodities have a comparative advantage in exporting to India with the RCA value of more than one. If there is demand for these commodities groups, Nepal has revealed a comparative advantage to export in India.

Nepal should have better searched the market to export those commodities to India. Look at the commodities level of RCA of product complexity index: stone, glassware, and metals such as knives/blades, glassware, glass beads, imitation stones, slag wool, and rock wool, Plastics, and Chemicals such as plastic, rolls, tiles, coverings, and other articles. Same as Agriculture specific products such as seeds, products grown in higher elevations, saffron, agricultural processing industries with local raw materials, leguminous vegetables, coffee, and IT- software and services are found to the comparative advantage for export to India. (Whiteshields/EPI, 2020)

Table 2: Commodities with Higher RCA for export to India (Million Rs.)

Group	Export Items	Total export	Export to India	Share of Total export	Share of India export	RCA
1	Mineral Fuels & Lubricants	2808.21	2540.44	0.0283	0.0459	1.6183
2	Commodity & transaction not classified	2127.74	1876.27	0.0215	0.0339	1.5774
3	Tobacco & Beverages	40297.42	29293.72	0.4067	0.5288	1.3004
4	Manufacturing Goods	2823.36	1684.56	0.0285	0.0304	1.0673
5	Animal & Vegetables	17949.59	10294.37	0.1811	0.1858	1.0259
6	*Crude Materials*	*1646.33*	*448.88*	*0.0166*	*0.0081*	*0.4877*
7	*Machinery & Equipment's*	*16664.17*	*3504.04*	*0.1682*	*0.0633*	*0.3761*
8	*Chemical & Drugs*	*8525.29*	*3509.1*	*0.086*	*0.0633*	*0.7363*
9	*Miscellaneous Manufactured*	*3109.98*	*1598.96*	*0.0314*	*0.0289*	*0.9197*
10	*Food Item & live animals*	*3143.05*	*646.08*	*0.0317*	*0.0117*	*0.3677*
Total value		99095.14	55396.42	1	1	

Note: Author's self-calculation

The study found that Nepal has a comparative advantage in exporting various commodities, including food items & live animals, animals and vegetables, crude materials, chemicals and drugs, and various manufactured groups, to China and other countries, which is shown in Table 3. However, Nepal faces constraints due to being landlocked, resulting in higher transportation costs for exporting commodities. Therefore, the study suggests that Nepal should promote its export market in China and other third countries. The Nepali government must support producers and strengthen economic diplomacy to prioritize Nepali products for Indian and Chinese importers. The study also found that Nepal has limited export commodities production, with food baskets being significant, almost 26.12% of total export commodities. Small-scale production might not meet the demand, hence the need for government support. (USAID, 2022)

According to the RCA analysis (UNCTAD stat, n.d.), significant commodities groups with higher than value one show a more comparative advantage to export to India, China, and other third countries. The significance of this for the economic growth of Nepal is discussed in the following section.

Table 3: Commodities with Higher RCA for export to others countries (Million Rs.)

Group	Export Items	Total export	Export to others	Total export Share	Share of other's	RCA
1	Food Item & live animals	3143.05	2496.97	0.0317	0.0571	1.8015
2	Animal & Vegetables	16664.1	13160.13	0.1682	0.3012	1.7909
3	Crude Materials	1646.33	1197.45	0.0166	0.0274	1.6494
4	Chemical & Drugs	8525.29	5016.19	0.086	0.1148	1.3343
5	Miscellaneous Manufactured	3109.98	1511.02	0.0314	0.0346	1.1018
6	*Manufacturing Goods*	*2823.36*	*1138.8*	*0.0285*	*0.0261*	*0.9147*
7	*Machinery & Equipment's*	*17949.5*	*7655.22*	*0.1811*	*0.1752*	*0.9671*
8	*Tobacco & Beverages*	*40297.4*	*11003.7*	*0.4067*	*0.2518*	*0.6192*
9	*Mineral Fuels & Lubricants*	*2808.21*	*267.77*	*0.0283*	*0.0061*	*0.2162*
10	*Commodity & transaction not classified*	*2127.74*	*251.47*	*0.0215*	*0.0058*	*0.268*
Total value		99095.1	43698.72	1	1	

Note: Author's self-calculation

7. Conclusion and Recommendations

The RCA result of export commodity found that mineral fuels & lubricants, commodity & transaction not classified tobacco & beverages, manufacturing goods, and machinery & Equipment. Those commodities groups have a comparative advantage over export, with an RCA value of more than one. Nepal has revealed a comparative advantage for export trade if demand for these commodities groups exits.

Most exports are primary products from Nepal- cardamom, jute goods, oil cakes, tea, and ginger. The second category of products exported to India includes- juice, ayurvedic medicine, and noodles. Most

of them are manufactured by Indian companies in Nepal and exported to India. The third category of products is manufactured in Nepal by taking advantage of tariff differentials between India and Nepal (e.g., Soybean oil, polyester yarn). Taking advantage of SAFTA provisions, Nepali traders have exported these products to India. As per the provisions, India has to allow goods exported from underdeveloped countries like Nepal in duty-free facilities, provided at least a 30% value addition to the product is made within the country. Nepali traders have been importing crude oil (primary soybean) from other countries paying minimum tariffs, and then exporting the finished product to India with a zero tariff facility. Tariff exemptions on Nepali exports to India under the South Asian Free Trade Area (SAFTA) agreement give domestic traders an advantage. Countries outside of South Asia are slapped with tariffs of 45% on soybean oil. Those products are a comparative advantage to export to India, enhancing Nepal's economic development.

Finally, it concluded that within the export commodity, Crude materials, Food & live animals, Tobacco, and Beverages are most significant for export. Among those commodities, Crude materials, Food & live animals, and Tobacco and Beverages are better to export to India. Similarly, Crude materials, food & live animals are better to export to third countries, including China, which has a high potential for higher revenue collection and economic Growth.

Based on the findings of the study, it is recommended that Nepal should focus on reforming its foreign trade policy to prioritize the export of commodities with comparative advantages. It helps increase economic growth and promotes growth-enhancing policies. The following suggestions should have implemented to promote export trade and support the economic development of Nepal:

- Review and update the NTIS list, and prepare profiles for the identified export products.
- Work out a dispute handling mechanism for non-payment and delivery of inferior quality goods.
- Review the fiscal and non-fiscal incentives for exports and export-oriented industries.
- Review and renew trade and transit treaties.
- Fully implement the Electronic Cargo Tracking System (ECTS).
- Consider the construction of ICP to complete the entire railway line.
- Open more port facilities to provide alternatives to current transit facilities, it helps to reduce the time and cost of transportation.

By implementing these suggestions, Nepal can promote its export market in India, China, and other third countries, strengthen economic diplomacy, and support producers. It helps prioritize Nepali products for Indian and Chinese importers and contributes to the country's economic growth.

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Sustainable Development Goals in Nepal: Progress Tracking and Future Direction

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Abstract

This study evaluates Nepal's progress toward achieving the Sustainable Development Goals (SDGs), with a specific focus on Certain Goals. The SDGs are a universal call to action, and Nepal has shown moderate progress since their adoption in 2015. As of 2022, Nepal achieved 58.6% of its SDG targets, with an estimated 60.5% achievement projected by 2030. The analysis uses goal-wise indicators and gap assessments to evaluate the performance across sectors such as poverty reduction, health, education, gender equality, infrastructure, and environmental sustainability. While notable advancements have been made, especially in areas like poverty reduction, education, and access to basic services, significant gaps remain in environmental goals, employment generation, institutional development, and partnerships. The study highlights both achievements and challenges, offering policy-focused recommendations to guide Nepal toward the 2030 Agenda.

Key words: MDGs, SDGs

1. Introduction

The Sustainable Development Goals (SDGs), also known as the Global Goals, are a collection of 17 interlinked goals designed to be a "blueprint to achieve a better and more sustainable future for all". Adopted by all United Nations Member States in 2015, the SDGs are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030

- 17 Interlinked Goals: The SDGs cover a broad range of social, economic, and environmental challenges, including poverty, hunger, health, education, gender equality, clean water, energy, economic growth, infrastructure, inequality, sustainable cities, responsible consumption, climate action, marine life, life on land, peace and justice, and partnerships for the goals.
- Universal and Integrated: Unlike the previous Millennium Development Goals (MDGs), the SDGs apply to all countries (developed and developing) and emphasize the interconnectedness of the goals.
- 2030 Agenda: The SDGs are a core part of the 2030 Agenda for Sustainable Development, a comprehensive plan of action for people, planet, and prosperity.
- Call to Action: The SDGs are not just targets for governments but also call for action from all sectors of society, including businesses, civil society, and individuals.

Why 2030?

- Time-bound Targets: The SDGs are designed to be achieved by 2030, providing a clear timeline for progress.
- Midpoint Check: We are now at the midpoint of the 2030 Agenda, and while some progress has been made, significant challenges remain in achieving the goals.
- Urgent Action Needed: The SDGs recognize the urgency of addressing global challenges like climate change, poverty, and inequality, requiring immediate and concerted action.

Nepal's Context:

- Nepal has made progress in halving extreme poverty and is on track to reduce it to less than 5% by 2030.
- The country is also working towards reducing undernourishment and underweight children.
- Nepal emphasizes the importance of partnerships and integrated approaches to achieve the SDGs.

Nepal has achieved 58.6% in 2022, while average 41.7%of 2030 targeted goal, and 60.5% of possible achievable goal.

2. Objectives of the study

The primary objective of this study is to assess the progress of Nepal towards achieving the Sustainable Development Goals (SDGs) by 2030. It aims to:

- Examine the level of achievement across SDGs at the provincial level, with a special focus on key indicators.
- Evaluate gaps between current performance and 2030 targets.
- Provide a goal-wise comparative analysis of 2022 achievements, 2030 targets, and estimated progress by 2030.

3. Literature Review

Numerous global and national reports have evaluated Nepal's progress and commitment toward the Sustainable Development Goals (SDGs). The United Nations (2015) first introduced the 2030 Agenda, setting the foundation for global SDG implementation. Since then, Nepal has committed to localizing the goals within its national development framework.

The National Planning Commission (NPC) of Nepal has played a central role in tracking progress and identifying challenges through documents such as the *SDGs Progress Report 2016–2019* (NPC, 2020) and the *Mid-Term Review of SDGs in Nepal* (NPC, 2022). These reports emphasize integrated development planning, the importance of decentralized implementation, and the need for participatory monitoring mechanisms. The 2022 Mid-Term Review noted an overall 58.6% progress on SDGs with a projected

achievement of 60.5% by 2030, but highlighted significant shortfalls in climate action, employment, and global partnerships.

Multilateral organizations such as the Asian Development Bank (2023**)** and the United Nations Development Program (UNDP, 2022**)** have also assessed Nepal's SDG trajectory. They report mixed outcomes while noting successes in poverty reduction and education, they point to ongoing challenges in infrastructure, innovation, and environmental sustainability.

The Sustainable Development Solutions Network (SDSN, 2023) provides comparative insights through the Global SDG Index and Dashboards, showing Nepal lagging many of its South Asian neighbors on key indicators. One of the major bottlenecks identified is the weak provincial-level data systems and limited ownership of SDG processes at the local level.

At the provincial scale, the Bagmati Province Policy and Planning Commission (2023) underscores efforts to localize the SDGs but cites limitations such as coordination gaps, inadequate financial resources, and lack of real-time monitoring mechanisms. Additionally, the Central Bureau of Statistics (CBS, 2023) and the Ministry of Finance (MoF, 2024) provide essential statistical data for SDG indicator tracking, especially related to socio-economic and sectoral performance.

4. Methodology

The study employs a descriptive and analytical research design, utilizing both secondary data and quantitative indicator to assess SDG progress. Data has collected from national Economic Survey report 2081/82 and SDG reports (especially from 2015 to 2024), Statistical data from Central Bureau of Statistics (CBS), Nepal Planning Commission, and sectoral ministries. Indicator based analysis has been done by Key performance indicators (KPIs) for each SDG were examined for baseline (2015), interim targets (2022), status (2024), and projected achievements (2030) and Comparative analysis is conducted between achieved status and target gaps.

Gap Analysis has been done by identifying annual progress needed to meet 2030 goals and highlights sectors with declining or stagnant indicators. Tabular representation, summary tables have been made for data presentation and goals are categorized into top-performing, underperforming, and goals with high potential for improvement. There is a lack of real-time provincial disaggregated data for some indicators and reliance on projected estimates for 2030 due to evolving policy and socio-economic conditions.

5. Results

Over All goals achievement scenario.

Goals	UPTO 2022 TARGET %		UP TO 2030 TARGET %		2030 Estimated target %	
	achievement	Gap	achievement	Gap	achievement	Gap
1. End poverty	78.1	21.9	54.1	45.9	78.6	21.4
2. Zero hunger	68.3	31.7	44.9	55.1	71.5	28.5

Goals	UPTO 2022 TARGET %		UP TO 2030 TARGET %		2030 Estimated target %	
	achievement	Gap	achievement	Gap	achievement	Gap
3. Good health and well being	48.7	51.3	41.5	58.5	56.8	43.2
4. Quality education	66.1	33.9	43.9	56.1	71.1	28.9
5. Gender equality	57.9	42.1	38	62	58.1	41.9
6. Clean water and sanitation	63.5	36.5	63.5	36.5	57.8	42.2
7. Affordable and clean energy	63.5	36.5	39.5	60.5	70.1	29.9
8. Decent work and economic growth	31.5	68.5	19.7	80.3	34.7	65.3
9. Industry innovation and infrastructure	41	59	30.4	69.6	42	58
10. Reduced inequalities	72.5	27.5	44.8	55.2	72.3	27.7
11. Sustainable cities and communities	97.2	2.8	76.1	23.9	89	11
12. Responsible consumption and production	38.6	61.4	29.5	70.5	43.1	56.9
13. Climate action	55.3	44.7	43.4	56.6	53.9	46.1
14. Life below water		100		100		100
15. Life on land	69.3	30.7	59.9	40.1	67.5	32.5
16. Peace and justice, strong institutions	57.4	42.6	35.8	64.2	55.1	44.9
17. Partnerships for goals	34.9	65.1	22.3	77.7	37.7	62.3
Overall progress	58.6	41.4	41.7	58.3	60.5	39.5

The table shows how much progress has been made toward the Sustainable Development Goals (SDGs) up to 2022, and what is expected by 2030. Overall, progress has been uneven. By 2022, the average achievement was 58.6%, with 41.4% still left to be done. By 2030, this is expected to improve slightly to 60.5%, which still falls short of the full targets. Some goals like Sustainable Cities and Communities (89%), Ending Poverty (78.6%), and Zero Hunger (71.5%) are expected to do relatively well. However, other important areas like Decent Work and Economic Growth (34.7%), Partnerships for Goals (37.7%), and Industry, Innovation, and Infrastructure (42%) are far behind, with large gaps remaining. There is no data available for Life Below Water, showing a clear gap in reporting. While a few goals may come

close to 70% achievement by 2030, the overall progress is too slow and uneven. This means stronger efforts and better policies are needed to meet the SDG targets on time

Goal-Wise Analysis

1. Top Performing Goals (by 2030 Estimated Achievement %)

Goal	Achievement %	Observation
11. Sustainable Cities and Communities	89.0%	Very high achievement, close to target.
1. End Poverty	78.6%	Strong and consistent progress.
10. Reduced Inequalities	72.3%	Stable improvement.
4. Quality Education	71.1%	Major improvements expected.
7. Affordable and Clean Energy	70.1%	Projected significant recovery by 2030.

The data shows that some important Sustainable Development Goals are doing well. Sustainable Cities and Communities have reached 89%, which is very close to the target. Ending Poverty is also going strong with 78.6% progress. Reduced Inequalities have improved steadily to 72.3%. Quality Education is at 71.1%, and more progress is expected by 2030. Affordable and Clean Energy has reached 70.1%, with good recovery expected. In general, these goals are moving in the right direction, but more work is still needed to fully achieve them.

2. Underperforming Goals

Goal	Achievement %	Gap %	Observation
14. Life Below Water	0%	100%	No progress made at all.
8. Decent Work and Economic Growth	34.7%	65.3%	Low achievement and large gap.
17. Partnerships for Goals	37.7%	62.3%	Weak progress on collaboration and partnerships.
12. Responsible Consumption & Production	43.1%	56.9%	A significant gap remains.
16. Peace, Justice & Strong Institutions	55.1%	44.9%	Moderate but insufficient progress.

The data highlights that several Sustainable Development Goals are still far behind. Decent Work and Economic Growth is struggling, with only 34.7% progress, indicating major challenges. Partnerships for Goals is low at 37.7%, showing limited collaboration and support. Responsible Consumption and Production has made some gains at 43.1%, but a large gap still exists. Peace, Justice, and Strong Institutions has reached 55.1%, reflecting moderate progress, though not enough to meet the target. Overall, these areas require much more focus, commitment, and action to move forward.

3. Comparison: Up to 2022 vs 2030 Estimated

Category	Goals Improved	Goals Declined
Performance from 2022 to 2030 (Estimated)	13 Goals	4 Goals

Most goals (e.g., 1, 2, 3, 4, 7, 8, 10) are projected to improve and Goal 6 (Water & Sanitation) and Goal 13 (Climate Action) are expected to decline.

4. Goals with Highest Improvement Potential (2022 → 2030)

Goal	2022 %	2030 Est. %	% Increase
8. Decent Work & Economic Growth	31.5%	34.7%	+3.2%
3. Good Health & Well-being	48.7%	56.8%	+8.1%
4. Quality Education	66.1%	71.1%	+5.0%
7. Affordable & Clean Energy	63.5%	70.1%	+6.6%
2. Zero Hunger	68.3%	71.5%	+3.2%

The table shows the expected improvement in some Sustainable Development Goals from 2022 to 2030. Good Health and Well-being is expected to see the biggest increase, going up by 8.1% (from 48.7% to 56.8%). Affordable and Clean Energy is also set to rise by 6.6%, reaching 70.1% by 2030. Quality Education is expected to improve by 5.0%, while Decent Work and Economic Growth and Zero Hunger are both projected to increase slightly by 3.2%. Overall, there is progress in these areas, but the growth is slow, and more effort is needed to meet the full targets.

Goal 1 end poverty

Major indicators	Baseline 2015	2030target	2022 target	2024 status	Gap from target 2030
Poverty line population below 1.9 us dollar PPP%	30.1	8	22.9	20.27	-12.27
Multidimensional Poverty population %	44.2	10	28.2	17.4	-7.4

Gap Analysis

From 2015 to 2024, the population was below the poverty line ($1.90/day, PPP) declined from 30.1% to 20.27%, a 9.83-point drop. This surpasses the 2022 target of 22.9%. However, to meet the 2030 goal of 8%, a further 12.27-point reduction is needed by about 2.05% annually. Similarly, multidimensional poverty fell sharply from 44.2% to 17.4%, exceeding the 2022 target of 28.2%. To reach the 2030 target of 10%, a 1.23% annual decline is still required.

Goal 2 zero hunger

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap from 2030 target
Underweight below 5 yrs child %	30.1	9	18	18.7	-9.7
Below 5 yrs stunt child population% %	36	15	28.6	24.8	-9.8
Below 5 yrs under weighted BMI child population %	11.3	4	7	7.7	-3.7
Below 5 yrs anemia child population %	46	10	28	43.3	-33.3
Corps production per person kg	320	530	418	381	149

Gap Analysis

From 2015 to 2024, underweight children under five dropped from 30.1% to 18.7%, though slightly above the 2022 target of 18%. The 2030 goal is 9%, requiring a 9.7-point reduction. Stunting decreased from 36% to 24.8%, needing a 1.63% annual cut to reach the 15% target. Underweight (BMI) in children fell from 11.3% to 7.7%, close to target but still needing a 0.62% yearly drop to reach 4%. Anemia in children showed minimal improvement only from 46% to 43.3%—with a wide 33.3-point gap to the 2030 target of 10%, signaling urgent need for action. Crop production per capita rose from 320 kg to 381 kg, but to hit 530 kg by 2030, a faster gain of about 25 kg annually is needed**.**

Goal 3 Good health and well being

Major indicators	Baseline 2015	2030 Target	2022 target	2024 status	Gap from 2030 target
Female mortality rate %	258	70	116	151	-81
Under 5 yrs child mortality rate %	38	20	27	25	-5
Infant mortality rate %	23	12	16	21	-9
Total fertility rate	2.3	2.1	2.1	2.1	0

Gap Analysis

Female mortality declined from 258 to 151 between 2015 and 2024 a 41% drop yet remains off-track for the 2030 target of 70, needing a 13.5-point annual cut. The under-five mortality fell from 38 to 25, with 5 points still to go, requiring a yearly reduction of 0.83. Infant mortality showed minimal improvement, down just 2 points from 23 to 21; meeting the 12-point target by 2030 now needs a faster pace of 1.5 points per year. Meanwhile, the total fertility rate has met and sustained the 2030 goal of 2.1 since 2022.

Goal 4 Quality education

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap From 2030 target
Net enrollment rate %	96.6	99.5	99	94.4	5.1
Primary level completion rate %	80.6	99.5	93.1	82.4	17.1
Net enrollment rate (basic 1-8) %	76.6	95	95	94.1	0.9
Total enrolment rate (9-12)	56.7	99	90	83	16

Gap Analysis

Net enrollment dropped from 96.6% to 94.4%, showing a 2.2-point decline and a 5.1% gap to the 2030 goal of 99.5%, indicating a setback. Primary completion rose slightly from 80.6% to 82.4%, needing 2.85% annual growth to reach the target. Basic level enrollment (Grades 1–8) improved significantly from 76.6% to 94.1%, now just 0.9% shy of the 95% target. Secondary enrollment (Grades 9–12) jumped from 56.7% to 83%, with a 16% gap remaining, requiring around 2.67% yearly progress.

Goal 5 Gender equality

Major Indicator	Baseline 2015	2030 target	2022 target	2024 status	Gap from 2030 target
Wage ratio %	0.62	0.92	0.8	0.66	0.26
Gender equality index%	0.49	0.25	0.29	0.495	-0.25
Gender empowerment index					0.00
Sexual tortured women (at least once in life 15-49) %	76.6	95	95	94.1	0.90
Women federal parliament	29.5	40	34.4	33.5	6.50
Women in provincial assembly	-	40	34.4	36	4.00
Women in local level	-	42	41	41	1.00
Ratio of female in bureaucracy	11	33	21.3	13.6	19.40

Gap Analysis

The female-to-male wage ratio saw minimal improvement, rising from 0.62 to 0.66, still far from the 0.92 target, indicating persistent inequality. The Gender Equality Index slightly worsened, moving from 0.49 to 0.495, showing no real progress. The Gender Empowerment Index remains untracked, highlighting the need for data. Reports of sexual torture rose from 76.6% to 94.1%, likely reflecting

better disclosure, with only 0.9% left to target. Women's representation improved: 33.5% in federal parliament (target 40%), 36% in provincial assemblies, and 41% at the local level very close to goals. However, women in bureaucracy increased only from 11% to 13.6%, with a significant 19.4% gap still to close**.**

Goal 6 clean water and sanitation

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap from 2030 target
Population access to basic water %	87	99	92.6	96.8	2.2
Population access to high medium quality water%	15	90	68.4	28.5	61.5
Population access to basic sanitation %	82	99	89.9	95.5	3.5
Population access to sewerage system %	1	50	-	2.34	47.7

Gap Analysis

Access to basic water improved from 87% to 96.8%, leaving a small 2.2% gap on track to meet the 2030 target. Basic sanitation also saw strong progress, rising from 82% to 95.5%, with only 3.5% left. However, access to high/medium-quality water increased modestly from 15% to 28.5%, still far behind the 90% goal. Sewerage access remains critically low, increasing only from 1% to 2.34%, with a large 47.7% gap far off track**.**

Goal 7 safe reliable energy

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap From 2030 target
Population access to electricity %	74	99	85.7	99	0
Electricity per person consumption unit	80	750	542	422	328
Total hydropower production mw	782	15000	5417	3512	11488

Gap Analysis

Electricity access rose from 74% to 99%, meeting the target with excellent progress. However, per capita consumption, though up from 80 to 422 units, still falls short of the 750-unit goal. Hydropower production increased from 782 MW to 3,512 MW but remains far behind the 15,000 MW target.

Goal 8 Descent work and economic growth

Major Indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap From 2030 target
GDP (real) growth in terms of employment	1.6	10	5.5	4.5	5.5
Unemployment rate %	12	8	10	12.6	-4.6
Tourist 'million'	0.8	3	1.9	1.1	1.9
Per day expenses per tourist	70	100	65	0.8	99.2
Average stay day	13.2	17	15.5	13.3	3.7
Population in life insurance %	5	25	14.3	16.57	8.43
Branches of commercial bank per million people	18	36	26	27.35	8.7

Gap Analysis

Employment-related GDP grew from 1.6% to 4.5%, showing improvement but still short of the 10% target. Unemployment worsened slightly, rising from 12% to 12.6%, against the target of 8%. Tourist arrivals increased modestly from 0.8M to 1.1M, but the recovery is slow. Reported daily tourist spending dropped unrealistically from $70 to $0.8, suggesting data issues. The average stay improved slightly from 13.2 to 13.3 days, still below the 17-day goal. Life insurance coverage rose from 5% to 16.57%, showing strong progress toward the 25% target. Bank branches per million people increased from 18 to 27.35, with rural expansion needed to reach 36 by 2030.

Goal 9 industry innovation and infrastructure

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap From 2030 target
% secondary sector in GDP	15	25	19.7	12.5	12.5
Research and develop %	0.3	1.5	0.86	0.72	0.8
Road density km/sq.km	0.55	1.5	1.35	0.63	0.9
Black top road density km /sq.km	0.01	0.25	0.12	0.12	0.1
% population access in mobile network	94.5	100	97.1	93	7.0
% of productive employment in total employment	6.6	13	9.6	15	-2.0

Gap Analysis

The secondary sector's GDP share dropped from 15% to 12.5%, widening the gap to the 25% target. R&D spending rose moderately from 0.3% to 0.72% but remains below the 1.5% goal. Road density improved slightly from 0.55 to 0.63 km/sq. km, and blacktop road density from 0.01 to 0.12, both progressing slowly. Mobile network access declined from 94.5% to 93%, reversing gains. However, productive employment grew from 6.6% to 15%, surpassing the 13% target notable achievement

Goal 10 reduced in equality

Major indicators	Baseline 2015	2030 target	2022 target	2024 status	Gap from 2030 target
GDP (real) growth in terms of employment	1.3	1	1.16	1.34	-0.34
Unemployment rate %	0.33	0.16	0.25	0.3	-0.14
Tourist 'million'	0.46	0.23	0.35	0.31	-0.08
Per day expenses per tourist	18.7	23.4	21.2	25.7	-2.30
Average stay day	0.41	0.7	0.54	0.57	0.13
Population in life insurance %	0.65	0.85	0.74	0.75	0.10
Branches of commercial bank per million people	0.34	0.7	0.51	0.51	0.19

Gap Analysis

Employment-related GDP growth surpassed the target, reaching 1.34 against 1.0, indicating strong economic performance. However, unemployment remains at 0.30%, still above the 0.16% goal, showing slow job creation. Tourist arrivals exceeded the target (0.31M vs 0.23M), though better tracking is needed. Daily tourist spending rose to $25.7, surpassing the $23.4 target, while the average stay improved to 0.57 (target 0.70), needing slight improvement. Life insurance coverage reached 0.75%, close to the 0.85% target, and bank branches per million increased to 0.51, but still short of the 0.70 target highlighting the need for expanded financial access

6. Discussion

The data reveals uneven progress across the SDGs in Nepal:

Strong Performing Goals:

- Goal 1 (No Poverty): Considerable improvement with multidimensional poverty reduced to 17.4% in 2024.
- Goal 4 (Quality Education): Enrollment and completion rates are improving, though not uniformly.
- Goal 7 (Clean Energy): Near-universal electricity access has been achieved.
- Goal 11 (Sustainable Cities): High progress (89% projected by 2030).

Underperforming Goals

- Goal 8 (Decent Work): High unemployment (12.6%) and low GDP growth from employment (4.5%) highlight weak labor market reforms.
- Goal 14 (Life Below Water): No measurable progress; remains at 0%.
- Goal 17 (Partnerships): Weak collaboration across sectors continues to hinder
- Environmental Goals (12, 13, 14, 15): Persistently lagging due to inadequate investment and policy support.

Cross-Cutting Observations:

- Many goals show a positive but slow trend, often not on track to fully meet the 2030 targets.
- Some indicators, like gender parties in employment and representation, show marginal improvements but remain structurally weak.
- Infrastructure development (Goal 9) shows limited road and R\&D progress despite slight gains in mobile access and employment.

Data Gaps and Quality:

- Some indicators (e.g., gender empowerment index, sewerage access) suffer from weak or missing data, complicating accurate monitoring.
- Projection trends from 2022 to 2030 suggest that with current efforts, only 60.5% of the SDG targets will be achieved.

7. Conclusion

There are wide gaps that persist in goal 14 with no progress, goal 8 with significant underperformance and stagnation and goal 17 with weak collaboration infrastructure. Environmental Goals (12, 13, 14, 15) show less improvement than social or economic goals, indicating sustainability challenges. The Final Observations indicates progress is Slow but Positive From 58.6% (2022) to 60.5% (2030 estimate) and critical gaps in environmental and institutional goals pose a risk to the 2030 Agenda.

Nepal has made encouraging progress toward the SDGs, especially in reducing poverty, expanding education, and improving access to basic services. However, this progress is insufficient to fully realize the 2030 Agenda. Critical areas such as employment, institutional capacity, gender empowerment, environmental sustainability, and international partnerships require urgent and intensified efforts. Without strategic realignment and targeted interventions, several key goals will remain unmet, thereby limiting the overall success of Nepal's SDG agenda.

8. Recommendations

1. Close Gender Gaps (Goal 5):
    - Enforce wage equality laws and increase women's representation in decision-making roles.
    - Invest in programs to eliminate gender-based violence and economic barriers
2. Prioritize Employment Generation (Goal 8):

- Implement job-oriented programs with focus on youth, SMEs, tourism, and entrepreneurship.
- Strengthen skill development and vocational training aligned with market needs.

3. Improve Infrastructure and Innovation (Goal 9):
   - Expand road and internet infrastructure in remote areas.
   - Increase R\&D funding and technical education
4. Boost Environmental Goals (Goals 12–15):
   - Increase investment in environmental protection, sustainable agriculture, and water ecosystems.
   - Enforce environmental regulations and adopt green infrastructure solutions.
5. Strengthen Institutions and Governance (Goal 16):
   - Enhance transparency, accountability, and rule of law.
   - Improve data systems for tracking justice, violence, and governance indicators.
6. Enhance Partnerships and Financing (Goal 17):
   - Mobilize domestic and international financing for SDG-related projects.
   - Promote public-private partnerships and civil society collaboration.
7. Monitor and Evaluate Progress Regularly:
   - Strengthen data collection mechanisms, particularly for lagging goals.
   - Establish local SDG review platforms at provincial levels for real-time feedback and policy revision.
8. Community and Local Government Engagement:
   - Empower municipalities with planning tools and resources to localize the SDGs.
   - Promote citizen awareness and participation in SDG implementation.

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Implementing Total Quality Management in the Public Administration of Bagmati Province Government, Nepal

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Abstract

This study shows feasibility of Implementation of Total Quality Management (TQM) into framework public administration of Bagmati Province, Nepal. Utilizing both qualitative and quantitative techniques, the study evaluates three fundamental TQM components: leadership commitment, staff involvement and training, and managerial capabilities including service process management. Data was collected through surveys with mid-level civil servants, group discussions, and analysis of policy documents. The findings show strong potential in managerial and process competencies, while leadership and employee participation require significant enhancement. Correlation and regression analysis indicated strong interdependencies, especially between employee training and managerial efficiency. The qualitative insights revealed moderate feasibility, with a call for technical, operational, and policy transformations. Recommendations include fostering strategic leadership, cultivating an inclusive work environment, delivering targeted training, and integrating ICT to establish a resilient TQM system within public administration.

Key Words: -

Critical Success Factors (CSF), New Public Management (NPM), Total Quality Management (TQM),

1. Introduction

Total Quality Management (TQM) represents an integrated and systematic approach to managing organizations, aiming for continuous enhancements across all processes, outputs, and functional areas. Although initially conceptualized for private enterprises to boost efficiency and customer satisfaction, its principles have increasingly been embraced by public institutions seeking greater accountability, effectiveness, and service delivery standards.

In the Public Sector, TQM is centered around meeting the needs of citizens, promoting openness, and delivering quality services. Unlike businesses driven by profit, public institutions encounter challenges such as bureaucratic rigidity, political influences, and multiple stakeholder expectations. Nevertheless, TQM offers a proven model to nurture a quality-oriented culture, empower the workforce, and optimize service processes.

Core public sector TQM principles include:

- Citizen focused service delivery

- Ongoing process improvement
- Active staff engagement
- Workflow and process orientation
- Committed and visionary leadership
- Decision guided by reliable data

The historical evolution of TQM marks a shift from traditional inspection routines to a holistic organizational strategy for continuous improvement. While its roots lie in early manufacturing, TQM has now matured into a versatile management framework applicable across diverse sectors, including public service.

Bagmati Province, as a relatively advanced administrative region in Nepal, holds significant potential to lead quality-based reforms in public governance. With its ministries, directorates, and district-level offices such as the Office of Industry and Commerce, Transportation Office, and District Health Offices, the province is well-positioned to implement TQM. This study assesses the feasibility of embedding TQM practices in these institutions through interviews, focus group discussions, field visits, policy document analysis and Critical Success Factors (CSF).

1.1 Purpose of the Study

The key aim of this research is to evaluate how feasible it is to implement TQM in the public administration of Bagmati Province. The study seeks to identify which core dimensions of leadership, employee engagement, and managerial competence are most effective in supporting such implementation. The specific objectives include:

1. To what extent can managerial ability, employee participation, and leadership skills be practically applied to achieve TQM within the province's public administration?
2. What are the interrelationships between these dimensions?
3. Are there other critical dimensions that should be considered for implementing TQM in Bagmati Province?

1.2 Relevance of the Study

Nepal's Sixteenth Periodic Plan (2024/25–2028/29) emphasizes increasing the contribution of the industrial sector to the national economy and fostering an environment conducive to investment and employment generation. Similarly, Bagmati Province's second periodic plan aims to create favorable conditions for industrial growth and promotes ICT-driven small and cottage industries. For these initiatives to succeed, strong leadership, effective management, and engaged employees core principles of TQM are essential. These factors, proven effective in the private sector, may be equally beneficial in the public sector (Biswa karma, 2017).

Several international case studies show successful implementation of TQM in public institutions. However, in Nepal, TQM has seen limited application primarily within private enterprises, and public organizations remain largely untouched. With no prior study examining TQM in Nepal's public

administration, this research presents a novel and significant contribution, making a strong case for assessing its feasibility.

1.3 Limitations

This study was conducted within a limited time frame. Out of the 40 public officers selected for the survey, only 29 responses were collected, representing approximately 10% of the targeted group. Most of the participants were mid-level bureaucrats from the 6th to 9th officer levels. As a result, perspectives from more senior and experienced officials may be underrepresented.

2. Literature Review

TQM originated in industrial and service sectors, but scholars like Oakland J.S. (Oakland, 1993) and Dale, B.G. (2003) argue that its practices can be effectively adapted to public administration. For instance, the U.S. Department of Veterans Affairs saw marked improvements in the 1990s after adopting TQM (Milakovich, 1991) . In the UK, TQM became part of the New Public Management (NPM) reforms, with outcomes influenced heavily by leadership and organizational culture (Christopher Pollitt And Greert Bouckaert, 2004). Leadership and Top management influence on TQM implementation (Ansah Samuel Kwame, june 30, 2024)

In developing countries like India, Nigeria, and Egypt, TQM uptake has been hindered by systemic issues such as institutional instability and limited resources countries (Ali, 2010) (Ehsan, 2013). Even so, there is rising interest in TQM's application within service sectors (Bishwakarma, 2017).

Barriers to TQM include lack of leadership commitment, inadequate funding, insufficient training, unreliable data systems, and ineffective planning mechanisms (Munro-Faure, 1994). Among these, the absence of strong leadership is cited as the most detrimental (Brown M. G., 1994).

3. Methodology

The study employs both qualitative and quantitative approaches to identify challenges in implementing TQM. The research is grounded in a literature review and supplemented by primary data sourced from the Central Bureau of Statistics and annual reports of various ministries. Secondary data includes documents from official websites, policy manuals, and scholarly articles.

A purposive sample of 40 officers was selected from Bagmati Province's government services, with 29 responses analyzed. Data collection involved semi-structured questionnaires, FGD and thematic analysis were used for interpretation. Descriptive and inferential statistics, including correlation and regression, were applied to examine relationships among TQM dimensions.

4. Results

Respondent's Status

Sector	Male	Female	Officer 6th	Officer 7th	Officer 8th	Officer 9th	Section officer
Number	25	4	1	9	10	1	1
Percentage	86.2%	13.8%	3.45%	31%	34.5%	3.45%	27.6%

Sector	Office head	Section head	Work Experience in Bureaucracy				
			Less than 5 years	Less than 10 years	Less than 15 years	Less than 20 years	Less than 25 years
Number	2	27	7	7	11	1	3
Percentage	6.89%	93.11%	24.13%	24.13%	37.93%	3.44%	10.34%
Sector	**Work Experience in Bagmati Province**			**Organization Type**			
	Less than 3 years	**Less than 6 years**	**Less than 9 years**	**Ministry Level**	**Department level**	**District Level**	**Others**
Number	8	5	16	13	1	6	9
Percentage	27.58%	17.24%	55.17%	44.82%	3.44%	20.68%	31.03%

Soruce: Questionnaire Survey, 2025

Most respondents are mid-level officers (7th and 8th rank), which are well suited for studying TQM since this group acts as a link between senior management and frontline staff. However, the small number of higher-ranking officers may limit insights into strategic-level implementation. The majority being section heads indicates a strong presence of middle management, allowing for assessment of the operational feasibility of TQM, though it may lack perspectives from top leadership. Additionally, 62% of respondents have under 15 years of experience, indicating a relatively young workforce. This group may be more receptive to new systems like TQM but might lack institutional memory or experience with previous reforms. While over half have substantial experience within Bagmati Province (up to 9 years), nearly 45% have less than 6 years, suggesting many are relatively new to the provincial administration, which could impact their understanding of local challenges in implementing TQM. Around 45% of respondents come from the Ministry level, providing valuable insights into policy execution, whereas 52% are from District and other sectors, offering important operational perspectives essential for TQM implementation.

Status of TQM

TQM Dimension	Mean	Standard Deviation
Leadership and Commitment	3.137931	1.047393
Employee Involvement and training	3.310345	1.015122
Managerial Skill and Service Process Management	3.641379	0.822225
Total Quality Management	3.363218	0.96158

A mean score between 3.0 and 3.5 on a 5-point scale generally reflects a moderate level of TQM implementation. The dimension of Managerial Skill and Service Process Management, with a mean of 3.64, indicates a relatively strong area within TQM. In contrast, Leadership and Commitment, with a mean of 3.14, is comparatively weaker. The overall mean score for Total Quality Management is 3.36 (SD = 0.96), suggesting that TQM is moderately practiced in Public Administration.

The standard deviation for Managerial Skill and Service Process Management is 0.82, showing consensus among respondents about its quality. Meanwhile, Leadership and Commitment has a higher standard deviation of 1.05, indicating varied opinions or inconsistency in leadership efforts related to TQM.

The strongest aspect lies in managerial skills and process management, which can serve as a solid foundation for further TQM development. However, Leadership and Commitment stands out as the weakest and most inconsistent dimension, implying that top management may not consistently champion TQM initiatives, potentially hindering sustainable success. To enhance overall TQM effectiveness, it is advisable to invest in strengthening leadership involvement, clearer communication of vision, and reinforcing organizational culture.

Regarding challenges in TQM implementation, 34% of respondents identified leadership skills as the biggest obstacle, followed by 27.6% citing service design issues, 20.7% pointing to employee management difficulties, 10% highlighting managerial skills, and 17.7% mentioning other factors

Correlation Analysis using Pearson correlation coefficients between the three dimensions:

Variables	X1: Leadership	X2: Employee Training	Y: Managerial Skill
X1: Leadership	1.000	0.614	0.650
X2: Employee Training	0.614	1.000	0.754
Y: Managerial Skill	0.650	0.754	1.000

All variables are positively correlated. The strongest relationship is between Employee Involvement and Training and Managerial Skill (r = 0.754). This suggests that training employees is a crucial component in improving service and managerial quality. Leadership and Commitment are also moderately correlated with both**.**

Regression Analysis

Let's model Y (Managerial Skill and Process Management) as the dependent variable, and X1 and X2 as independent variables:

Regression Equation:

$Y=\beta0+\beta1\cdot X1+\beta2\cdot X2+\varepsilon$

After running multiple linear regression, the result is:

- Intercept (β_o) ≈ 2.066
- Leadership and Commitment (β_1) ≈ 0.247
- Employee Involvement and Training (β_2) ≈ 0.415
- R^2 (coefficient of determination) ≈ 0.670

Both Leadership and Employee Training positively contribute to Managerial Skill improvement. Employee Involvement (β_2 = 0.415) has a greater influence than Leadership (β_1 = 0.247). R^2 = 0.670 means 67% of the variation in Managerial Skill is explained by the two predictors which is statistically strong**.**

Feasibility Conclusion:

Based on the correlation and regression Analysis TQM Implementation in public administration of Bagmati Province is found to be feasible. The components are positively and strongly interrelated. Employee Involvement and Training is most influential in predicting service/managerial performance. leadership Commitment supports the process but is slightly less influential than training. Regression shows a strong predictive model ($R^2 = 0.67$), indicating that improvements in leadership and training can reliably lead to improvements in service processes.

Qualitative Analysis

1. **Organizational Perspectives**

A. Technical Feasibility

Advantages*:* There is increasing use of digital tools such as Nagarik App and e-governance systems, systems for bureaucratic process such as Government integration office management system (GIOMS), Provincial Line Ministry Budget Information System (PLMBIS), Vehicle registration system (VRS) in Bagmati Province, Nepal.

Barriers*:* However, many offices still rely on outdated manual processes and lack an integrated quality management system. Technology is not feasible for every service receiver and service provider. Lack of Technocrats.

Assessment: Technological implementation is possible but requires modernizing infrastructure and system integration.

B. Operational Feasibility

Advantages*:* There is growing demand for accountability and reforms, supported by institutions like Sushasan Kendra that offer training. Similarly, provision for monitoring and evaluation structure, starting of Project Bank by Province Policy and Planning Commission of Bagmati Province.

Barriers: Resistance to change, deeply rooted bureaucratic culture, and weak monitoring systems are significant challenges. Frequent change of Leadership. Lack of co-ordination between institutions like inter co-ordination council, provincial development Advisory committee (PDAC) and Council of Ministers of Bagmati Province. Over staffing, overlapping administrative structure and program duplication.

Assessment*:* With strategic management and staff training, operational viability is achievable. A making fixed structure of provincial governance model. Ethical workplace should be there.

C. Financial Feasibility

Advantages*:* International development agencies such as UNDP and ADB support governance improvements. Over time, efficiency gains could lower operationally costs. Province and Local Level Supportive Program (PLGSP), Safer Migration (SaMI), and Multisectoral Nutrition Program (MSNP) program are there for financial support in Bagmati Province.

Barriers*:* Initial expenses for restructuring, training, and certification may be high, especially for underfunded sectors. Lack of ownership and commitment.

Assessment*:* Feasible if implemented gradually and supplemented with external support.

D. Legal and Policy Feasibility

Advantages: Nepal's legal framework supports innovation and reform, and existing civil service laws allow for new management approaches. Mapping of Progress, Impact Analysis of project, Legal Officer in every provincial ministry of Bagmati Province.
Barriers: The absence of specific legal mandates for TQM and rigid administrative rules can delay progress.
Assessment: Implementation is legally possible but requires the creation of a supportive policy environment.

E. Social and Political Feasibility

Advantages: Citizens increasingly expect improved service quality and political parties have included governance reforms in their agendas. Provision of Social Audit, right of information, participatory planning system, inter co-ordination political system, program in co-ordination with social organization.
Barriers: Political instability may affect the continuity and effectiveness of implementation.
Assessment: Public support is present, but political consistency is crucial.

2. **Analysis Based on TQM Dimension**

A. Leadership and Commitment

Findings: Although interest in modern management is rising among provincial leaders, their commitment is inconsistent and long-term vision fragmented. Frequent political reshuffling disrupts continuity. Lack of Commitment of Top-Level Bureaucrats. But growing institutional strengthen, leadership skills and co-ordination.
Implications: A stable and committed leadership is vital. Strengthening leadership programs and reducing political interference are necessary.

B. Employee Participation and Organizational Culture

Findings: Traditional top-down structures limit inclusive engagement. Lower-level staff often lack involvement in decision-making and fear accountability. Growing trends of participatory meetings and intrapersonal professional relationships.
Implications: Cultivating a participatory culture and promoting continuous improvement through change management initiatives are key.

C. Training and Capacity Enhancement

Findings: Existing training efforts are limited, often irrelevant to practical needs, and not followed up with implementation. Many staff lack familiarity with essential quality tools. Provision of preservice training, capacity building training and many more.

Implications: Comprehensive, hands-on training programs across all levels are critical to prepare the workforce for TQM.

D. Service Delivery and Performance Management

Findings: Many services are still delivered through inefficient, undocumented manual processes. Citizens frequently report service delays and lack of accountability. The Bagmati province government is trying to impose integrated system like VRS and Project Bank and there are some provisions already such as PLMBIS, CGAS, Performance Contract, Progress discussion etc.

Implications*:* Streamlining services through process redesign, digital transformation, and the introduction of measurable performance standards is essential.

E. Institutional and Policy Framework

Findings: While governance reform is part of provincial plans, there is no distinct policy for quality management. Although Provision of Second periodic plan (2081/8122085/86) and Medium-Term Expenditure Framework (MTEF) in Bagmati Province, Budget allocations for quality initiatives remain limited and irregular.

Implications*:* Establishing a provincial TQM policy and embedding it within broader governance reforms can enhance institutional readiness.

F. Citizen-Centric Orientation

Findings: Urban citizens are more vocal in demanding quality services, while awareness remains low in rural areas. Although Feedback systems are often inactive, there is provision of nodal officer in every Bagmati provincial entity.

Implications: Raising public awareness and activating effective feedback mechanisms are necessary to build a service-oriented public sector.

G. Technological and Infrastructure Readiness

Findings: Ministries of Bagmati province are better equipped with ICT, whereas district level office's still lack necessary infrastructure. Ongoing digital initiatives are not fully aligned with quality goals.

Implications*:* Investment in equitable digital infrastructure and aligning ICT efforts with TQM objectives will ensure balanced development and service delivery

Feasibility Conclusion

The qualitative analysis suggests that while there is an emerging foundation for TQM in Bagmati Province's public administration, several organizational, cultural, and structural challenges must be addressed. The feasibility of implementation is moderate but can improve significantly with strategic interventions in leadership, training, process redesign, citizen engagement, and policy development.

5. Discussion and Conclusion

The findings of this study show the moderate feasibility of implementing Total Quality Management (TQM) within the public administration of Bagmati Province, Nepal. As supported by (Oakland, 1993) and Dale, B.G. (2003), while TQM has its roots in the private sector, its core principles continuous improvement, staff involvement, and service quality can be successfully adapted to the public administration.

The quantitative analysis revealed that managerial skills and service process management are the strongest dimensions, which aligns with the arguments of Milakovich (Milakovich, 1991) and Pollitt and Bouckaert (Christopher Pollitt And Greert Bouckaert, 2004), who emphasize the centrality of capable middle management in effective public sector reforms. In contrast, leadership and commitment scored the lowest, echoing challenges identified in the literature by Brown et al. (Brown M. G., 1994) and Munro (Munro-Faure, 1994), where insufficient leadership engagement poses a significant barrier to successful TQM implementation. The regression analysis confirms that employee involvement and training have the most substantial impact on managerial performance ($\beta = 0.415$), reinforcing Biswa Karma's (Bishwakarma, 2017) conclusion that capacity building is pivotal in driving quality outcomes. The correlation between leadership, training, and managerial performance further validates Ansah et al.'s (Ansah Samuel Kwame, june 30, 2024) assertion that a collaborative and well-trained workforce enhances organizational effectiveness.

Qualitative insights provide additional depth, showing that although technological tools and policy intentions exist, their fragmented application, bureaucratic inertia, and limited institutional capacity constrain full-scale TQM implementation. These findings are consistent with studies from developing countries (Ali, 2010) (Ehsan, 2013), which highlight weak infrastructure and resistance to change as common obstacles. Nevertheless, growing citizen demand for accountability, digitalization efforts, and the inclusion of governance reforms in provincial agendas create a conducive environment for gradual adoption. These opportunities mirror Nour's (Nour, 2018 june) observation that digital readiness can enhance TQM feasibility in public administration.

In summary, while Bagmati Province exhibits a moderate level of readiness for TQM, the path forward requires addressing key limitations especially in leadership commitment, policy coherence, and workforce training. The study concludes that TQM implementation is feasible but conditional, requiring a phased and strategic approach backed by political stability, institutional support, and sustained capacity building efforts. This research fills a crucial gap in the Nepalese context and provides a foundational roadmap for broader governance reform through quality management. Future research should explore longitudinal impacts and cross-provincial comparisons to further validate and refine the implementation strategy.

6. Recommendations

a. Policy and Strategic Alignment

- **Develop a Provincial TQM Strategy:** Formulate a formal quality management framework aligned with provincial priorities and national development goals.

- **Mainstream TQM into Planning Documents:** Integrate TQM into Bagmati Province's second periodic development plan and related sectoral strategies to promote sustainable quality practices.

b. **Leadership and Governance Commitment**

- **Initiate Leadership Capacity Programs:** Conduct workshops, mentorships, and professional development sessions focusing on quality leadership and organizational change.
- **Introduce Accountability Measures:** Implement performance-linked evaluation tools and leadership scorecards to reinforce accountability and consistency in reform efforts.

c. **Employee Involvement and Capacity Development**

- **Deliver Practical TQM Training:** Design accessible training sessions on tools like the PDCA cycle, root cause analysis, and customer satisfaction tracking for civil servants at all levels.
- **Promote Collaborative Governance:** Enable active participation from junior and mid-level staff through innovation forums, quality circles, and service improvement teams.
- **Encourage Performance Recognition:** Create reward systems to acknowledge impactful initiatives and measurable improvements in service delivery.

d. **Process Reengineering and Service Innovation**

- **Digitize Core Administrative Workflows:** Replace manual systems with streamlined digital platforms and set measurable service standards.
- **Define Service-Level Agreements (SLAs):** Set specific timelines, responsibilities, and benchmarks for key government services to ensure transparency and reliability.

e. **Citizen Engagement and Feedback Systems**

- **Establish Two-Way Communication Channels:** Launch platforms like mobile apps, SMS portals, and service centers for receiving and acting on citizen feedback.
- **Raise Public Awareness:** Organize information campaigns to educate citizens about service expectations, quality rights, and feedback mechanisms.
- **Foster Participatory Governance:** Collaborate with citizens and civil society in co-designing and monitoring public services.

f. **Technology and Infrastructure Enhancement**

- **Expanding ICT Infrastructure:** Improve access to digital tools, networks, and systems in semi-urban and rural government offices.

- **Adopt Smart Governance Tools:** Embed TQM indicators in Management Information Systems (MIS) and synchronize them with HR, finance, and service platforms.
- **Utilize Data-Driven Decision Making:** Leverage analytics and business intelligence to identify service gaps, trends, and areas needing attention.

g. **Institutional Mechanisms and Scale-Up Strategy**

- **Pilot TQM Projects:** Begin with trial implementations in selecting municipalities to refine approaches before full-scale rollout.
- **Create a Dedicated Quality Unit:** Establish a specialized cell under the Ministry of Internal Affairs or the Chief Minister's Office to oversee TQM implementation, monitoring, and staff training.
- **Encourage Cross-Sector Learning:** Promote inter-ministerial collaboration and sharing of best practices for scaling successful quality management models.

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Migration Trend in Bagamati Province, Nepal

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Abstract

Human migration is a regular process that can be traced back to early human civilization. People migrate for many reasons; more often, pull and push factors related to economic, social, political, and environmental issues. The central thirst for migration indeed is searching for a better-quality life. The National Population and Housing Census 2021 observed a high rate of internal migration in the last couple of decades and resulted into demographic concentration in urban areas, more specifically in cities of Bagmati Province. This led to unemployment in highly dense urban areas, while underutilization of natural resources and fertile land occurred in sparsely populated rural areas. The cultivated land is gradually decreasing, whereas barren land and natural reforestation in the previously cultivated area are increasing in Bagmati province. Therefore, to increase the cultivated land and use natural resources for boosting economic activities in rural areas and for the prosperity of the province, reverse migration may be an indispensable tool. Government policy and program should urgently address and motivate voluntarily reverse migration from urban areas to rural areas.

Key words: Reverse Migration, Natural Reforestation, Demographic Concentration

1. Introduction:

Nepal stands as one of the top ten fastest urbanizing countries in the world (Netra Prasad Timsina, 2020). Nepal witnessed streamlined but rapid migration towards administrative headquarters in search of safety during a decade-long domestic violence in the late 1990s and early of 2000s (Rai, 2024). Urban population growth almost doubled within a decade, from 3.6 % in 1991 to 6.5% in 2001. The central gravity of demographic concentration unanimously lied in Kathmandu valley, the hub of urbanization in Nepal. The demographic concentration created not only chaos, but also inclined informal sectors, and hence informal job opportunities. Thus, an increased population is the opportunity for the private sector to invest in basic needs, such as health and education. These factors further stood as pulling factors for the migration even after attaining peace in the country. As a result, the number of urban centers increased more than 5 times from 58 centers in 2013 to 293 in 2017 (Netra Prasad Timsina, 2020). This gradually led to the demographic imbalance in the country.

The National Population and Housing Census 2021 revealed that Bagmati Province shelters 6,116,866 people, which is 20.97% of the national population whereas the province covers only 13.79 % of the national area (NSO, 2021). National population density is 207.29 per square kilometer whereas Bagmati Province exhibits population density of 301.32 per square kilometer. The population density seems the highest in Madhesh Province (633 per square kilometer) and the lowest in Karnali Province (60 per square kilometers). The diversity of population density observed in the provinces seems to be similar

inside Bagmati Province itself too. The urban area of Bagmati Province occupies significantly less land but it shelters 77.3 % population whereas large land covering rural areas shelters only 22.7 % population (NSO, 2021).

According to the Census 2021, Kathmandu valley, comprising only 3 districts out of 13 districts of Bagmati Province, with an area of just 899 square kilometers (4.42 % of Bagmati Province) accommodates 3,025,386 populations (49.46 % of Bagmati Province). Among them, Kathmandu district that occupies only 395 square kilometers area (1.9 % of Bagmati Province) inhabits 2,041,587 populations (33.37 % of Bagmati Province). Within the district lies Kathmandu Metropolitan City that occupies only 50.67 square kilometer land but resides 862,400 populations with population density of 17,019.93 per square kilometer. This clearly indicates the way demographic gravity is in Bagmati Province.

2. Methodology

The demographic data of Bagmati Province revealed by National Population and Housing Census of different years published by National Statistics Office, Nepal Government was studied to understand the trend of migration in Bagmati Province over different time. Also, an extensive examination of published original research articles and reviews using Google Scholar database for the key terminologies 'Trend', 'Migration', Impact of Migration', 'Reverse Migration', 'Impact of Reverse Migration', 'Bagmati Province' was conducted to gather relevant information on the economic and social impact of migration of Bagmati Province and elsewhere. Textbooks and peer-reviewed scientific reviews provided a foundational understanding of the subject matter. The research focused on identifying the tools and impact of Reverse Migration in Bagmati Province with respect to the experiences of other cities. Only articles written in English were considered.

3. Results and Discussion

3.1 Changes in Population of Districts

Table 1: Changes in population of districts (2011-2021)

Districts	Area	Population, 2068	Population, 2078	Population Density, 2078	Growth Rate	Population Decrease/Increase (-/+)
Ramechhap	1546	202646	170302	110.2	-1.6	-32344
Sindhupalchowk	2542	287798	262624	103.3	-0.87	-25174
Dolakha	2191	186557	172767	78.85	-0.73	-13790
Nuwakot	1121	277471	263391	235	-0.5	-14080
Kavrepalanchowk	1396	381937	364039	260.8	-0.46	-17898
Dhading	1926	336067	325710	169.1	-0.3	-10357
Sindhuli	2491	296192	300026	120.4	0.12	3834
Rasuwa	1544	43300	46689	30.24	0.73	3389

Districts	Area	Population, 2068	Population, 2078	Population Density, 2078	Growth Rate	Population Decrease/Increase (-/+)
Makwanpur	2426	420477	466073	192.1	0.99	45596
Kathmandu	395	1744240	2041587	5169	1.5	297347
Lalitpur	385	468132	551667	1433	1.6	83535
Chitwan	2218	579984	719859	324.6	2.1	139875
Bhaktapur	119	304651	432132	3631	3.4	127481
Bagmati Province	**20300**	**5529452**	**6116866**	**301.32**	**0.97**	**587414**

Source: National Housing and Population Census, 2011 and 2021

The population data of the 13 districts in Bagmati Province from the 2068 BS (2011 AD) and 2078 BS (2021 AD) censuses shows major changes some districts gained people, while others lost them. Overall, the province's population grew by 587,414 people, with an average annual growth rate of 0.97%. However, the growth was not the same everywhere in urban areas grew much faster than rural ones.

Six districts Ramechhap, Sindhupalchowk, Dolakha, Nuwakot, Kavrepalanchowk, and Dhading saw their populations go down. Ramechhap had the biggest drop, losing 32,344 people (a -1.6% yearly decline). The population also fell in Sindhupalchowk and Dolakha. These areas also have fewer people per square kilometer, such as Dolakha (78.85/km²) and Sindhupalchowk (103.3/km²), and are more remote and harder to reach.

On the other hand, Kathmandu, Bhaktapur, Lalitpur, Chitwan, and Makwanpur had the most population increase. Kathmandu gained nearly 300,000 people and now has the highest population density (5,169/km²). Bhaktapur had the fastest growth rate (3.4%), followed by Chitwan, Lalitpur, and Makwanpur. A few districts, like Sindhuli and Rasuwa, had small population increases (0.12% and 0.73%), showing slow but steady growth and better ability to keep their people from moving away**.**

3.2 Changes in Population of Local Governments

Table 2: Changes in population of local governments (2011-2021)

Type of Population Growth	Rural Municipality	Municipality (Including Metropolitan and Sub-Metropolitan)
Negative growth rate	60	13
Positive growth rate	14	32
Total	74	45

Source: National Housing and Population Census, 2011 and 2021

Table 2 precisely indicates that the population growth is negative in many Rural Municipalities but positive in many Urban Municipalities (including Municipalities, Sub-Metropolitan and Metropolitans.

Out of 74 Rural Municipalities of Bagmati Province, 60 Rural Municipalities observed demographic declination while only 14 Rural Municipalities observed demographic inclination. Whereas, out of 45 Urban Municipalities, 32 presented inclining demography while only 13 presented declining demographic data.

Table 3: Top ten local governments with positive population growth (2011-2021)

SN	Local Governments	Population, 2068	Population, 2078	Decreased (-) Population	Percent of Decreased Population (%)
1	Chaurideurali Rural Municipality	20829	14076	-6753	-32.42
2	Temal Rural Municipality	22712	16957	-5755	-25.34
3	Khandadevi Rural Municipality	25761	19312	-6449	-25.03
4	Indrasarowar Rural Municipality	17585	13534	-4051	-23.04
5	Lisankhupakhar Rural Municipality	15155	11750	-3405	-22.47
6	Doramba Shailung Rural Municipality	22738	17686	-5052	-22.22
7	Melung Rural Municipality	20210	15893	-4317	-21.36
8	Likhu Tamakoshi Rural Municipality	23109	18325	-4784	-20.70
9	Tripurasundary Rural Municipality	15062	12014	-3048	-20.24
10	Tamakoshi Rural Municipality	18849	15163	-3686	-19.56

Source: National Housing and Population Census, 2011 and 2021

All 10 local governments experienced population decline over the decade. The percentage decrease ranges from -19.56% to -32.42%, indicating a consistent pattern of depopulation. The rural municipality with the highest absolute population decline is Chaurideurali (6,753), followed by Khandadevi (-6,449). Tripurasundari had the smallest absolute loss (-3,048), but still a substantial proportion of its population (20.24%).

Table 4: Top ten local governments with negative population growth (2011-2021)

SN	Local Governments	Population, 2068	Population, 2078	Incremental (+) Population	Percent of Incremental Population (%)
1	Kageshwari Manohara Municipality	60237	130433	70196	116.53
2	Mahalaxmi Municipality	62172	123116	60944	98.02
3	Tarkeshwar Municipality	81443	151479	70036	85.99
4	Suryabinayak Municipality	78490	140085	61595	78.47
5	Nagarjun Municipality	67420	115437	48017	71.22
6	Budhanilakantha Municipality	107918	177557	69639	64.53

SN	Local Governments	Population, 2068	Population, 2078	Incremental (+) Population	Percent of Incremental Population (%)
7	Chandragiri Municipality	85198	136860	51662	60.64
8	Changunarayan Municipality	55430	88083	32653	58.91
9	Madhyapur Thimi Municipality	83036	119756	36720	44.22
10	Gokarneshwar Municipality	107351	149366	42015	39.14

Source: National Housing and Population Census, 2011 and 2021

Kageshwari Manohara Municipality experienced the highest population growth, more than doubling its population with an increase of 70,196 people and 116.53%. Mahalaxmi Municipality also saw a substantial rise, nearly doubling its population with a 98.02% increase, adding 60,944 people. Other municipalities with significant growth include Tarkeshwar (85.99%), Suryabinayak (78.47%), and Nagarjun (71.22%), each gaining over 45,000 people.

Municipalities with comparatively lower growth rates also recorded large population increases. Budhanilakantha, for instance, added 69,639 people (64.53%), while Chandragiri grew by 51,662 people (60.64%). Changunarayan, Madhyapur Thimi, and Gokarneshwar also saw notable growth, with percentage increases ranging from about 39% to 59%.

Analysis

We tested whether growth rate (positive/negative) is independent of municipal type (rural/urban) by Chi-squared test of independence using Chi-square distribution table. The p-value was obtained to be 32.18 (>0.0001). The result indicates there is a statistically significant association between municipality type and growth rate. Rural municipalities are more likely to have negative growth rates, while urban areas are more likely to have positive growth rates. This implies that the demography of Bagmati Province is migrating from rural to urban areas.

Migration paves way for further migration in the same direction (Massey, 2010). Individuals acquire information about migration processes, destination places, and social networking from migrated family members, relatives and friends which further motivates and impacts out-migration by enhancing an individual's access to knowledge and financial resources. This migration increases population in a specific area and hence economic activities gradually accumulate capital in the area. This further increases the likelihood of in-migration in that particular area (Massey, 2010). Hence, migration inspires further migration, that Nepal and particularly Bagmati Province is suffering today.

Rapid migration to urban areas has left rural areas not only desolate, but also barren. A study carried out by Rimal, Bhagwat et al (2024) using satellite images of Bagmati Province between 1996 and 2016 reported that cultivated land decreased by 387.68 km^2 from 6113.50 km^2 in 1996 to 5725.82 km^2 in 2016, Shrubland declined by 272.03 km^2 from 1851.67 km^2 in 1996 to 1579.64 km^2 in 2016. But forest

area increased by 329.02 km^2 during the same time interval (Rimal, 2024). This clearly indicates the forest area is increasing but cultivated area is decreasing rapidly in Bagmati Province.

The same study reported built-up area expanded nearly 4 times within 2 decades from 85.25 km^2 in 1996 to 250.06 km^2 in 2016 (Rimal, 2024). The increase in infrastructure is the result of population growth, migration and infrastructure development. Migration demands new infrastructure whereas the previous infrastructure remains either useless or underutilized. This finally leads to an increase in infrastructure and land cover that decreases cultivated areas. Decreased cultivated areas imply less agricultural practices, under production, and under employment. At the same time, underpopulation in rural areas resulted in under-utilization of natural resources and fertile land in the area, whereas overpopulation in core cities creates resource competition, and hence resource shortage.

This implies not only to migration within the country but beyond the country too. The National Population and Housing Census 2021 reported that 397,930 people (6.51% of total population) from 283,228 households in Bagmati Province are absent during the census.

The labor loss argument suggests that out-migration negatively influences migrant-sending communities or countries in two important ways as reported by different studies. First, in labor-intensive agriculture, the loss of farm labor negatively affects agricultural engagement, and hence production. This may result in a complete exit from farming (Ghimire, 2021). Second, even when migrants send earnings and remittances home, research suggests that a large portion of this money is used for consumption rather than productive investments, leading to economic dependency and stunted development in migrant-sending areas (Mahapatro, 2016).

Ghimire et al (2021) studied association between out-migration and remittances by household members and subsequent exit from farming, controlling for variations in community context and reported that international out-migration is associated with higher odds of exit from farming and simultaneously remittances are associated with lower odds of exit from farming (Dirgha J. Ghimire, 2021).

The recent study of Nepal Rastra Bank pointed out that the first Semi-annual period of current FY 20818/082 observed decreased cultivated area by 5.3 percent with respect to the same period of the previous year; and consequently, decrease in agricultural products by 4.3 percent. The study indicated the decrease of important crop products of Bagmati Province viz. rice by 1.1 percent, wheat by 5.5 percent and maize by 3.7 percent (Kharel, 2025).

Nepal is basically an agricultural country. Agicultural productivity is regarded as one of the main determinants of higher economic growth of any country (Douglas, 2010). Countries such as China, India, and Mexico have improved their living standards due to an increase in their productivity (John W. McArthur, 2017). Nepal should also increase agricultural productivity to attend destination of prosperity, for which more agricultural engagement is the must.

Reverse Migration

Migration is as old as human civilization, whereas reverse migration might be younger. Oxford English Dictionary shows the earliest evidence of "Remigration" from 1608, in the writing of Andrew Willet in

"Church of England Clergyman and Religious Conteroversialist" (OED, 2009). To increase cultivated land, overall productivity, and employment oppurtunity, reverse migration may be a practical strategy. Migrated population, inside or outside country, is likely to have exposed with new technology, skill and earning (David Zweig, 2006). Therefore, reverse migration brings back, to very often rural area, workforce with exposed and skill manpower, devoted enough to work and capable enough to invest. This will create environment to re-cultivate the land .

A study accomplished by Muskan Aggarwal and Shreya Singh reported that Reverse Migration can capture oppurtunity to reduce stress, restore lost dignity, alleviate self-esteem being near and loved ones (Muskan Aggarwal, 2016). The Reverse Migration significantly contributes brain gain (Karin Mayr, 2008)

4. Conculsion:

Bagmati Province upholds the highest Gross Domestic Product (GDP) of Nepal occupying 36.52 percent of total GDP of the country (i.e. NRs 2230.23 Billion of Bagmati Province out of 6107.22 Billion of Nepal) in the recent study of Nepal Rastra Bank (Kharel, 2025). But the primary and secondary sector exhibits only 11.8 and 11.1 percent respectively while the tertiary sector exhibits 77.1 percent of Bagmati Province, This indicates alarming efforts for the immediate action to increase productivity, both agriculatural as well as industrial, to sustain the Province. The suitable strategic tool for this need of the hour can be "Reverse Migration". Japan benefited from reverse migration in 1970s that they cheerfully nomenclatured as "U- Turn Phenomenon" (Abe, 1978),

Bagmati Province suffers high number of migration, in or outside country. This has elevated barren lands in rural areas, and missing the historial oppurtunity to utilize demographic dividend into productivity. Bagmati needs to take advantage of favorable demographic context by qualifying and mobilizing currently existing large volume of active years population to fulfill the mission of sustained economic development (Parajuli, 2021). For this, Health Ministry of Bagmati Province has just finalized the Population Policy 2025, the first in any provinces of Nepal, to scientifically manage population in the province. The adoption and implementation of the policy will definitely contribute in Reverse Migration of the population from urban to rural areas to engage them in productivity and enterpreneurship.

5. Recommendation

To achieve Reverse Miration, the province government needs to formulate some incentive packages for motivating people to return back home and begin enterpreneurship. Enterpreneurship training, supporive incentive packages, soft loan, strengthening production to marketing channel, and physical infrastructure development as business supportive care can be some of the models of motivation for Reverse Migration. Detail study should be carried out to trace how Bagmati Province can motivate city dwellers for Reverse Migration as well as suitable plans and policies to be adopted for the process. This will definitely lead to increased productivity of Bagmati Province through wise utilization of natural resouces and fertile land of rural areas as well as enterpreneurship development that will finally lead to Prosperous Bagmati.

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Slash and Burn to Agroforestry: A Journey of the Least Marginal Bankariya Community of Makwanpur

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ABSTRACT

Agroforestry is the best alternative to the slash–and-burn practice. Bankariya, the least marginal of Nepal was replaced with a slash and burn to a new farm-based agroforestry practice in the leased land provided through the Government of Nepal for long time. This study examines the farm-based agroforestry practices and challenges faced by Bankariya. All 24 community houses were interacted with face-to-face and group discussions during a field visit in 2024, 2025 under a longitudinal study. Secondary review, KII, Observation and interaction tools were used to generalize and analyze the ongoing agroforestry practices.

The study revealed that Bankariya are following agri-silviculture, followed by agro-pastoral practice within the areas. Agroforestry practice like planting of trees and crops, generates income and food security for them, anticipating various opportunities, social networking and support from the development agencies. Agroforestry practice supports managing food and income, support from the various development agencies helped to enhance the farming knowledge and material supports bring them attention to establish a comprehensive farming cycle that possibly through agroforestry but the lease-land provided by the Government is ending this year and Bankariya is worried about the prevailing structure. Land tenure extension, market linkage and promotion of traditional crops and least marginal identification and support in the Provincial level are advised.

KEYWORDS:-*Bankariya, slash and burn, agroforestry, food security, lease-land, farming system*

Introduction

Agroforestry is a practice that land-use systems and technologies with woody perennials like trees, shrubs, palms, bamboos, and more are used on the same land management (Nair, 1993). It is a land use science that deals with the interface between trees and crops along with the livestock practices, in the same unit of land (Wood, 1990). Agroforestry is the best alternatives of "slash and- burn" farming, which reducing erosion, improving soil quality, adding vegetation cover, and enhancing the life's of forest-dependent communities like Nepal. Farm-and forest-based agroforestry practice are common in Nepal. Farm-based practices are home gardens, trees planted on and around farming-fields, trees and commercial crops intercropped in the same land (Bugayoung, 2003). The forest-based practices conducted in forests that generates food, fruits and gums by the farmers (Tejwani & Lai, 1992). Shifting cultivation considering one of the popular among ethnics of Nepal known as Khoriya farming on which slash and burn techniques follows and shifted next season. Khoriya means the steep slopes where cultivation is done following slash-and-burn practices. Shifting cultivation system which needs moving from one plot to another, or slash-and-burn, refers to the system of destroying the forest land (Chhetri, Dahal, Pokhrel, Maharjan, & Suman, 2018).

Agroforestry generate income and greeneries both within the Chepang community who were depending on the forest resources, Farm-based agroforestry intervention not only changed the livelihood rather increased the income of marginal people living in western part of Makwanpur district (Hetauda Sandesh, 2015; Chhetri et al., 2020).

The Government of Nepal is very positive in developing agroforestry. The Fourteenth Plan (2013/14 - 2015/16) pointy out individuals/ communities encouraged to identify high value medicinal and aromatic plants, supportable harvest, technology expansion, commercialization and marketing (NPC, 2013). Following the provisions in the plan, Government of Nepal has given due consideration in developing agroforestry. Development agencies taking agroforestry practice as the best intervention to support livelihood in rural areas. Like, UNFAP and IUCN and many other agencies helping formulate agroforestry policy for the country (Amatya et al., 2018).

Bankariya community

Bankariya are least marginal belongs to Handikhola, (Manahari ward no-4) identified as a marginal past life was nomadic. They were practicing khoriya farming and after development interventions, agroforestry practices initiated. However, the situation with the Bankariya community is different, as its members do not hold private land. The Bankariya, both individuals and the community they form, traditionally live on the fringe of forests, with their livelihood largely dependent on forest products, including food for human consumption and forage for livestock.

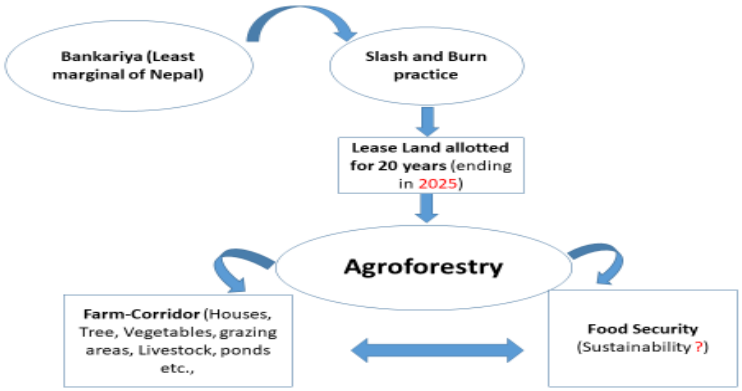
In January 2025, a field visit was conducted to Handikhola, located about 45 minutes from Hetauda in Makwanpur District, to observe the Bankariya community and their agroforestry practices. Handikhola is a small settlement at an altitude of approximately 360 meters above sea level, situated at coordinates roughly 27.4200°N latitude and 85.0800°E longitude in the Chure foothills, an ecologically sensitive region known for its fragile terrain and rich biodiversity. Upon arrival, we had the privilege of meeting Santamaya Didi, a woman whose eyes reflected the wisdom of generations. She kindly shared the history of her community, their unique lifestyle, and their agroforestry practices.

The Bankariya community, huddled among wooden houses and a few incomplete block houses under construction belong to the people indigenous to the Makwanpur district, Nepal that were once forest dwellers living in Tangra Dada. Their ancestors lived off forest resources like *gittha (Dioscorea bulbifera)* and *bhyakur (Dioscorea deltoidei)*, practicing shifting cultivation. The name of the tribe originates from Bankariya khola, the river near which they originally resided. Though often mistaken for the Chepang community, they are distinct particularly in terms of their language. During the 2001 census, the Bankariya were discovered and relocated to Handikhola. Previously, the Bankariya community lived without formal land rights, making their settlement and livelihood uncertain. However, to address their vulnerability, in 2005 the Nepalese government granted the Bankariya community a 20-year lease for six hectares of land designated as a leased forest area. This agreement was facilitated by the District Forest Office of Makwanpur and is set to expire in May, 2025. Unlike commercial leasehold forestry, which prioritizes the economic exploitation, this arrangement enables the community to settle, cultivate crops and sustain their livelihood while also actively conserving the forest. This special lease provides them with stability and a means to integrate sustainable practices into their way of life. Currently, there are 93 people in the community, with 24 households. Historically, they had no farming knowledge or land, but they have since adopted subsistence farming on the leased land.

Agroforestry practice in government lease land is little bit different than the usual one.

Agroforestry in the government-leased area managed by the Bankariya community differs from the conventional leasehold forestry or private farmlands in several aspects. Unlike leasehold forestry, where land is leased from the government for the exclusive purpose of forest management, the government-leased land for agroforestry is intended to balance forest conservation with sustainable agricultural practices. This approach provides a long-term home for the community, offering security and stability while reducing harmful practices like shifting cultivation that were traditionally practiced by these communities. The Bankariya community faces specific government-imposed restrictions on commercial timber harvesting and land use changes, which helps prevent deforestation and land degradation. Organizations like Manahari Development Initiatives (MDI) Nepal have been supporting the community by providing technical assistance, training in sustainable farming techniques and promoting different farming practices. These organizations further help the community integrate fast-growing native tree species, fruit-bearing plants and shade-tolerant crops into the agroforestry system, enhancing food security, fuelwood supply and fodder availability for the community.

Conceptual Frame, Study Variables and relevant issues of the Bankariyas.



(***Figure-1, Conceptual framework of the Bankariya addressing relevant statement of ongoing scenario***).

Previous literature is enough to draw the journey from the slash and burn farming to agroforestry build a farm-based agroforestry established tree, vegetables, grazing areas for the livestock and ponds returning cash amount through aquaculture. In addition, Food security situation is stable and security is depending on the various production and other useful indicators but the land tenure allotment is ending. The next steps is challenging for the community because agroforestry promotion required plantation and innovation that community competencies is in favor of climate but the land sustainability raising a big question and fear of investment to sustain. Hence, this framework raising many questions in favor that need to be addressed through research.

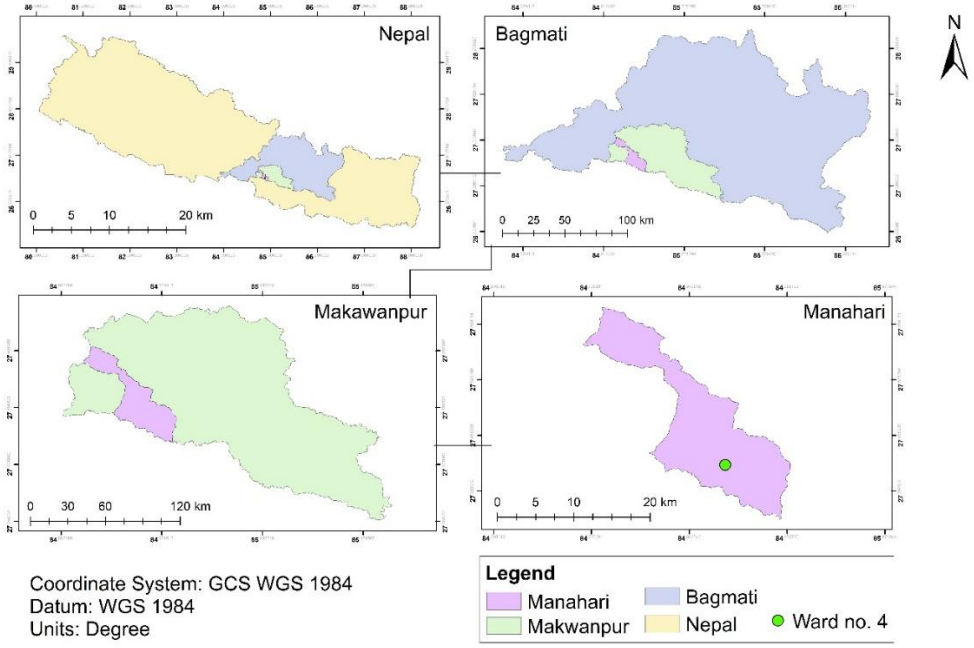
Hence, the following conceptual frame, literature review and background aligning to find out the farm-based agroforestry practice and challenges face by the Bankariya in the study area. In addition, from the policy research, this frame is suggesting to investigate other marginal communities and there farming practices may ongoing through lease land or sloping or leasehold landing and allocation of own land or leasehold and promotion of agroforestry of sustainable technology could be a best role model to the

least marginal in Bagamati Provinces where marginal like Chepang, Bote, Rai, Magar and Dalit are high in numbers and low research is done.

2. Methods

This is a longitudinal study in which the community was interacted with two times, once in 2024 January and another was in January 2025. A sum of 23 Bankariya houses were purposively chosen (*Figure-2, study area*) interacted and interviewed using standard FGD questionnaires through face-to-face interview. In addition, 2 Focus Group Discussion-FGD was done, one with the community members in 2024 and another was in 2025 in the same community. The observation skills, individual interaction and Key Informant interview-KII with the ward/ Local Government/ Development agencies were interacted and followed the standard check list. The notes of the FGD was reviewed, analyzed and coded using NVIVO 15 Qualitative analysis software and various statistical figure were generated. In addition, the findings of FGD questions were interpreted figure-graph-wise. The statistical analysis of Nepal Living Standard Survey 2021 by CBS was reviewed and added as a secondary review and empirical data of various papers were obtained and included during analysis.

(Figure-2, Study area showing the location of Bankariya where research is conducted)



(Source: - Self prepared map using GIS)

Three research questions were drawn & were analyzed accordingly, and the questions were guided through the FGD, KII as a primary sources and secondary sources of previous data taken by the NLSS and other online journals. The research questions set herewith:

a) How is the current situation of Bankariya?

b) What are the agroforestry practices in the community?
c) State the food security situation and challenges of farming practices in the community?

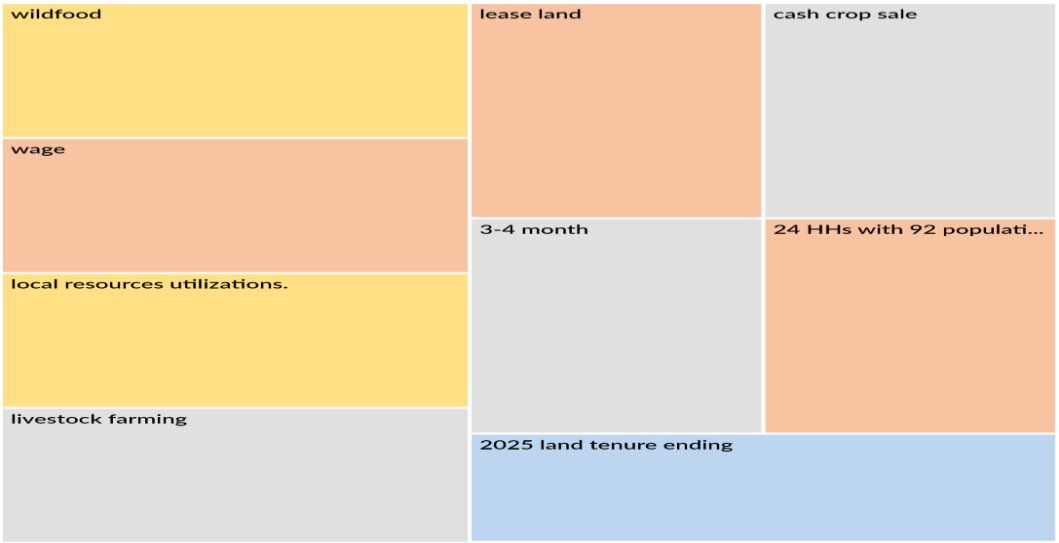
These research questions and questions that were asked with FGD participants are associated with each other because during Qualitative analysis following research questions and Codes were generated and set that reflect the answer based on the research question.

3. Results

The results are drawn here based on the findings of Qualitative and Quantitative data objective-wise.

The Current situation of Bankariya

(Figure 3:- The current situation of Bankariya in the study area)



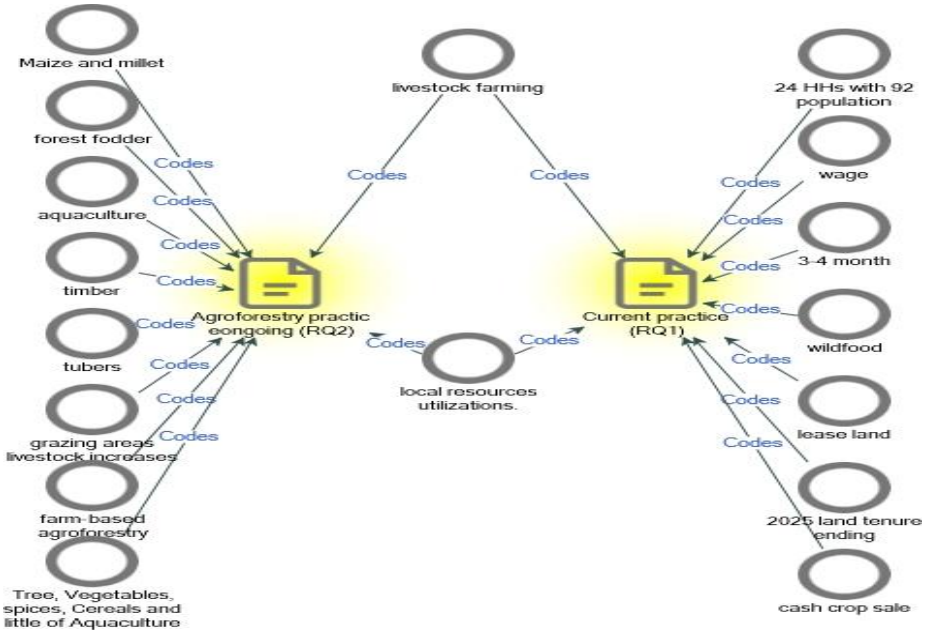
(Source: Field Survey, 2025)

Qualitative notes through FGD processed applying NVivo 15 generate a comprehensive statistics (figure-3) demonstrates that Bankariya are residing in Handikhola, Manahari ward no-4, population noted 92 people with 24 houses. Starting from shifting cultivation commonly known as slash and burn (Khoriya farming in Nepali) time people were depending on wild food consumption like gittha (See Botanical name in Annex-), Bhyakur() and Choya() during Maoist period a decade ago is no longer practice is change to farm-based agroforestry practice intervened by development agencies. The reason behind Khoriya farming were high production but farming later through advance methods. The lease land provided by GON and Nearly 5 kattha is allocated on lease that ending in 2025. The current off/ on wage is the cash income medium for Bankariya.

The income from the local resource utilizations like livestock farming, wood collection, cash crop sale are all given through agroforestry practices. The stock of HHs remains for 3-4 months from the sale of local Maize and millet has turned to local vegetable production. Thus, all such activities carried on lese land and tenure is ending in 2025 and Bankariya worried of land and corridor developed themselves.

The Agroforestry Practices/ model

Figure-4, the agroforestry practice of the study area and consequences



(Source: Field visit, 2025, Qualitative coding analysis)

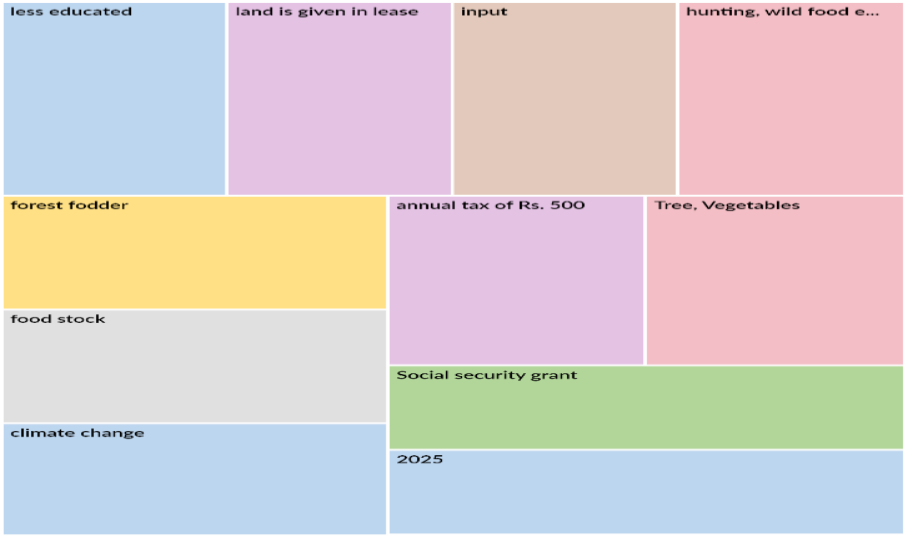
The farm-based agroforestry practice like agrisilviculture, agropastural and agriaquaculture are found in the study area. The respondents have planted trees (Bakaino, Annex-1) along with cereal (Maize, paddy, millet) and vegetables (On/ off seasonal) in the same field. Fodder plantation has increased the livestock. Intercropping and a mixed pattern of fruits, tree, legumes and vegetables plantation all along with cereal plantation are stated in the study area (Figure-4). The Maize and millet cereal are the most traditional cereal anticipates production for the self-consumption and cattle feedings. Due to fodder, grazing area immensely increased and fuel (wood/ timber), livestock increased and number of grazing areas ultimately inclined livestock numbers. Cow, Buffaloes, Goats, poultry is the best mode of cash income from the sale. In addition, Income from sale of banana, pineapples, mango and other fruits are the source of income. In addition, Broom grass, bamboo- planted as a shed near aquatic pond, verities of fishes like common carp, rohu are available stands good farm gate price in nearby markets.

According to figure-4, illustrating that 24 Houses of Bankaya with 92 Populations arounds living in the Musidhap settlements together. Earlier, the food security in terms of own production based food stock were remained for the 3-4 months in average and most of the peoples were depending on off wage opportunities around were earning NRS. 500 to 800 per day. After agroforestry practices Bankariya has made a huge agroforestry model like they have built a comprehensive set up of tree and vegetation all together in the same lease land. Now the major issues arouses is the land tenure time is ending by the end of 2025 that assigned through Forest Department. During discussion people raised point that what us the future of Bankariya is unknown because they have no land and lease timeline is ending soon. The wild food is culturally accepted and most likely food for the Bankariya consuming in regular and during

crisis of food recorded during interview this indicate that food diversity is high for the community and if they are allowed with space for the production agroforestry promotion is pretty sustainable and such promotion in a traditional way will benefit the community and environment both because local promotion of food and wild foods are the best to explore in the national and international level which has nutritional capacity and high calories

Food Security Situation and Challenges of Bankariya community in the present context

Figure-5, Summary statistics of challenges of Bankariya and ongoing FS situation



(***Source; Field visit, 2025 NVIVO based design***)

In contrast to the challenges, Bankariya is underway with farm-based agroforestry practices that generate fodder, tree and various farming component. In addition, climate change is an emerging issue in the community. Erratic rain, drought, lack of water availability, and various weather patterns in cold, winter and summer is gradually changed and this change generates decline of production. Annul tax of NRS. 500 per houses is painful to the Bankariya giving to the forest Division. Income from the Tree, vegetables and Social security grant of NRS. 4000 per person to the elderly and Bankariya grant is ongoing but such amount is not sufficient to manage livelihood yearly. The Food stock at the houses level remains for the 4-6 months and as part of coping wild food collection and forest fire uses are adapting as a worse coping for the people. In addition the major problem of Bankariya states that the land tenure that ending in 2025 and they are scared of the location because a comprehensive farming set up has built by the effort of Bankariya and this creation is difficult to own due to no land ownership. Discussion with people also stated that they are ready to conduct many interventions in the coming days but little panic of renewal of Land tenure. If they lost they will lose the entire set up and if they continue a comprehensive agroforestry based farming village may be a role model for the future and that will be one of the best example of sustainable development and the credit must goes to the community, LG, Provincial and various development partners. Hence, land tenure advocacy and renewal are requested and noted the biggest challenges for the Community.

Government policies and community sustainability of the Bankariya people

The Kathmandu Post quotes and found that the Bankariya community in Handikhola, Makwanpur, has faced ongoing encounters on land ownership, livelihood and government gratitude. After their lease ends this May, with their settlement now falling under the jurisdiction of Parsa National Park, authorities have indicated that without a renewed agreement, the community may face eviction (IWGIA, 2024). Notwithstanding such concerns, the government officials, including MP-Members of Parliament, have visited the settlement and pledging to address their issues by advocating for land ownership certificates and improved access to healthcare, education and infrastructure (UNDP, 2024). The conclusion of the land-related problem resolution commission has delayed the distribution of land titles, generating further uncertainty for the community (Kathmandu Post, 2024).

To sustain their livelihoods, Bankariya women have initiated savings groups to generate income with a community-driven approach to financial stability (INSEC, 2024). Some members have also engaged in vegetable farming and small-scale agriculture, enhancing their economic independence (The Annapurna Express, 2024). Despite their efforts, limited institutional support and legal recognition have been their primary obstacle. The shift of the community from a nomadic lifestyle to a settled existence has required adjustments in land use and resource management, yet the absence of formal ownership rights continues to threaten their long-term sustainability (INSEC, 2024). While local organizations and government agencies provide some assistance, ensuring the security and sustainability of the community demands more concrete policies and institutional commitment.

Secondary Review and statement of the Previous study:-

The Bankariya community facing prolonged challenges because of limited land tenure, constraints ability to invest in long-term investment with modern technology. The fear of access to essential resource in the lease land developed by themselves and losses of land after ending contract are panic factors that affects the livelihood and essential resources (Kathmandu Post, 2024). Own land and prolonged investment is the most comfort factor for them. For agroforestry promotion, own registered land holding is the best way responded in various interview at the field level. The reforestation idea is the best way to improve soil health, water withholding and biodiversity (Chhetri et al., 2018).

Field study suggest that the agroforestry system in the community could enhance the resilience by integrating trees with crops, reducing soil erosion and increasing agricultural productivity. However, fear of losing land prevents the Bankariya community from embracing these practices. Hence, land tenure reforms are vital for securing legal acknowledgement of their land, allowing investments in agroforestry and reforestation (Kathmandu Post, 2024).

Likewise, promoting of community-based land management would sanction the Bankariya to take possession of own resources and ensuring the adoption of sustainable practices and developing biodiversity conservation (Manandhar & Nepali, 2024).

4. Conclusion

Bankariya are the least marginal community identified from the time of nomadic life and have now become successful farmers living traditional. The agroforestry not only increased the capacity rather made a comprehensive development model in the community and Bankariya became one of the role models where various development investments and self-efforts have made this success. The slash and burn now has come to the sustainable agroforestry practices and still there are many challenges left in

the community like land sustainability, management of local resources and most importantly, the continuation of development and sustainability.

5. Recommendation

Based on the evidence of the given findings, three tiers of Government, Public and private sectors advocacy for land renewal is advised. The promotion of high-value cash crops and market linkage and policy and planning support to prioritize endangered-marginal areas as the most traditional producers and most preservative technology area for the global audience to learn and practice agroforestry and culture at the same areas. The sectoral support by the Province can lead and sustain the lives of Bankariya's and the least marginal in the Provincial territory. Like Bankariya's, the marginal study and empowerment are advised at the Provincial and Local Level to identify the gap, align regular allocation for the progressive sustainable development.

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School Dropout Among Tamang Adolescents: Causes and Ways to Mitigate

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ABSTRACT

Dropouts from school refer to young children who enroll in school but leave school before completing the grade without transferring to another school for some reason other than death. It is a major problem in underdeveloped countries like Nepal. Finding out the reason for the dropout is crucial for the state intervention in the process to facilitate the learning environment of the children and eventually strengthen the education system. The study was carried out in five dropped out adolescents from the Tamang community in two secondary schools of Roshi Rural Municipality, Kavrepalanchok. The study revealed that the major causes of school dropouts are the ignorance of the children in learning, engagement of the children in domestic work due to poverty, and the non-attractive school environment for learning. The parents have, however, good perceptions towards education, but their circumstances hindered their motives. The problem can be mitigated by supporting poor households to strengthen their financial capacity.

Key words: Adolescence, Dropout, Mitigate, Perception, Poverty

1. Introduction

Dropouts from school are defined as young children who enroll in school and, for some reason other than death, leave school before completing the grade without transferring to another school (Chugh, 2011). Dropout is most acute with lower-income and minority students (Reimer, 2009). Poverty is a driving factor pushing child labor and leading to drop out (Hunt, 2008). In the context of Nepal, people from ethnic, minority, and deprived communities are most vulnerable to school dropout. The education system is neither helping in stopping dropouts in the community nor supporting young children to learn skills to improve their employability and earn higher. In this respect, children in the community did not seem to be dropouts, but school leavers. They had left school on the footsteps of their elders and simply followed the tradition of being foreign employees in the gulf countries.

The Tamang ethnic group, according to the Census 2021, accounts for (5.6%) of the country's population and has its own mother tongue, Tamang, the fifth largest language in the country with nearly (4.88%) of the nation's population speaking the language. Interestingly, a large majority of this ethnic group speak Nepali as their second language whereas a small fraction of the country's population (0.12%) also speaks Tamang as their second language.

Adolescence begins with the onset of physiologically normal puberty, and ends when an adult identity and behavior are accepted. This period of development corresponds roughly to the period between the ages of 10 and 19 years which is consistent with the World Health Organization's (WHO) definition of adolescence. During adolescence, issues of emotional (if not physical) separation from parents arise.

While this sense of separation is a necessary step in the establishment of personal values, the transition to self-sufficiency forces an array of adjustments upon many adolescents.

Several psychologists urge that with little power and little control over their lives; teens often feel that they have marginal status and therefore may be driven to seek the respect that they feel they lack. Without clear roles, adolescents may establish their own way of life and spend their time pursuing irresponsible or deviant activities like crimes, smoking, and dropping out school and so on. Adolescents who drop out of school represent a large group of the young population, who are at high risk of social and economic consequences such as engaging in illegal activities and delinquent behavior (Beauvais, 1986), as well as a high probability of problems in adapting to the social environment and employment in Nepal. Once the children drop out, they rarely return for formal education again. They also rarely become skilled laborer, which in turn limits their earnings to subsistence-level income (Hunt, 2008).

Nepal has endorsed education as a priority sector for the last seven decades. The very first periodic plan of Nepal envisioned the steady growth in education as an essential component for a democratic society, a better economic condition of the nation, and to gain and hold a place in the world. However, especially after the 1990s, education has been globally considered as a basic human right, where Nepal remained as a signatory to the international declarations of human rights and child rights. More specifically, students' dropout is a big challenge to the country. It is a huge loss of investment of the government in the field of education. Such a loss hampers development of a country; on the other hand, school dropout may reduce internal efficiency of school education. In the context of Nepal, several interventions have been carried out by the government i.e., scholarship support, infrastructure development, teacher professional development and so on. However, those interventions have not been succeeding in controlling the dropout and strengthen system of school education. Bagale and Sapkota (2015) mentioned the reasons of dropping out of children from school and that dropout is common among children whose family is poor, have less income, social status, and migration of family etc. It is difficult for the poor, marginalized, and socially excluded families to continue and support children's schooling where parent's income is even not sufficient to fulfill the basic needs such as food and clothing (Bagale, 2015) .

The main objective of the study was to explore the causes of school dropout among Tamang adolescence in Kavrepalanchowk district. Specifically, the following were the objectives of the study.

- To explore the major causes of dropped out adolescents
- To explore ways for reducing the trends of dropout at the secondary level

2. Methods

This is a qualitative study based on small samples as case studies of the dropped-out adolescents from the Tamang community from two secondary schools of Roshi Rural Municipality, Kavrepalanchok. The stratified snow balling sampling technique was used to identify the dropped-out adolescents, and open endeded interviewes were carried out with them and their parents. In addition, a few key informant interviewes with selected teachers and a couple of partipants observation visits were carried out to substantiate and validate the collected qualitative data.

3. Results and Discussion

Dropout is often a process rather than the result of one single event, and therefore has more than one proximate cause (Hunt, 2008). This study has revealed that the common causes of school dropout are

related to teaching and learning, social stigma (labelling), lack of co-curricular activities, and poverty. This section presents the summary of each as follows:

Cause 1: Uncaring, Unloving and Neglected Teaching Behaviour

Uncaring, unloving and neglected teaching behaviour was found to be one of the major causes of school dropout among Tamang adolescent students. In this connection, the view of one of the dropped-out students is as follows:

> *"Frequently, I had to stay at my grandma's house for some time due to my family's problem. As a result, I could not manage learning materials in my class all the time due to misplacing of my books, copies, and pencils. I told my teachers about my problem, but they did not listen to me. I was unloved and uncared for at home and so was at school due to not being able to do my homework. I was punished at home for not giving time for household work while and punished at school for not completing of homeworks. I wanted to do better in my studies; however, no one encouraged me at school. So, I left the school".*

Thought the ways of expression were different, the students who were interviewed also have the similar views.

Cause 2: Social Stigma (Labeling)

It was noticed that the dropped-out students had faced social stigma/labeling such as 'dumb', 'slow', 'hopeless' etc. on a regular basis in front of their friends at schools, in front of family members at home, and in front of community people at public places. the key determinats role to students. In this connection, the response of a respondent (Bikram changed name) is as follows;

> *'I had to work as a laborer to build houses with my father for a month. During that that period, I could not attend my classes at school. When I resumed my class, my friends and teachers started calling me 'Karmi' (one who works with woods, clay and stone while making house) everytime. I was not Bikram, but Karmi and then left school.'*

Cause 3: Lack of Extra-Corricular Activities

The researcher's participation observation found that small tea shops and grocery shops were providing playing facility such as; Caroom and Dice. Most students found spending their time in these facilities before and after school. On the other hand, the schools lacked extra curricular activities to spent time in schools. As a result, students were found demotivated to go to schools. In this connection, the response of one of the respondents is as follows:

> *"Our school has no provision for playing things, organizing sports, and non-sports activities. Thus, some students, including me, got demotivated to study and left the school."*

Cause 4: Poverty

Poverty not only leads to inability of households to pay school fees and other costs associated with education but also stop children going to school. School going children from poor families do not receive encouragement or enabling environment for going to schools. In addition, they should often engage in earning activities or help their parent earn money for their livelihood. Here are some causes of dropout highlited by the respondents:

Junu (changed name) states:

> *"I had step-mother and drunkard father. I reside with father and stepmother in a house where we pay rent.* Junu (changed name)

Bikaram (changed name) states:

> *"We had a large family size including six sisters. My father is a mason and had to feed whole family. Most often I had to go with my father to help him so that we can earn income for our livelihood. For me this is the reason for leaving the school".*

Similarly, Lalmaya (changed name) states:

> "*I lost my mother two years ago due to mental disorder. My father was a mason. I should look after brother and other domestic works. That's' why I left the school".*

4. Conclusion and Recommendation

From the perspectives of the dropped-out students, factors such as uncaring and unloving behavior of teachers and family, social stigma, poverty, and lack extra extracurricular activities are found primarily responsible for the dropout of students from the Tamang Community. For this, agencies like family members and teachers are found to be the responsible agencies in this connection. The following measures may be taken to reduce the dropout ratio of students:-

- The school management committee and teachers should create a caring and loving environment at schools. Teachers should listen to the voices of students.
- Stigmatization or discrimination of students based on their role or identity should be stopped immediately. The school management committee and teachers should create an enabling environment to encourage non-discriminatory behaviour at school.
- Depending on the capacity of the schools, there must be some extracurricular activities that help retain the students at the schools.
- Promote poverty alleviation programs that help children come out of the vicious circle of poverty and ecourage them for going the schools.

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बागमती प्रदेश सरकारको बेरुजु र फछ्यौंटको अवस्था

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लेखसार

बेरुजु आर्थिक अनुशासनको साथै समग्र सुशासनको अवस्था मापन गर्ने आधार हो। बेरुजु व्यवस्थापन सम्वन्धमा विद्यमान कानूनी व्यवस्थाहरू, बागमती प्रदेश सरकारको आर्थिक वर्ष २०८०।८१ सम्मको प्रत्येक आर्थिक वर्षको असुल उपर गर्नु पर्ने बेरुजु, नियमित गर्नु पर्ने बेरुजु र पेश्की बेरुजुको विवरणको साथै आर्थिक वर्ष २०८०।८१ सम्मको अध्यावधिक बेरुजुको विवरणसमेत यस लेखमा समावेश गरिएको छ। नियमितता, मितव्ययितता, कार्यदक्षता, प्रभावकारिता र औचित्यता पुष्टि हुने गरी सार्वजनिक खर्च गर्दा ध्यान दिने गरेमा सरकारको बेरुजु घटन सक्दछ। यसका लागि कानूनमा भएका व्यवस्थाहरूको पूर्ण रुपमा पालना गर्ने र बेरुजु देखिएमा विद्यमान कानूनी व्यवस्था अनुसार समयमा फर्स्यौंट तथा सम्परीक्षण गर्ने गराउने र सोका लागि जिम्मेवार पदाधिकारीहरूलाई जिम्मेवार बनाउने उपायहरू अवलम्वन गर्न सकिन्छ।

शब्दकुञ्जी: बेरुजु, आर्थिक सुशासन, बेरुजु फर्स्यौंट, बेरुजु सम्परीक्षण

१. विषय प्रवेश

बेरुजुले समग्र सरकारको वित्तीय अनुशासनको मापन गर्दछ। राज्यको स्रोत, साधन, अधिकार र अवसरको प्रयोगमाथिको दुरुपयोग नै बेरुजु हो (अधिकारी, २०८१)। सार्वजनिक स्रोत साधनको प्रयोग गर्दा अवलम्बन गर्नु पर्ने विधि अवलम्बन नगरेको वा आर्थिक हिनामिना हुने गरी कार्य गरेको वा कानून बमोजिम पुऱ्याउनु पर्ने प्रकृया नपुऱ्याई गरेको खर्चलाई लेखा परीक्षण गर्दा बेरुजुको रुपमा उल्लेख गर्ने गरिएको छ। यसरी आर्थिक हिनामिना र मस्यौट, हानी, नोक्सानी र अन्य असुल गर्नु पर्ने रकमलाई असुल गर्नु पर्ने बेरुजुको रुपमा उल्लेख गर्ने गरिएको छ। अनियमित भएको, प्रमाण कागजात पेश नभएको, जिम्मेवारी नसारेको र शोधभर्ना लिनु पर्ने रकम नलिएको रकमलाई नियमित गर्नु पर्ने बेरुजुमा उल्लेख गर्ने गरिएको छ (महालेखा परीक्षकको वार्षिक प्रतिवेदन, २०७८)। यसै गरी म्याद नाघेको पेश्कीलाई पेश्की बेरुजुको रुपमा उल्लेख गर्ने गरिएको छ। आर्थिक कार्यविधि तथा वित्तीय उत्तरदायित्व ऐन २०७६ अनुसार, बेरुजु भन्नाले प्रचलित कानून बमोजिम पुऱ्याउनु पर्ने रीत नपुऱ्याई कारोबार गरेको वा राख्नु पर्ने लेखा नराखेको तथा अनियमित वा बेमनासिब तरिकाले आर्थिक कारोबार गरेको भनी लेखापरीक्षण गर्दा औल्याइएको वा ठहऱ्याएको कारोबार सम्झनु पर्छ भनिएको छ। बेरुजु सरकारको वित्तीय सुशासन मापन गर्ने आधार समेत हो। यस लेखको उद्देश्य बागमती प्रदेश सरकारको बेरुजुको अवस्था, प्रवृति, सुधारका लागि गरिएका प्रयास आगामी दिनु लिनु पर्ने कदमहरूका सम्बन्धमा विवेचना गर्नु रहेको छ।

२. अध्ययन विधि

यो अध्ययन मूलतः द्वितीय स्रोतबाट प्राप्त तथ्याङ्क र सूचनाहरूमा आधारित रहेको छ । बागमती प्रदेश सरकारको आर्थिक वर्ष २०७४/०७५ देखि २०८०/०८१ सम्मको बेरुजुसँग सम्बन्धित प्रकाशित, अप्रकाशित वित्तीय विवरण र कार्यालय अभिलेखहरू नै यस लेखको सूचनाका प्रमुख स्रोतहरू हुन् । यसका अतिरिक्त बेरुजु फछ्यौंटसँग

सम्बन्धित प्रदेश सरकारका मन्त्रालय र निकायका निर्णयहरू, प्रदेश सभाको सार्वजनिक लेखा समितिको निर्देशनहरू यसका थप स्रोतहरू हुन् ।

३. बेरुजुको अवस्था, प्रवृति, प्रमुख समस्या र समाधानका लागि गरिएका प्रयासहरू

३.१ असुल उपर गर्नु पर्ने बेरुजुको अवस्था र प्रवृति

आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको प्रत्येक आर्थिक वर्षको अन्तिम लेखा परीक्षण गर्दा देखिएको असुल उपर गर्नु पर्ने बेरुजुको विवरण तालिका १ मा प्रस्तुत गरिएको छ ।

तालिका १: असुल उपर गर्नुपर्ने बेरुजुको अवस्था

आर्थिक वर्षहरू	असुल गर्नु पर्ने बेरुजु रकम (रु. हजारमा)	असुल गर्नु पर्ने बेरुजु प्रतिशत परिवर्तन
२०७४।०७५	३	
२०७५।०७६	५२९१८	
२०७६।०७७	१४७८२३	१७९.३० %
२०७७।०७८	४४१८५	-७०.१० %
२०७८।०७९	६९०२६	५६.२० %
२०७९।०८०	६९५३५	०.७० %
२०८०।०८१	७०९४७	२.०० %
जम्मा	**४५४४३७**	

स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशका प्रत्येक आर्थिक वर्षका लेखापरीक्षण प्रतिवेदनहरू

आर्थिक वर्ष २०७४।७५ मा सबै निकायहरूको जम्मा असुल उपर गर्नु पर्ने बेरुजु रु. तीन हजार मात्र रहेकोमा आर्थिक वर्ष २०७६।७७ मा जम्मा सबै आर्थिक वर्षको भन्दा बढी रु. १४ करोड ७८ लाख २३ हजार रुपयै रहेको छ। आर्थिक वर्ष २०७४।७५ देखि २०७९।८० सम्मको कुल असुल उपर गर्नु पर्ने बेरुजु रु. ३८ करोड ३४ लाख ९० हजार रहेको छ। असुल गर्नु पर्ने बेरुजु आर्थिक वर्ष २०७७।७८ मा अघिल्लो आर्थिक वर्षको तुलनमा उल्लेख्य रुपमा घटेको भएतापनि आर्थिक वर्ष २०७८।७९ मा ५६.२० प्रतिशतले र पछिल्लो दुई आर्थिक वर्षहरूमा क्रमश: न्यून वृद्धि दरले बढदै गएको छ। प्रत्येक वर्ष असुल गर्नु पर्ने बेरुजु बढदै जाने र फछ्यौंट नगर्ने प्रवृत्तिले भविष्यमा असुल गर्नुपर्ने उल्लेख्य बेरुजु रहने अवस्था देखिएको छ।

३.२ पेश्की बेरुजुको अवस्था र प्रवृति

आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको अन्तिम लेखापरीक्षण प्रतिवेदन अनुसार कायम भएको बेरुजुको विवरण तालिका २ मा प्रस्तुत गरिएको छ।

तालिका २: पेश्की बेरुजुको अवस्था

आर्थिक वर्ष	पेश्की बेरुजु जम्मा (रु. हजारमा)	प्रतिशत परिवर्तन
२०७४।०७५	०	

आर्थिक वर्ष	पेश्की बेरुजु जम्मा (रु. हजारमा)	प्रतिशत परिवर्तन
२०७५।०७६	४७६६०५	
२०७६।०७७	६९३८०	-८५.४० %
२०७७।०७८	२४३६५०	२५१.२० %
२०७८।०७९	३४८१६५	४२.९० %
२०७९।०८०	१८५३४७	-४६.८० %
२०८०।०८१	११०९१०	-४०.२० %
जम्मा	**१४३४०५७**	

स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशका प्रत्येक आर्थिक वर्षका लेखापरीक्षण प्रतिवेदनहरू

आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको देखिएको पेश्की बेरुजु जम्मा रु. १ अर्ब ३२ करोड ३१ लाख ४७ हजार रहेको देखिएको छ। आर्थिक वर्ष २०७६।७७ मा अघिल्ला आर्थिक वर्षको भन्दा ८५.४० प्रतिशतले पेश्की बेरुजु घटेकोमा २०७७।७८ मा यस्तो बेरुजु २५१.२० प्रतिशतले बढेको थियो भने आर्थिक वर्ष २०७८।७९ मा ४२.९ प्रतिशतले बढेको देखिन्छ। पछिल्ला दुई आर्थिक वर्षमा क्रमश: ४६.८ र ४०.२ प्रतिशतले घटेको छ। यसरी पछिल्लो आर्थिक वर्षमा पेश्की बेरुजु घटेको देखिएको छ।

३.३ नियमित गर्नु पर्ने बेरुजुको अवस्था र प्रवृति

आर्थिक वर्ष २०७४/७५ देखि २०८०/८१ को अन्तिम लेखापरीक्षण प्रतिवेदनबाट कायम भएको नियमित गर्नु पर्ने बेरुजुको विवरण तालिका ३ मा प्रस्तुत गरिएको छ। नियमित गर्नु पर्ने बेरुजुमा अनियमित भएको, प्रमाण कागजात पेश गर्नु पर्ने र शोधभर्ना लिन बांकी बेरुजुको रकम समावेश छ।

तालिका ३: नियमित गर्नुपर्ने बेरुजुको अवस्था

आर्थिक वर्ष	नियमित गर्नु पर्ने बेरुजु जम्मा (रु. हजारमा)	प्रतिशत परिवर्तन
२०७४।०७५	९६९	
२०७५।०७६	४५७७९२	
२०७६।०७७	५०८०२६	१०.९७ %
२०७७।०७८	७६३७९७	५०.३५ %
२०७८।०७९	६३५६२६	-१६.७८ %
२०७९।०८०	६५१७२३	२.५३ %
२०८०।०८१	६६८९९४	२.६५ %

आर्थिक वर्ष	नियमित गर्नु पर्ने बेरुजु जम्मा (रु. हजारमा)	प्रतिशत परिवर्तन
कुल जम्मा	३६८६९२७	

स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशका प्रत्येक आर्थिक वर्षका लेखापरीक्षण प्रतिवेदनहरू

आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको अनियमित भई नियमित गर्नु पर्ने बेरुजु जम्मा रु. ३ अर्ब १ करोड ७९ लाख ३३ हजार कायम भएको छ। आर्थिक वर्ष २०७६।७७ मा नियमित गर्नु पर्ने बेरुजु अघिल्लो आर्थिक वर्षको भन्दा १०.९७ प्रतिशतले बृद्धि भएको थियो भने २०७७।७८ मा अघिल्लो आर्थिक वर्षको भन्दा ५०.३५ प्रतिशतले बढेको थियो। आर्थिक वर्ष २०७८।७९ मा अघिल्लो आर्थिक वर्षको भन्दा १६.७८ प्रतिशतले घटेको भने यस्तो बेरुजु पछिल्लो दुई वर्षमा न्यून दरले क्रमश: २.५३ र २.६५ प्रतिशतले बढेको छ।

३.४ मन्त्रालय र निकायहरूको जम्मा बेरुजुको अवस्था

आर्थिक वर्ष २०७४/७५ देखि २०८०।८१ सम्मको प्रादेशिक निकायगत रुपमा कायम भएको असुल उपर गर्नुपर्ने बेरुजु, पेश्की बेरुजु र नियमित गर्नु पर्ने बेरुजु गरी सात आर्थिक वर्षमा कायम भएको बेरुजुको विवरण तालिका ४ मा प्रस्तुत गरिएको छ।

तालिका ४: मन्त्रालय/निकायगत कुल बेरुजुको अवस्था

क्र.सं.	निकाय	जम्मा बेरुजु (रु. हजारमा)	बेरुजु अंश प्रतिशत
१	प्रदेश सभा सचिवालय	११४८०	०.२१ %
२	मुख्यमन्त्री तथा मन्त्रिपरिषद्को कार्यालय	३५५३	०.०६ %
३	प्रदेश लोकसेवा आयोग	१११	०.०० %
४	आर्थिक मामिला तथा योजना मन्त्रालय	७८६	०.०१ %
५	आन्तरिक मामिला तथा कानून मन्त्रालय	११७५२५	२.११ %
६	वन तथा वातावरण मन्त्रालय	३८१४८१	६.८४ %
७	उद्योग, वाणिज्य तथा आपूर्ति मन्त्रालय	१८५०९	०.३३ %
८	कृषि तथा पशुपन्छी विकास मन्त्रालय	९२५६९४	१६.६० %
९	भौतिक पूर्वाधार विकास मन्त्रालय	२४२९८७५	४३.५८ %
१०	खानेपानी, उर्जा तथा सिंचाई मन्त्रालय	४९३०३२	८.८४ %
११	सामाजिक विकास मन्त्रालय	६६१४६५	११.८६ %
१२	युवा तथा खेलकुद मन्त्रालय	२८०४	०.०५ %
१३	संस्कृति तथा पर्यटन मन्त्रालय	५५८६	०.१० %
१४	श्रम, रोजगार तथा यातायात मन्त्रालय	७३९९	०.१३ %
१५	स्वास्थ्य मन्त्रालय	९३०२६	१.६७ %
१६	मुख्य न्यायधिवक्ताको कार्यालय	३१	०.०० %
१७	प्रदेश नीति तथ योजना आयोग	२८	०.०० %
१८	अस्पताल विकास समितिहरूको	४२३०३६	७.५९ %

क्र.सं.	निकाय	जम्मा बेरुजु (रु. हजारमा)	बेरुजु अंश प्रतिशत
	बागमती प्रदेश सरकारको जम्मा बेरुजु	**५५७५४२१**	**१००.०० %**

स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशका प्रत्येक आर्थिक वर्षका लेखापरीक्षण प्रतिवेदनहरू

आर्थिक वर्ष २०७४/७५ देखि २०८०/८१ सम्मको प्रत्येक आर्थिक वर्षको अन्तिम लेखा परीक्षण गर्दा असुल उपर गर्नु पर्ने बेरुजु, नियमित गर्नु पर्ने बेरुजु र पेश्की बेरुजु गरी जम्मा ५ अर्ब ५७ करोड ५४ लाख २१ हजार कायम भएको छ। कुल बेरुजु मध्ये भौतिक पूर्वाधार विकास मन्त्रालयको आर्थिक वर्ष २०७४/७५ देखि २०८०/८१ सम्मको असुल उपर गर्नु पर्ने, नियमित गर्नु पर्ने र पेश्की गरी सबभन्दा बढी जम्मा रु. २ अर्ब ४२ करोड ९८ लाख ७५ हजार अर्थात बागमती प्रदेशको कुल बेरुजुको ४३.५८ प्रतिशत रहेको छ। यसै गरी कृषि तथा पशुपन्छी मन्त्रालयको सात आर्थिक वर्षमा कायम भएको बेरुजु बागमती प्रदेशको कुल बेरुजुको १६.६० प्रतिशत रहेको छ भने सामाजिक विकास मन्त्रालयको ११.८६ प्रतिशत रहेको छ। बागमती प्रदेशको आर्थिक वर्ष २०७९।८० को भन्दा आर्थिक वर्ष २०८०।८१ मा कुल बेरुजु ६.१५ प्रतिशतले घटेको देखिन्छ।

३.५ कुल खर्च र बेरुजु रकम

आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको प्रदेश सरकारको कुल खर्च र बेरुजु रकमको विवरण तालिका ५ मा प्रस्तुत गरिएको छ।

तालिका ५: कुल खर्च बेरुजुको अवस्था (रु. करोडमा)

आर्थिक वर्ष	कुल खर्च रकम	खर्च वृद्धि प्रतिशत	बेरुजु रकम	खर्चमा बेरुजु रकम प्रतिशत	बेरुजु वृद्धि प्रतिशत
२०७४/७५	२६.९४		०.१०	०.३६ %	
२०७५/७६	२०६५.२६		९८.७३	४.७८ %	
२०७६/७७	२७९५.०८	३५.३४ %	७२.५२	२.५९ %	-२६.५५ %
२०७७/७८	३५५९.९१	२७.३६ %	१०५.१६	२.९५ %	४५.०१ %
२०७८/७९	३७९९.५०	६.७३ %	१०५.२८	२.७७ %	०.११ %
२०७९/८०	४६८६.२०	२३.३४ %	९०.६६	१.९३ %	-१३.८९ %
२०८०/८१	४४५१.३२	-५.०१ %	८५.०९	१.९१ %	-६.१४ %

स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशको सातौं प्रतिवेदन, २०८२ र प्रदेश लेखा नियन्त्रक कार्यालयबाट प्रकाशित एकीकृत वार्षिक वित्तीय विवरण

बागमती प्रदेश सरकारको कुल वार्षिक खर्च र अन्तिम लेखापरीक्षणबाट कायम भएको बेरुजु आर्थिक वर्ष २०७४।७५ देखि २०८०।८१ सम्मको विश्लेषण गर्दा खर्च र बेरुजुको सम्बन्ध देखिदैन। पछिल्लो चार आर्थिक वर्षमा प्रदेश सरकारको कुल खर्चसँग बेरुजुको प्रतिशत घटदै गएको छ। आर्थिक वर्ष २०७६।७७ मा कुल खर्चमा अघिल्लो आर्थिक वर्षको भन्दा ३५.३४ प्रतिशतले वृद्धि हुँदा कुल बेरुजु रकम अघिल्लो आर्थिक वर्षको

भन्दा २६.५५ ले घटेको छ। आर्थिक वर्ष २०७७।७८ मा प्रदेश सरकारको कुल खर्च अघिल्लो वर्षको तुलनामा २७.३६ प्रतिशतले वृद्धि भएकोमा कुल बेरुजु रकम ४५.०१ प्रतिशतले बृद्धि भएको छ। आर्थिक वर्ष २०८०।८१ मा अघिल्लो आर्थिक वर्षको तुलनामा खर्च ५.०१ प्रतिशतले घटेकोमा बेरुजु रकमको अंक ६.१४ प्रतिशतले घटेको छ।

३.६ बेरुजुको समग्र अवस्था

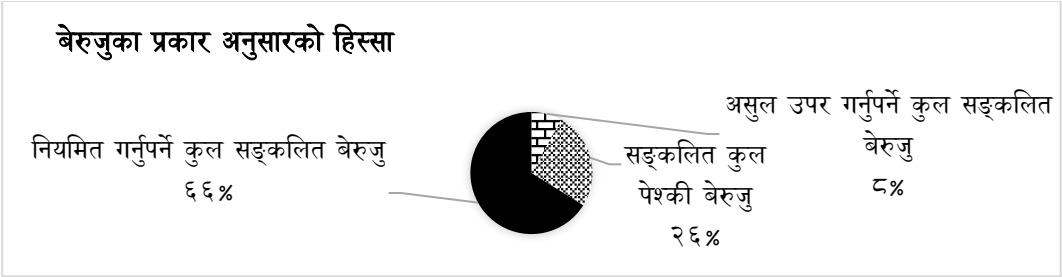
आर्थिक वर्ष ०८०/०८१ सम्मको कुल सङ्कलित (Cumulative) बेरुजु ५ अर्ब ५७ करोड ५४ लाख २१ हजार रुपैँया रहेको छ । कुनै आर्थिक वर्षमा सो वर्षको बेरुजु अघिल्लो आर्थिक वर्षको तुलनामा केही घटेको देखिए तापनि कुल बेरुजु भन्दै बढ्दै गएको देखिन्छ । कुल सङ्कलित बेरुजुमा नियमित गर्नुपर्ने बेरुजुको हिस्सा ६६.१३ प्रतिशत, पेश्की बेरुजुको हिस्सा २५.७२ प्रतिशत र असुल उपर गर्नुपर्ने बेरुजुको हिस्सा ८.१५ प्रतिशत पुगेको देखिन्छ । थप विवरण तालिका ६ र चित्र १ मा प्रस्तुत गरिएको छ ।

तालिका ६: कुल सङ्कलित बेरुजुको अवस्था (रु. हजारमा)

आर्थिक वर्ष	कुल सङ्कलित बेरुजु	असुल उपर गर्नुपर्ने कुल सङ्कलित बेरुजु	सङ्कलित कुल पेश्की बेरुजु	नियमित गर्नुपर्ने कुल सङ्कलित बेरुजु
०७४।७५	९७२	३	०	९६९
०७५।७६	९८८२८७	५२९२१	४७६६०५	४५८७६१
०७६।७७	१७१३५१६	२००७४४	५४५९८५	९६६७८७
०७७।७८	२७६५१४८	२४४९२९	७८९६३५	१७३०५८४
०७८।७९	३८१७९६५	३१३९५५	११३७८००	२३६६२१०
०७९।८०	४७२४५७०	३८३४९०	१३२३१४७	३०१७९३३
०८०।८१	५५७५४२१	४५४४३७	१४३४०५७	३६८६९२७
प्रतिशत	१००.००%	८.१५%	२५.७२%	६६.१३%
प्रतिवर्ष औसत बेरुजु थप	७९६४८९	६४९२०	२०४८६५	५२६७०४

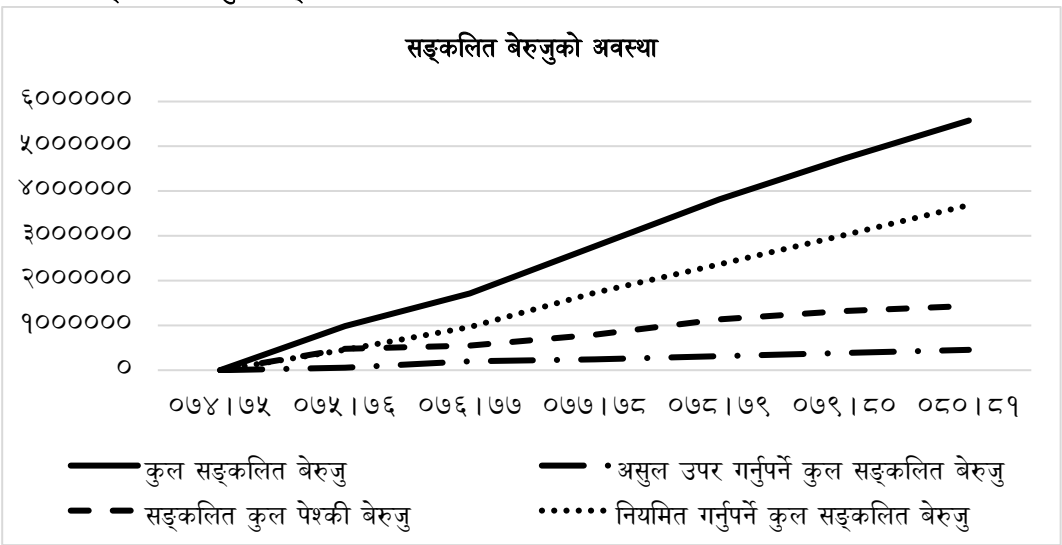
स्रोत: महालेखापरीक्षक कार्यालयबाट प्रकाशित बागमती प्रदेशको सातौं प्रतिवेदन, २०८२ र प्रदेश लेखा नियन्त्रक कार्यालयबाट प्रकाशित एकीकृत वार्षिक वित्तीय विवरण

चित्र १: बेरुजुको प्रकार अनुसारको हिसस्सा



हरेक आर्थिक वर्षमा कुल बेरुजुमा औसत ७९ करोड ६४ लाख ८९ हजार रुपैँया बेरुजु थप हुँदै गएको देखिन्छ । यसमध्ये सबैभन्दा धेरै अर्थात ५२ करोड ६७ लाख ४ हजार रुपैँया नियमित गर्नुपर्ने बेरुजु थप हुने गरेको देखिन्छ भने २० करोड ४८ लाख ६५ हजार रुपैँया पेश्की बेरुजु र असुल उपर गर्नुपर्ने बेरुजु ६ करोड ४९ लाख २० हजार रुपैँया थप हुने गरेको देखिन्छ । यसरी बढ्दै गएको बेरुजुको अवस्थालाई चित्र २ मा प्रस्तुत गरिएको छ।

चित्र १: सङ्कलित बेरुजुको बढ्दो अवस्था



४. बेरुजु फछ्यौंटसँग सम्बन्धित प्रमुख समस्याहरू

बेरुजुसँग सम्बन्धित प्रमुख समस्याहरू देहाय बमोजिम रहेका छन्:

- असुल उपर गर्नुपर्ने बेरुजु कायम हुने समयका कर्मचारीहरूको अन्यत्र सरुवा हुने र नयाँ कर्मचारी सरुवा भई आउने कर्मचारीको विगतका बेरुजुको सबै जिम्मेवारी वहन गरी सम्परीक्षण गराउनु पर्ने कानूनी व्यवस्था रहेको भएतापनि यस विषयमा तदारुकता भएको पाइदैन।

- पेश्की बेरुजुको ठुलो हिस्सा निर्माण व्यसायीलाई उपलब्ध गराइएको रकम रहने गरेको छ। निर्माण व्यवसायी र कार्यालयबीच निर्माण कार्यको लागि सम्झौता हुने तर निर्माण स्थलमा हुने अवरोधहरूका कारणले समयमा निर्माण कार्य शुरु गर्न नसक्दा पेश्कीको रुपमा रहने गरेको देखिन्छ ।
- नियमित गर्नुपर्ने बेरुजु खासगरी सार्वजनिक खरिद प्रकृया पूर्ण रुपमा पालना नगर्दा र भुक्तानी दिँदा केही प्रमाणहरू पेश नगरी भुक्तानी गर्दा बेरुजु कायम हुने भएको देखिन्छ । पहिलेको कर्मचारीको समयमा भएको नियमित गर्नु पर्ने बेरुजुको विषयमा हालवालाले जिम्मेवारी वहन गरी प्रमाण कागजात संकलन गरी वा नियमति गर्न पेश गर्नु पर्ने कार्य नगर्ने र सम्बन्धित लेखा उत्तरदायी अधिकृतले समेत पेश भएको नियमित गर्नु पर्ने बेरुजुलाई सम्परीक्षण गर्न तदारुकता नदेखाउने कारणले यस प्रकारको बेरुजु नियमित हुन नसकेको देखिन्छ ।

५. बेरुजु फछ्यौंटका लागि गरिएका प्रयासहरू

- असुल गर्नु पर्ने बेरुजु असुल गरी फछ्यौंट गर्नको लागि त्रैमासिक, अर्धबार्षिक र वार्षिक समीक्षामा बेरुजुको विषयमा छलफल गर्ने गरिएको छ। प्रदेश लेखा नियन्त्रक कार्यालयले बेरुजु व्यवस्थापन प्रणाली तयार गरी अनलाईनबाट कार्यालयले आफ्नो कार्यालयको बेरुजु, मन्त्रालय वा प्रादेशिक निकायले आफ्नो र मातहत निकायहरूको बेरुजु र प्रदेश लेखा नियन्त्रक कार्यालयले प्रदेश सरकारको सम्पूर्ण निकायहरूको बेरुजुको अभिलेख व्यवस्थापन गर्ने कार्य गरेकोछ। प्रदेश आर्थिक कार्यविधि ऐन तथा नियमावलीमा भएका असुल गर्नु पर्ने बेरुजुको सम्बन्धमा भएका व्यवस्थाहरू कार्यान्वयनको लागि प्रगती समीक्षामा छलफल हुने गरेको छ। सम्वन्धित कार्यालयहरूले बेरुजु असुल गर्नु पर्ने व्यक्ति वा संघ संस्थालाई पत्राचार गरी बेरुजु असुल गर्न पत्राचार गर्ने गरेको छ। असुल गर्नु पर्ने बेरुजु सम्वन्धित कार्यालयले असुल गर्न नसकेमा यसको लगत कसी सरकारी बांकी सरह असुल उपर गर्नको लागि कुमारी चोक तथा केन्द्रीय तहसिल कार्यालयमा पठाउनु पर्ने व्यवस्था कार्यान्वयनमा ल्याइएको छ।
- पछिल्लो समयमा म्याद नाघेको पेश्कीलाई मात्र बेरुजुको रुपमा कायम गर्ने गरिएको छ। सार्वजनिक निर्माण कार्यमा निर्माण व्यवसायिलाई मोविलाईजेशनको रुपमा बढीमा पहिलो पटक दश प्रतिशत सम्म पेश्की दिन सक्ने र कामको शुरुवात गरेमा फेरी बढीमा दश प्रतिशत सम्म थप पेश्की दिन सक्ने व्यवस्था रहेको छ। सोही अनुसार कार्यान्वयन भई रहेको छ। आयोजनाको कार्यान्वयन पश्चात भुक्तानी दिदा पेश्की कट्टा गरेर मात्र भुक्तानी दिने व्यवस्था गरिएको छ। पेश्की लिएर कार्य प्रारम्भ नगरेमा कार्यसम्पादन जमानतबाट पेश्की कट्टा गर्न सक्ने कानूनी व्यवस्था रहेको छ। सोही अनुसार कार्यसम्पादन जमानतबाट कट्टा गरी पेश्की फछ्यौंट समेत गर्ने गरिएको छ।
- नियमित गर्नु पर्ने बेरुजु व्यवस्थापनका लागि प्रदेश सरकारले सम्बन्धित कार्यालयहरूलाई नियमित गर्नुपर्ने बेरुजुको लागि कागजात प्रमाण पेश गर्न लगाउने र लेखाउत्तरदायी अधिकृतबाट नियमित गर्नु पर्ने बेरुजुको लागि सम्बन्धित कार्यालयबाट पेश गर्नु पर्ने व्यवस्था कार्यान्वयनमा रहेको छ।

६. निष्कर्ष र सुझावहरू

वित्तीय अनुशासनको मापनको रुपमा रहेको बेरुजु समयमा व्यवस्थापन गरी वित्तीय अनुशासनमा सुधार गर्नु पर्दछ। बेरुजु आउनै नदिने अवस्था सिर्जना गर्नको लागि आर्थिक प्रशासन र सार्वजनिक खरिदसँग सम्बन्धित कानूनहरूको प्रभावकारी रुपमा पालना गर्नु पर्दछ। यसरी कानूनको पालना गर्दा गर्दै पनि प्रकृयागत रुमपा त्रुटी भएमा आर्थिक

प्रशासन सम्बन्धी कानूनमा भएका प्रकृया अनुसार बेरुजुको लगत व्यवस्थित गर्ने र उक्त प्रकृया अनुसार बेरुजुको प्रतिकृया समयमा उपलब्ध गराउने गर्नु पर्दछ। यसरी पनि बेरुजु आएमा समयमा तदारुकता देखाई बेरुजु सम्परीक्षण तथा फछ्यौंट गर्ने कार्य गर्नु पर्दछ। समयमा सम्परीक्षण वा फछ्यौंट हुन नसकेको असुल गर्नु पर्ने बेरुजुको लगत कुमारी चोक तथा केन्द्रीय तहसिल कार्यालयमा पठाई आफ्नो कार्यालयको बेरुजुको लगत अध्यावधिक गर्ने व्यवस्था गर्नु पर्दछ। बेरुजु र बेरुजु फर्स्यौंटलाई कर्मचारीको कार्यसम्पादन मूल्यांकन, वृत्ति विकास र कर्मचारीको जिम्मेवारी सँग आवद्दता गर्नु पर्दछ। साथै वृत्ति विकासमा समेत बेरुजुलाई आवद्ध गर्न सकेमा वित्तीय सुशासनमा टेवा पुगी राज्यप्रति नागरिकको जनविश्वास बढाउन सकिन्छ। सामान्यतः व्यवहारिक रूपमा निम्न कार्यहरू गर्दा बेरुजु फछ्यौंटलाई बढाउन सकिन्छ ।

- असुल गर्नु पर्ने बेरुजु हुन नदिन र बेरुजु कायम भएमा यसको व्यवस्थापनको लागि कार्यालय प्रमुख र आर्थिक प्रशासन प्रमुखमा जिम्मेवारी दिदा विगतमा भएको वित्तीय सुशासनको अवस्थालाई पनि सूचक बनाउने र कर्मचारी कार्यरत रहदाको बेरुजुलाई कर्मचारीको वृत्तिविकाससँग तादम्यता कायम गरेमा बेरुजु गर्ने प्रवृत्तिमा न्यूनिकरण आउन सक्छ। असुल गर्नु पर्ने बेरुजु कायम भएको कर्मचारीलाई अन्यत्र सरुवा गर्दा बेरुजु असुल भएमामात्र रमना दिने, अवकाश भएमा बेरुजु सम्परीक्षण गराएर मात्र प्राप्त गर्ने सुविधाहरू उपलब्ध गराउने
- बेरुजु कायम भएका नागरिकलाई राज्यबाट प्राप्त अनिवार्य सुविधा बाहेक अन्य सुविधामा बञ्चित गर्ने व्यवस्था गर्ने।
- निर्माण कार्यमा पेश्की उपलब्ध गराउनुको साटो कार्यसम्पादनको आधारमा माइलस्टोन तय गरेर सोही अनुसार भुक्तानी गर्ने व्यवस्था सार्वजनिक खरिद ऐन तथा नियमावलीमा गर्नु पर्दछ। बेरुजु कायम भएको निर्माण व्यवसायीलाई बेरुजु कायम भएमा नयाँ ठेक्कामा सहभागी हुन नपाउने व्यवस्था गर्ने।
- बेरुजु कायम गर्ने कर्मचारीलाई सम्परीक्षणको लागि पहल गर्नु पर्ने कानूनी व्यवस्था गर्ने। नियमित गर्नु पर्ने बेरुजुलाई प्राथमिकतामा राखी नियमित गर्ने।

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सारांश

यो लेख बागमती प्रदेशको बजेट व्यवस्थापन, संस्थागत क्षमता र वित्तीय अनुशासनका समग्र पक्षको समीक्षा हो, जसले संघीय प्रणालीमा प्रदेश सरकारको कार्यशैली, स्रोत परिचालन र सेवा प्रवाहका व्यवहारिक पक्षहरूलाई उजागर गर्छ। बजेटको आकारमा वृद्धि हुँदै गए पनि खर्चको प्रभावकारिता, योजना छनोटको स्पष्टता र कार्यान्वयन क्षमतामा देखिएको कमजोरीले प्रणालीगत सुधारको आवश्यकता देखिएको छ। यस सन्दर्भमा नीतिगत समायोजन, कार्यक्षमता अभिवृद्धि र पारदर्शिता प्रवर्धनले दिगो सुधारको आधार तयार गर्न सक्ने सम्भावना देखिन्छ।

प्रमुख शब्दहरू

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१. परिचय

राज्य संघीय संरचनामा गए सँगै नेपालमा बजेट तर्जुमा र कार्यान्वयन सम्बन्धी संरचनात्मक परिवर्तन आएको छ। तीन तहका सरकारहरू बिच कानूनत अधिकार स्रोत र जिम्मेवारीको बाँडफाँट गरिएको छ। यसले बजेट तर्जुमा कार्यन्वयन तथा अनुगमन प्रकृया प्रदेश र स्थानीय तहमा समेत विस्तार गरेको छ। संघीय संरचना पश्चातको दोस्रो कार्यकालमा प्रदेश र स्थानीय तहहरू छन्। बागमती प्रदेश नेपालको राजधानीको समेत प्रदेश भएकोले यसले संघीय शासनमा विशेष भुमिका खेल्ने गरेको छ। अन्य प्रदेशको तुलनामा बागमती प्रदेशको राजश्वको क्षमता र खर्चको आवश्यकता दुवै बढी भएकोले बजेटको आकार, योजनाको संख्या र सेवा प्रवाह समेत अन्य प्रदेशको तुलनामा व्यापक छ। यस वृहत संरचनामा रहेको बजेट व्यवस्थापनको विषयलाई लिएर बजेट व्यवस्थापनको प्रभावकारिता संस्थागत क्षमता र वित्तीय अनुशासनको विश्लेषण गर्नु अत्यन्न सान्दर्भिक देखिन्छ अझ हालै बजेट तर्जुमाको कार्य सम्पन्न भएकोले यसको विश्लेषणमा थप महत्व राख्दछ।

अन्य प्रदेशहरूको तुलनामा समेत हेर्ने हो भने बागमती प्रदेशको बजेटको आकार ठूलो र एक हिसाबले बढ्दो नै रहेको देखिन्छ यद्यपि खर्चको क्षमता भने सन्तोषजनक देखिदैन। बागमती प्रदेशको आर्थिक मामिला तथा योजना मन्त्रालयले प्रकाशन गरेको विभिन्न प्रकाशनहरूलाई नियाल्दा समेत प्रदेशको खर्चको क्षमता कमजोर देखिन्छ। यो सँगै महालेखापरिक्षकको कार्यालयको प्रतिवेदनहरूले र महालेखा नियन्त्रकको कार्यालयले समेत कमजोर खर्च क्षमता सँग सँगै असमान वितरण, प्राथमिकताविहीन योजना छनौट, र पारदर्शिता अभावजस्ता समस्या प्रदेश सरकारमा संस्थागत रूपमा रहेको कुरा लगातार संकेत गर्दै आएका छन्। यसका साथै योजनाको प्राथमिमिकरण तथा

कार्यान्वयनका समस्या, खरिद प्रकृयामा भएको पारदर्शीताको कमि, साथै योजनाको कमजोर अनुगमन तथा मूल्यांकन जस्ता विषय बागमती प्रदेशको बजेट प्रणालीमा प्रणालीगत कमजोरिको रुपमा गडेर बसेको देखिन्छ।

संघीय प्रणालीमा वित्तीय अनुशासन कायम राख्न, बजेटको परिणाममुखी प्रयोग सुनिश्चित गर्न, र नागरिकको अपेक्षा अनुसार सेवा प्रवाह गर्न प्रदेश सरकारको संस्थागत संरचना, जनशक्ति, नीति निर्माण क्षमताको मजबूती आवश्यक छ। बजेट स्रोत मात्र नभई जनविश्वास, जवाफदेहिता र समृद्धिको साधन पनि हो। तर वर्तमान अभ्यासले यी मूल्यहरूलाई स्थापित गर्न सकेको देखिँदैन।

यस लेखमा बागमती प्रदेशको बजेट व्यवस्थापनको अभ्यास, संस्थागत क्षमता र वित्तीय अनुशासनको दृष्टिकोणबाट विश्लेषण गर्ने प्रयास गरिएको छ। यो लेख विचारमुलक लेखको रुपमा रहेको छ भने विभिन्न सरकारी निकायहरूको प्रतिवेदन, प्रकाशन, नीतिगत दस्तावेज र अन्य प्रासंगिक विषयहरूको आधारमा मूल्यांकनको प्रयास गरिएको छ। यसले प्रदेश सरकारको बजेटरी अभ्यासलाई थप सुदृढीकरण गर्नको लागि नीतिगत बहस र सुधारका सम्भावना पहिचानको लागि सहयोग पुऱ्याउने अपेक्षा गरिएको छ।

१.१ अध्ययनको उद्देश्य

यो अध्ययनको मुख्य उद्देश्य बागमती प्रदेशको विनियोजनको कुशलता, खर्चको क्षमता, संरचनागत अवस्था र संघीय संरचना अनुरुप यी विषयहरूको अन्तरसम्बन्धलाई स्पष्ट पार्नु रहेको छ। अन्य उदेश्यहरू निम्नानुसार छन्

- बागमती प्रदेशको विनियोजनको प्रवृत्ति र खर्चको अवस्थाको विश्लेषण गर्नु
- बजेट कार्यान्वयनसँग सम्बन्धित संरचना, जनशक्ति व्यवस्थापन र प्रशासनिक समन्वयको वर्तमान अवस्थाको मूल्याङ्कन गर्नु
- वर्तमान अभ्यासमा आधारित रहेर बजेट व्यवस्थापन प्रणालीमा आवश्यक सुधारमा सम्भाव्य क्षेत्रहरू सिफारिस गर्नु

१.२ अध्ययनको सीमा

यस लेखमा प्रस्तुत तथ्याङ्कहरू केवल द्वितीय स्रोतमा आधारित छन्। बागमती प्रदेश सरकारमा मात्र केन्द्रित रहेकोले यसमा संघीय सरकार वा स्थानीय तहको विश्लेषण समावेश छैन। गुणात्मक सूचकहरूको तुलनात्मक विश्लेषणमा सिमित छ।

२. साहित्य समीक्षा

संघीय शासन प्रणालीमा मुख्यतया वित्तीय हस्तान्तरण, बजेट पारदर्शिता, तथा सेवा प्रवाहको प्रभावकारिता जस्ता विषय महत्वपूर्ण हुन्छन। (Musgrave, 1959) ले राज्यको मूलभुत भूमिकाको रुपमा सार्वजनिक वित्त व्यवस्थापनलाई राज्यको आवश्कीय कार्यहरूसँग जोड्दै राजश्व परिचालन र खर्च कार्यान्वयनको सन्तुलनलाई कायम गर्नु मानेको छ। (Oates, 1972) संघीय प्रणालीमा वित्तीय विकेन्द्रीकरण सँगै सेवा प्रवाहमा प्रभावकारिता ल्याउने तर्क गरेका छन। यस्ता सैद्धान्तिक आधारले संघीयतामा बजेटको संरचना, नीति प्राथमिकता, र कार्यक्षमता बीचको सम्बन्ध प्रष्ट पार्छ।

संघीयतामा वित्तीय व्यवस्थापन प्रभावकारी रुपमा गर्न सकेमा सुशासन कायम गर्न पनि सहयोग पुग्दछ (उपाध्याय, २०७६) । विश्व बैंकको प्रतिवेदन अनुसार नेपालमा बजेट कार्यान्वयनमा भन्दा बढी ध्यान बजेट विनियोजनमा दिने प्रवृत्तिले परिणाममुखी वित्तीय अनुशासनमा असर पुऱ्याएको देखाएको छ (Bank, 2021) (Devkota, 2021) अनुसार, नेपालको संघीय शासन प्रणालीमा प्रदेश सरकारहरूलाई दिईएका कार्यगत अधिकारहरूलाई समर्थन गर्न पर्याप्त वित्तीय साधनहरू उपलब्ध गराईएको छैन। (ADB, Macroeconomic Update Nepal, 2017) को अध्ययनले पनि वित्तीय अनुशासन कायम गर्न नीति स्थिरता, लेखा परिक्षण प्रणाली र नतिजामुलक बजेटिङ प्रणाली आवश्यक रहेको प्रतिवेदन दिएको छ।

यसरी विद्यमान साहित्यहरूबाट स्पष्ट हुन्छ की संघीय सन्दर्भमा बजेटको मात्रात्मक आकारमा भन्दा पनि संस्थागत क्षमताको अभिवृद्धि, कार्यान्वयन संयन्त्रको स्पष्टता र वित्तीय अनुशासनको पालनामा जोड दिन आवश्यक छ। बागमती प्रदेशको सन्दर्भमा यी सबै विषयहरू अझ गहिरो रुपमा देखिएको हुनाले यो अध्ययनलाई थप सान्दर्भिक बनाउँछ।

३. अध्ययनको विधि

यो लेख विचारमुलक (Analytical and Descriptive) अध्ययनमा आधारित छ। प्रमुख स्रोतहरूमा नेपालको संविधान, बागमती प्रदेश सरकारका बजेट वक्तव्यहरू, एकिकृत वित्तीय विवरणहरू, महालेखा परिक्षकको प्रतिवेदन र अन्य सरकारी नीतिगत दस्तावेजहरू रहेका छन्। लेखमा तथ्याङ्कमा आधारित विश्लेषण सहित प्रवृत्ति विश्लेषण (Trend Analysis), तुलनात्मक विश्लेषण (Comparative Analysis) र नीतिगत समीक्षा (Policy Review) प्रयोग गरिएको छ।

४. नतिजा र छलफल

विश्लेषणात्मक प्रस्तुति

संघीयतामा प्रदेश सरकारको नयाँ अभ्यास सँगै प्रदेशले पाएको अधिकार भनेको बजेट विनियोजन, खर्च व्यवस्थापन र वित्तीय अनुशासनको विषय पनि हो। मुलतः बागमती प्रदेशको बजेट प्रणालीलाई प्रदेश सरकारहरूको कार्यक्षमताको प्रतिबिम्बको रुपमा समेत नियाल्ने गरिन्छ। बजेट विनियोजनको मात्रात्मक वृद्धिमा समेत अघि रहेको बागमती प्रदेश गुणात्मक र नतिजामुलक कार्यान्वयनमा भने अव्वल नरहेको विषय विविध सूचकांकहरूले स्पष्ट पार्दछन। यसले बजेट प्रणालीमा रहेको संरचनात्मक कमजोरीलाई देखाउँछ। त्यस्तै आर्थिक वर्षको अन्तयतिर खर्च गर्ने बढ्दो परिपाटी (Bunching of Expenditure) ले कार्यक्रमको गुणस्तर कमजोर रहेको मात्र देखाउँदैन यसले बजेट कार्यान्वयनमा रहेको प्रशासनिक अस्पष्टता, तीन तहको सरकार बिचको समन्वयमा रहेको न्यूनता तथा निर्णय प्रकृयामा स्पष्ट दायित्व नहुनुले कार्यक्षमता घटाएको समेत देखिन्छ। वित्तीय स्रोतको सुनिश्चितता मात्र पर्याप्त छैन त्यसको कार्यान्वयन कसरी गरिन्छ भन्ने प्रश्न अझ महत्वपूर्ण रहन्छ।

बजेट विनियोजन र खर्च व्यवहार

बागमती प्रदेश सरकार स्थापना भई दोस्रो कार्याकालको निर्वाचन सम्पन्न गरि सरकार गठन भईसकेको अवस्थामा हाल सम्म प्रदेश सरकारले ९ वटा बजेट तर्जुमा गरिसकेको छ। आर्थिक वर्ष २०७४/७५ प्रदेश सरकारको शूरूवाति

वर्ष थियो जसमा २०७४ माघ महिनामा प्रदेश सरकारले प्रदेश सरकारको नियमित सञ्चालन एवम् कार्यालय व्यवस्थापनको लागि बजेट विनियोजन गरेको थियो। त्यस पश्चातको हरेक आर्थिक वर्षहरूको विनियोजन देहाय बमोजिम रहेको छ।

क्र.सं.	आर्थिक वर्ष	विनियोजित रकम रु लाखमा			जम्मा
		चालु	पूँजीगत	वित्तीय व्यवस्था	
१	२०७४/७५	८७९३	१४११	-	१०२०५
२	२०७५/७६	१३८६२५	२१७५३०	-	३५६१५६
३	२०७६/७७	२४४६७९	२२८३९८	३०००	४७६०७८
४	२०७७/७८	२६२८७३	२५१४०१	३००००	५१४२७४
५	२०७८/७९	२६०१६६	२९७०४३	२००००	५७७२०९
६	२०७९/८०	१९०१४१	४१५६२४	२००००	७०९३९२
७	२०८०/८१	२६७०२७	३५५०६३	५०००	६२७०९०
८	२०८१/८२	२६१०१६	३६९३८७	१५०००	६४५४०४
९	२०८२/८३	२६०४४६	४१४३२६	-	६७४७७३

स्रोतः आर्थिक मामिला तथा योजना मन्त्रालय, बागमती प्रदेश

उल्लिखित विनियोजनलाई हेर्ने हो भने शुरुवातको वर्ष प्रदेश सरकार स्थापनाको वर्ष भएकोले अनिवार्य दायित्व र कार्यालय व्यवस्थापनको लागि १ अर्ब २ करोड ५ लाख विनियोजन भएको देखिन्छ। त्यस पश्चात लगभग हरेक वर्ष कुल बजेटको आकार बढ्दो रहेको देखिन्छ। यसले प्रदेश सरकारले स्रोत परिचालन र वित्तीय पहुँचको दृष्टिले स्थिर विकास गरेको देखाउँछ। चालु तर्फको विनियोजनको हकमा हरेक वर्ष बढीरहेको देखिन्छ यसले अनिवार्य दायित्व र स्थानीय तहमा पठाईने वित्तीय हस्तान्तरण बढ्दो क्रममा रहेको समेत जनाउँछ।

चालु बजेटले कुल विनियोजनको करिब ३८-४२ प्रतिशत हिस्सा ओगट्ने गरेको देखिन्छ। चालु खर्चको निरन्तर वृद्धिले प्रदेश सरकारको संरचनात्मक विस्तारलाई समेत ईंगित गरेता पनि यसले दीर्घकालिन विकासभन्दा पनि प्रशासनिक सञ्चालनमा बढी स्रोत केन्द्रित भएको पनि संकेत गर्छ।

पूँजीगत खर्चको प्रवृत्तिलाई नियाल्दा यो पनि निरन्तर वृद्धि भईरहेको देखिन्छ। आर्थिक वर्ष २०७९/८० पूँजीगत बजेट ४१ अर्ब ५६ करोड रहेको थियो जुन हाल सम्मकै उच्च हो। पूँजीगत विनियोजनमा वृद्धि सघन पूर्वाधार विकासको संकेत हो तथापि खर्च कार्यान्वयन दर निकै फरक विषय हो। बजेट विनियोजन र खर्चको अन्तर उच्च देखिन्छ।

वित्तीय व्यवस्थाको हकमा भने प्रदेश सरकार अस्थिर देखिन्छ। सहुलियतपूर्ण ऋण लगानीको शुरुबाट वित्तीय व्यवस्थाको शुरुवात गरेको प्रदेश सरकारले आर्थिक वर्ष २०७६/७७ मा पहिलो पल्ट ३० करोड विनियोजन गरेको थियो। त्यस पश्चात २ अर्ब हुँदै ५० करोड र आगामी आर्थिक वर्षमा भने विनियोजन नै नरहेको देखिन्छ। वित्तीय

व्यवस्थामा स्पष्ट दिर्घकालिन नीति देखिँदैन। वर्ष अनुसार अस्थिरता देखिनु रणनीतिक स्पष्टताको कमिको संकेत हो।

समग्र बजेटको आकारको प्रवृत्ति

आर्थिक वर्ष	कुल बजेट (रु लाखमा)	वृद्धि दर (अघिल्लो वर्षको तुलनामा)
२०७४/७५	१०,२०५	(आधार वर्ष)
२०७५/७६	३५६,१५६	↑ ३३९१ %
२०७६/७७	४७६,०७८	↑ ३३.७ %
२०७७/७८	५१४,२७४	↑ ८ %
२०७८/७९	५७७,२०९	↑१२.२ %
२०७९/८०	७०९,३९२	↑ २२.९ %
२०८०/८१	६२७,०९०	↓ – ११.६ %
२०८१/८२	६४५,४०४	↑ २.९ %
२०८२/८३	६७४,७७३	↑ ४.५ %

स्रोतः आर्थिक मामिला तथा योजना मन्त्रालय, बागमती प्रदेश

आर्थिक वर्ष २०७५/७६ मा अघिल्लो वर्षको तुलनामा देखिएको वृद्धि स्वभाविक रुपमा लिन सकिन्छ किनकि आर्थिक वर्ष २०७४/७५मा अनिवार्य दायित्व र व्यवस्थापकिय खर्च मात्र समावेश भएको थियो। आर्थिक वर्ष २०७६/७७ देखि आर्थिक वर्ष २०७९/८० सम्मको बजेटको वृद्धि स्थिर दरमा नै (८ देखि २२ प्रतिशत बिचमा) भएको देखिन्छ। बजेट वृद्धि सँगै त्यसको खर्च व्यहोर्ने स्रोतमा कुन आधारमा वृद्धि भयो भन्ने विषयले अझ बढि महत्व राख्दछ। हाल सम्म एक आर्थिक वर्षको विनियोजनमा मात्र बजेट ऋणात्मक दरमा विनियोजन भएको देखिन्छ। जसले राजस्व र आम्दानिको स्थायित्व नरहेको विषयलाई ईंगित गर्द। पछिल्लो दुई वर्षको बजेटको वृद्धिदर भने सामान्य नै देखिन्छ। बजेटको आकार मात्र वृद्धि पर्याप्त हुँदैन यो सँगै खर्च गर्न सक्ने क्षमता, योजना छनौटको गुणस्तर र प्रभावकारि नियमनले ठूलो महत्व राख्दछ।

खर्चको प्रवृत्ति

विनियोजन हरेक आर्थिक वर्षमा बढ्दै गएको देखिएपनि खर्चको अवस्था भने सोही अनुरुपको नरहेको देखिन्छ। हरेक आर्थिक वर्षको खर्चको प्रवृत्तिलाई देहाय बमोजिम प्रस्तुत गरिएको छ।

क्र.सं.	आर्थिक वर्ष	विनियोजिनको तुलनामा खर्च (प्रतिशतमा)			जम्मा	कैफियत
		चालु	पूँजीगत	वित्तीय व्यवस्था		
१	२०७४/७५	१६.४९	८८.०९	-	२६.३८	

क्र.सं.	आर्थिक वर्ष	विनियोजिनको तुलनामा खर्च (प्रतिशतमा)			जम्मा	कैफियत
		चालु	पूँजीगत	वित्तीय व्यवस्था		
२	२०७५/७६	८०	४३.९२		५७.७९	
३	२०७६/७७	५०.१४	६८.६६		५८.७१	
४	२०७७/७८	५३.९६	७९.५८	४६.६७	६९.२१	
५	२०७८/७९	६०.३४	७०.६८	६५	६५.८२	
६	२०७९/८०	९४.५७	६८.४	३०	६६.०५	
७	२०८०/८१	५९.८१	८०.३८	०	७०.९८	

स्रोतः प्रदेश लेखा नियन्त्रक कार्यालय, बागमती प्रदेश

उपलब्ध विवरणको एकमुष्ठ विश्लेषणबाट स्पष्ट हुन्छ कि बागमती प्रदेशको बजेट कार्यान्वयनमा क्रमिक सुधार देखिए पनि अझै पनि पूर्ण विनियोजन कुशलता हासिल हुन सकेको छैन। प्रारम्भिक वर्षहरूमा खर्च दर अत्यन्त न्यून देखिए पनि पछिल्ला वर्षहरूमा खर्च प्रतिशतमा उल्लेखनीय वृद्धि भएको छ। तथापि, औसतमा अझै ३० देखि ४० प्रतिशत बजेट खर्च हुन नसकेको अवस्था छ, जसले योजनाको प्रभावकारी कार्यान्वयनमा चुनौती रहेको संकेत गर्छ।

यद्यपि खर्च दरमा सुधार देखिएको छ, भौतिक उपलब्धिहरू र वित्तीय खर्चबीच सधैं सन्तुलन देखिँदैन। कागजी रूपमा योजना र विनियोजन तय भए तापनि ती योजनाहरूले व्यवहारमा अपेक्षित परिणाम दिन सकेका छैनन्। यसले योजना निर्माण, कार्यान्वयन पूर्वतयारी र अनुगमन प्रणालीमा अझ सुधारको खाँचो देखाउँछ।

संस्थागत क्षमता

प्रदेश सरकारको स्थापना सँगै संघीय सरकारद्धारा संगठन तथा व्यवस्थापन सर्भे गरि सात वटै प्रदेशमा संरचना तयार गरिएको थियो। बागमती प्रदेशको हकमा ७ वटा मन्त्रालय र करिब ३८०० को दरबन्दि संरचना स्वीकृत भएको थियो। नेपालको संविधानको धारा १६८ को उपधारा (९) बमोजिम प्रदेश प्रमुखले मुख्यमन्त्रीको सिपारिसमा प्रदेश सभाका सदस्यमध्येबाट समावेशी सिद्धान्त बमोजिम मुख्यमन्त्री सहित प्रदेश सभाका कुल सदस्य संख्याको बीस प्रतिशत भन्दा बढी नहुने गरि प्रदेश मन्त्रिपरिषद् गठन गर्न सक्ने व्यवस्था बमोजिम हाल बागमती प्रदेशमा मन्त्रालयको संख्या साविकको ७ वटा बाट १४ वटा पुऱ्याईएको छ। मन्त्रालयको संख्यामा भएको यो उल्लेख्य वृद्धि प्रदेश सरकारले सेवा प्रवाहलाई विषयगत रुपमा केन्द्रित गर्दै आवश्यकता अनुसार कार्य विभाजन गर्न थालेको संकेत हो। मन्त्रालयसँगै तिनको कार्यालयहरूको पनि व्यापक विस्तार भएको छ।

मन्त्रालय र कार्यालयहरूको विस्तार सँगै जनशक्ति व्यवस्थापनमा समेत उल्लेखनिय परिवर्तन आएको छ। हाल बागमती प्रदेशको कुल स्वीकृत दरबन्दि ५००० भन्दा माथि रहेको छ। बागमती प्रदेश प्रदेश लोक सेवा आयोग स्थापना गरि जनशक्ति व्यवस्थापन गर्ने देशकै पहिलो प्रदेश पनि हो। शुरु अवस्थामा संघबाट समायोजन भएका कर्मचारीहरूबाट मात्र कार्यसम्पादन गर्दै आएको बागमती प्रदेशले पछिल्ला वर्षहरूमा संगठन तथा व्यवस्थापन सर्वेक्षण मार्फत विभिन्न मन्त्रालय तथा कार्यालयहरूको संरचना पुनर्संरचना गर्दै जनशक्तिको आवश्यकता पहिचान

गरि त्यसको आधारमा कर्मचारी संख्या समेत विस्तार गरेको छ। प्रदेश सरकर मन्त्रिपरिषद्ले कानून तर्जुमा गरि गठन गरेको विभिन्न निकाय जस्तै प्रदेश नीति तथा योजना आयोग, मदन भण्डारी स्वास्थ्य विज्ञान प्रतिष्ठान, प्रदेश युवा परिषद, प्रदेश खेलकुद परिषद, प्रदेश दुग्ध विकास बोर्ड, प्रदेश विश्वविद्यालय, प्रदेश प्राविधिक तथा व्यवसायिक परिषद् लगायतको संरचनाहरू समेत थपिएको छ।

मन्त्रालय र कार्यालयको संख्या बढाउनु स्वभाविक हो तथापि बागमती प्रदेश अब संख्यात्मक विस्तारमा भन्दा पनि गुणात्मक सुधारमा केन्द्रित हुन आवश्यक देखिन्छ। हाल विद्यमान अवस्थामा धेरै जसो कार्यालयहरूको कार्यप्रकृतिमा दोहोरोपना देखिन्छ उदाहरणको लागि सिप विकास सम्बन्धि तालिम सामाजिक विकास कार्यालय, उद्योग तथा वाणिज्य कार्यालय, प्रदेश युवा परिषद, प्रदेश प्राविधिक तथा व्यवसायिक परिषद लगायतको कार्यालयहरूबाट प्रवाह भैरहेको छ। त्यस्तै ईन्जिनियरिङ सेवाको दरबन्दि कायम गरि प्रदेशको संस्कृति तथा पर्यटन मन्त्रालय, सामाजिक विकास मन्त्रालय, खानेपानी ऊर्जा तथा सिंचाई मन्त्रालय र भौतिक पूर्वाधार विकास मन्त्रालयले पूर्वाधार निर्माणको कार्य गरिरहेका छन्। एका तर्फ विनियोजित योजनाको दोहोरपनाको समस्या छ अर्को तर्फ कार्यक्षेत्रमा समेत दोहोरोपना देखिन्छ।

वित्तीय अनुशासनका चुनौतीहरू

मूलुक संघीय संरचनामा गए पश्चात संविधानत प्रदेश सरकारहरूलाई कानून तर्जुमा, स्रोत व्यवस्थापन तथा कार्यक्रम सञ्चालन जस्ता विषयमा स्वायत्तता प्रदान गरेको छ। यी विषयहरूको प्रभावकारिता वित्तीय अनुशासनमा निर्भर रहन्छ। बागमती प्रदेशको विगतका वर्षहरूको वित्तीय विवरणको विश्लेषण गर्दा विनियोजन र खर्चमा आंशिक सुधार देखिए तापनि वित्तीय अनुशासनका सन्दर्भमा सम्रग प्रणालीमा अझै पनि विभिन्न चुनौतिहरू देखिन्छ। यी चुनौतिहरूले वित्तीय पारदर्शिता, जवाफदेहिता र प्रभावकारितामा प्रत्यक्ष असर पुर्याईरहेका हुन्छन। यी चुनौतिहरूलाई देहाय बमोजिम उल्लेख गरिएको छ।

- नतिजा भन्दा खर्चलाई जोड
- पूर्व तयारि बिनाका योजना
- बजेट यथार्थताको अभाव
- कमजोर आन्तरिक लेखापरिक्षण र आन्तरिक नियन्त्रण प्रणाली
- विनियोजन र राजश्व बिचको असन्तुलन

५. निष्कर्ष र सुझाव

निष्कर्ष

बागमती प्रदेशमा संघीय संरचनाअनुसार प्रदेश सरकारको संस्थागत विस्तार र बजेट कार्यान्वयन प्रक्रियामा उल्लेखनीय परिवर्तन आएको देखिन्छ। मन्त्रालयहरूको संख्या प्रारम्भिक चरणको तुलनामा दोब्बर बनेको, दरबन्दी संरचना पुनः परिभाषित गरिएको र आन्तरिक बढुवामार्फत कर्मचारी व्यवस्थापन अघि बढाइएको अवस्था स्पष्ट देखिन्छ। तर

यिनै संरचनागत विस्तारसँग समायोजन हुने गरी नीति, कार्यक्षेत्र र कार्यदायित्वको स्पष्ट विभाजन हुन नसकेकोले सेवाप्रवाहमा गुणात्मक सुधार अपेक्षाअनुरूप देखिएको छैन।

मन्त्रालयहरूबीच कार्यक्षेत्रको दोहोरोपन, कार्यालयहरूको कार्यभार नजिकबाट नहेरी पद सृजना तथा बढुवा गरिएको अवस्था र निजामती सेवाबाट आएका कर्मचारीहरू नीति निर्माण तहमा पुग्दा उत्पन्न हुने समन्वयको चुनौती, यी सबैले प्रशासनिक स्थायीत्वमा प्रश्न उठाएका छन्। विशेषतः, संगठनात्मक आवश्यकता भन्दा व्यक्तिगत पदोन्नतिको संरचनालाई प्राथमिकता दिइएको संकेत बलियो देखिन्छ।

वित्तीय पक्षमा पनि योजनाको प्रारम्भिक तयारी, कार्यान्वयन क्षमताको सुदृढता र समयमै मूल्याङ्कन प्रणालीको कमजोरीले बजेट कार्यान्वयनमा असहजता ल्याएको छ। चालु आर्थिक वर्ष २०८१/८२ को चैत्र मसान्तसम्मको प्रगति हेर्दा कुल विनियोजनको मात्र ३२.५ प्रतिशत खर्च भएको छ, जसमध्ये चालुतर्फ ४०.६० प्रतिशत र पूँजीगततर्फ केवल २८.१८ प्रतिशत खर्च भएको देखिन्छ। पूँजीगत खर्चको यो न्यूनता योजनाको गुणस्तर, कार्यान्वयन पूर्वतयारी तथा समय सञ्चालन क्षमतासँग प्रत्यक्ष सम्बन्धित देखिन्छ।

योजना कागजमा तयारी गरिए पनि वित्तीय र भौतिक प्रगति सधैं मेल नखाने प्रवृत्ति, अनुगमन संयन्त्रको कमजोरी र नतिजामूलक प्रणालीको अभावले गर्दा बजेट खर्चले अपेक्षित विकास परिणाम दिन सकेको छैन। यसरी संस्थागत संरचना, जनशक्ति व्यवस्थापन र बजेट कार्यान्वयनका तीनवटै अंगहरूबीच अझ सुदृढ समन्वयको खाँचो स्पष्ट देखिन्छ।

सुझाव

संघीयताको आठौं वर्षसम्म आइपुग्दा बागमती प्रदेशले संस्थागत स्वरूप, जनशक्ति व्यवस्थापन र बजेट कार्यान्वयनको दिशामा महत्वपूर्ण अनुभव बटुलेको छ। यद्यपि प्रगतिको गति स्थायित्वतर्फ अझै मजबुत देखिँदैन। मन्त्रालयको संख्यात्मक विस्तार, कर्मचारीको बढुवा र बजेट खर्च वृद्धि भए पनि त्यसले सेवा प्रवाह र योजनाको प्रभावकारितामा प्रत्यक्ष समानान्तर सुधार ल्याएको अनुभूति भने व्यापक छैन।

विगत वर्षहरूको अनुभवले देखाएको छ कि संरचना विस्तार मात्र पर्याप्त हुँदैन, त्यो संरचनाले काम गर्न सक्ने सशक्त, जवाफदेही र लचिलो प्रणाली आवश्यक हुन्छ। यसै सन्दर्भमा बागमती प्रदेशमा नीति, योजना, वित्तीय अनुशासन र प्रशासनिक संयोजन सुदृढ गर्न निम्न सिफारिसहरू गर्न सकिन्छः

कार्यविभाजन स्पष्टता र दोहोरोपन न्यूनीकरणः मन्त्रालय तथा कार्यालयहरूबीच कार्यक्षेत्र दोहोरोपन हटाई स्पष्ट कार्यविभाजन गर्नुपर्छ। कार्यको प्रकृति अनुसार मन्त्रालयहरूलाई विषयगत रूपमा पुनः समायोजन गर्ने अभ्यासले नीति समन्वयलाई सहज बनाउँछ।

कार्यभार विश्लेषणमा आधारित दरबन्दी र बढुवा प्रणालीः कर्मचारी बढुवा र दरबन्दी सिर्जना संस्था केन्द्रित हुनुपर्छ, व्यक्ति केन्द्रित होइन। O&M अध्ययन र सेवा भार विश्लेषणको आधारमा कर्मचारी व्यवस्थापन गर्दा कार्यक्षमता र पारदर्शिता दुवै मजबुत बन्छ।

पूर्वतयारी बलियो बनाउने पूँजीगत योजना प्रणाली: सक्रिय योजनाहरू कार्यान्वयन हुनु पहिले आवश्यक पर्ने सबै पूर्वाधार तयार हुनु अनिवार्य छ। DPR, लागत लाभ विश्लेषण र आवश्यक स्वीकृति बिना योजना अगाडि बढाउँदा ढिलाइ र बजेट अपचलनको जोखिम बढ्छ।

नतिजामुखी बजेटिङ प्रणाली स्थापना: खर्चमा मात्रै होइन, त्यसको उपलब्धिमा आधारित बजेटिङ प्रणाली अवलम्बन गर्नुपर्छ। परिणामको मापन, नियमित अनुगमन र मूल्याङ्कनको आधारमा स्रोत विनियोजन गर्नाले दीगो वित्तीय अनुशासन कायम गर्न सकिन्छ।

आन्तरिक लेखापरीक्षण र पारदर्शिता प्रवर्द्धन: कार्यक्रम कार्यान्वयनका सबै चरणमा लेखा परीक्षण र परिणाम अनुगमन प्रणालीलाई सशक्त बनाउनुपर्छ। त्यसका लागि डिजिटल ट्र्याकिङ, सार्वजनिक सार्वजनिक प्रतिवेदन प्रकाशन र सरोकारवाला सहभागिता प्रभावकारी हुन्छ।

आन्तरिक राजस्व सुदृढीकरण र स्रोत स्वायत्तता: प्रदेशले आफ्नो स्रोत परिचालन क्षमतालाई विस्तार गर्नुपर्ने देखिन्छ। कर प्रणालीको सुधार, सेवा शुल्कको यथार्थ निर्धारण, र साझेदारीका नयाँ मोडेलहरू (PPP) अपनाउने प्रयासबाट संघीय अनुदानमा निर्भरता घटाउन सकिन्छ।

यी सिफारिसहरू कार्यान्वयन गर्दा **संरचना मात्र होइन, कार्य संस्कार** परिवर्तन हुने सम्भावना हुन्छ। बागमती प्रदेशको संस्थागत परिपक्वता त्यसबेला मापन हुन्छ जब संरचना, जनशक्ति र स्रोत तिनैका दायित्वअनुसार प्रभावकारी रूपमा परिचालित हुन्छन्।

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Forest Fire Risk Assessment in Bagamati Province of Nepal

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Abstract

Fire is the most spectacular natural hazard that deleteriously affects forest ecosystem, species composition and ultimately biodiversity. In recent years, forest fires have become a major disaster and past records have shown that one of the major causes of loss of forests is fires. Forest fires are one of the major natural hazards occurring in the forests of the Bagamati Province, a biodiversity hotspot in Nepal. The present study aims to demarcate the risk zones of forest fire in Bagamati Province using Remote Sensing and Geographic Information System. Fire risk index method was used to prepare the risk zone map. The final map of study area was grouped into five different categories of risk zones; very low, low, moderate, high, and very high. Finally, prepared forest fire risk zone map was validated with the fire incidence data for the last 19 years. This risk zone map can serve as a valuable data for understanding the forest fire problem and will offer a more effective database for the preparation and control of forest fires to the officials of Ministry of Forest and Environment and Province Government to take effective preventive and mitigation measures for better fire risk management.

Keywords: *Fire Risk Index, Natural Hazards, Biodiversity*

1. Introduction

Forest fires are considered to be a potential hazard with physical, biological, ecological, and environmental consequences (Somashekar et al., 2009). Nowadays forest fire frequency is increasing in many areas of the globe with major incidents occurring in Asia (Denman et al., 2007). In many ecosystems, forest fires help the natural regeneration process by stimulating the germination of certain species, clearing space for the invasion and growth of others, and releasing a periodic flush of nutrients into the soil (Dawson et al., 2001). Fires are one of the most common hazards occurring in the forests and are considered as a serious threat to the forest resources, environment, and wildlife (Ajin et al. 2017). There is evidence that number of forest fires is increasing in Nepal, affecting natural vegetation as well as causing a major destruction of human settlements (Parajuli et al. 2015). Though the impacts are relatively low compared with other major disasters, forest fires have direct and indirect impacts that include death as well as an adverse effect on people's health (Matin. 2016).

Fire risk depends on a number of regional specific factors (Westerling et al., 2006 for US, among others), human attitudes (Pausas and Keeley, 2009), and weather patterns (Fernández-Muñoz, 2012). The combination of all these aspects is therefore responsible for generating the final scenario of fire danger. Remote Sensing (RS) and Geographic Information System (GIS) techniques can be effectively used in forest fire risk zonation mapping. Many researchers delineated forest fire risk zones using Remote Sensing (RS) and Geographic Information System (GIS) techniques (Ajin et al., 2015). MODIS data has

been widely used to map fire severity and burnt area (Chu et al. 2016) and develop danger forecasting models (Chowdhury and Hassan, 2015).

The active fire data acquired from the Moderate Resolution Imaging Spectroradiometer (MODIS) device on NASA's Terra and Aqua satellites can be used for mapping and analyzing the wildfire incidences and forest burnt area. Timely and accurate detection of fires has become an issue of considerable importance. The accuracy of the MODIS is relatively good as mentioned by many authors (Pereira et al., 2017). A detection confidence is estimated and ranges from 0% to 100% where above 30% has better accuracy (Giglio et al., 2003). In this study more than 30% confidence data have been used to increase the accuracy of the result. Increased forest fire in Nepal in recent years has contributed in the destruction of forest health and carbon emission in all physiographical regions.

This study is an attempt to exploit the capabilities of remote sensing and GIS techniques and to suggest an appropriate methodology for forest fire risk zone (FFRZ) mapping. Such maps will help forest department officials to prevent or minimize fire risk activities within the forest and take proper action when fire breaks out (Chuvieco & Sales, 1996).

2. Methodology

The following methodologies were applied for the study:

2.1 Data analysis

For the data analysis, different software has been used according to the input required. Secondary data of forest fire were analysed in SPSS and Arc GIS 10.5. Especially under Arc GIS other than basic function, buffering, kernel density function, weighted overlay was used for analysing different variable and results. All the data were extracted and encoded in excel sheet for better analysis and interpretation.

2.2 Software

Arc Map 10.2.2 for geospatial analysis and SPSS and R-Software for statistical analysis was used for accomplishment of this study.

2.3 Map projection

The map of study area and data used are projected in the following system:

Coordinate System: WGS 1984 UTM Zone 45 N, Datum: WGS 1984 and Unit: Meter

As per the literature reviews and the major responsible parameters for forest fire risk model, the following seven parameters on figure 1 were chosen for the development of the forest fire risk potential map of Bagamati Province.

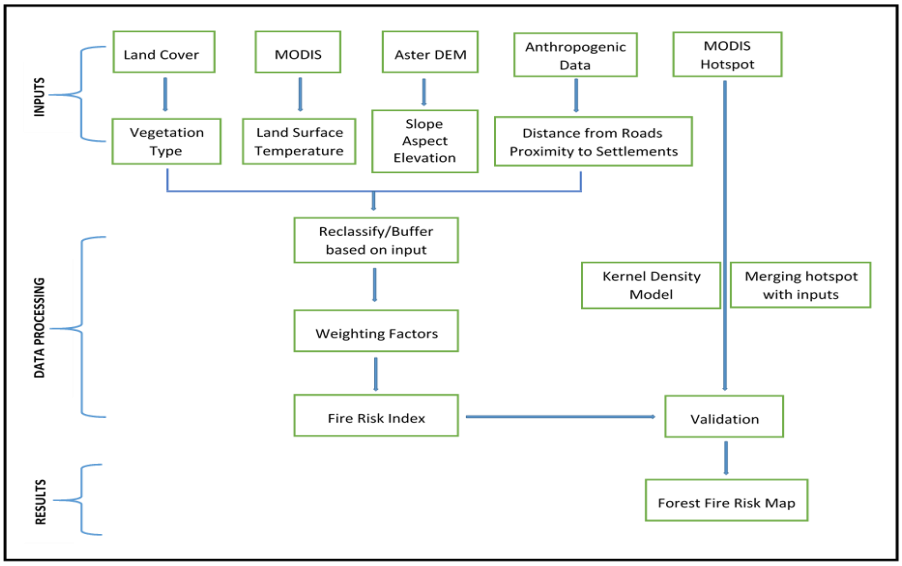


Figure 1: Methodology chart for forest fire risk map

2.4 Weightage assigned to the parameters for forest fire risk model

The re-classification of the selected seven parameters viz. land use (forest type), temperature, slope, distance to roads, proximity to settlement, elevation and aspect, were done and assigned the fire risk value associated with them. The assignation of the score was done based upon thorough literature reviews made in the similar subject matters and the scenario of forest fire frequency associated with each of the seven parameters. To each variable which contain different classes, each class were labelled distinctly based on their influences on forest fire as 1 to 5. 1 indicate higher risk whereas 5 indicate lower risk to the forest fire. The considered factors were than weighted in percentage of their influence as shown in table 1.

Table 1: Weight, Value and Rating Assigned to Different Variable

Variable	Weight (%)	Class	Value Assigned	Fire Rating Classes
Land Cover	40	Broad leaved Closed Forest	1	Very High
		Broadleaved Open Forest	2	High
		Grassland	3	Medium
		Shrubland	4	Low
		Needle leaved Open Forest	4	Low
		Needle leaved Closed Forest	4	Low
		Barren Land	5	Very Low
	20	>30	1	Very High

Variable	Weight (%)	Class	Value Assigned	Fire Rating Classes
Temperature Degree ^{0}C		25-30	2	High
		20-25	3	Medium
		10-20	4	Low
		<10	5	Very Low
Slope (%)	10	<5	1	Very High
		5-15	2	High
		15-25	3	Medium
		25-35	4	Low
		>35	5	Very Low
Distance to Road (M)	10	<1000	1	Very High
		1000-2000	2	High
		2000-3000	3	Medium
		3000-4000	4	Low
		4000-5000	5	Very Low
Proximity to Settlement (M)	10	<1000	1	Very High
		1000-2000	2	High
		2000-3000	3	Medium
		3000-4000	4	Low
		>4000	5	Very Low
Elevation(M)	5	<1000	1	Very High
		1000-2000	2	High
		2000-3000	3	Medium
		3000-4000	4	Low
		>4000m	5	Very Low
Aspect	5	Flat/South	1	Very High
		East/South East/ South West	1	High
		West	3	Medium
		North West/ North East	4	Low
		North	5	Very Low

2.5 Determining the risk model

Various indices have been proposed in literature to estimate fire risks using biophysical (vegetation, humidity, elevation, slope, aspect) and anthropogenic (proximity to settlements and roads) parameters (Zhang et al. 2014). The relative weights for variables were chosen based on the literature and hence the risk model was developed with the equation:

FRI= 40 LC+20 LST+10S+10RD+10PS+5A+5E

Where, FRI = Fire Risk Index, LC = Land Cover,

LST = Land Surface Temperature, S = Slope,

DR = Distance from the Road, PS = Proximity to the Settlement,

A = Aspect and E= Elevation.

Finally, a fire risk zone map was produced based on these analyses of parameters. In this study spatial modelling has been done to obtain the combined effect of aforesaid variables. Different weights were assigned as per the importance of the particular variable. Highest weight was given to the land cover as it indicates forest type, fuel load and its accumulations because fuel contributes to the maximum extent due to inflammability factor. The second highest weights were given to land surface temperature as temperature is directly proportional to forest fire. Third highest weights were given to slope, distance to road and proximity to settlement. As higher slopes contribute to convectional preheating and easy ignition and spreading of fire, proximity to settlements and distance to road also allow local people, graziers, and tourists to go in to the forest and cause fire. Then comes elevation and aspect because sun facing aspects receive direct sun rays and make the fuel drier and highly inflammable and it's the altitude or elevation since human infiltration decreases along the altitude. The rating from high to low was assigned according to their risk potential. After determining each weightage all the layers were overlaid in ARC GIS 10.5.

3. Result and Discussion

3.1 Fire Statistics

3.1.1 Distribution of forest fire in Bagamati Province

Spatial and temporal distributions of forest fire on study area was investigated on a monthly and yearly basis from 2001-2019 AD (upto may). Altogether 6,784 fire counts were found with 375 incidents burn per annum, while the magnitude of total area of forest damaged by forest fire was 1,77,574.95 ha. with per annual average of 9346 ha. The total forest fire occurrence and annual magnitude of area burned during last 19 years (2000-2019) is shown in figure 2 and figure 3 respectively.

S.N.	District	Burnt Area (Ha)	Fire Count
1	Chitwan	102521.81	2740
2	Makawanpur	34208	1103
3	Sindhuli	23809.71	809
4	Dhading	3902.82	656
5	Rasuwa	3445.93	303
6	Kavrepalanchowk	2656.95	173
7	Sindhupalchowk	2443.49	363
8	Dolakha	1287.25	305
9	Ramechhap	1124.58	123
10	Lalitpur	888.16	67
11	Kathmandu	618.81	13
12	Nuwakot	420.99	126
13	Bhaktapur	246.44	3
	Grand Total	**177574.95**	**6784**

Table 2: District wise fire count and magnitude of burnt

Figure 2: Total Forest fire incidence of Bagamati Province

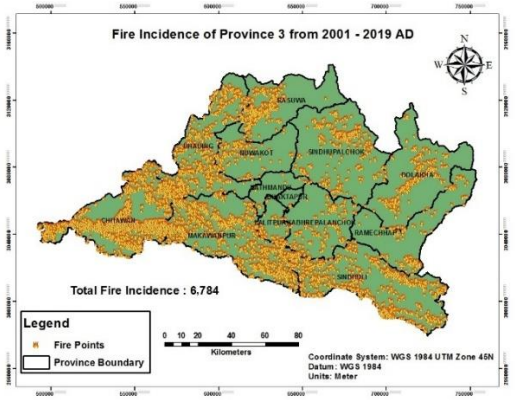
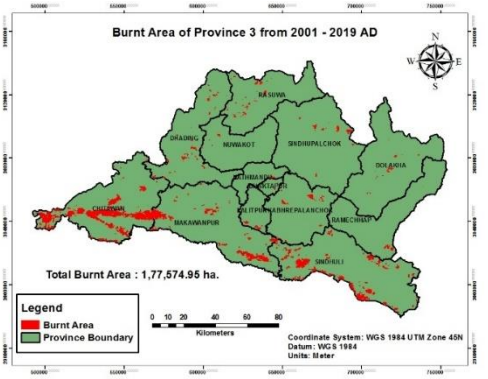
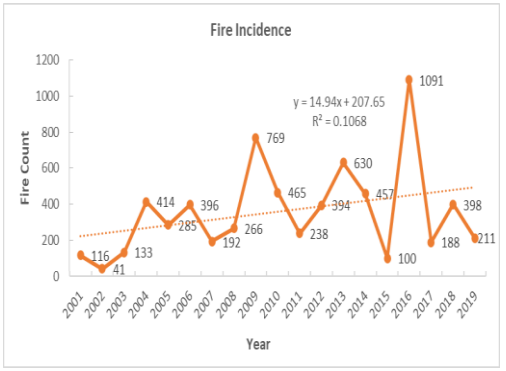


Figure 3: Total magnitude of burnt area of Bagamati Province



3.1.2 Annual trends of forest fire in Bagamati Province

Obtaining 19 years data from MODIS, the total yearly numbers of fires recorded within the study area started from 116 at the year 2001, as shown in figure 13. Highest number of forest fire were detected in the year 2016 reaching 1091 counts for the first time followed by 2009 (769 counts) and in 2013 (630 counts). 2016 has got the highest and 2002 has got the lowest magnitude of burnt area throughout the last 19 years as shown in figure 5.



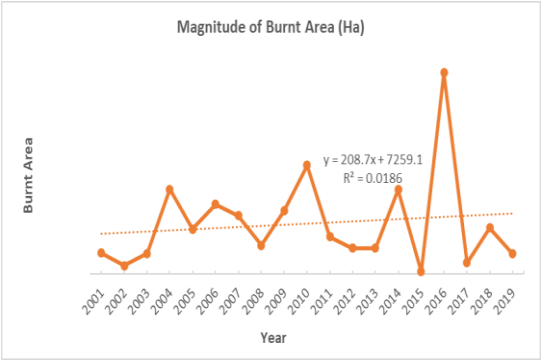


Figure 4: Total forest fire incidence of Bagamati Province *Figure 5: Total magnitude of burnt area of Bagamati Province*

3.1.3 Monthly and seasonal distribution of forest fire in Bagamati Province

Counting fires according to months shows that the three months from February to April were considered by an exceptional record of fire occurrences covering almost 87.52 % of forest fire in those consecutives' months. The monthly data from 2001 to 2019 are shown in the figure 6. In the rainy seasons (July to September), there were very few forest fire due to heavy rain and enough moisture content available in an area. 1153 fire hot spots were there in clod season. In summer, there were 5626 fire hotspots when days are sunny and air humidity and fuel moisture are low, giving suitable conditions for fires. Pre-monsoon season specially April was recorded highest in all the studies carried out by Khanal (2015), Matin et al., (2015); Parajuli et al., (2015); Thapa (2018) and Sharma (2015) observed April as the peak month in Nepal.

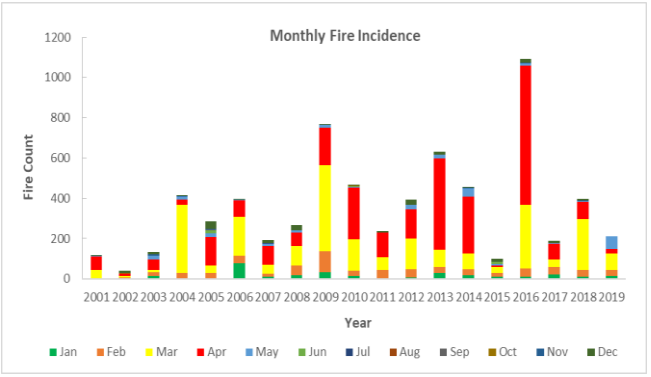
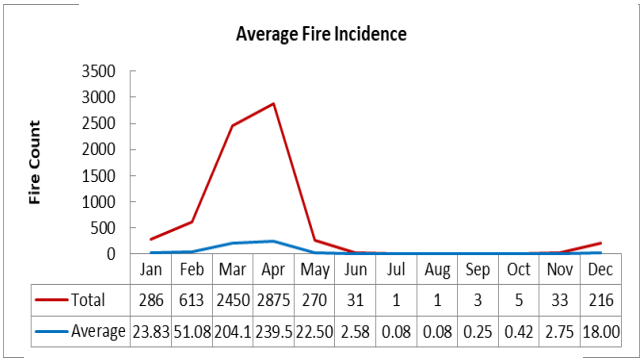


Figure 6: Monthly distribution of forest fire of Bagamati



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	286	613	2450	2875	270	31	1	1	3	5	33	216
Average	23.83	51.08	204.1	239.5	22.50	2.58	0.08	0.08	0.25	0.42	2.75	18.00

Figure 8: Average counts of forest fire per month

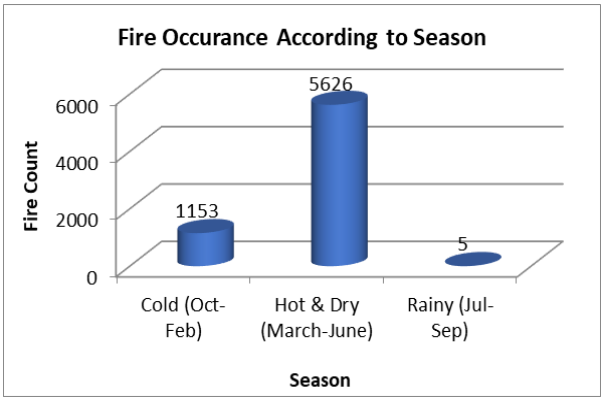


Figure 7: Seasonal forest fire occurrence

Accumulation of dry fuel gets higher in this period which creates the fuel more flammable (Govender et al., 2006). Whereas from July to September fire activity gets lower because of the rainfall season. There was a large inter-annual variation in average monthly patterns of fire occurrence but, the majority of fires were observed during February, March, April and May. Among them the most significant being April, which had the highest average number of fires

3.1.4 Forest Fire Incidents in different administrative zones of Province 3

Maximum number of forest fires has been recorded in rural municipality with 69% and municipality by with 24%. Rural municipality is very prone to forest fire in term of both magnitude of area burnt and forest fire count as shown if figure 9 and 10 respectively.

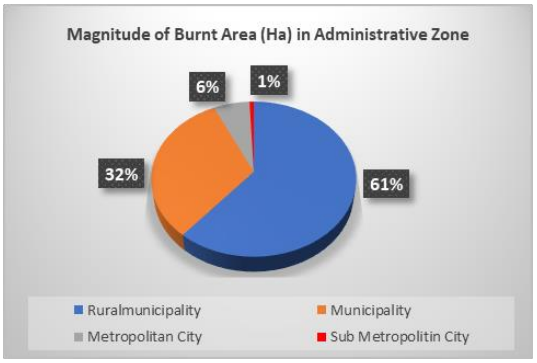


Figure 9: Forest fire incidence in administrative zone

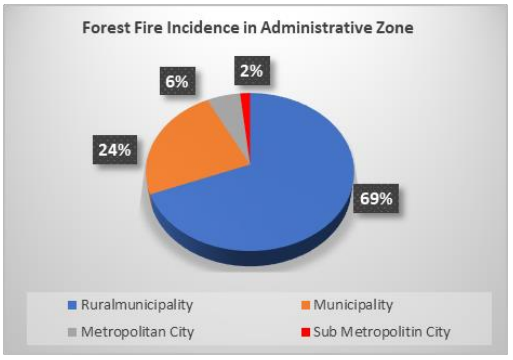


Figure 10: Magnitude of burnt area in administrative zone

3.1.5Forest fire record in different physiographic region of Bagamati Province

Siwalik has the highest number of forest fire in terms of both fire counts and magnitude of area burnt. This indicates that Siwalik has high severity of forest fire as shown in the table 4.

Table 4: Forest fire record in different physiographic region

S.N	Physiographic Region	Burnt Area (Ha)	Fire Count
1	Siwalik	153029.53	3742
2	Middle Mountain	16210.94	2017
3	High Mountain	6222.39	821
4	High Himalaya	1762.12	204
	Grand Total	**177224.98**	**6784**

3.1.6 Forest fire record in protected areas (PAs) of Bagamati Province

Distributions pattern of forest fire frequency on PAs area were investigated on a monthly and yearly basis from 2001-2019 AD and the monthly changes were studied for each year. The fire occurrence during the recent 19 years inside PAs is shown in figure 20 and 21. Chitwan NP has highest frequency of fire occurrence i.e. 2225 while Shivapuri Nagarjun NP has lowest fire frequency i.e. 1. In case of BZ, Chitwan NPBZ has highest fire frequency i.e. 256 while Parsa NPBZ has lowest fire frequency i.e. 24.

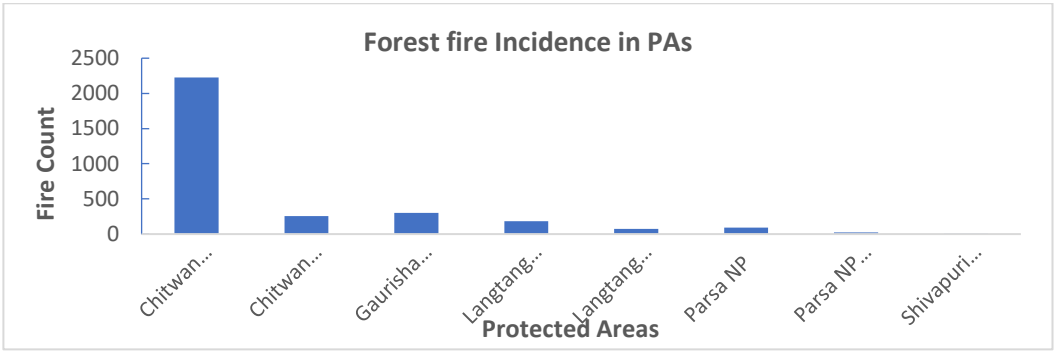


Figure 11: Comparison of forest fire incidence within PAs

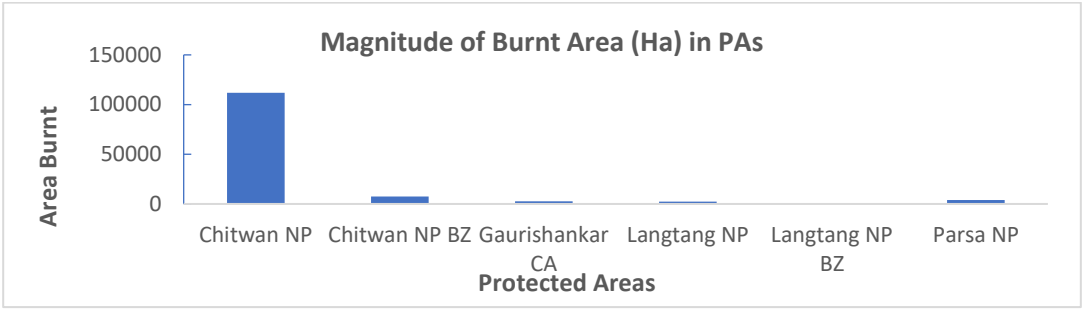


Figure 12: Comparison of magnitude of burnt area within PAs

From table 5, 2009 has highest fire incidence i.e, 291 but the magnitude of area burnt was highest in 2010 i.e., 16223.74 ha. Total fire count and magnitude of area burnt in protected area of Province 3 in 19 years was 3152 and 128402.21 ha respectively.

Table 5: Forest fire count and magnitude of burnt area in PAs

Year	Burnt Area (Ha)	Fire Count	Year	Burnt Area (Ha)	Fire Count
2001	3508.19	43	**2011**	6658.33	166
2002	1584.82	30	**2012**	4352.62	229
2003	2852.12	106	**2013**	4352.62	215
2004	9712.42	189	**2014**	10953.99	215
2005	7769.60	134	**2015**	253.52	73
2006	11799.88	198	**2016**	17486.39	320
2007	10728.85	145	**2017**	1969.00	123
2008	4761.85	159	**2018**	5271.44	189

Year	Burnt Area (Ha)	Fire Count	Year	Burnt Area (Ha)	Fire Count
2009	7955.03	291	**2019**	207.80	102
2010	16223.74	225	**Grand Total**	**128402.21**	**3152**

3.2 Forest fire risk index model of Bagamati Province

3.2.1 Variables for forest fire risk zone

1. Land cover

Primarily in this study land cover has been focused with a major factor for the occurrence of forest fire as it directly related to fuels. According to the land cover class map, the total study area was 5220423.12 ha and 3072268 ha (58.9% of the study area) was forested area.

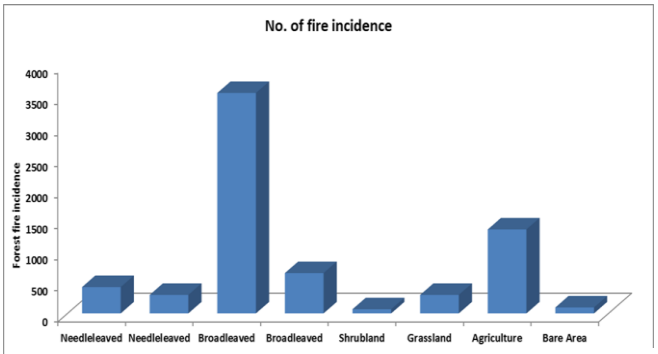


Figure 15: Forest fire incidence in different land cover

Among forested area broadleaved closed forest marked highest area with 24.6% followed by broadleaved forest area with 7.4%. While integrating it with MODIS data, it was found that broadleaved closed forest constitutes 67% of total forest fire. Inline to this the second most was in broadleaved open forest with 12% which is shown in the figure 15. Matin et al., (2017) also mentioned that the frequency of forest fire is more in broadleaved forest during March to May because broadleaved forest experiences heavy leaf fall resulting huge accumulation of fuels.

2. Surface temperature

Hhigh fuel accumulation on different land cover and increase in temperature creates devastating fire risk. It can be seen in figure 16 that 44% of forest fire falls under 25-30°C followed by temperature above 35°C (41%). It has been suggested that higher the temperature higher is the risk of forest fire. (Matin et al., 2017)

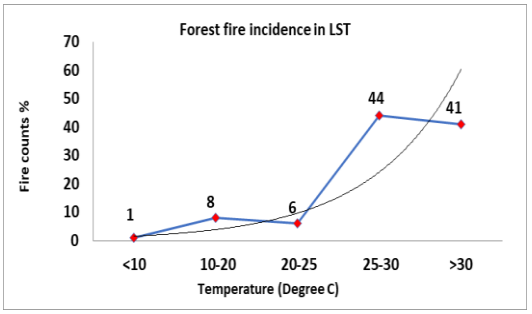


Figure 16: Forest fire incidence in land surface temperature

3. Slope

From the figure 17 it shows that most of the fires have been occurred on the slope less than 5% (38%). Statically, with increases in slope fire incidences continuously increases. Many researchers have claimed that the increase in slope increases the percentage of fire counts but as fires are counted high on slope below 5%. It showed that most of the slope below 5% has been oriented on the southern, eastern and western aspect

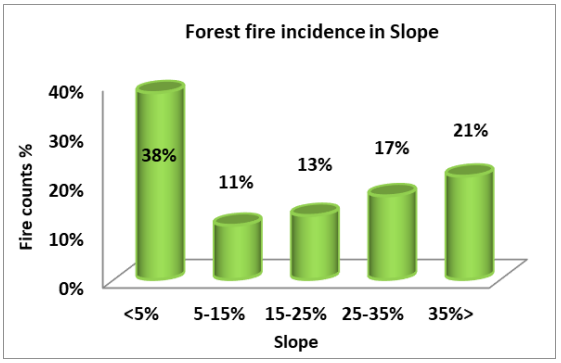


Figure 17: Forest fire incidence in slope

4. Aspect

As shown in figure 18 forest fire is high in south and south west with total of 31% followed by west and south east 26% of forest fire. As southern aspect experiences more sunlight resulting higher temperature but low fuel moisture and humidity.

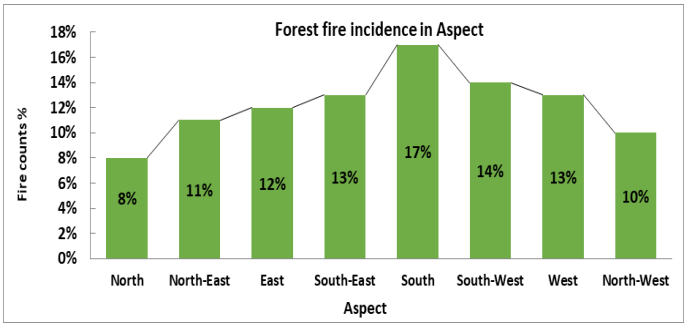


Figure 18: Forest fire incidence in aspect

This creates the vegetation becomes parched on south facing slope than north facing slope while the east aspect receives more ultraviolet and direct sunlight hence it dries faster (Anderson 1982; Prasad et al., 2008).

Because of that, drier fuels are more exposed to ignition (Noonan, 2003; Iwan et al., 2004). In addition, earlier in the day, east aspects get more ultraviolet and direct sunlight than west aspect. Consequently, east aspects become drier faster (Anderson, 1982 cited from Adab et al., 2012).

5. Elevation

Elevation has straight relation with temperature, precipitation and wind hence motivates forest fire (Yakubu et al., 2015). Furthermore, elevation effects climate and thereby affects fuel availability and fire behaviour. (Matin et al., 2017) also had the same type of result in their fire

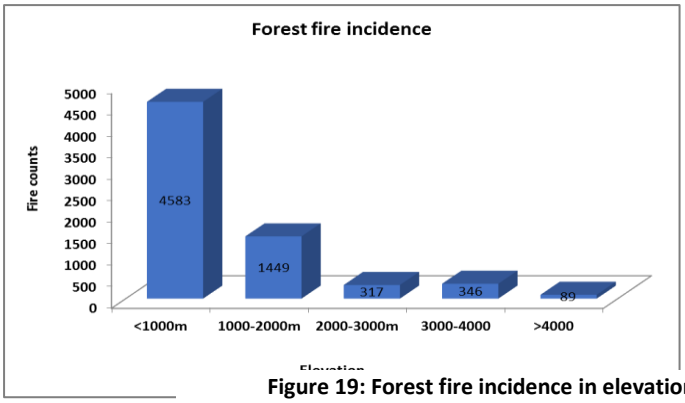


Figure 19: Forest fire incidence in elevation

studies. Figure 19 shows the distribution of elevation which demonstrates that the fire counts are located mainly in the altitude less than 1000m as this region has higher temperature and broadleaved forest areas. As elevation increases forest fire decreases. Almost 68% of fires are concentrated below 1000m followed by 1000-2000m (21%).

6. Distance from road network

It can be concluded from the figure 20 that when the road is near to the forest it can be riskier in terms of fire as 41% of fires where near to the distance from the road within 1000m followed by 1000-2000m (28%). The research conducted by Hussien et al., (2008) mentioned that the fire scars were high in the area closer to roads and river as increase in movements on the road by human and vehicles contribute the fires.

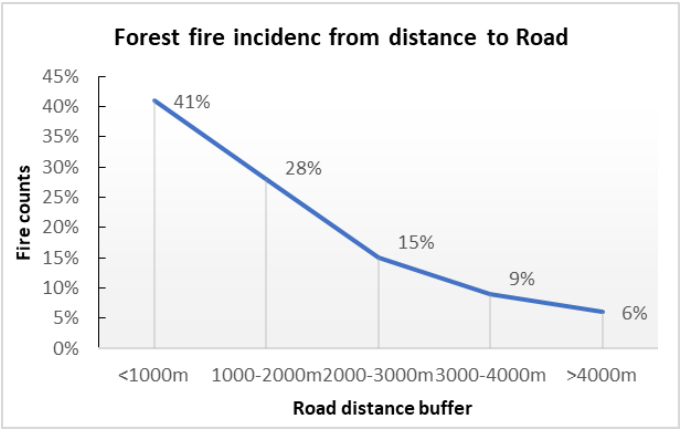


Figure 20: Forest fire incidence from distance to road network

7. Proximity to the settlements

Butler et al., (1991) claimed that vicinity to settlement is more prone to fire because of social and cultural practices of the local dwellers. In this study, as shown in figure 21, forest fires decrease with the increase in distance from the settlement same like the result from Matin et al., (2017).

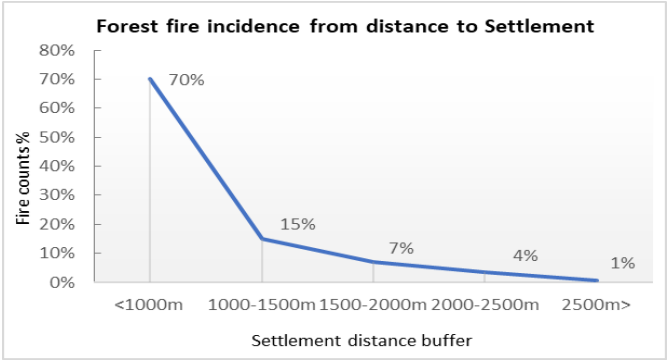


Figure 21: Forest fire incidence from distance to settlement

While making the fire risk zone it was predicted that the distance near to habitat for 1000 m. The same happened to the Hussien et al., (2008) where he argues that people usually know that forest fire is illegal hence to avoid charges, they would rather start away from the settlement because they will know that no one will see them.

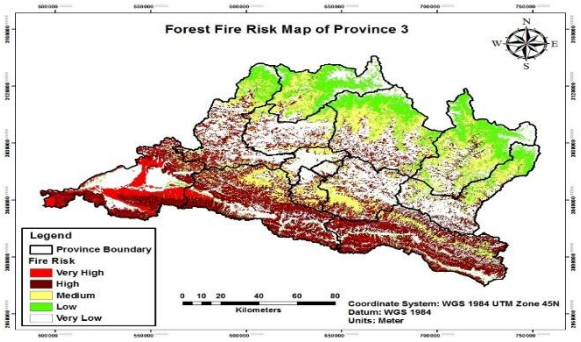


Figure 22: Forest fire risk map of Bagamati Province

3.2.2 Forest fire risk index model of Bagamati Province

Weightage was given to each parameter on the basis of their influence on forest fire and was overlaid using GIS techniques. The study area was hence categorized into very low, low, medium, high and very high as shown on the figure 22 and the area have been included in the table 6 where it shows that very high-risk areas cover with 33.1% followed by high-risk areas with 32.3%, medium with 7.1% on the third ranking and 21.1% and 6.4% with low and very low respectively.

Risk Zone	Total Risk Area	% of Total Risk
Very High	348821.3	17.2
High	515598.9	25.4
Medium	450805.8	22.2
Low	362871.2	17.9
Very Low	349700.9	17.2
Total	**2027798**	**100**

Table 6: Percentage and area forest fire risk zone in the study area

For the evaluation of the higher accuracy of the model, fire counts were intersected in the risk zone of very high to very low areas of each variable that were used in the fire index model. Table 7 shows the percentage of fire in each class. Fire incidents were recorded higher in the region of very high and high fire index. Fire counts with each variable have been already discussed above.

4. Conclusion and Recommendations

4.1 Conclusions

From 2001 – 2019 (upto may) MODIS hotspot it was found that 6784 fire counts were found with 375 incidents burn per annum. Total area of forest damaged by fire is 1,77,574.95 ha., with per annual average of 9346 ha. Three months from February to April were considered by an exceptional record of fire occurrences covering almost 87.52 % of forest fire in those consecutives' months. In addition, April only accounted 42.38% of outbreaks whereas second most vulnerable month March comprises (36.11%). Fire is high in broadleaved forest with high surface temperature specially in pre-monsoon period. The high-risk areas cover 65.1% where TAL only accounts 44%. 20 out of 33 districts fall under the risk above 30% where Chitwan, Makawanpur and Sindhuli are the major fire prone districts with above 58%. Most of the fire prone areas are in rural municipalities. To sum up the results shown in this paper can help the concerned authorities for forest fire management and mitigation. 65 % forested area was classified under high risk where Chitwan take two-third of those risk areas. Land cover, temperature, aspect, altitude, slope, distance to road and proximity to settlement plays important role. Validation result shows greater accuracy with 75.6%.

4.2 Recommendations

Nepal has always been living with forest fire but these days scenario of climate change indicate that forest fires are likely to further increase. This study covers a set of practical recommendations to facilitate the forest fire management process with the aim of providing information to all the actors involved both at regional level and country level. Specifically, this study might be useful for fire prevention efforts, resource and logistic planning and awareness of the population but the recommendation has been made only to three sectors.

4.2.1. Recommendation to the central/state government

- Siwalik is in very high sensitive zone so preparedness, response and recovery strategies must be prepared and adopted.
- Protected areas are under very high forest fire risk zone so preventative measures should be adopted in control burning operation.
- Increasing observational and technological skill and experience at recognising and forecasting dangerous fire weather scenarios.

4.2.2 Recommendation to the province and local government

- 45% fire is in rural municipality so strategies in effective communication mechanism on how to act in case of an emergency fire situation should be undertaken.
- State government should focus on policy review and supply tools and technology for fire suppression.

4.2.3 Recommendation for the researchers

- Detail study should be conducted in each province and landscape level using accurate climatic data to make more accurate risk map.
- Data of fire scars, species wise fuel characteristics and burnt area mapping from field level should be studied in order to add more variables in the risk zone.

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Nepal Forest Fire Management Chapter (NFMC): http://www.nffmc.org

Budget Allocation Efficiency of Bagamati Province Government

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Abstract

This article presents an overview of the budget allocation practice of the Bagamati Province Government based on the available data of the last four fiscal years, particularly from the fiscal year 2078/079 to 2081/082. This study is primarily based on the desk review and qualitative discussion with the concerned authorities. Both secondary and primary data and information have been equally used for the analysis. The overall objective of the study is to investigate the budget allocation efficiency of the Bagamati Province Government. Available data shows that the ratio of the recurrent, capital, and financial management expenditure is inconsistent. The fluctuating trend of expenditure on recurrent, capital, and financial management expenses not only indicates the low expenditure capacity but also the budgeting capacity of the government. Based on the available data, it seems that the Bagamati Province Government prefers to invest in small projects rather than provincial-level projects. To improve its budget allocation efficiency, the government needs to set a reasonably acceptable formula or ratio for recurrent, capital, and financial management expenditure to make them consistent. Furthermore, the province government should follow the 'Project Classification Bases and Standard, 2080' promulgated by the federal government. At the same time, it also should develop its own standard in consistent with the federal standard.

Key words:

Budget Allocation, efficiency, recurrent expenditure, capital expenditure, and financial management expenditure.

1. Introduction

Budget combines multiple dimensions ranging from politics, economics, social and environmental dimenstion. It is guided by the Constitution, prevailing laws, and precedents. The Constitution of the Federal Democratic Republic of Nepal (Constitution of Nepal, 2015) guarantees 32 fundamental rights and freedoms. It specifies which levels of government (federal, provincial, local) have authority over matters like taxation and expenditure. The Constitution of Nepal also emphasizes the creation of an independent and self-reliant economy.

After constitutional provisions, the responsibilities and authority over resources are constitutionally divided among the three tiers of government: federal, provincial and local governments. Similarly, provinces and local governments are now tasked with project selection, managing resources, preparing budgets, and overseeing implementation and evaluation.

In Nepal, there are several laws concerning budget preparation: the Public Finance Act 2055 B.S. (1998 A.D.), and the Public Finance Regulations 2064 B.S. (2007 A.D.). These legal frameworks guide the process of budget formulation.

Medium-term expenditure framework should be prepared for each fiscal year before formulating the budget, taking the Periodic Development Plan as a guide. It shall include a description of the proposed plan or program, including the activity-wise details, unit cost of each activity, estimated time required for operation, and the returns to be obtained from it, and shall be prioritized for each plan or program (BPFP Act, 2074).

Bagmati Province, being the federal capital, plays a pivotal role in Nepal's governance system and economy. It contributes significantly to the national Gross Domestic Product (GDP) and revenue collection, resulting in a larger budget, more extensive projects, and broader service delivery compared to the other six provinces. With strong resource mobilization capacity, there is a heightened need for financial discipline and effective allocation to ensure optimal utilization of the available resources. Despite these advantages, it is facing challenges in budget execution too. Available reports indicate that the province is struggling with low capital expenditure and delays in project implementation.

Infrastructure projects are also classified by cost: small projects: cost ≤ NPR 10 crore; medium projects: cost between NPR 10–50 crore; large projects: cost above NPR 50 crore. Transformative projects (with at least NPR 1,000 crore in total cost, completed pre-feasibility works, and long-term sustainable impact) and National Pride projects (with at least NPR 5,000 crore cost and recognized as national priority) are placed in separate categories. According to the time limit, project is classified in small and medium projects must be completed within 3 years; Large and priority projects within 6 years, National Pride projects within 10 years. (GoN, 2023).

Institutional capacity also poses a significant hurdle. Provincial governments lack the necessary infrastructure, skilled personnel, and data systems to manage public finance effectively. This deficiency hampers their ability to plan, execute, and monitor projects, leading to inefficiencies and reduced public trust. As a prerequisite to improving the budgetary and public expenditure system, a drastic reform in the planning system is needed. For this, some specific techniques, such as a system of policy costing, could be introduced in the planning to ensure efficiency in resource allocation decisions and to determine sectoral priorities accordingly. (Khanal, D. R. & Khanal, K., 2024)

Additionally, adopting transparent and data-driven planning and budgeting processes can enhance accountability and ensure efficient resource utilization. In conclusion, while Bagmati Province holds significant economic and administrative importance, it is facing challenges in budget planning, resource allocation, and implementation. Addressing these issues requires a comprehensive reform that promotes fiscal discipline, strengthens institutional capacities, and ensures equitable resource distribution.

2. Objectives of the study

The overall objective of the study is to examine the budget allocation efficiency of Bagamti Province Government. The specific objectives as follows:

- To analyze the trend of ratio of current and capital expenditure maintained in the annual budgets.
- To assess compliance with prevailing laws and regulations while allocating the resources.
- To suggest policy measures to improve budget allocation efficiency.

3. Limitations of the study

- The analysis of the study is soley based on the last data of last four fiscal years, particulary from fiscal year 2078/079 to fiscal year 2080/081.
- Due to revisions in the work-division regulations of the ministries including spliting of ministries may cause variations in the number of projects and the budget amounts.

4. Methodology

Due to the nature of the study, the desk review method has been widely used for this study. Both qualitative and quantitative data and information have been given equal importance for the study. In addition, few idea pooling discussions were made with the concerned employees of the province government. The secondary sources are the key sources of data and information.

5. Results & Discussion

5.1. Budget Allocation Trend for recurrent, capital, and financial management expenditure

From FY 2074/75 to 2081/82, the Bagmati Provincial Government has formulated and presented its eighth annual budget. The FY 2074/75 was the initial year of the province, in which the budget allocated in Magh 2074 focused on regular provincial operations and office administration. Table 1 presents the budget allocation sizes of the allocation for recurrent, capital and finanicial management expenses.

Table 1: Budget allocation trend for recuurent, capital and financial management expenditure (in'00,000).

S.N.	Fiscal Year	Recurrent Expenditure	Capital Expenditure	Financial Management	Total Budget
1	2074/075	8793	1411	0	10204.00
2	2075/076	138625	217530	0	356155.00
3	2076/077	244679	228398	3000	476077.00
4	2077/078	262873	251401	30000	544274.00
5	2078/079	260166	297043	20000	577209.00
6	2079/080	190141	415624	20000	625765.00
7	2080/081	267027	355063	5000	627090.00
8	2081/082	261016	369387	15000	645403.00
	Total	1633320	2135857.00	93000	3862177.00

Source: Ministry of Economic Affairs and Planning, Bagamati Province, 2025

The shares of recurrent, capital, and financial management expenditure in FY 2074/075 are 86.17 %, 13.83 % and 0% respectively, which seem quite obvious for the first fiscal year of the government. For the last 8 FYs, the overall shares of recurrent, capital, and financial management expenditure are found 42.29%, 55.30 % and 2.41% respectively. The highest share of capital expenditure was recorded in FY 2079/080 which was 66.42 % while the share of the recurrent expenditure was 30.39 % for the same FY. See Table 2 for for information.

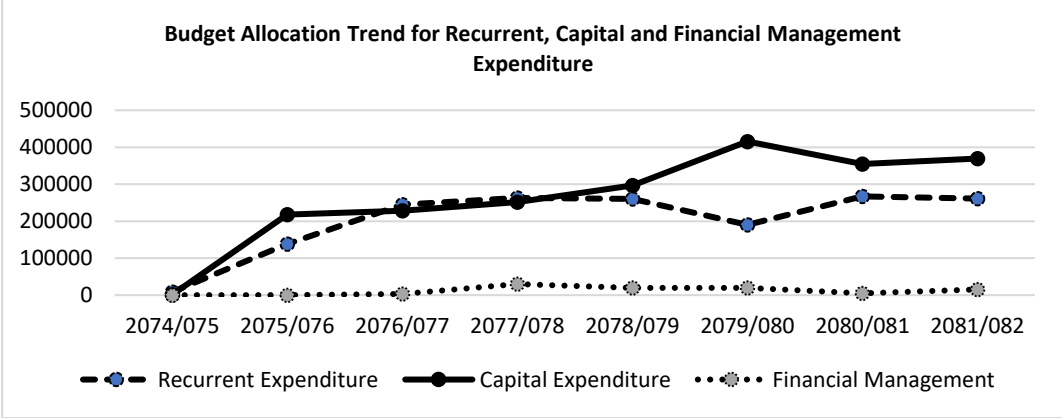
Table 2: Budget allocation trend for recuurent, capital and financial management expenditure (in %).

S.N.	Fiscal Year	Recurrent Expenditure	Capital Expenditure	Financial Management	Total Budget
1	2074/075	86.17	13.83	0.00	100.00
2	2075/076	38.92	61.08	0.00	100.00
3	2076/077	51.39	47.98	0.63	100.00
4	2077/078	48.30	46.19	5.51	100.00
5	2078/079	45.07	51.46	3.46	100.00
6	2079/080	30.39	66.42	3.20	100.00
7	2080/081	42.58	56.62	0.80	100.00
8	2081/082	40.44	57.23	2.32	100.00
	Total	42.29	55.30	2.41	100.00

Source: Ministry of Economic Affairs and Planning, Bagamati Province, 2025

The shares of budget allocation for reccurent, capital and financial management expenses seem inconsistent (see Figure 1 for more information). The largest gap (except in FY 2074/075) between capital expenditure and recurrent expenditure can be observed in FY 2079/080, which was 36.03 % and the second larget can be observed in 2075/076, which was 22.15 %.

Figure 1: Budget Allocation Trend for Recurrent, Capital and Financial Management Expenditure



Source: Derived from Table 1

The inference of the analysis is that there is no reasonably accepted standard or ratio for allocation of budget for reccurent, capital and financial management expenditure. This is a serious challenge to the efficient budget allocation.

5.2. Trend of Expenditure of Allocated Budget

The trend of actual expenditure against the budget also seems inconsistent. The average percentage points of recurrent, capital, and financial management expenditure for the last seven years, from FY 2074/075 to FY 2080/081, are 63.64 %, 69.82 % and 42.31 % respectively. Except FY 2074/075, the highest percent of recurrent expenditure, which was 94.57 %, can be observed in FY 2079/080, and the lowest percentage of recurrent expenditure, which was 50.14 %, can be observed in FY 2076.077. More information is presented in Table 3 below.

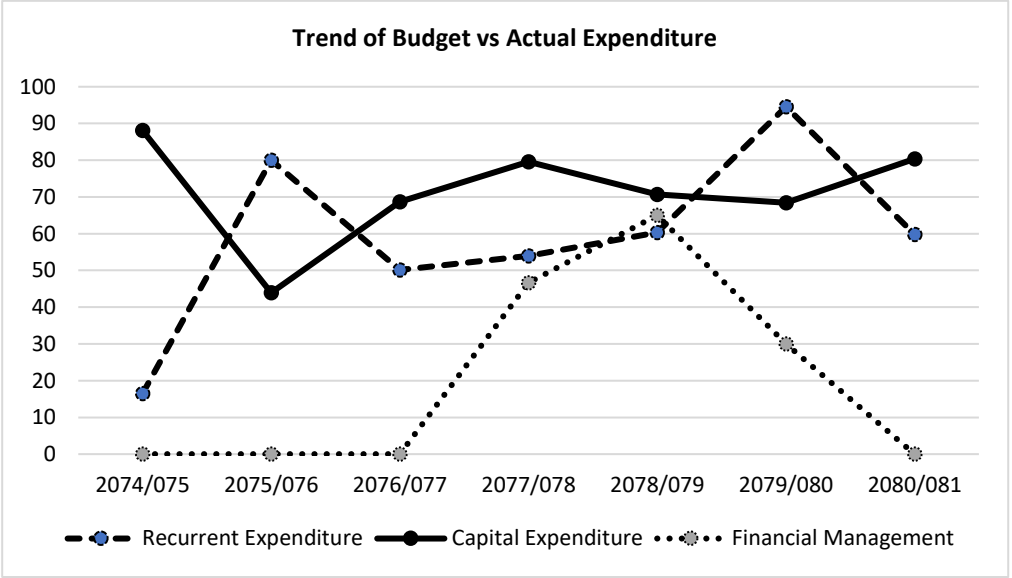
Table 3: Trend of Budget vs Actual Expenditure (in %)

Fiscal Year	% of Recurrent expenditure	% of Capital Expenditure	% of Financial Management Expenditure
2074/075	16.49	88.09	0
2075/076	80.00	43.92	0
2076/077	50.14	68.66	0
2077/078	53.96	79.58	46.67
2078/079	60.34	70.68	65
2079/080	94.57	68.4	30
2080/081	59.81	80.38	0
Total	63.64	69.82	42.31

Source: Provincial Account Control Office, Bagamati Province, 2025

The fluctuating trend of expenditure on recurrent, capital, and financial management expenses not only indicates the low expenditure capacity but also the budgeting capacity of the government. There are many procedural aspects, natural catastrophes, and political reasons behind low capital expenditure; however, in comparison to capital expenditure, there are fewer reasons behind low recurrent expenditure. But the percentage of recurrent expenditure against the budget is less (63.64%) than the capital expenditure (69.82%). It means that the province government is allocating resources for those recurrent expenses that are neither important nor predictable. The inference is that the province government is not efficient in budget allocation as it should be. See the Figure 2 for more information.

Figure 2: Trend of Budget vs Actual Expenditure



Source: Derived from Table 3

5.3. Project and Budget Size

Available data shows that the Bagamati Province Government prefers to invest in small projects rather than provincial level projects.

Table 4: Budget Size and Number of Projects

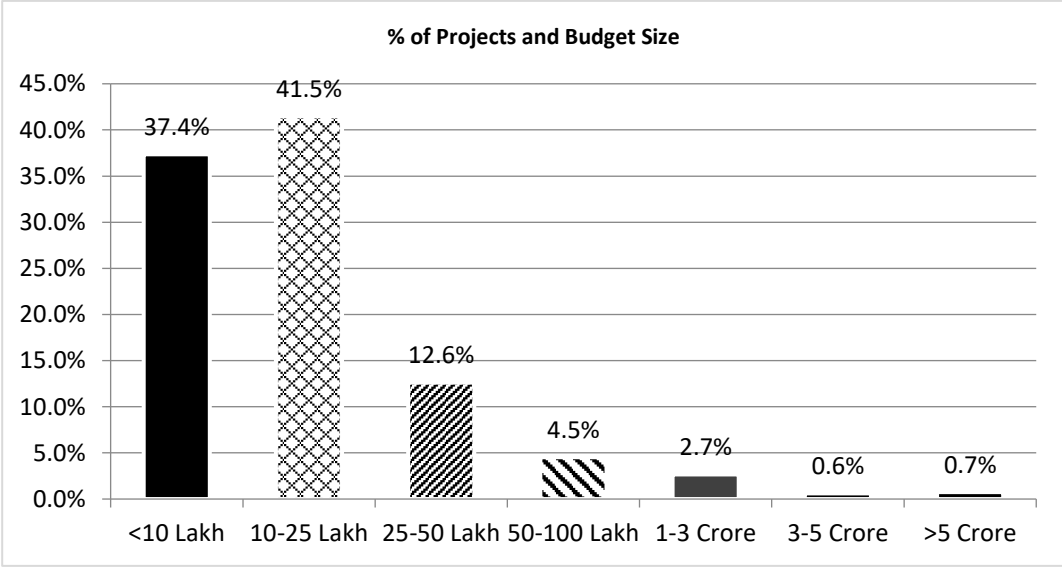
Project Size	2078/079	2079/080	2080/081	2081/082	Total	%
<10 Lakh	4506	3055	10274	4246	22081	37.36
10-25 Lakh	2486	7259	6167	8597	24509	41.47
25-50 Lakh	1059	2686	1657	2055	7457	12.62
50-100 Lakh	623	838	601	615	2677	4.53
1-3 Crore	422	475	331	347	1575	2.66
3-5 Crore	75	85	108	93	361	0.61
>5 Crore	109	97	124	113	443	0.75
Total	**9280**	**14495**	**19262**	**16066**	**59103**	**100.00**

Source: Ministry of Economic Affairs and Planning, Bagamati Province, 2025

There is no doubt that the province government is primarily responsible for the implementation of provincial-level projects, and local governments are responsible for the implementation of local level projects. The Federal government of Nepal has approved the 'Project Classification Bases and Standard,

2080'. All three tiers of government are obliged to follow standard. In the case of the projects under joints rights of three tiers of government, the province government should implement the projects costing more than three cores in rural municipalities, projects costing more than five cores in municipalities, projects costing more than ten cores in sub-metropolitan cities, and projects costing more than fifteen cores rupees in metropolitan cities (Government of Nepal, 2080). It means that the province government is responsible for the implementation of the projects at least costing more than three cores rupees.

Figure 3: Budget Size and Number of Projects (in %)



Source: Derived from Table 4

However, the Bagamati Province Government allocated more than three crore rupees for 804 projects in last three fiscal years, which is only 1.4 % of the total projects. In other words, the province government has allocated a budget for 98.6 % of projects costing less than three crore rupees. See Figure 3 for more information. The inference is that the province government, despite having standard of projects, is giving priority to very small-sized projects.

5.4. Trend of Project Size and Budget Allocation

Table 5 presents the share of budget allocation for different sizes of projects for consecutive fiscal years from 2078/079 to 2081/082. On the whole, the province government has allocated approximately 20 % of its total budget for the projects that ranges from 10-25 lakhs while 4.2 % of its total budget to the project costing below 10 Lakhs. See table 5 for more information.

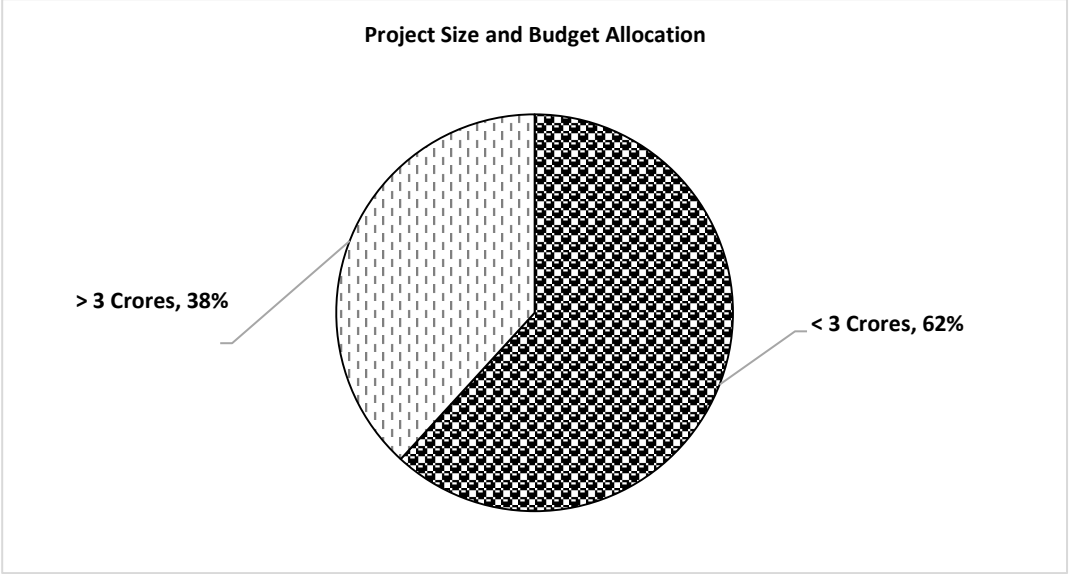
Table 5: Project Size and Budget Allocation (in '000)

Project Size	2078/079	2079/080	2080/081	2081/082	Total	% of Projects and Budget Size
<10 Lakh	1164814	1354342	2981855	1827135	7328146	4.20
10-25 Lakh	3742339	10462929	8981868	11820420	35007556	20.04
25-50 Lakh	3349445	8567266	6588186	6504030	25008927	14.32
50-100 Lakh	3744363	5381531	3707906	3698241	16532041	9.46
1-3 Crore	6286686	7246972	5099681	5441981	24075320	13.78
3-5 Crore	2673909	3172638	3952126	3467393	13266066	7.59
>5 Crore	17458660	10052368	14195981	11754565	53461574	30.61
Total	**38420216**	**46238045**	**45507604**	**44513765**	**174679630**	**100.00**

Source: Ministry of Economic Affairs and Planning, Bagamati Province, 2025

In the last four fiscal years, the Bagamati Province Government has allocated 1 kharab 74 Arab 67 crores rupees. Of this amount, only 38.2 percent of rupees were allocated for the projects costing more than 3 crores, and the majority of the budget, approximately 62.8 % rupees, was allocated for the projects costing below 3 crores. Hence, the data shows that the government prefers to invest in small projects rather than larger projects. See Figure Table 5 and Figure 4 for more information.

Figure 4: Project Size and Budget Allocation



Source: Derived from Table 5

6. Conclusion and Recommendations

6.1. Conclusion

The summary of the conclusion of the study is as follows:

- Available data shows that the ratio of the recurrent, capital, and financial management expenditure is inconsistent. There is no reasonably accepted standard or ratio for the allocation of budget for recurrent, capital, and financial management expenditure. This is a serious challenge to efficient budget allocation of the province government.
- The fluctuating trend of expenditure on recurrent, capital, and financial management expenses not only indicates the low expenditure capacity but also the budgeting capacity of the government. It means that the province government is allocating resources for those recurrent expenses that are neither important nor predictable. The inference is that the province government is not efficient in budget allocation as it should be.
- Available data shows that the Bagamati Province Government prefers to invest in small projects rather than provincial level projects.

6.2. Recommendations

- The province government should develop a reasonably accepted standard or ratio for the allocation of budget for recurrent, capital, and financial management expenditure to make them consistent and to increase resource allocation efficiency.
- The province government should increase its resource allocation as well as expenditure capacity to make the allocation more practical and efficient.
- The province government should follow the 'Project Classification Bases and Standard, 2080' promulgated by the federal government. At the same time, it should develop its own standard in consistent with the federal standard.

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