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Editorial's Note

With a commitment to encourage faculty members and students for research activities and to publish original and innovative scholarly research articles from research scholars, Research Management Committee has been publishing *Devkota Journal of Interdisciplinary Studies* – a platform for conceptual and empirical papers in the field of management, social sciences and humanities. Through this attempt, RMC observes the development of research based academic environment at the campus and surroundings.

As a further step in this odyssey, RMC has brought forth its fourth volume of the journal. The journal consists of issues from health, literature, linguistics, management and social sciences. With these issues, it has not only tried to negotiate with the contemporary scenario, but also seeks to ask how we are to re-orientate these issues. This journal, we hope, will become a source for all those perspective readers who are interested in upgrading their knowledge in different fields, and for all those creative writers in pursuing their further study.

Research Management Cell owes its existence to all those helping hands that are involved directly and indirectly in publishing this journal. RMC would also like to express its gratitude to the scholars who provided us with their creative and analytical articles. Besides, it welcomes submissions from across various range of scholarship.

Peer Reviewed Journal

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Impact of Remittance on Nepalese Economy: an Evidence From Nepal

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Abstract : *This study investigate the impact of remittance on economic growth of Nepal during 1990 to 2020 by using time series data analysis tools. Gross domestic product (GDP) is the dependent variable and remittance (RMT) is the independent variable in this study. The stationarity of both variable have been examined to determine the order of integration, for this ADF test has been applied. The ADF reveals that both variable series are non-stationary at level while found to be stationary at their first difference, implying both series are I(1). Even though the series are I(1), the Johansen Co integration test established the absence of co integrating relationship. Therefore the relationship between the series were investigated through the unrestricted vector autoregressive (VAR) model. Residuals diagnostic tools (serial LM test, Heteroscedasticity test and normal distribution test) and stability tests have also tested to make estimation free of spurious. Finally, this study has confirmed that there is short run relationship and unidirectional causal association between remittance and economic growth in Nepal.*

Key Words: *Stationarity, VAR, ADF, Diagnostic, Granger causality, Co integration, Heteroscedasticity, Collinearity, Wald.*

Introduction

The foreign direct investor may acquire 10% or more of the voting power of an enterprise in an economy by incorporating a wholly owned subsidiary or company, acquiring shares in an associated enterprise, through merger or an unrelated enterprise, and participating in an equity joint venture with another investor. These are all examples of ways that the foreign direct investor may acquire voting power. Incentives for foreign direct investment can take the form of low corporate and income tax rates, tax holidays, other types of tax concessions, preferential tariffs, special economic zones, investment financial subsidies, soft loan or loan guarantees, free land or land subsidies, relocation and expatriation subsidies, job training and employment subsidies, infrastructure subsidies, research and development support, and exemptions from regulations, typically for very large projects (Obadan, 2004).

An influx of foreign investment, particularly foreign direct investment (FDI), is believed to have a favorable impact on the economic growth of a host country through a variety of direct and indirect

channels of economic activity. It boosts domestic investment, which is essential for achieving continuous growth and development. [Citation needed] [Citation needed] As a consequence of this, many developing nations, including Nigeria, have provided generous incentives to entice foreign direct investment (FDI) inflows. In addition, these nations have implemented macroeconomic reforms, frequently in response to pressure from Bretton Woods Institutions, also geared toward the same end of creating an environment that is investor-friendly. Some foreign companies have taken advantage of the incentives to satisfy their various motives, such as ensuring stable monopolistic control over sources of raw materials for their parent companies, access to control of local markets, utilizing low cost labor, and realizing the possibility of higher returns. Furthermore, up until the last five years, Nigeria also received very low proportions of global FDI inflows, despite the fact that it is blessed with enormous human and natural resources. This could be due to the fact that investors saw the market for economic investments as being fraught with high levels of risk.

For the purpose of providing for their family back in their home countries, foreign workers or other remitters send money back to those nations from the countries in which they are working. Despite the fact that remitters transferred their earnings in both cash and other forms, the term "remittance" is typically reserved to refer to only monetary and cash transfers made by migrant workers from the nations in which they find employment back to their home countries. At the beginning of the 19th century, Nepalese people began working outside of their country by traveling to Lahore to work for the Sikh emperor Ranjit Singh. The Sugauly Treaty of 1814 A.D. marked the beginning of foreign migration, and Nepalese economy has shown the presence of remittance ever since it began to receive remittance formally by exporting brave Nepalese soldiers known as "Gurkhas" to Britain. Remittance has shown its presence in Nepalese economy. The amount of remittances received in Nepal is significantly higher than in other countries, which has had a positive impact on the nation's efforts to reduce problems related to poverty and unemployment; however, it is unclear how much of an effect this has had on domestic consumption, savings, investment, or growth. The majority of the world's developing and underdeveloped countries rely heavily on remittances as a significant source of foreign currency. However, actual data regarding remittances cannot be gathered because a major portion of remittances are received in those countries through informal channels. According to the official records kept in Nepal during that time period (1990/1991), the total amount of remittance money that was brought into the country was Rs. 2128.3 million. The number, which has significantly increased, notably during the 2000/01 fiscal year, was recently estimated to be 47216.1 million rupees. It has been noted that migrant workers have sent home a total of Rs. 879,271 million in remittances during the first eight months of the 2018/19 fiscal year. Nepal has seen a steady increase in remittances over the past two decades. This growth has been sustainable. Every day, over 1600 laborers depart TIA in Nepal for locations outside of the country. The truth may be somewhat different, considering that many workers leave India via unofficial methods and travel to a variety of countries. People in the age range of 20 to 44 are most likely to be sending money home from abroad. The most recent information available reveals that 55.8 percent of households in Nepal are in receipt of remittances.

Literature Review

Kaphle, R. R. (2018), for the period between 1976 and 2017, this study investigated the relation from remittances and trade to economic growth for the period between 1976 and 2017. Study applied time series econometric techniques; unit root, co-integration and error correction mechanism to examine long-run and short-run association between dependent and independent variables. Outcome confirms a long-run relationship between remittance, trade and economic growth. However, no short-run causal relationship exists between remittances and economic growth, but trade showed significant influence even in the short run in GDP for the period of analysis. Sahid B. (2016), the main conclusion is that remittances contribution to economic growth depends on how they are used in the country of origin. Remittances can foster growth when are directed to investment or education or through the multiply effect mechanism driven by increased demand due to additional income created by the money received from abroad. Perez-Saiz, H. et al (2019), this empirical results suggest that the effects of remittances on recipient economies increase with the degree of linkages across sectors, which is especially prominent in the case of the financial intermediation sector. Our paper contributes to the emerging macroeconomic literature on the propagation of shocks across sectors and the implications for the whole economy. Catrinescu, N. et al. (2009), this paper suggested that contradictory findings have emerged when looking at the remittances growth link because previous studies have not correctly controlled for endogeneity. Using Dynamic Data Panel estimates we find that remittances exert a weakly positive impact on long-term macroeconomic growth. The paper also considered the proposition that the longer term developmental impact of remittances is increased in the presence of sound economic policies and institutions. Anyanwu et al. (2010), this paper examined the impact of workers' remittances on growth and poverty reduction in developing Asia-Pacific countries using panel data over the period 1993-2003. The results suggested that, while remittances do have a significant impact on poverty reduction through increasing income, smoothing consumption and easing capital constraints of the poor, they have only a marginal impact on growth operating through domestic investment and human capital development. Lacheheb, Z., & Ismail, N. W. (2020), this study investigated the relationship between remittance and economic growth in a panel of 93 low and middle-income countries using annual data from 2009 to 2017. The estimated model using system GMM (SYS-GMM) revealed that remittance has a significant negative impact on growth after removing outliers. However, the result before outliers was indicating a negative but nonsignificant relationship between remittance and growth. The results confirmed that remittance flow leads to deteriorating economic growth in the receiving countries. Therefore, these findings suggest that countries with a big size of remittance are predicted to be associated with a low level of growth which indicates a remittance curse effect on the countries' level of economic growth.

Fayissa, B., & Nsiah, C. (2010), the perceived factors of economic growth in developing economies have ranged from surplus labor to capital investment and technological change, trade, foreign aid, foreign direct investment, investment in human capital, increasing returns from investment in new ideas, and research and development. This study explored the aggregate impact of remittances on economic growth within the conventional neoclassical growth framework using panel data spanning from 1980 to 2004 for 36 African countries and found that remittances

positively impact economic growth by providing an alternative way to finance investment and helping to overcome liquidity constraints. Meyer, D., & Shera, A. (2017), this study aims to observed the impacts of remittances on economic growth, using panel data set of six high remittances receiving countries, Albania, Bulgaria, Macedonia, Moldova, Romania and Bosnia Herzegovina during the period 1999–2013. These countries have experienced a major increase in remittance inflows, and at this time accounts for the bulk of total remittance receipts, compared with other regions. Most countries, remittances represent the largest source of foreign exchange earnings and represent more than 10 percent of GDP. Tu, C. A. et al.(2019). The main purpose of this paper is to empirically investigate the impacts of remittance inflows, financial inclusion, and economic development and whether inward remittances may help to construct an inclusive financial system. Using both endogeneity-robust generalized method of moments and a structural equation model, our results show that remittances and financial inclusions are engines of growth in countries of different income groups. This implies that the policies to attract extra inward remittances and improve financial inclusion status are of great importance and could pull middle-income countries out of middle-income traps. To this end, our empirical study helps to shed light on the development dilemma of remittance inflows and financial inclusion and to explain both direct and indirect mechanisms through which these effects may happen.

Cooray, A. (2012), Incorporating migrant remittances among other variables into a growth model, and employing panel data over the 1970-2008 period, this study investigates the impact of migrant remittances on economic growth in South Asia. Migrant remittances are found to have a significant positive effect on economic growth. A significant positive interactive effect of remittances on economic growth is detected through education and financial sector development.

Olayungbo, D. O. (2019), the study investigated the relationship among remittances, financial development and economic growth in a panel of 20 sub-Saharan African countries over the period of 2000 and 2015. The study used both Pooled Mean Group and Mean Group/ARDL estimations with panel unit root and co-integration tests. After establishing co-integration, remittances and financial development were found to have positive effects on economic growth both in the short and the long run. The interactive term showed that financial development acted as a substitute in the remittances-growth relationship. Finally, unidirectional causal relationships were found to exist from GDP to remittances and from financial development to GDP. However, no causality existed between remittances and financial development in the SSA countries. Sibindi, A. B. (2014), this article investigated the causal relationship between the remittances, financial development and economic growth in Lesotho for the period 1975 to 2010. This study folled test for cointegration amongst the variables by applying the Johansen procedure and then test for Granger causality based on the vector error correction model (VECM). This results confirmed the existence of at least one cointegrating relationship and also indicate that the direction of causality runs from remittances to the economy without feedback and it resulted also suggest that financial development Granger causes economic growth without feedback which is consistent with 'supply-leading' growth hypothesis. The results also confirmed a causal relationship running from financial development to remittances without feedback. Dinh, T. et al. (2019), this paper examines and provides additional and relevant quantitative evidence on the impact of foreign direct investment (FDI) on economic growth, both in the short run and the long run in developing countries of the lower-middle-income group in 2000–2014. Various econometric methods

are employed such as the panel-based unit root test, Johansen cointegration test, Vector Error Correction Model (VECM), and Fully Modified OLS (FMOLS) to ensure the robustness of the findings. The results of this study show that FDI helps stimulate economic growth in the long run, although it has a negative impact in the short run for the countries in this study.

Objectives of the Study: Remittance has become one of the emerging and burning issues in Nepalese economy. It can play significant role in making overall development of the nation if inward remittance is used to enhance domestic investment level and domestic consumption level of the nation. So to advocate about impact of remittance upon national economy, it is necessary to assess the impact of remittance on domestic investment and domestic consumption level of the nation and both of which are equally important to enhance the domestic product of the nation.

The specific objective is:

- To explore the influence of remittance upon GDP of the nation.

Research Methodology

In this study, data cover annual time series of 1990 to 2020 A.D. in Nepal. The data set consists of this study is observation for real GDP and remittance. The GDP is the endogenous variables and remittance variable is the exogenous variables. Data have been taken from Economic survey published by ministry of Finance. All the data used in this study are in logarithmic form, which minimizes the problem of heteroscedasticity in the time series data, Gujarati, Porter, & Gunasekar, (2012). To establish the relationship between independent and dependent variables economic growth function is used which is like this:

$$GDPT = f(\text{remittance}) \dots\dots\dots Eq(1)$$

The function can also be represented in a log-linear econometric format thus:

$$LGDP = \beta_0 + \beta_1 L(RMT) + \mu t \dots\dots\dots Eq(2)$$

Where,

β_0 : Constant term (Intercept)

β_1 : Coefficient of variable (RMT).

t : The time trend.

μt : The random error term assumed to be normally, identically and independently distributed.

Result and Discussion

Unit root test

While conducting the research paper based on time series data, first of all, researcher should check the stationarity of the data or should determine that whether the variables used in the study are stationary or not, which is an essential test for time series data and a time series data is said to be stationary. This test will examine the order of integration of the data and eradicate the problem of spurious regression. Augmented Dickey- Fuller (ADF) has been applied to test stationarity of the data as suggested by Dickey and Fuller (1979). If data are non-stationary at $I(0)$, then ADF test is executed on the first difference of X (i.e. ΔX). If the is found to be stationary, then the series is said to be integrated to order $I(1)$.

Null hypothesis (H_0): Variables are not stationary.

Alt. hypothesis (H_1): Variables are stationary.

Table, 1: Unit Root Test Result by ADF procedure.

Variables	At level I(0)		At first diff. I(1)		Conclusion.
	Intercept	Trend &intercept	Intercept	Trend &intercept	
Ln RMT	0.416130 (0.9801)	-2.137383 (0.5039)	-5.252789 (0.0002)	-5.176855 (0.0014)	I(1)
Ln RGDP	-0.961463 (0.7527)	-1.642846 (0.7494)	-6.015306 (0.0000)	-6.113501 (0.0002)	I(1)

Source: Author calculation. (Numbers in the parenthesis are probability values) & superscripts *** represents the acceptance of alternative hypothesis 5% significance level.

The result of unit root test (ADF) of Gross domestic product (LGDP), remittance (LRMT) all these variables are not stationary at level. It suggest to check the stationary at the first difference and tested by Augmented Dickey Fuller and variables are found stationary at first difference where p value is less than 5%. If the interest variables are significant at first difference I(1) then it suggests for co integration.

Lag length section:

After conducting the unit root test, it is another calculation after determining the stationarity, lag length selection is important calculation in time series data analysis. One can use several methods to obtain the optimal lag for each variable. However the SIC criteria provides slightly better estimates than the AIC criteria in small samples in the ARDL framework. The AIC criteria also tends to overestimate the number of lags to be included, which is not favorable in small samples as by increasing the lag the number of observations decrease. Thus in order to establish a coherent model the AIC criteria will be used to govern the lag length for all. However as noted by Pesaran et al. (2001) serial correlation as well as heteroscedasticity, misspecification and non-normality should not be present, hence the lag length should be adjusted for the possible biases.

VAR Lag Order Selection Criteria

Endogenous variables: LRGDP LRMT

Exogenous variables: C

Sample: 1 29

Included observations: 27

Table-2; Results of Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-20.43613	NA	0.018066	1.66935	1.757923	1.690477
1	72.86123	165.8620*	2.43e-05*	-4.952684*	-4.664720*	-4.867057*
2	75.46853	4.248941	2.71e-05	-4.849521	-4.369581	-4.706810

Source: Appendix-1.

*Indicates lag order selected by the criterion.

From the above results of lage length section, the optimal lag length is one and one lag

has been used in this paper. As per Sequential modified LR test statistic, final prediction error (FPE) and Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ) suggest that optimal lag is one.

Co-Integration: Johansen co-integration test use two type of statistics i.e. Trace value and Max Eigenvalue statistics. The optimal lag length of the level VAR system is determined 1 lag using the Akaike's Information Criterion (AIC). That mean all our four variables are integrated of same order. All the variables are found stationarity at first difference, the methodology suggests for Johansen test of co-integration, (Engle & Granger, 1987). So a researcher here test for the number of co-integrating relationship using the approach proposed by Johansen (1988) and Johansen & Juselius (1990).

Null hypothesis (H_0): There is no co-integration or there is no co-integration among the four variables.

Alternative hypothesis (H_1): There is at least one co-integration.

Based on the above hypothesis, Johansen co-integration test output as follows

Sample (adjusted): 3.29

Included observations: 27 after adjustment.

Trend assumption: Linear deterministic trend.

Series: LRGDP, LRMT

Lags interval (in first differences): 1 to 1

Table-3: Results of Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CEs	Eigen value	Trace Statistic	0.05 Critical Value	Prob. **
None*	0.122261	4.499309	15.49471	0.8595
At most 1	0.035587	0.978357	3.841465	0.3226

Source: *Appendix-2*.

Trace test indicates no cointegration at the 0.05 level.

*denotes rejection of hypothesis at 0.05 level.

**MacKinnon-Haug_Michelis (1999) p-values.

Table-4: Results of Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CEs	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None	0.122261	3.520953	14.26460	0.9061
At most 1	0.035587	0.978357	3.841465	0.3226

Source: *Appendix-2*.

Trace test indicates no cointegration at the 0.05 level.

*denotes rejection of hypothesis at 0.05 level.

**MacKinnon-Haug_Michelis (1999) p-values.

Results of Johanson Co integration test show that two types of test statistics viz. Trace statistics and Maximum Eigen value statistics. At the 0.05 level of significance both statistics reveals that there is no co integration between two series. These results confirms there is no long run equilibrium relationship between the variables. Therefore their relationship between the variables has to be investigated through the unrestricted vector auto regression (VAR) model.

Vector Autoregressive (VAR) Model:

From the results of Johenson Co integration, both Trace value and Max Eigen test confirms that there is no co integrating equation. In this study optimal lag is one. If all variables are stationary at the first difference I(1) and no co integration among them then there is no long run association among the variables rather short run relationship can be established.

Dependent Variable: D(LRGDP)

Method: Least Square (Gauss-Newton / Marquardt steps)

Sample (adjusted): 5 29

$LRGDP = C(1)*LRGDP(-1) + C(2)*LRMT(-1) + C(3)*LRGDP(-2) + C(4)*LRMT(-2) + C(5)$

Table-5; Results of VAR parameters

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.917081	0.198073	4.630008	0.0001***
C(2)	0.037138	0.014207	-2.614012	0.0158**
C(3)	0.179854	0.225181	0.798711	0.4330
C(4)	0.044809	0.014685	3.417044	0.0004***
C(5)	-1.036161	0.799568	-1.295901	0.2084
R-square	0.897770			
Adj. R-Sq.	0.736458			
F-test	246.9003			
P-Value	0.00000			
DW test	2.126698			

Source: Appendix-3. (Numbers in the parenthesis are probability values) & superscripts ***, **, * represents the acceptance of alternative hypothesis 1%, 5% & 10% significance level respectively For GDP itself, first lagged period have positive influence and this is significant at 1% level of significance because their P-values are less than 1%. Similarly, first lagged period of remittance has positive influence on the current period. Prob. of F-stat i.e. 0.0000 is also less than 1% which indicates that the variable remittance influence to real GDP or overall model is significant considering the P-value. R- Square 0.8977 means 89.77% explained by this independent variables foreign direct investment to dependent variables GDP. D-W test 2.126698 is close to 2 which also indicate normally there is no serial correlation.

Wald test: Generally to check the short run causality of every independent variable to dependent variable Wald test is applied. The result of the Wald test is as follows,

Table: 6 (a) - Equation Untitled.

Test Statistics	Value	Df	Probability
F-stat.	3.396102	(3, 22)	0.0005
Chi-Square	7.188308	3	0.0061

Source: Appendix-5.

H_0 : There is no short run causality running from remittance to GDP or $C(2)=C(3)=C(4)=0$

H_1 : There is short-run causality running from remittance to GDP or $C(2) \neq C(3) \neq C(4) \neq 0$.

Table: 6 (b)- Wald Test:

Test statistics	Value	d.f.	Prob.
t-statistics	1.946128	37	0.0593*
F- statistics	3.877415	(1.37)	0.0593*
Chi-square	3.787415	1	0.0516*

Source: *Appendix-5*.

From the above result of Wald test of remittance C(3), C(4) and C(5), table states we reject null hypothesis as the probability value of F-stat (0.0005) and Chi-square (0.0061) are less than 1%. This results state that there is short run causality between remittance and real GDP.

Granger Causality test: According causality test by Engle and Granger (1987), if two variables are I(1) individually and they are co integrated then there exists unidirectional or bidirectional causality between the variables. In this study, the variables under study are stationary at I(1) but Johansen co integration reveals absence if co integration. Series X causes Y if the past values of X can more accurately predict Y than simply the past values of Y (Granger, 1969). Here, the directions of causality between GDP & foreign direct investment has been tested using Granger Causality test.

Table-7; Results of Granger Causality test

Null Hypothesis	F-stat	Prob.
D(LRMT) does not Granger cause D(LRGDP)	3.20724	0.0854
D(LRGDP) does not Granger cause D(LRMT)	3.17219	0.0871

Source: *Appendix 4.*

From the above analysis, remittance cause the economic growth because its P- value is less than 10%. Similarly, from the above analysis, gross domestic product cause the remittance because its P- value is more than 10%. So we can conclude that there is unidirectional relation between remittance and gross domestic product or meaning that there is significant impact of the remittance on GDP and there is significant impact of the GDP on remittance.

Residual Diagnosis Test: Residuals diagnostic tools (serial LM test, Heteroscedasticity test and normal distribution test) have also tested to make estimation free of spurious. If the P-value of respective testis greater than 5% then hypothesis is accepted and model is assumed to free from the wrong regression and data are fitted for the test.

Table: 7, Result of serial correlation, heteroscedasticity and Normal distribution.

Table-8; Results of Residual Diagnosis Test

Particulars	P-Observed R-Square	F-stat	P-value
BG serial correlation LM test	0.2940	0.8927	0.3555
Heteroscedasticity BPG test	0.7041	0.4812	0.7492
Normality JB test		-	0.2938

Source: *Appendix- 6, 7 and 8.*

In table 7, B-G serial correlation LM test depicts that the residuals are free from serial correlations as p- value of observed R-square is 0.2940 which is more than 5% level of significance. Similarly,

BPG test shows that the residuals are homoscedastic where p-value of observed R square i.e. 0.7041 is greater than 5% level of significance. Finally, JB test also shows the residuals are normally distributed where p-value i.e. 0.2938 is also than 5% level of significance.

Conclusion

The main conclusion of this paper is that there is short run relationship between the remittance (RMT) and economic growth (GDP). It also confirms that there is bidirectional relation between remittance (RMT) and economic growth (GDP).or meaning that there is significant impact of the remittance (RMT) on GDP and vice- versa. Therefore a developing nation like Nepal anticipating the high level of economic growth, remittance has significant impact, and can be achieved only investing in the productive sectors of such remittance and also increasing investment in manufacturing sectors for long term project. This policy recommends to planner that the proper investment of remittance in long term assets can helps to achieve the high economic growth.

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Foreign Direct Investment and Economic Growth: An Evidence from Nepal

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Abstract

This study confirms to investigate the impact of foreign direct investment on economic growth of Nepal during 1995 to 2020 by using time series data analysis tools. Gross domestic product (GDP) is the dependent variable and foreign direct investment (FDI) is the independent variable in this study. The stationarity of both variable have been examined to determine the order of integration, for this ADF test has been applied. The ADF reveals that both variable series are non-stationary at level while found to be stationary at their first difference, implying both series are $I(1)$. Even though the series are $I(1)$, the Johansen Co integration test established the absence of co integrating relationship. Therefore the relationship between the series were investigated through the unrestricted vector autoregressive (VAR) model. Residuals diagnostic tools (serial LM test, Heteroscedasticity test and normal distribution test) and stability tests have also tested to make estimation free of spurious. Finally, this study has confirmed that there is no short run relationship and un-directional causal association between foreign direct investment and economic growth in Nepal.

Key Words: Stationarity, VAR, ADF, Diagnostic, Granger causality, Co integration, Heteroscedasticity.

I. Introduction

Foreign direct investment is one of the crucial and rising aspects of globalization over the decades (Sahoo, P., 2006). FDI is a significant source of capital, technology, and management for economic growth Multinational Corporation (MNC) is facilitated in another country to establish business operations or acquires foreign business assets, there occurs a transfer of foreign investment to other countries. Foreign direct investment is also a direct acquisition of a foreign firm outside of the home country, an investment in a joint venture company or enterprises, creation of a strategic alliance with a local firm by facilitating advanced technologies or licensing of its intellectual property (Kokko, Ari.,2006). In the developing countries can import and adapt highly advanced technological equipment and products, including foreign technology, acquisition of skilled labor from foreign countries, and the investment of multinational corporations through FDI. In developing countries, they are suffering capital deficient countries and foreign direct investment is an additional source of capital formation and the host countries can boost their pace of economic development without curbing their current consumption level. FDI is mutually beneficial to both

the “host” and the “home” countries. The inflow of FDI is supposed to play a crucial role to enhance the economic growth into the host country by increasing the existing stock of knowledge through labor training, and transfer of new skills, managerial and entrepreneurial practices that provide an advantage to human capital development. Foreign direct investment (FDI) has been an important source of economic growth for any country bringing in capital investment, technology and management knowledge needed for economic growth. Foreign Direct Investment (FDI) is one of the conspicuous and rising aspects of globalization over the past few decades. Whenever a foreign investor or a multinational corporation (MNC) is facilitated in another country to establish business operations or acquires foreign business assets, there occurs a transfer of foreign investment to other countries. Hence, FDI is also a direct acquisition of a foreign firm outside of the home country, an investment in a joint venture company or enterprises, creation of a strategic alliance with a local firm by facilitating advanced technologies or licensing of its intellectual property (Ajaegbu,2013). Moreover, FDI is a significant source of capital, technology, and management over the past decades. The developing countries can import and adapt highly advanced technology equipment and products, including foreign technology, acquisition of skilled labor from foreign countries, and the investment of multinational corporations through. In capital deficient countries, FDI is an additional source of capital formation and the host countries can boost their pace of economic development without curbing their current consumption level. FDI is mutually beneficial to both the “host” and the “home” countries. The inflow of FDI is supposed to play a crucial role to enhance the economic growth into the host country by increasing the existing stock of knowledge through labor training, and transfer of new skills, managerial and entrepreneurial practices that provide an advantage to Human Capital Development. FDI encourages technology transfers and spillovers effect that boost the productivity in all sector of the economy and accelerates overall economic growth on the recipient countries. The home countries achieve the advantages of the vast markets and industrial growth. On the other hand, the host countries receive new technology and entrepreneurial talents, which further increases the domestic savings and foreign exchange . Survey Report on Foreign Direct Investment in Nepal (2018) identified the FDI inflow in Nepal is very low in comparison to other countries through many provisions of legal, regulatory, and institutional frameworks are introduced. Although there is an increasing trend over the recent past years, the FDI stock is reached only 6.1 percent of GDP in FY 2015/16, which was investment by 39 foreign countries' investors in 252 different firms in Nepal. In recent years, Nepal has also given a top priority to attract and mobilize FDI through various plans and policies since the ninth plan with different policies (Pyakurel, 2018).

Objective of the Study

The main objective of this study is to analyze the impact of FDI inflows in the host country, Nepal.

II. Literature review

Sukar, A., Ahmed, S., & Hassan, S. (2007), this paper examines the effect of foreign direct investment on economic growth in Sub-Sahara African countries, using panel data for the

period 1975-1999. The results indicate that foreign direct investment has marginally significant positive effect on economic growth. Domestic economic conditions such as macroeconomic policy, openness, and domestic investment have significant positive effect on economic growth. Alfaro, L. (2003), this paper states that FDI has great advantages to host countries, across sectors in the primary, manufacturing, and services sectors. An empirical analysis using cross-country data for the period 1981-1999 suggests that total FDI exerts an ambiguous effect on growth. Foreign direct investments in the primary sector, however, tend to have a negative effect on growth, while investment in manufacturing a positive one. Evidence from the service sector is ambiguous. Behname, M. (2012). The aim of this paper is to investigate the influence of foreign direct investment (FDI) on economic growth in Southern Asia for the period 1977-2009. This paper confirms that foreign direct investment (FDI) has positive and significant effect on economic growth and variables such as human capital, economic infrastructure etc.

Tabassum, N., & Ahmed, S. P. (2014), this paper examines the relationship between foreign direct investments and economic growth of Bangladesh during the period 1972–2011, by considering relationship between real gross domestic product, foreign direct investment, domestic investment and openness of the trade policy regime. The results indicate that domestic investments exert positive influence on economic growth whereas foreign direct investments, openness of trade are less significant. Adewumi, S. (2007), the paper examines the contribution of foreign direct investment to economic growth in Africa using the data for the entire continent from the time series data is from 1970-2003. It confirms that the contribution of FDI to growth is estimated to be positive in most of the countries but not significant. Mahembe, E., & Odhiambo, N. (2014), the findings of this paper is that FDI affects economic growth through two broad channels, FDI can encourage the adoption of new technologies in the production process through technological spillovers and FDI may stimulate knowledge transfers, both in terms of labor training and skill acquisition and also by introducing alternative management practices and better organizational arrangements. Miteski, M., & Stefanova, D. J. (2017), this paper investigates the effects of FDI inflows in the industrial, construction and services sectors on economic growth in a panel of sixteen Central, Eastern and Southeastern European CESEE countries using data of different time spans within the 1998- 2013 period. The empirical analysis shows that total FDI contributes positively to the economic growth. With regards to our main focus, the analysis of the decomposition of FDI finds that FDI in the industrial and services sectors has a positive and significant effect on economic growth, whereas FDI in the construction sector does not exert statistically significant growth-promoting effects. Gui-Diby, S. L. (2014), this paper shows the negative relationship between FDI and economic growth, while others opined that as FDI increases, it results in a boost of output productivity, hence a positive relationship between the variables.

Johnson (2006) argued that the host countries' economic growth is affected through spillovers of new technology and physical capital inflows in developing countries. The positive effect of FDI inflows on the economic growth of only in developing countries was found. Nahidi & Badri (2014), this study shows that economic growth can be achieved if the degree of development is an inappropriate level and the ready substrates of the host countries. Economic openness

positively and significant effects on GDP growth by increasing competitive and productive power in the manufacturing sector and enhances the productivity and economic growth in host countries. Bayar (2014) shows the positive impact of FDI inflows, positive effected on economic growth in the long run.

This paper investigated the influence of foreign direct investment (FDI) on economic growth in Southern Asia for the period 1977-2009. The Im, Pesaran and Shin (2003) unit root test shows the variables are stationary in level and Hausman (1978) test proves that we should apply the random effects model. Having estimated the model this paper came to the conclusion that foreign direct investment (FDI) has positive and significant effect on economic growth and variables such as human capital, economic infrastructure and capital formation have positive effect on gross domestic product (GDP). But, population, technology gap and inflation have negative effect on the economic growth. This paper studied the relationship between FDI and economic growth in Malaysia for the period 1970-2005 using time series data. Ordinary least square (OLS) regressions and the empirical analysis are conducted by using annual data on FDI and economy growth in Malaysia over the 1970-2005 periods. Results showed that LGDP, LGNI and the LFDI series in Malaysia are I(1) series. There is sufficient evidence to show that there are significant relationship between economic growth and foreign direct investment inflows (FDI) in Malaysia. FDI has direct positive impact on RGDP, which FDI rate increase by 1% will lead to the growth rate increase by 0.046072%. Furthermore, FDI also has direct positive impact on RGNI because when FDI rate increase by 1 %, this will lead the growth increase by 0.044877%. Dinh, T. T. H et al (2019), this paper examined and provided additional and relevant quantitative evidence on the impact of foreign direct investment (FDI) on economic growth, both in the short run and the long run in developing countries of the lower-middle-income group in 2000–2014. Various econometric methods are employed such as the panel-based unit root test, Johansen co-integration test, Vector Error Correction Model (VECM), and Fully Modified OLS (FMOLS) to ensure the robustness of the findings. The results of this study show that FDI helps stimulate economic growth in the long run, although it has a negative impact in the short run for the countries in this study. Other macroeconomic factors also play an important role in explaining economic growth in these countries. Money supply has a positive effect on growth in the short run while total credit for private sector has a negative effect. In addition, long-run economic growth is driven by money supply, human capital, total domestic investment, and domestic credit for the private sector. Based on these results, recommendations for the governments of these countries have been developed.

III. Methodology

The analysis used in this study cover annual time series of 1994/95 to 2019/20 A.D. in Nepal. The data set consists of this study is observation for real GDP and foreign direct investment. The GDP is the endogenous variables and foreign direct investment variable is the exogenous variables. Data have been taken from Economic survey published by ministry of Finance. All the data used in this study are in logarithmic form, which minimizes the problem of heteroscedasticity in the time series data, Gujarati, Porter, & Gunasekar, (2012). To establish the relationship between independent and dependent variables economic growth function is used which is like this:

$$GDP_t = f(\text{foreign direct investment}) \dots\dots\dots Eq(1)$$

The function can also be represented in a log-linear econometric format thus:

$$\ln GDP = \beta_0 + \beta_1 \ln(FDI) + \mu t \dots\dots\dots Eq(2)$$

Where,

β_0 : Constant term (Intercept)

β_1 : Coefficient of variable (Foreign Direct Investment).

t : The time trend.

μt : The random error term assumed to be normally, identically and independently distributed.

IV. Result and Discussion

Unit root test

First of all, researcher should check the stationarity of the data or should determine that whether the variables used in the study are stationary or not, which is an essential test for time series data and a time series data is said to be stationary (invariant mean and variance). This test will examine the order of integration of the data and eradicate the problem of spurious regression. Augmented Dickey- Fuller (ADF) has been applied to test stationarity of the data as suggested by Dickey and Fuller (1979). If data are non-stationary at I(0), then ADF test is executed on the first difference of X (i.e. ΔX). If the is found to be stationary, then the series is said to be integrated to order I(1).

Null hypothesis (H0): Variables are not stationary.

Alt. hypothesis (H1) Variable is stationary.

Table, 1: Unit Root Test Result by ADF procedure.

Variables	At level I(0)		At first diff. I(1)		Conclusion.
	Intercept	Trend & intercept	Intercept	Trend & intercept	
Ln MS	1.7893 (0.9994)	-1.6714 (0.7323)	-4.5039*** (0.0018)	-4.08046*** (0.0217)	I(1)
Ln GDP	-0.5858 (0.8556)	-2.9050 (0.1783)	-7.7072 (0.0000)	-7.7962 (0.0000)	I(1)

Source: Author calculation. (Numbers in the parenthesis are probability values) & superscripts *** represents the acceptance of alternative hypothesis 5% significance level.

The result of unit root test (ADF) of Gross domestic product (LGDP), foreign direct investment (LFDI) all these variables are not stationary at level. It suggest to check the stationary at the first difference and tested by Augmented Dickey Fuller and variables are found stationary at first difference where p value is less than 5%. If the interest variables are significant at first difference I(1) then it suggests for co integration.

Lag length section:

It is another calculation after determining the stationarity, lag length selection is important calculation in time series data analysis. One can use several methods to obtain the optimal lag for each variable. However the SIC criteria provides slightly better estimates than the AIC criteria in small samples in the ARDL framework (Pesaran & Shin 1998). The AIC criteria also tends to overestimate the number of lags to be included, which is not favorable in small samples as by increasing the lag the number of observations decrease. Thus in order to establish a coherent model the AIC criteria will be used to govern the lag length for all. However as noted by Pesaran et al. (2001) serial correlation as well as heteroscedasticity, misspecification and non-normality should not be present, hence the lag length should be adjusted for the possible biases.

VAR Lag Order Selection Criteria

Endogenous variables: LNGDP LNFDI

Exogenous variables: C

Sample: 1 25

Included observations: 23

Table-3; Results of Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-33.46244	NA	0.074874	3.083690	3.182429	3.108523
1	31.19198	112.4425	0.000385*	-2.190607*	-1.894391*	-2.116109*
2	32.76235	2.457978	0.000480	-1.979335	-1.485642	-1.855173

*Indicates lag order selected by the criterion.

From the above results the optimal lag length is three and three lag has been used in this paper. As per Sequential modified LR test statistic, final prediction error (FPE) and Akaike information criterion (AIC) suggest that the optimal lag is three. And Similarly Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ) suggests that optimal lag is two.

Co-Integration: Johansen co-integration test use two type of statistics i.e. Trace value and Max Eigenvalue statistics. The optimal lag length of the level VAR system is determined 1 lag using the Akaike's Information Criterion (AIC). That mean all our four variables are integrated of same order. All the variables are found stationarity at first difference, the methodology suggests for Johansen test of co-integration, (Engle & Granger, 1987). So a researcher here test for the number of co-integrating relationship using the approach proposed by Johansen (1988) and Johansen & Juselius (1990).

Null hypothesis (H_0): There is no co-integration or there is no co-integration among the four variables.

Alternative hypothesis (H_1): There is at least one co-integration.

Based on the above hypothesis, Johansen co-integration test output as follows

Sample (adjusted): 3.25

Included observations: 23 after adjustment.

Trend assumption: Linear deterministic trend.

Series: LNGDP, LNFDI

Lags interval (in first differences): 1 to 1

Table- 4 (a): Results of Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CEs	Eigen value	Trace Statistic	0.05 Critical Value	Prob. **
None*	0.247343	7.929141	15.49471	0.4730
At most 1	0.058800	1.393784	3.841465	0.2387

Trace test indicates no cointegration at the 0.05 level.

*denotes rejection of hypothesis at 0.05 level.

**MacKinnon-Haug_Michelis (1999) p-values.

Table-4(b): Results of Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CEs	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None	0.247343	6.535357	14.26460	0.5455
At most 1	0.058800	1.393784	3.841465	0.2378

Trace test indicates no cointegration at the 0.05 level.

*denotes rejection of hypothesis at 0.05 level.

**MacKinnon-Haug_Michelis (1999) p-values.

Results of Johansen Co integration test show that two types of test statistics viz. Trace statistics and Maximum Eigen value statistics. At the 0.05 level of significance both statistics reveals that there is no co integration between two series. These results confirms there is absence of long run equilibrium relationship between the variables. Therefore their relationship between the variables has to be investigated through the unrestricted vector auto regression (VAR) model.

Vector Autoregressive (VAR) Model:

From the results of Johansen Co integration, both Trace value and Max Eigen test confirms that there is no co integrating equation. In this study optimal lag is one. If all variables are stationary at the first difference I(1) and no co integration among them then there is no long run association among the variables rather short run relationship can be established.

Dependent Variable: D(LNGDP)

Method: Least Square (Gauss-Newton / Marquardt steps)

Sample (adjusted): 5 46

$D(LNGDP) = C(1)*D(LNGDP(-1)) + C(2)*D(LNFDI(-1)) + C(3)$

Table-5; Results of VAR parameters

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.9880	0.0193	50.9868	0.0000
C(2)	0.0053	0.0033	1.56587	0.1323
C(3)	0.1421	0.1981	0.71719	0.4812
R-square	0.9962			
Adj. R-Sq.	0.9958			
F-test	2782.66			
P-Value	0.0000			
DW test	2.0426			

For GDP itself, first lagged period have positive influence and this is insignificant at 5% level of significance because their P-values are greater than 1%. Similarly, first lagged period of foreign direct investment has positive influence on the current period but it is insignificant even at 10% because its p values are greater than 10%. Prob. of F-stat i.e. 0.0000 is also less than 1% which indicates that the variable gross foreign direct investment influence to real GDP or overall model is significant considering the P-value. R- Square 0.9962 means 99.62% explained by this independent variables foreign direct investment to dependent variables GDP. D-W test 2.0426 is close to 2 which also indicate normally there is no serial correlation.

Granger Causality test: According causality test by Engle and Granger (1987), if two variables are I(1) individually and they are co integrated then there exists unidirectional or bidirectional causality between the variables. In this study, the variables under study are stationary at I(1) but Johansen co integration reveals absence if co integration. Series X causes Y if the past values of X can more accurately predict Y than simply the past values of Y (Granger, 1969). Here, the directions of causality between GDP & foreign direct investment has been tested using Granger Causality test.

Table-7; Results of Granger Causality test

Null Hypothesis	F-stat	Prob.
D(LNFDI) does not Granger cause D(LNGDP)	2.5176	0.1283
D(LNGDP) does not Granger cause D(LNFDI)	0.3365	0.5683

Source: Author calculation. (Numbers in the parenthesis are probability values) & superscripts ***, **, * represents the acceptance of alternative hypothesis 1%, 5% & 10% significance level respectively.

From the above analysis, foreign direct investment doesn't cause the economic growth because its P- value is more than 10%. Similarly, from the above analysis, gross domestic product doesn't cause the foreign direct investment because its P- value is more than 10%. So we can conclude that there is un- directional relation between foreign direct investment and gross domestic product or meaning that there is insignificant impact of the foreign direct investment on GDP and there is no significant impact of the GDP on foreign direct investment.

Residual Diagnosis Test: Residuals diagnostic tools (serial LM test, Heteroscedasticity test and normal distribution test) have also tested to make estimation free of spurious. If the P-value of respective testis greater than 5% then hypothesis is accepted and model is assumed to free from the wrong regression and data are fitted for the test.

Table: 7, Result of serial correlation, heteroscedasticity and Normal distribution.

Table-8; Results of Residual Diagnosis Test

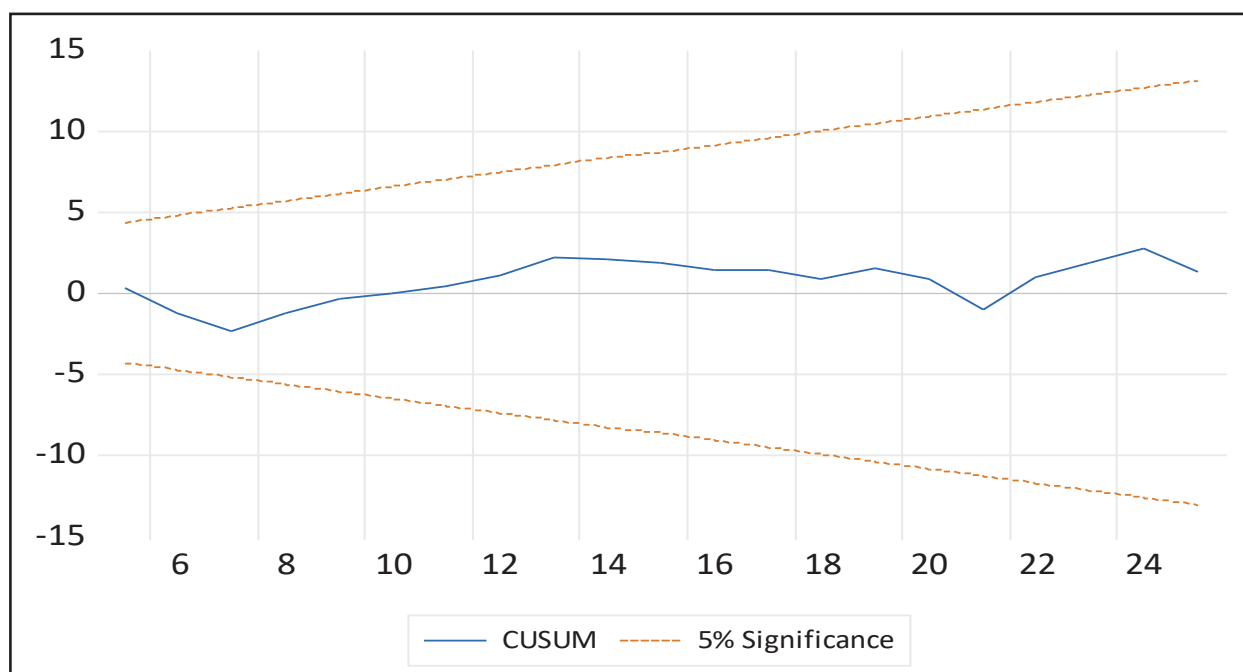
Particulars	Observed R-Square	F-stat	P-value
BG serial correlation LM test	0.12297	0.1030	0.7516
Heteroscedasticity BPG test		1.0373	0.3719
Normality JB test		-	0.5607

In table 7, B-G serial correlation LM test depicts that the residuals are free from serial correlations as p-value of observed R-square is 0.7038 which is more than 5% level of significance. Similarly, BPG test shows that the residuals are homoscedastic where p-value of observed R square i.e. 0.2007 is greater than 5% level of significance. Finally, JB test also shows the residuals are normally distributed where p-value i.e. 0.8042 is also than 5% level of significance.

Stability diagnostic Test: Stability diagnostic test is to check whether the parameters of the estimated model are stable across various subsamples. In this paper CUSUM test has been applied for this. The test represents graphical view of the estimates.

Graph of CUSUM test and CUSUM of square test respectively.

Figure-1; Graph of CUSUM Test



The result shows the residual plots are within 5% significance band which confirms the residuals are said to be stable.

V. Conclusion

The main result as equation of this paper confirms that there is short association of gross fixed capital (GFC or investment) and economic growth. It also confirms that there is unidirectional relation between gross fixed capital (investment) and gross domestic product or meaning that there is significant impact of the gross fixed capital (investment) on GDP. Therefore a developing nation like Nepal anticipating the high level of economic growth, can be achieved not only investing in the unproductive sectors but also increasing investment in manufacturing sectors for long term project. This policy recommends to planner that the proper investment of capital in long term assets can helps to achieve the high economic growth.

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Sectorial Credit of the Commercial Banks and Economic Growth in Nepal

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Abstract : *This dissertation intends to examine the relationship among the sectoral credits and economic growth of Nepal during 1990/91 to 2020/21 mid-July (A.D.) by using time series econometric tools. Sectoral lending policy has significant impact on the economy. NRB should strongly implement and regulate the sectoral credits programs because it assists in achieving high economic growth.*

Chapter I

Introduction

1.1 Background of the study

The major focus of macroeconomic policy of any nation is to achieve the high economic growth and development. Different economists have the different perspectives regarding the economic growth in the developing nations. Some economists view that it is an increase in the national income or the level of production of goods and services by a country over a certain fiscal years. Generally economic growth is defined as an increase in real gross domestic product (GDP). Nepal has committed to upgrade the country from least developed country to a developing country by 2022 A.D. and higher middle economies by 2030 A.D. Real GDP over the thirty years has been considered as proxy of economic growth in the study and endogenous variable for this study. Banks' lending or credit is the total amount of funds given by commercial banks to individuals, business organizations/industries and government for making investment in the profitable opportunity. Individuals obtain credit for both consumption and investment purposes, business organizations/industries borrow loans to invest in the capital nature assets whereas government borrows loans to spend for recurrent as well as capital expenditure purposes. It is the debt given by banks to its individual and institutional customer.

Bank have allocated different sectors like consumption, construction, infrastructure, trade, agriculture, mine, tourism etc. out of the total part of the lending. There are some mandatory areas defined by Nepal Rastra Bank i.e. every bank should invest in the agriculture sectors out of the total lending, 11% by the end of Ashadh, 2078. Similarly there is the projected investment as well in the future years i.e. 13% by the end of the Ashadh, 2079 and 15% by the Ashadh end 2080 and onwards. Similarly in energy sector exposure every bank should invest in the agriculture

sectors out of the total lending, 6% by the end of Ashadh, 2078. Similarly there is the projected investment as well in the future years i.e. 7% by the end of the Ashadh, 2079, 9% by the ashadh end 2080 and onwards and 10% by the end 2081 and onwards. Similarly in micro, small and medium enterprises exposure below 10 million capital, every bank should invest in the agriculture sectors out of the total lending, 11% by the end of Ashadh, 2078. Similarly there is the projected investment as well in the future years i.e. 12% by the end of the Ashadh, 2079, 14% by the ashadh end 2080 and onwards and 15% by the end 2081 and onwards. Finally there is deprive sector lending which is 5% of total loan and advances.

Credit offered by the banks to different sectors is considered as a key to economic growth especially in developing countries as it lubricates the economy. Therefore, the role of bank credit in economic growth has been accepted by many researchers as various economic agents are able to invest money in various investment opportunities. Nepal Rastra Bank (NRB) considers needy area of capita for economic growth, tentative amount to be required in each sectors and provisions of lending in the monetary policy. In addition NRB, tries to match with the fiscal policy drafted by the ministry of fiancé. NRB always directs banks and financial institutions to lend or flow their credit to productive sector.

Credit disbursement channel of monetary policy is considered very important and effective in Nepal. In this channel, money supply is expected to affect real variables through the means of bank balance sheet and availability of credit. A large body of evidence suggests that financial sector development plays a huge role in economic development. Many research suggests that credits to private sectors has a statistical strong positive relationship with GDP as expected. Bank credit to private sector helps to achieve high economic growth because it helps to find the funds required to business or capital accumulation, high production is possible, high production increases the income, high income means that increase in saving rate, mobilizing and pooling savings again lending credit in the different sectors cause the high economic growth. One of the major indicators for measuring financial development of a country is private sector credit to GDP ratio. The role of credit provided by banks to private sector is considered more efficient to support economic growth rather than the credit provided to government. Therefore, private sector credit is taken as the proxy of bank credit here in the study.

NRB and the government (fiscal and monetary) have adopted many policies and programs to increase economic growth by using use of the bank lending because Bank lending has significant role in achieving high economic growth. Especially in developing countries like Nepal, it makes the available of financial or capital resource need for economic growth. NRB has been playing a offering credit role to determine the proportion of bank loans and advances to productive sectors such as agriculture, energy, tourism, industry, consumption, mine etc. The main objective of this provision is to promote economic growth in the country. There are different research regarding the banks credit and economic growth in the world and even in our country. Most of the research shows that there is significant associations among the different sector credit and increase in the GDP or economic growth. However, the relationship between private sector credit and economic

growth has not yet been assessed properly in the Nepalese context. In this regard, this study tries to determine the impact of the different sector lending and impact on the economy separately and jointly. Therefore the main objective of this study is to examine the effects of commercial bank credit to private sector on economic growth from supply side perspectives as well as to identify and recommend ways of improving bank credit to private sector so that high economic growth is possible in Nepal. For example, credit is an important link in money transmission; it finances production, consumption, and capital formation, which in turn affect economic activity.

The transmission mechanism of monetary policy can be strengthened, and the monetary policy objectives attained to a large extent, if the financial system is well-operated and regulated. Credit extended to the private sector in an environment of banking discipline will be instrumental in tapping the productive potentialities and development prospects of the economy. It thereby ushers to inculcate economic growth, generating employment opportunities, and strengthening the competitiveness of the economy. It is a means of generating self-employment opportunities, strengthening informal activities and explained that credit can be used to prevent economic activity from total collapse in the event of natural disaster such as flood, draught, disease or fire. By using credit, farmers increase agricultural production by investing money in seed, fertilizers, tractor, and pump set etc. Industrial production can be increased by using credit. Moreover service sectors need credit to flourish. In fact all components of GDP need credit to grow. In performing the financial intermediation role, it has been argued that by virtue of this function that banks generate economic growth by providing needed resources for real investment Kinnon, (1973). Sustainable economic growth depends on the ability to raise the rates of accumulation of physical and human capital to use the resulting productive assets more efficiently and to ensure the access of the whole population to these assets, Fitzgerald (2006). This is possible only by having access to bank credit. Banks perform the act of financial intermediation that collect money from the surplus sector in the form of deposits and lend it to various sectors of the economy leading to economic growth. Extension of credit is one of the major functions of banking institutions.

As per the fifteenth five year plan (2020-2024 A.D.), the Government has set a target to achieve a minimum average economic growth of 9.4 per cent per annum in the next five years. Nepal has committed to upgrade the county from least developed country to a developing country by 2079 B.S. and higher middle economies by 2087 i.e. (2030 A.D.). To achieve the desired level of economic growth, the role of banks in economic development is to remove the deficiency of capital by stimulating savings and investment. A sound banking system mobilizes the small and scattered savings of the community, and makes them available for investment in productive enterprises. In any plan of economic development, capital occupies a position of strategic importance. No economic development of sizable magnitude is possible unless there is an adequate degree of capital formation.

1.2 Statement of Problem

Monetary policy plays a very significant role in achieving the target economic growth in the country. In a developing nation, credit disbursement and its sector is one of the key components of the monetary policy. In the context of Nepal, Nepal Rastra Bank also gives the main focus over the banks' lending and its areas. There are the different sectors that are determined by NRB and mandatory to every bank like agriculture sectors, energy sectors, small and medium enterprise etc. However, banks lend in other sectors as well like consumption, construction, manufacturing, production, mine etc. In this study, researcher has conducted this study to analyse the relation between sectoral credit and its impact on the economy.

The present research has been carried out to answer the following research questions.

- i. What is the sector wise impact of commercial banking on GDP of Nepal?
- ii. Does NRB credit policy regarding fit for the economic growth of Nepal?

Chapter II.

Review of Literature

Oladapo, (2015), this study investigated the impact of sectoral allocation of Deposit Money Banks' loans and advances on economic growth in Nigeria during intensive regulation, deregulation and guided deregulation regimes. The results show that only the credit allocated to government, personal and professional have significant positive contributions on economic growth during the intensive regulation. However, bank credits generally do not contribute significantly to economic growth during deregulation. Based on the empirical findings, Nigerian deposit money banks should be more favorably disposed to extending more credits to production and other subsectors namely agriculture, manufacturing, mining and quarrying, real estate and construction, government, personal and professional at reasonable interest rate. Finally, monetary authorities should ensure the continuance of guided deregulation as opposed to intensive regulation or total deregulation. Yakubu, Z., & Affoi, A. Y. (2014), the objective of this study was to analyze the impact of the commercial banks' credit on economic growth in Nigeria from 1992 to 2012 and found that the commercial bank credit has significant effect on the economic growth in Nigerian. Abugamea, G. H. (2016), this study confirmed that there is a significant impact of banking size with a negative sign, insignificant impact of credit lending with a marginal one for lag credit and insignificant impact of efficiency on economic growth, respectively. Granger Causality test results show one way causality running from banking size to (GDP) economic growth and from banking efficiency to (GDP) per capita economic growth one. Overall results reveal a weak nexus between banking sector development and economic growth. In specific, it recommends more improving in banking lending policy to be effective in promoting economic growth.

Alzyadat, J. A. (2021), this study investigated the impact of sectoral bank credit facilities provided by commercial banks on the non-oil economic growth in Saudi Arabia. Bank credit facilities are given for nine economic sectors: agriculture, manufacturing, mining, electricity and water, health services, construction, wholesale and retail trade, transportation and communications,

services, and finance sector from the annual data from 1970 to 2019. The main results reveal that the overall impact of total bank credit has a significant and positive effect on non-oil economic growth in KSA. The results revealed that the effect of bank credit on the non-oil GDP growth in the short and long run was uneven. The study finds that all sectors have a positive and significant impact in the long run, except for the agricultural and mining sectors. Likewise, all sectors have a positive and significant impact in the short run, except for construction, finance, services, and transportation & communications.

Huidumac Petrescu (2015), this paper showed that there is a significant association of different sectors lending on the economy. Agriculture, production and construction sectors have the positive impact on the economy. The analysis involves a regression model where economic growth will be measured by the growth domestic product, considered the dependent variable and loans, interest rates and inflation, the independent variables Simpasa, A., & Pla, L. (2016), this paper analyzed the effect of credit concentration and risk in Zambia, using bank-level data. Zambia's financial sector reforms have been widely acclaimed, but there are visible contradictions between expectations of these reforms and actual outcome in terms of the banks' conduct. Afzal, A. (2018), this empirical analysis confirmed that bad asset quality can be explained by retarded GDP growth and unfavorable movement in exchange and lending rates. Within the bank-specific variables, non-performing loans are the most responsive to loans to the agriculture and energy sectors, level of capitalization, size of the lending institution and quality of management.

Tahir, (2015), this paper confirmed that bank credit had extensive relationship with economic progression; in short term the relationship was also significant. Regression analysis showed that there was adverse impact of bank credit on economic growth in Pakistan. However, problem associated with bank credit facility is the constraint and regulation imposed by SBP on the percentage of credit to be given to the Entrepreneurs. For solitary in the meantime bank lending has a casual influence on economic growth, there is a policy need to give devotion to liberalization the monetary sector. Singh, C. (2016), this paper examined the relationship between credit and growth in India in the last few decades. Different metrics for credit and output is used to test the relationship at an overall as well as sectoral level. The findings indicate a strong relationship between the two variables.

Ananzeh, I. E. N. (2016), this study examined the relationship between bank credit and economic growth in Jordan at different sectors for the period that span from 1993 to 2014. We employ two different methodologies Vector Error Correction Model (VECM) and Granger Causality Test, The results report for a long run relationship could be inferred between Real GDP, and its Explanatory

Krishnankutty, (2011), this study examined the issue in three different segments: rural, semi urban and urban for comparison. The study had found out that all the bank credit to North East India has not much impact on Economic growth but it has shown the potential for growth in future. For achieving economic development through bank credit requires proper implementation monitoring from the authority side. Government should give more freedom to the Reserve Bank

of India to tighten the repayment of loans and monitor the development activities. Majeed and Iftikhar, (2020), the coefficient of commercial banks relative to the importance of the central bank showed positive sign and highly significant impact in all estimations. It concluded that the Agriculture sector needs for reforms and other development initiatives, because without these initiatives the credit by banking sector will not be useful in the growth of the agriculture sector. Furthermore, policymakers should design appropriate credit policies in terms of medium to long term loans provided to agriculture and industrial sub-sectors and ensure that their impact is efficiently transmitted to real economic growth

Bhatta (2014), this study found that the agricultural credit has helped enhance the agricultural productivity of the farmers in the study area. With such a credit facility, farmers would have better access to improved seeds, fertilizer, pesticides and better irrigation facility based on stochastic frontier analysis in the research. Thus, farmer friendly agricultural credit services should be extended and deepened even in the rural areas. It would help the farmers of the rural area attain a higher level of technical efficiency and higher farm productivity. Timsina and Pradhan, (2016) examined the effects of commercial bank lending on economic growth in Nepal to analyze the impact of bank lending on economic growth of Nepal as panel data of twenty four commercial banks during the period of 1996 -2015. The empirical results reveals that bank lending has positive effects on economic growth in Nepal. The study implies that the policy makers should focus their attention more on the development of formal sector financing, adequate development of the modern banking sector, development of efficient financial markets and infrastructures and establishment of interest sensitive investment environment to increase the bank lending which is instrumental to promote economic growth in Nepal. Timsina (2020), the empirical results showed that bank credit to the private sector has positive effects on the economic growth in Nepal only in the long run and in the short run, it has been a feedback effect from economic growth to private sector credit based on the time series data for the period of 1975-2014. The empirical results imply that, policy makers should focus on long run policies to promote economic growth – development of modern banking sector, efficient financial market and infrastructure so as to increase the private sector credit which is instrumental to promote growth in the long run.

Chapter-III

Research Methodology

Research methodology is the sequential procedure and methods to be adopted in a systematic study. Methodology involves methods and technique of data collection and analysis. In another words, methodology is also defined as a process of completing the study. It describes the steps to carry out the research work. A systematic research study needs to follow a proper methodology to achieve the predetermined objectives.

$$\text{GDP} = \beta_1 + \beta_2 \text{ agriculture credit} + \beta_3 \text{ manufacturing credit} + \beta_4 \text{ trade credit} + \beta_5 \text{ mine credit} + \beta_6 \text{ production credit} + \beta_7 \text{ construction credit} + e$$

Chapter-IV

Data Presentation and Analysis

4.1 Bar diagram of all variables: Bar graph has been created to show data in multiple, highly visual ways. The purpose of a bar graph is to convey relational information quickly as the bars display the quantity for a particular category. Regarding the interpretation of a bar graph, the length of the bars/columns determines the value as described on the y-axis.

Figure 4.8: *Bar Diagram of All Variables.*

In above bar diagram, horizontal axis represents the different credit sectors and vertical axis represents the total credit in million rupees. From the composition of the credit, the sum of total credit offered by banks over the study period has been presented in the bar diagram. The capital in agriculture is very high and capital in the mine sector is very low. Keeping in order to them, the result is Construction, Manufacturing, production, Agriculture, Mine sectors.

4.1.3 Measure of the Central Tendency and Dispersion:

The measures of central tendency allow researchers to determine the typical numerical point in a set of data. The data points of any sample are distributed on a range from lowest value to the highest value. Measures of central tendency tell researchers where the center value lies in the distribution of data. It is common to hear people describe measures of central tendency as “the average” score or point in a particular group because it describes what is typical, normal, usual, or representative. Although from a statistical perspective “the average” refers to the arithmetic mean, the concept of “average” is an easy way to think about what measures of central tendency say about data. Under this section, maximum value, minimum value, median value, average value and standard deviation of the all variables over the study periods have been shown. Dispersion, in general sense, also indicates the lack of uniformity in the size of items of a series. Dispersion is said to be significant when variation or lack of uniformity in the size of items of a series is great and substantial. If the variability is less, dispersion is insignificant. Measures of dispersion are called averages of the ‘second order’ because in precise study of dispersion, the deviations of the size of items from a measure of central tendency are calculated (ignoring the signs) and then these deviations are averaged. This averaged deviation or dispersion is nothing else, but the average of the second order. Thus these second order averages represent the series and help in comparisons with other similar series. The major significances of the dispersion are to determine the reliability of an average, to serve as a basis for the control of the variability, to compare two or more series with regard to their variability and to facilitate the use of other statistical measures. Data of the mean value, median value, maximum value, minimum value and standard deviation of the endogenous variable and each exogenous variable have been shown in the following table.

Table-4.1*Calculation of Central tendency and dispersion.*

Variables (In Million Rs.)	Mean	Median	Maximum	Minimum	S. Deviation.
GDP	1477327	771742.5	4266322	171492	1373061
Trade	127625.5	37484	605155	15245	169308
Construction	55973.13	11216	295117	1610	82319.5
Agriculture	30116.09	9138.5	201758	2653	49539.96
Mining	1710	499	6887	315	1820.426
Production	126568	56758	509960	30251	134676

Source: *Appendix 14.*

In the variable GDP, the maximum value is Rs 4266322, minimum value is Rs 171492, median value is Rs. 771742.5, average value is Rs. 1477327 and standard deviation is Rs. 137306.1. Similarly, In variable trade, the maximum value is Rs 605155, minimum value is Rs 15245, median value is Rs. 37484, average value is Rs. 127625.5 and standard deviation is Rs. 169308.2. Similarly, In variable construction, the maximum value is Rs 295117, minimum value is Rs 1610, median value is Rs. 11216, average value is Rs. 55973.13 and standard deviation is Rs. 82319.5. Similarly, in variable agriculture, the maximum value is Rs 201758, minimum value is Rs 2653, median value is Rs. 9138.5, average value is Rs. 30116.09 and standard deviation is Rs. 49539.96. Similarly, in variable mining, the maximum value is Rs 6887, minimum value is Rs 315, median value is Rs. 499, average value is Rs. 1710 and standard deviation is Rs. 1820.426. And similarly, in variable production, the maximum value is Rs 509960, minimum value is Rs 30251, median value is Rs. 56758, average value is Rs. 126568 and standard deviation is Rs. 134676.1.

4.1.4 Correlation Matrix: The correlation matrix or correlation table is an analysis tool that brings together correlation coefficients between an x-axis and a y-axis where we find different variables. The correlation matrix is a $(A \times A)$ square and symmetrical matrix whose i th and j th entry is the correlation between the columns i and j of X . Large values in this matrix indicate serious collinearity between the variables involved. However, the nonexistence of extreme correlations does not imply lack of collinearity. The two variables or elements move in the same direction, so there is a positive link between these two variables. There is no link between the two variables if there is zero correlation and the two variables move in the opposite direction if there is negative correlation. The independent variables for a multiple regression can be highly multicollinearity even though no pairwise correlations are large.⁹⁷ For instance, one of the variables may be approximated by a linear function of four other variables without any two of the variables being highly correlated. Hence, pairwise correlations are of limited use as a collinearity diagnostics. The examination of the eigenvalues and eigenvectors of the correlation matrix provides a better means for detecting multicollinearity. This is the basis of the condition number. The correlation matrix makes the absence or presence of a relationship between two variables

clear. This makes it more relevant. The correlation matrix helps to predict the evolution of the relationship between the variables. The correlation matrix allows researcher to have a global view of the more or less strong relationship between several variables.

Table: 4.2

Correlation Matrix

Variables	RGDP	AG	CN	M	MFD	PD
RGDP	1					
AG	0.68067	1				
CN	0.65121	0.59454	1			
M	0.36953	0.68743	0.80475	1		
MFD	0.51253	0.64863	0.78954	0.79265	1	
PD	0.71225	0.79864	0.71536	0.49826	0.53268	1

Source: *Author calculation*

This results the association between the two variables. Mainly, from the following table, it can be seen the co-relation between the two variables. Almost variable shows the moderate correlation among the variables. However some of the variables shows the high degree of association like manufacturing and mining, consumption and mining because their correlation is greater than 0.8. From these values, we can say that there is positive correlation meaning that there is increase in all credit sector.

4.2.2 Unit Root result: At the first phase researcher check the stationary of the data or determine that whether the variables used in the study are stationary or not which is an essential test for time series data and a time series data is said to be stationary if it has invariant mean and variance. This test will examine the order of integration of the data and eradicate the problem of spurious regression. Augmented Dickey- Fuller test has been applied to test stationarity of the data as suggested by Dickey and Fuller (1979). If data are non-stationary at $I(0)$, then ADF test is executed on the first difference of X (i.e. ΔX). If the is found to be stationary, then the series is said to be integrated to order $I(1)$. There was huge political and economic fluctuation during that time, so ADF test for measuring the stationary of the variables misguide the process and may lead to spurious regression. A structural change in the mean of a stationary variable tends to bias the standard ADF test toward non-rejection of a hypothesis of a unit root (Perron, 1989). Therefore, we performed the Phillips Perron (PP) unit root test also to check the stationarity of the data set used in the study.

Null hypothesis (H_0): Variables are not stationary.

Alt. hypothesis (H_1) Variable is stationary.

Table: 4.8*Unit Root Test Result by ADF procedure.*

Variables	At level		At first diff.		Conclusion.
	Intercept	Trend &intercept	Intercept	Trend &intercept	
LMFD	-1.1752 (0.6780)	-1.3275 (0.9019)	-4.7846*** (0.0002)	-6.0623*** (0.0000)	I(1)
LAG	-1.6325 (0.5177)	-0.7299 (0.9501)	-6.2817*** (0.0000)	-5.6321*** (0.0001)	I(1)
LM	-0.4547 (0.9261)	-1.7638 (0.6325)	-5.6239*** (0.0000)	-7.5057*** (0.0000)	I(1)
LP	-1.2385 (0.7235)	-1.3575 (0.9245)	-5.8923*** (0.0000)	-6.8346*** (0.0000)	I(1)
LCN	-1.3645 (0.8974)	-1.7235 (0.7623)	7.0125*** (0.0000)	-6.5819*** (0.0000)	I(1)
LRGDP	-0.0396 (0.9591)	-1.9601 (0.7101)	-5.7508*** (0.0000)	-5.2835*** (0.0000)	I(1)

Source: Author calculation. (Numbers in the parenthesis are probability values) & superscripts *** represents the acceptance of alternative hypothesis 1% significance level.

The result of unit root test (ADF) of Gross domestic product (LRGDP), Agriculture credit (LAG), Consumption credit (LCN), Production credit (LP), Mine credit (LM) and manufacturing credit (LMFD) all these variables are not stationary at level. It suggest to check the stationary at the first difference and tested by Augmented Dickey Fuller test and all variables are found stationary at first difference where p value is less than 1%. If the variables are significant at first difference then co-integration is done to show the association among the variables.

4.2.3 Optimal Lag Selection:

Similar to the stationarity test, lag length selection is important calculation in time series data analysis. One can use several methods to obtain the optimal lag for each variable. However the SIC criteria provides slightly better estimates than the AIC criteria in small samples in the ARDL framework (Pesaran & Shin 1998). The AIC criteria also tends to overestimate the number of lags to be included, which is not favorable in small samples as by increasing the lag the number of observations decrease. Thus in order to establish a coherent model the AIC criteria will be used to govern the lag length for all. However as noted by Pesaran et al. (2001) serial correlation as well as heteroscedasticity, misspecification and non-normality should not be present, hence the lag length should be adjusted for the possible biases.

VAR Lag Order Selection Criteria

Endogenous variables: LRGDP LM LAG LCN LT LP

Exogenous variables: C

Sample: 1 30

Included observations: 28

Table: 4.10*Results of Lag Length Selection.*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	8.177042	NA	3.45e-08	-0.155503	0.129969	-0.068231
1	214.7063	309.7939	1.89e-13	-12.33616	-10.33786*	-11.72526
2	266.3790	55.36361*	9.16e-14*	-13.45564*	-9.744502	-12.32111*

Source: *Appendix I.*

*Indicates lag order selected by the criterion.

From the above results the optimal lag length is two and two lag has been used in this paper. As per Sequential modified LR test statistic, final prediction error (FPE) and Akaike information criterion (AIC), HQ suggest two and Schwarz information criterion (SC) suggest that the optimal lag is one. Most of the variables confirms the two lag is best so optimal lag is two in this study.

None*	0.822661	55.58844	40.07757	0.0004
At most 1*	0.804641	45.72170	33.87687	0.0013
At most 2*	0.718266	35.47016	27.58434	0.0040
At most 3*	0.540749	21.78843	21.13162	0.0404
At most 4	0.280680	9.224583	14.26460	0.2679
At most 5	0.093324	2.743156	3.841465	0.0977

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level.

*denotes rejection of hypothesis at 0.05 level.

**MacKinnon-Haug_Michelis (1999) p-values.

Regression Model

Dependent Variable: D (LRGDP)

Method: Least Square (Gauss-Newton / Marquardt steps)

LRGDP =

Particulars	Coefficient	Std. Error	t-Statistic	Prob.
B0 (constant)	0.149771	0.019472	7.692325	0.0000***
B1 (Agriculture)	0.127660	0.043094	2.962361	0.0001***
B2 (manufacturing)	0.110945	0.028580	3.881853	0.0007***
B3 (trade)	0.376470	0.027809	13.53751	0.0000***
B4 (mine)	1.635530	0.558209	2.929960	0.0015***
B5 (production)	0.618798	0.221417	2.794717	0.0355**
B6 (construction)	0.206512	0.041575	4.513934	0.0000***
R-square		0.616671		
Adjusted R-square		0.533342		
F-stat		4.608722		
Prob(F-statistic)		0.003581***		
DW test		2.005231		

Source: *Author calculation. (Numbers in the parenthesis are probability values) & superscripts ***, **, * represents the acceptance of alternative hypothesis 1%, 5% & 10% significance level respectively.*

It means production, mine, construction, trade and agriculture credits have significant impact on GDP. Prob. of F-stat i.e. 0.003581 is also less than 1% which indicates that these five variable agriculture credit (LAG), consumption credit (LCN), production credit (LP), mine credit (LM), manufacturing credit and (LMFD) jointly influence to real GDP and overall multiple regression is significant. R- Square 0.6166 means 61.66% explained by these independent variables to dependent variables. D-W test 2.0052 is close to 2 which also indicate normally there is no serial correlation.

Residual diagnosis

The model fitting is just the first part of the story for regression analysis since this is all based on certain assumptions. Regression diagnostics are used to evaluate the model assumptions and investigate whether or not there are observations with a large, undue influence on the analysis. Again, the assumptions for linear regression are: Normality, autocorrelation and homoscedasticity.

Table: 4.10

Residual Diagnosis.

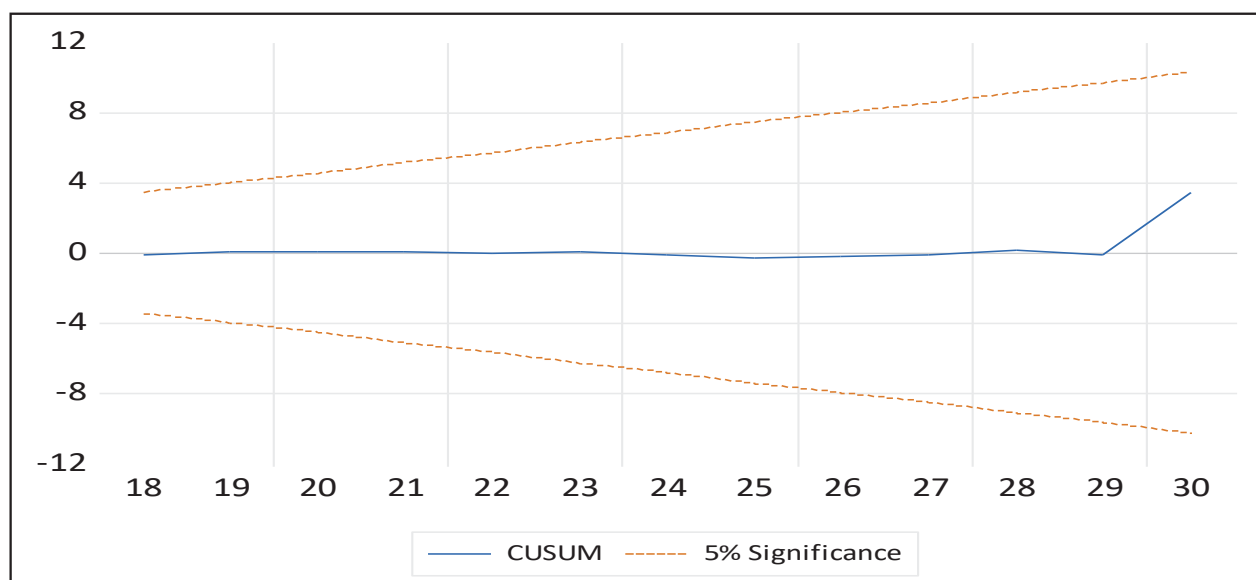
Residual Diagnosis	Observed R ²	P- Value
Normality test		.5670
Breusch Godfrey serial correlation LM test	3.71481	.3987
Breusch – Pagan – Godfrey test	1.68547	.6564

A normality test is used to determine whether sample data has been drawn from a normally distributed population (within some tolerance). A number of statistical tests require a normally distributed sample population. In normality test is p-value is .5670 which is greater than 0.05 or 5 percent which means that the data are normally distributed where null hypothesis has been accepted and alternative hypothesis has been rejected. The Breusch–Godfrey serial correlation LM test is a test for autocorrelation in the errors in a regression model. It makes use of the residuals from the model being considered in a regression analysis, and a test statistic is derived from these. In this analysis observed R² is 30.71481 and p-value is .3987 which is greater than 0.05 or 5 percent where null hypothesis has been accepted and alternative hypothesis rejected. BPG test is the most common test used for homoscedasticity of the variables. The observed R square is 1.685477 and p- value is .6564 which is greater than .05 or 5 percent which means there is no problem of heteroscedasticity.

4.2.8 Stability diagnostic Test

Stability diagnostic test is to check whether the parameters of the estimated model are stable across various subsamples. In this paper CUSUM test has been applied for this. The test represents graphical view of the estimates.

Figure-4.9: CUSUM Stability Diagnostic Test.



The result shows the residual plots are within 5% significance band which confirms the residuals are said to be stable.

Chapter V Summary

5.2: Conclusion

In this study of sectoral lending and economic growth, the overall economic impact of sectoral credits is very good. Production, trade, mine, construction and agriculture credits have significant impact on the economic growth individually and jointly. There is long run causality among the mine credit cause agriculture credit, GRP cause the agriculture credit, construction credit cause GDP, production credit cause mine credit, mine credit cause GDP, production credit cause manufacturing credit, manufacturing credit cause GDP and production credit cause GDP. NRB should strongly implement and regulate the sectoral credits programs because it assists in achieving high economic growth.

5.3 Implication

The findings of the research can be used as follows:

- i) Result of this study will assist concerned authority to formulate the plan, policies, rules, regulation in banking sector.
- ii) Result of this study can help to implement the credit programs more effectively.
- iii) Result of this study can be used as the controlling mechanism or to take corrective action if any deviation found in planning and implementation part of credit program.
- iv) On the basis of results of this study; future result of the sectoral policy can be determined.
- v) Findings can be used to determine the better scheme that offers the more benefits to its stakeholders.

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Determinants of Financial Performance of Commercial Banks in Nepal

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Abstract : Financial performance is one of the most important factors influencing the economic decisions of users of financial statements. The performance of commercial banks can be affected by internal and external factors. The purpose of this paper is to look into the bank-specific internal factors to determining financial performance of commercial banks in Nepal. Factors influencing performance are identified based on findings in the literature. This study uses data published by NRB for FY ending on mid-July 2021 for all 27 commercial banks. Multiple linear regression models are used for the analysis of data. The result shows that capital fund and loans & advances have positive and significant impact on profitability, liquid fund have negative but insignificant effect on profitability and investments have positive and insignificant impact on profitability.

Keywords: Financial Performance, Profitability, Capital fund, Liquid fund, Loans

1. Introduction

The financial sector is a country's economic backbone. It acts as a catalyst for long-term economic growth by providing efficient monetary intermediation. A strong financial system encourages investment by financing productive business opportunities, mobilizing savings, and allocating resources efficiently.

The financial system of Nepal comprises of the BFIs regulated by Nepal Rastra Bank (NRB) and other institutions established under various Acts with separate mandates. In Nepalese financial ecosystem, various financial players are closely interacting for fulfilling the financing needs of economy by mobilizing their resources. The resources generated by these players largely vary from public deposits, small savings and institutional savings to various types of fund generated out of their regular businesses. Their investment widely ranges from micro-credits, personal loans, business loan, project financing to large consortium arrangements. NRB is the regulator of "A", "B", "C", "D" class BFIs and Infrastructure Development Bank.

Alam, Md. Shabbir, Mustafa Raza Rabbani. et al, 2021 study's suggests a long-term association between banks' performance and the growth of the economy. A sound and profitable bank is able to face negative shocks and the banking system will contribute to the stability of the financial system, and hence, accelerate the country's economic growth (Demirguc-Kunt and

Huizinga, 1999; Elbannan, 2017; Levine, 1997). Deyoung et al. (2001) show that profitability proxied by earnings is also one of the indicators in the CAMELS rating system for measuring bank safety and soundness. Thus, exploring determinants of bank profitability is vital for banks sustainability and economy. The performance of commercial banks can be affected by internal and external factors (Al-Tamimi, 2010; Aburime, 2005). These factors can be classified into bank specific (internal) and macroeconomic variables.

As per the compilation guide 2019 issued by International Monetary Fund (IMF), earnings and profitability is one of the indicators of financial soundness of banks. The purpose of this paper is to study, examine, analyze, and find the determinants of profitability (one of the indicator of financial soundness) of commercial banks of Nepal. This study examines the determinants of financial performance of banks using cross sectional data for FY 2020-21 using capital fund, liquid fund, loans & advances & investments.

The rest of the paper is organized as follows: section 2 shortly reviews the literature regarding the determinants of banks profitability, section 3 presents the methodological approach adopted and section 4 the results obtained. Finally, the conclusions are drawn in section 5.

2. Literature Review

DAO, BTT, & NGUYEN, KA (2020) identified the determinants of Capital Adequacy Ratio and Banks' performance as well as the relationship between these two dependent variables. The paper uses 128 observations of 16 Vietnamese commercial banks during the period from 2010 to 2017, with two simultaneous dependent variables CAR and ROE, and independent variables including Return on Assets, Tobin Q, Credit growth, GDP growth, Equity to Deposits, Loans to Deposits, Bank size, Cost to Income, Liquidity risk, Provision for Loan loss ratio, Non-performing loans and Inflation. The results reveal that Capital Adequacy Ratio and Banks' Performance have statistically significant relationship and Credit growth, GDP growth; Equity-to-Deposit ratio and Cost-to-Income ratio all have significant effects on two dependent variables.

Malahimm and Khatib (2018) studied the determinants of financial performance of Jordan Banking Sector of the period from 2012-2016. Return on assets (ROA) was an indicator to measure the financial performance as dependent variable. On the other side, the independent variables were represented by microeconomic variables and macroeconomic variables. According to this study, microeconomic variables were liquidity quick ratio, cash and investments to total deposits, net credit facilities to total deposits, debt ratio, and profit margin. In addition to that, macroeconomic variables were gross domestic product growth rate, inflation rate, and unemployment rate as a percentage of total labor force.

An empirical analysis by Antoun, R., Coskun, A., & Georgievski, B. (2018) using fixed-effect panel regression suggest that the asset quality and earnings of banks are negatively affected by size, and positively affected by business mix and inflation. Capital adequacy and liquidity were found to be negatively affected by size and positively affected by bank concentration and economic growth.

A study by Sabina Yesmine, Mohammad Saif Uddin Bhuiyah (2015) in 70 firm-year observations of 10 local private commercial banks and 28 firm-year observations of 4 nationalized commercial banks operating in Bangladesh covering the period 2008 to 2014 finds that asset utilization and operating efficiency have significant positive impact on banks' financial performance (measured by ROA) whereas credit risk has significant negative impact. It was found that financial performance has no significant relationship with size and liquidity of the banks.

Ameur and Mhiri (2013) investigated 10 commercial Tunisian banks from 1998 to 2011 in order to identify factors explaining Tunisian bank performance. This study included bank-specific, industry-specific, and macroeconomic factors influencing bank performance. According to the findings, bank capitalization and managerial efficiency have a positive and significant impact on bank performance. According to the study, industry-specific factors such as concentration have a negative and significant impact on performance. Furthermore, macroeconomic indicators have little influence on bank performance.

The study by Nicolae Petriaa Bogdan Caprarub Iulian Ihnatov (2015) assesses the main determinants of banks' profitability in EU27 over the period 2004-2011. They split the factors that influence bank profitability in two large groups: bank-specific (internal) factors and industry specific and macroeconomic (external) factors. They consider as proxy for banks profitability the return on average assets (ROAA) and the return on average equity (ROAE). Credit and liquidity risk, management efficiency, the diversification of business, the market concentration/ competition and the economic growth have influence on bank profitability, both on ROAA and ROAE. An interesting and valuable result is the positive influence of competition on bank profitability in EU27.

Shrestha (2015) discovered that non-performing loan to total loan, capital adequacy ratio, GDP, and inflation are the major determinants of bank profitability in Nepal. According to Hakuduwal (2014), total assets, total deposits, loan and advance have a positive significant impact on the profitability indicator ROA in Nepalese finance companies. Ramji Gautam (2018) examines the determinants of financial performance of commercial bank in Nepal. In order to investigate the determinants of financial performance, 10 commercial banks were taken as sample covering the period of time 2006/07 to 2016/17. The result that financial performance of commercial banks are strongly affected by capital adequacy ratio, management efficiency, gross domestic product, liquidity management and assets quality.

Review of previous literatures reveals that number of studies has been done to find the major determinants of financial performance of banks. Different studies have used different variables and suggest diverse results on determinants of financial performance. Even if the results of the studies differ significantly upon sample and data included in the analysis, this study identify some common factors (internal factors only) influencing financial performance, namely capital fund, liquid fund, loans & advances and investments. In the context of Nepal no sufficient studies has been carried to uncover the determinants of financial performance using cross sectional data of commercial banks. Also this study uses different proxies for dependant and independent

variables. Hence, in attempt to fill this research gap, this study has the objectives of identifying the major internal factors having impact on the performance of banks.

3. Methodology

Research Design

This study covers 27 commercial banks (“A” class) for the period ending on mid-July 2021. To meet the objectives of this study, data has been collected from secondary sources mainly from the monthly data published by NRB. For this research work purpose, Profitability has been used as the proxy of financial performance as a dependent variable. On the other hand, variables like capital fund, Liquid fund, loans & advances, and investments have been used as independent variable to measure the impact of these variables on the financial performance (if any).

Model Specification

The following multiple regression model has been used to investigate the relationship between independent variables and dependent variable. This study aims to find the impact of capital fund, liquid fund, loans & advances, and investments on the profitability of commercial banks. According to this model, financial performance (profitability) is a function of capital fund, liquid assets, lending portfolio and investment books. Hence, this model takes the following form:

$$P = \beta_0 + \beta_1 CF + \beta_2 LQ + \beta_3 LA + \beta_4 I + e$$

Where,

P= Net Profit of banks

CF =Capital Fund of banks

LQ= Liquid Fund of banks

LA=Loans & Advances of banks

I= Investment of banks

β_0 = Constant

e= Error

$\beta_1, \beta_2, \beta_3$ & β_4 are slope coefficient of the independent variables.

Definitions of the variables

The literature divides the factors influencing bank profitability into two broad categories: bank-specific (internal) factors and industry-specific and macroeconomic (external) factors. Bank size, financial structure, credit risk taken, liquidity risk, business mix, income-expenditure structure, and capital adequacy are all internal factors that influence profitability. Market concentration is an industry-specific factor, while economic growth and inflation are macroeconomic factors revealed by the literature. This study examines the impact of internal factors (bank specific) cited below on the performance of banks. The measurement units of all the variables are NPR million.

Net Profit: Net profit is one of the measurement tools of profitability. Net income or net profit, reflects the amount of revenue that remains after accounting for all expenses and income in a period .

Capital fund: Capital fund or equity is the owners or shareholders claim in the assets of a firm after deducting outsider's liabilities.

H1: Capital fund has positive relation with Net Profit.

Liquid fund: A liquid asset is a type of asset that can be rapidly converted into cash while keeping its market value.

H2: Liquid fund has negative relation with Net Profit.

Loans & advances: Loans and advances are interest earning assets and include all loans and advances extended to the customers including BFIs as well as bills purchased and discounted less the amount of impairment allowances.

H3: Loans & advances have positive relation with Net Profit.

Investments: Investments are interest earning or dividend yielding assets and includes investment in securities and other placements.

H4: Investments has positive relation with Net Profit.

Table 1: Variables description

Symbol	Variables Type	Variables/Elements	Expected Relation
P	Dependent variable	Net Profit=Income-Expenses including tax	
CF	Independent Variable	Capital Fund =Paid-up Capital+ Calls in Advance+ General Reserves+ Share Premium+ Retained Earnings+ Other Reserves Fund	Positive (+)
LQ	Independent Variable	Liquid Fund=Cash Balance+ Bank Balance+ Money at Call	Negative(-)
LA	Independent Variable	Loans & Advances= Private Sector+ Financial Institutions+ Government Organizations+ Bills Purchased	Positive (+)
I	Independent Variable	Investment=Investment in Securities (Gov Bonds, NRB bonds etc)+ Share & Other Investments (inter-bank lending, placements etc)	Positive (+)

4. Results & Discussions

Descriptive Statistics

Table 2 exhibits descriptive statistics (mean, standard deviation, minimum, maximum values, coefficient of variation, skewness & kurtosis) of the variables for FY 2020-21 for all the commercial banks with 27 observations. Coefficient of variation (CV) for all the variables is less than 1 indicating lower level of variation in the data. Hair et al. (2010) and Bryne (2010) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7 suggesting all the variables below to be normally distributed.

Table 2: Summary Statistics, using the observations 1 - 27

Variable	Mean	Minimum	Maximum	Std. Dev.	C.V.	Skewness	Ex. kurtosis
Profit	2347.2	559.38	4504.4	1069.3	0.45555	0.27161	-0.89977
CapitalFund	18540	10119	33328	6782.8	0.36585	0.92014	-0.26656
LiquidFund	16572	5588.4	36292	8299.1	0.50080	1.1855	0.55334
LoansAdvances	137763	71577	264840	47812	0.34706	0.94176	0.66544
Investments	31769	12815	71060	14146	0.44528	0.94566	0.49104

Correlation Analysis

Correlation analysis is used to determine the relationship between the financial performance of the banks and bank-specific internal factors. The correlation of profitability with bank-specific factors such as capital fund, liquid fund, loans & advances & investments has been estimated in this section. The results of the correlation analysis are shown in Table 3.

Table 3: Correlation coefficients, using the observations 1 - 27
5% critical value (two-tailed) = 0.3809 for n = 27

Profit	CapitalFund	LiquidFund	LoansAdvances	Investment	
1.0000	0.8504	0.3619	0.8020	0.8157	Profit
	1.0000	0.3463	0.6456	0.7216	CapitalFund
		1.0000	0.4699	0.4737	LiquidFund
			1.0000	0.7987	LoansAdvances
				1.0000	Investment

The correlation coefficient between the variables studied reveals that profitability is highly and positively correlated with capital fund, loans & advances and investments and negatively but not significantly correlated with liquid fund. It demonstrates that increase in capital fund, loans & advances and investments leads to increase in profit.

Regression Analysis

Table 4 shows the regression of the dependent variable and the independent variable. The results show that the beta coefficients for capital fund, loans & advances and investments are all positive, indicating that higher the capital fund, loans & advances and investments, higher would be the profitability of the banks. However, beta coefficient for liquid assets is negative suggesting that higher liquid funds will decrease the performance (Profitability) of banks. P-value(F) is statistically significant It indicates strong evidence against the null hypothesis (model is not significant) and suggests that model is significant at 95% confidence interval. Regression equation fits as: $\hat{P} = -524 + 0.0785*CF - 0.00959*LF + 0.00759*LA + 0.0167*I$

Table 4: Model 1: OLS, using observations 1-27
Dependent variable: Profit

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-524.218	302.815	-1.731	0.0974	*
CapitalFund	0.0784823	0.0191639	4.095	0.0005	***
LiquidFund	-0.00959006	0.0123261	-0.7780	0.4448	
LoansAdvancs	0.00758719	0.00317549	2.389	0.0259	**
Investment	0.0166845	0.0118430	1.409	0.1729	
Mean dependent var	2347.180		S.D. dependent var	1069.260	
Sum squared resid	4501937		S.E. of regression	452.3644	
R-squared	0.848554		Adjusted R-squared	0.821018	
F(4, 22)	30.81647		P-value(F)	9.93e-09	
Log-likelihood	-200.6378		Akaike criterion	411.2756	
Schwarz criterion	417.7548		Hannan-Quinn	413.2022	

Further analysis and testing of the above regression model provides that residuals are normally distributed (Test statistic: Chi-square(2) = 1.9018 with p-value = 0.386393). From summary statistics of u^{\wedge} , mean value of residuals is around zero (Mean -2.9895e-013). Serial or autocorrelation is not applicable as the data are cross-sectional data. White's test for heteroskedasticity shows that there is no heteroskedasticity. (Test statistic: LM = 14.2533 with p-value = $P(\text{Chi-square}(14) > 14.2533) = 0.431018$). Variance Inflation Factors Values < 10.0 indicates there is no collinearity problem (CapitalFund:2.147, LiquidFund:1.330, LoansAdvancs:2.929 & Investments:3.566). Non-linearity test (squares) provides that relationship is linear (Test statistic: LM = 4.28679 with p-value = $P(\text{Chi-square}(4) > 4.28679) = 0.368582$). RESET test for specification suggests that specification is adequate (Test statistic: F(2, 20) = 0.157465 with p-value = $P(F(2, 20) > 0.157465) = 0.855356$).

R-squared (coefficient of determination) is 0.8486 which means 84.86% of the variation in profitability is explained by the predictors like capital fund, liquid fund, loans & advances and investments. Adjusted R-squared is 0.8210 (82.10%). Capital fund and loans & advances have positive and statistically significant impact on profitability. Liquid fund have negative but statistically insignificant impact on profitability. Similarly investments have positive but statistically insignificant impact on profitability. When capital fund, loans and advances and investments increases by 1 (Rs.) profit increase by 0.08, 0.01 and 0.02 (Rs.) respectively. However, 1 (Rs.) increase in liquid fund leads to 0.01 (Rs.) decreases in profitability of banks

Hypothesis	Results	Statistical significance
H1: Capital fund has positive relation with net profit	Positive	Significant
H2: Liquid fund has negative relation with net profit	Negative	Insignificant
H3: Loans & advances has positive relation with net profit	Positive	Significant
H4: Investments has positive relation with net profit	Positive	Insignificant

5. Conclusion

A sound and profitable bank is able to face negative shocks and the banking system will contribute to the stability of the financial system, and hence, accelerate the country's economic growth. The profitability proxied by earnings is also one of the indicators in the CAMELS rating system for measuring bank safety and soundness. Thus, exploring determinants of bank profitability is vital for banks sustainability and economy. The performance of commercial banks can be affected by internal and external factors. This research paper focuses specifically on identifying the determinants (internal factors) of financial performance of banks. All commercial banks were chosen for this purpose, for FY 2020-21. In order to reach a conclusion, a multiple regression model based on financial data published by NRB was used. The dependent variable is net profit, and the dependent variables are capital fund, liquid fund, loans & advances and investments. The results show a positive relationship between profit and capital fund, loans & advances and investments indicating that increase in capital fund, loans & advances and investments lead to increase in profit. The relationship between profit and liquid fund is negative implying that increase in liquid funds results in decrease in profit of banks. Capital fund and loans & advances have positive and statistically significant impact on profitability. Liquid fund have negative but statistically insignificant impact on profitability. Similarly investments have positive but statistically insignificant impact on profitability.

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Effect of Dividend Policy on Volatility of Stock Prices of Financial Sector Firms of Nepal

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Abstract : *The dividend policy in corporations significantly impacts stock price shifts, serving as a risk indicator, thereby capturing the focused interest of stakeholders and managerial personnel alike. This analysis endeavors to pinpoint the ramifications of dividend strategies on the price swings of stocks within Nepalese financial sector corporations featured in the Nepalese Stock Exchange, while factoring in components like earning fluctuations, asset increment, business dimensions, and financial leverage. Leveraging fixed-effect regression analysis, the study evaluated the dividend strategy's bearing on the volatility of stock prices. Observations revealed a pronounced negative linkage between both dividend yield and price swings, and dividend disbursements and price oscillations within NEPSE-listed entities. Consequently, in nascent economies like Nepal, dividend strategies emerge as essential in dictating share price dynamics.*

Keywords: Dividend strategy, Share values, Price fluctuations, Dividend return, Dividend distribution

Introduction

In the corporate finance domain, the complexity and significance of corporate dividend policy have been steadfast. Despite numerous investigations seeking to discern the repercussions of corporate dividend policy on a company's worth, a singular, agreed-upon viewpoint remains absent, paving the way for further discussions and debates. The critical assessment of the dividend policy's role in a company's valuation was propelled to prominence following the seminal works of Modigliani and Miller (1958) and Miller and Modigliani (1961). They posited that a company's valuation is not dictated by its dividend strategy but is fundamentally grounded in its ability to generate earnings. In a flawless market, shareholders exhibit indifference towards receiving dividends or capital gains as cash flows, provided the transparency of the company's fiscal standing is maintained, as illustrated by Bhattacharya (1979). Yet, a segment of investors display a propensity for immediate cash flows over prospective future gains, as articulated by Gordon and Walter

(1963), indicating the substantial effect of dividend distributions on the volatility of stock prices. Analyzing through the lens of the agency theory introduced by Jensen & Meckling (1976), there's a possibility that managerial actions might fall short in optimizing shareholders' wealth, attributed to conflicting interests. This conflict emerges due to the segregation of ownership and management control, instigating agency disputes. Consequently, managers might favor projects with lower investment returns for personal financial advantages. Hence, advocating for a dominant fraction of company earnings to be dispensed as dividends, thereby diminishing managerial control over extensive resources, which might otherwise be utilized for personal gains or invested in non-profitable endeavors.

Furthering this narrative, Easterbrook (1984) proposed that allocating a sizable portion of the earnings as dividends could mitigate the challenges associated with collective actions that potentially result in inadequate monitoring of companies and their managerial staff. Consequently, dividend distribution acts as a catalyst, fostering scrutiny by third-party entities such as investment banks and governmental regulatory agencies, thereby reducing agency-related costs and augmenting the firm's market valuation. Jensen (1986) fortified this argument, suggesting that a company's value escalates when a significant portion of earnings is distributed as dividends, thereby restricting managerial access to surplus funds for unfavorable investments or personal gains.

Notably, while there exists a plethora of studies examining this subject in developed nations, research concerning emerging markets like Nepal remains scant. This investigation is poised to delve into the influence of dividend policy, encapsulating aspects like dividend yield and payout ratio, on the price oscillations of stocks within the financial segment of the Nepalese capital market. Potential determinants influencing stock price volatility could encompass facets such as growth prospects, earning potentials, leverage or comprehensive debt ratios, and organizational size. This research distinguishes itself through several unique features:

- The focal point remains the financial sector corporations in the burgeoning market of Nepal, listed on the stock exchange.
- Undertakes a detailed empirical analysis of financial data acquired from a sample pool of 75 firms.
- Incorporates the most up-to-date data from 2015 to 2020, a timeframe marking significant transformations in the Nepalese capital market, enhancing the research's credibility.

Literature Review

For over sixty years, the corporate dividend policy has been a focal point of extensive analysis and discussion, a journey of exploration that is yet to reach a conclusive endpoint. This quest for the optimal dividend policy, a potentially pivotal factor in determining stock prices, is of critical import both to investors and business leaders alike. The fluctuations in stock prices serve as a gauge to ascertain the associated risks with an investment.

At the onset of this academic discourse, Miller and Modigliani initiated a new train of thought in 1961. In their dividend irrelevance theory, they postulated that the avenues of investment

opportunities weigh more in the investors' decision-making process than the mode of cash flow receipts - be it via dividends or capital gains. They further elaborated that firms, after evaluating the leftover free cash flow, opt to distribute dividends, a decision that tends to mitigate the risk of stock price volatility, a sentiment echoed by Gordon and Walter in 1963.

Embarking on a quest to uncover the interlinkages between dividend policies and share prices, Friend and Puckett undertook a detailed study in 1964 in the US. Implementing control variables that could potentially sway a company's trajectory, they discovered a noteworthy influence of dividend disbursement on the valuation of retained earnings. The study delineated a direct correlation between dividend distributions and the stock prices of stagnating or low-growth firms, whereas companies poised for significant growth appeared to be insulated from the impacts of dividend distributions.

In the later stage, Miller & Scholes (1978) unveiled the Tax Effect Theory, illustrating how disparate taxation rates on dividend incomes and capital gains craft distinct groups of investors. This theory sheds light on the diversity of investor preferences in relation to dividend payouts, which subsequently affect a company's market valuation. Bhattacharya (1979) brought to the fore the strategic role of dividend policies in bridging the informational chasm amongst the stakeholders, thereby serving as a beacon indicating the financial prowess of a company. Despite the hefty tax implications on cash dividends, they remain a potent tool in projecting the anticipated returns of a firm, potentially driving a positive trend in stock prices.

In a substantial study spearheaded in the US over two decades, Litzenberger and Ramaswamy (1982) spotlighted the interdependency between stock price variations and the informational or fiscal ramifications of dividends. Their research underscored a nonlinear but positive affiliation between stock returns and dividend yields. Concurrently, Baker and his team (1985) sought to decipher the role of dividends in influencing stock prices, analyzing data from a vast pool of firms listed on the NYSE, substantiating a notable connection between the two entities. Meanwhile, Baskin (1989) unveiled an inverse relationship between dividend yields and stock price fluctuations, indicating a tendency towards decreased volatility with increased dividend yields, a conclusion significantly validated in his study.

Further enriching the narrative, Baker and Wurgler (2004) put forth the Catering Theory, advocating that the determination of dividend payouts should resonate with the desires and expectations of shareholders or investors. This theory emphasized the need for managerial responsiveness to shareholder preferences, initiating dividend payouts in response to a premium on stocks, and holding back when the demand leans towards non-payment. In a comprehensive analysis conducted in the UK, Hussainey et al. (2011) evaluated the repercussions of dividend yield and payout on the UK stock market dynamics. Their statistical analysis portrayed a negative connectivity between dividend payout and stock price volatility, whereas a positive linkage was noted between dividend yield and price volatility. Their research also highlighted the positive association of debt and the negative influence of size with price volatility.

Delving into the African markets, Amidu and Abor (2006) scrutinized the dividend policy determinants through a panel study involving 20 firms listed on the Ghana Stock Exchange. Their analysis centered on the dividend payout ratio as the focal variable, emphasizing the dependency of dividend payouts on firm net earnings. Furthermore, firms exhibiting high liquidity were observed to disburse substantial dividends, with a notable negative correlation between dividend payout and risk dynamics. In a parallel investigation in Bangladesh, Rashid and Rehman (2008) explored the trends in the Dhaka Stock Exchange, identifying a positive yet non-significant interaction between dividend yield and stock price volatility. This discrepancy in the association could potentially be attributed to the market inefficiencies in Bangladesh or the controlling stakes of dominant shareholders within the company boards.

In the context of the emerging Pakistani market, both Nishat and Irfan (2001) and Nazir et al. (2010) discerned significant implications of dividend payouts and yields on stock price volatility. Nazir and his team, in particular, performed a rigorous analysis encompassing 73 non-financial firms over a span of six years (2003-2008), unveiling a negative yet significant correlation between aspects of dividend policy, including dividend yield and payout ratio, and stock price oscillations. The regression analysis further depicted a positive relationship between dividend yield and a contrary effect of retention ratio on share price dynamics.

H_0 : There is no relationship between dividend policy and stock price volatility.

H_A : Dividend Policy is negatively related with stock price volatility.

H_{01} : Dividend Yield does not affect stock price volatility

H_{a1} : Higher the dividend yield lowers the volatility in stock price

H_{02} : Dividend payout does not affect stock price volatility

H_{a2} : Higher the dividend payout ratio lowers the volatility in stock price

Research Method

• Price Volatility

In evaluating stock risk, price volatility serves as the crucial dependent variable, representing the fluctuations in stock prices. This parameter is determined annually for each stock by calculating the variance of the highest and lowest recorded prices, which is then divided by their average. The square of this quotient gives the price volatility.

• Dividend Yield

This metric serves as an evaluation of the independent variable. It is ascertained annually by dividing the total cash dividends distributed to ordinary shareholders by the yearly average market value of the shares. The associated computation is detailed below:

• Dividend Payout Ratio

DPR is calculated as the total cash dividends paid within a year divided by the total earnings after tax or net income.

• Earnings Volatility

To limit the effect of changes in earnings' stream on price volatility, this control variable is

introduced. EVol is calculated as moving average standard deviation of the net earnings of the firms.

- **Assets Growth**

This variable is the difference between the opening and closing value of assets in the year divided by the total value of assets of the last year. To calculate the AG of year 2015, total assets of 2014 have also been taken.

- **Size**

Size of the firms can also be associated to price fluctuations because large organizations are considered to be diversified in their risk while small ones are less known in the market and their stocks are less liquid in nature and thus more volatile. So, control variable of size has been made. Size is taken as the natural logarithm of average market value of common stock

- **Leverage**

Leverage can also affect volatility of stock prices. So, it has been introduced as a control variable. Leverage is calculated as the ratio of total debts to total assets.

Sampling

The study analyses 75 financial firms listed continuously from 2015 to 2020, excluding merged, newly listed, or delisted entities. The available data guided the selection. To validate or refute the null hypothesis, regression analysis, particularly fixed effect regression on panel data, was applied. This evaluated the relation between one dependent and two independent variables, considering four control variables: earnings volatility, assets growth, size, and leverage.

Model

The model used is similar to that of Baskin (1989) and Allen and Rachim (1996). Price volatility is taken as dependent variable to be measured and dividend yield and payout ratio as independent variables. The basic regression equation is as follows:

$$PVol = \alpha + \beta_1DY + \beta_2DPR + \varepsilon$$

DY and DPR are likely to be related and other factors can affect volatility. To overcome this issue, introduction of control variables makes the model as:

$$PVol = \alpha + \beta_1DY + \beta_2DPR + \beta_3EVol + \beta_4AG + \beta_5Sz + \beta_6Lvg + \varepsilon$$

For the purpose of estimating the research models for hypotheses testing first, a sample of companies listed in Nepal Stock Exchange for the time period of 2015 – 2020 is used.

Results and Discussion

The data delineated in Table 1 meticulously evaluates a variety of variables pertinent to financial analysis. The foremost variable, price volatility, is characterized by a minimum value of .0801 and peaks at 3.54, holding a mean value of .75. Notably, its data distribution exhibits a skewness of 1.57 and a kurtosis of 2.39, indicating a slightly peaked trend; the standard deviation here stands at 0.67. In parallel, the independent variables of dividend yield (DY) and dividend payout ratio (DPR) report mean values of .054 and .38, respectively. DY fluctuates between 0 and .52, exhibiting a standard deviation of .077, while the DPR spans a broader range from -11.92 to

18.5, associated with a standard deviation of 1.45. The DPR notably presents a significantly peaked data representation, as evidenced by a kurtosis of 84.7, coupled with a skewness of 4.9. Turning our attention to the control variables, earnings volatility manifests a mean value of 560.8, displaying considerable dispersion (standard deviation of 1282.8) with values oscillating between .023 and 8473; this is characterized by a skewness of 3.7 and a kurtosis of 15.7. Another variable, assets growth, averages at .19, showcasing a pronounced kurtosis of 64.246, indicating a sharp peak with extremes stretching from -.97 to 9.92. Further, the data portrays the firm's size variable with an average of 6.86 and a median value of 6.34, accompanying a standard deviation of 2.29. This distribution extends from a low of 2.58 to a zenith of 12.27, with a near symmetrical distribution (skewness approximated at .4) and a negative kurtosis of -.709, signifying a flat distribution pattern. Lastly, the leverage (Lvg) variable is highlighted with an average figure of .58 and a median of .5, traversing a wide range from .003 to 19.9. Remarkably, its kurtosis value is the highest among all variables analyzed, clocking at 230.89, denoting a highly peaked data distribution and emphasizing the variability observed within this financial metric.

Table 1: Descriptive Statistics - continued

	Mean	Median	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
PVol	.8010	.4999	.7001	1.605	2.391	.0012	3.6005
DY	.0564	.02013	.0762	1.7590	4.0125	.0000	.6258
DPR	.3900	.000000	2.1456	5.280	85.126	-12.858	20.852
EVOL	550.2410	65.1234	1385.125	3.8560	16.231	.0345	86120.130
AG	.2017	.0905	.8915	8.196	65.126	-.9870	8.568
Sz	8.8123	7.5321	2.5656	.400	-.808	3.5865	13.8566
Lvg	.6545	.6015	1.5890	14.996	230.89	.0043	20.4564

Table 2 illustrates the interrelations between various variables. It delineates a prominent negative correlation between Dividend Yield (DY) and Price Volatility (PVOL), implying that an increment in dividend yield correlates with reduced share price oscillations, a relationship significant at a 1% significance level. In contrast, Dividend Payout Ratio (DPR) is negatively correlated with PVOL, albeit not significantly. Earnings Volatility (EVOL) manifests a positive connection with PVOL, substantiated at nearly a 100% confidence interval, and a negative affiliation with DY, indicating that elevated earnings volatility might lessen the dividend yield. Furthermore, EVOL correlates positively with DPR, a relationship notable at a 5% significance level.

Asset Growth (AG) exhibits an inverse, non-significant relationship with the variables PVOL, DY, and DPR, but a positive association with earnings volatility. Firm size inversely correlates with PVOL, and significantly negates with DY. The Leverage (Lvg), representing total debt, maintains a non-significant positive rapport with PVOL, while being negatively intertwined with DY and AG. It also harbors a significant positive correlation with size (Sz), suggesting that an increase in leverage is synonymous with an escalation in firm size.

Table 2: Correlation Matrix

		PVol	DY	DPR	EVol	AG	Sz
DY	Pearson Correlation	-.225**					
DPR	Pearson Correlation	-.040	.310**				
EVol	Pearson Correlation	..140**	-.113*	0.120*			
AG	Pearson Correlation	-.060	-.020	-.013	.091		
Sz	Pearson Correlation	-.90	-.150**	-.010	.541**	.098	
Lvg	Pearson Correlation	.010	-.010	.045	.057	-.095	.130*

Table 3 elucidates a significant negative correlation between Dividend Yield (DY) and Price Volatility (PVol), highlighting that a surge in dividend yield leads to a reduction in price volatility, whereas a decrease in dividend yield amplifies PVol. Concurrently, the Dividend Payout Ratio (DPR) exhibits a negative but relatively inconsequential connection with PVol. Observing the control variables, Earnings Volatility (EVol) maintains a potent positive association with PVol; when a firm's earnings are erratic, its price volatility escalates, and vice versa. Meanwhile, Asset Growth (AG), Size (Sz), and Leverage (Lvg) are all inversely correlated with PVol. Notably, the size (Sz) and PVol relationship is significant, indicating that larger corporations tend to experience diminished price volatility, thereby being less susceptible to share price-related risks compared to their smaller counterparts. Therefore, the empirical analysis substantiates a negative correlation between PVol and both DY and DPR.

Table 3: Fixed Effect Regression

Fixed-effects (within) regression		Number of obs		=	375	
Group variable: company		Number of groups		=	75	
		F (6,294)		=	4.74***	
pvol	β	Std. Err.	t-value	P>t	[95% Conf.	Interval]
dy	-1.78	.7400	-2.40	0.005	-2.856	-.570
dpr	-.002	.03624	-0.05	0.967	-.0656	.065
evol	.0003	.0001	3.00	0.020	.00003	.0003
ag	-.06	.0500	-1.20	0.187	-.14234	.0288
sz	-.203	.0820	-2.475	0.006	-.4232	-.0658
lvg	-.0035	.0401	-0.087	0.899	-.0701	.07050
cons	2.525	.5123	4.9287	0.000	1.256	3.205

Conclusion

This research scrutinizes the impact of the dividend policies implemented by financial sector entities on the fluctuations in their stock prices within Nepal's emerging market. By utilizing data from 75 financial institutions enlisted on the Nepalese Stock Exchange, the study explores the

relationship and extent of influence between dividend yield and dividend payout (as independent variables) and stock price volatility (as the dependent variable). The analysis, which encompasses a five-year span (2015-2020), also integrates control variables such as earnings volatility, asset growth, leverage, and firm size to elucidate the apparent interconnections and the extent of these variables' influences. Employing both correlation and regression analyses on the gathered panel data, the study successfully refuted the initial null hypothesis, affirming a significant negative correlation between dividend yield (DY) and price volatility (PVol), and a similar negative relationship between dividend payout ratio (DPR) and PVol. Additionally, a noteworthy positive correlation was observed between earnings volatility and price volatility. Consequently, it can be inferred that dividend policies serve as an instrumental mechanism in steering the market valuation of financial corporations in burgeoning economies like Nepal.

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Financial Ratios and Profitability of the Banks: An Evidence for Nepalese Commercial Banks

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Abstract: *This paper examine the relationship among the financial ratios and profitability of Nepalese banks during 2010 to 2019 by using panel econometric tools. For this purpose, three financial ratios have been used that include price earnings ratio (P/E), Dividend payout ratio (D/P), Lending to Deposit ratio (L/D) and profit and loss of the banks. This study applies panel data analysis (Fixed Effect Model) which is an important regression tools for predicting profit and loss and to analyze the relationship among all variables with profitability of banks. On the basis of analysis it has been concluded that the predictive power of price earnings ratio (P/E), Dividend payout ratio (D/P), Lending to Deposit ratio (L/D) are strong to give details the variations in profitability of Nepalese commercial banks. There is the positive impact of dividend payout ratio and lending to deposit ratio on the profitability of the bank however negative impact of price earnings ratio on the profitability of the banks.*

I. Introduction

Financial sector is the backbone of economy of a country where it acts as a facilitator for achieving sustainable economic growth through providing efficient monetary intermediation. As financial intermediaries, banks play an important role in the operation of an economy. A good financial system promotes both national and international investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy the trade of goods and services. Banks and financial institutions play important role for achieving economic growth and development through the resource mobilization from savers to borrowers continuously. The financial performance of banks has critical implications for economic growth of countries. Profitability of financial institution is one of the important parameters from which funds providers can understand performance of the institutions. Financial performance depends on various factors. Some of them are capital adequacy, asset quality, management efficiency, liquidity, gross domestic production etc. Therefore, in order to ensure sound financial performance banks should focus on the factors likely to affect profitability and the extent of their influence. Financial ratio analysis is important to the management, owners, customers, suppliers, competitors, regulatory agencies, tax payers and lenders each having their views in applying financial statement analysis in their evaluations and making judgments about the financial health

of organization, while some authors found that financial ratios analysis is not an adequate method by which to evaluate the overall performance of an organization; also the balanced scorecard is more efficient than financial ratios analysis. Indicators of financial performance, especially financial ratio analysis, have become important financial decision-support information used by firm management and other stakeholders to assess financial stability and growth potential (Myskova, R., & Hajek, P. 2017).

With the responsibility of connecting needs and capital supply, banks play an extremely important role in the economy. Therefore, the stability of the banking system is a prerequisite for an effective financial system and achieving economic growth (Xu, M. T. et al, 2019). In particular, profitability is one of the key factors to ensure the stability of the banking system (Trabelsi, M. A., & Trad, N., 2017). With good profitability, the bank can benefit its own shareholders and continue to be a channel of capital to support other investments of individuals and organizations, thereby promoting the development of the whole economy (Phan, H. T. et al., 2020). In contrast, with poor financial results, banks may face bankruptcy, creating/contributing to exacerbating financial crises, thereby leading to severe consequences for the global economy. Therefore, the interest in managing the profitability of banks is always a topic of concern for bank leaders, investors, depositors, and the government.

The main purpose of this study is to analyze prediction capacity of the financial performance (profitability) of commercial banks in Nepal. Specially, it examines the profitability of commercial banks through lending to deposit ratio, price earnings and dividend payout ratio.

II. Literature Review.

(Mohanty, B., & Sarkar, S. 2020), this paper showed that liquidity risk has a significant negative affect on profitability of the banks. Also operational risk and capital efficiency have a significant negative impact on profitability. Return on assets, bank size, and economic growth rate are found to influence profitability negatively; only the effect of the former was statistically significant. Increase in nonperforming assets adversely affects profitability. (Theogene, H. et al, 2017), this study concluded that ratios analysis indicators is an appropriate means to evaluate and analyze the financial outcomes of bank in order to measure its performance and results ratio analysis allow the bank to compare its business against different standards using the figures on its financial statements. (Trujillo-Ponce, A. 2013), in this results obtained by applying the system-Generalized Method of Mome estimator to a large sample of Spanish banks indicated period of 1999-2009 that the high bank profitability during these years is associated with a large percentage of loans in total assets, a high proportion of customer deposits, good efficiency, and a low credit risk. In addition, higher capital ratios also increase the bank's return, although this finding applies only when using return on assets (ROA) as the profitability measure.

(Kumbirai, M., & Webb, R, 2010), this paper investigated the performance of South Africa's commercial banking sector for the period 2005- 2009 and found that overall bank performance increased considerably in the first two years of the analysis. This resulted in falling profitability, low liquidity and deteriorating credit quality in the South African Banking sector. (Myšková, R., & Hájek, P, 2017), this paper confirmed that leverage ratio and cash flow determines the profitability of the banks and followed the pooled ordinary least square. (Murthy, Y., & Sree, R.,2003) this study examined and suggested that there are wide differences in the ratios of different banks and that some banks have better financial management practices than others in the ratios used in the study are divided into five broad groups: liquidity management ratios

interest rate risk management ratios credit risk management ratios capital account management ratios cost management ratios profitability management ratios each group of ratios throws light on the differences in financial management practices of banks in the respective area. (Gautam, R. 2018), the result of this paper confirmed that there is a positive relationship of return on assets with capital adequacy ratio, management efficiency and gross domestic product whereas negative with assets quality and liquidity management and evidence from the findings that financial performance of commercial banks are strongly affected by capital adequacy ratio, management efficiency, gross domestic product, liquidity management and assets quality.

(Yao, H., Haris, M., & Tariq, G. 2018), the robust results reveal that the bank's profitability in Pakistan explained by size, higher solvency, financial structure, operating cost, labor productivity, market power, and economic growth and found an inverted U-shape relationship between banks size and profitability based on Herfindahl–Hirschman Index (HHI) was applied to evaluate the impact of market power and found results in support of Structure Conduct Hypothesis. (Alshatti, A. S, 2016), the results of this study indicated that the variables of capital adequacy, capital and leverage positively effect on the banks' profitability, and the variable of assets quality negatively effects on the banks' profitability and also indicated that rising bank's profitability in Jordan is associated with well-capitalized banks, accompanied by high capital adequacy.

(Petria, N. et al. 2015), in this study, the empirical findings are consistent with the expected results where credit and liquidity risk, management efficiency, the diversification of business, the market concentration/competition and the economic growth have influence on bank profitability, both on ROA and ROE. An interesting and valuable result is the positive influence of competition on bank profitability in EU27. (Staikouras, C. K., and Wood, G. E. 2004), the estimation results based on fixed effect model suggested that the profitability of European banks is influenced not only by factors related to their management decisions but also to changes in the external macroeconomic environment and result is in contrast to studies that have examined the structure-performance relationship for European banking and found a positive effect of the concentration and/or market share variables on bank profitability.

(Agirman, E., & Yilmaz, O. 2018), this results disclosed that the financial ratios can predict stock return and from financial ratios, firm size has a higher predictive power than dividend per share and price to book ratio respectively. However, there is no significant relationship between price to earnings ratio and for stock returns. (Phan, H. T. et al, 2020), the results of this paper showed that operating efficiency, loans size, retail loans ratio, state ownership, inflation rate, and GDP growth are factors that have a positive impact on profitability On the other hand, variables such as capital size, credit risk, liquidity risk, bank size, and revenue diversification are statistically insignificant; hence, these variables are not statistically adequate to indicate the influence of those independent variables to banks' profitability.

III. Research Methodology

In order to examine the relationship between financial ratios and profitability of the banks panel data methodology is used to estimate the relations among the related variables. A sample of 20 commercial banks from banking industry has been used for the purpose of the study. In this study, secondary data has been used. All required secondary data for this study has been taken from annual report of concerned banks and web site of Nepal Rastra Bank. The data covers a ten- year period starting from 2010 to 2019.

SN	Name of bank	No of observation	Observation period
1	Nabil Bank Limited	10	2010-2019
2	Laxmi Bank Limited	10	2010-2019
3	Kumari Bank Limited	10	2010-2019
4	Sanima Bank Limited	10	2010-2019
5	NMB Bank limited	10	2010-2019
6	Global IME Bank Limited	10	2010-2019
7	Himalayan Bank Limited	10	2010-2019
8	Standard Charter bank Nepal Limited	10	2010-2019
9	Siddhartha Bank Limited	10	2010-2019
10	Prabhu Bank Limited	10	2010-2019
11	Citizen Bank Limited	10	2010-2019
12	Nepal SBI Limited Bank	10	2010-2019
13	NIC Asia Bank Limited	10	2010-2019
14	Everest Bank Limited	10	2010-2019
15	Prime Commercial Bank Limited	10	2010-2019
16	Machhapuchre Bank Limited	10	2010-2019
17	Agriculture Development Bank Limited	10	2010-2019
18	Nepal Investment Bank limited	10	2010-2019
19	Sunrise Bank Limited	10	2010-2019
20	Nepal Bngladesh Bank Limited	10	2010-2019

3.1. Model Specification

The following model has been used to study the determinants of profitability of commercial banks. According to this model, profitability of the banks is a function of dividend payout ratio, price earnings ratio and lending to deposit ratio. Hence, the model takes the following form:

$$PL_{it} = \beta_0 + \beta_1 PE_{it} + \beta_2 DP_{it} + \beta_3 LD_{it} + \mu_{it}$$

Where,

P = Profit

PE = Price Earnings ratio

DP = Dividend Payout ratio.

LD = Loan to Ratio

β_0 = Constant

μ = Error

$\beta_1, \beta_2, \beta_3$ are parameters of the independent variables.

Descriptive statistics: Descriptive statistics are brief descriptive coefficients that summarize a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability (spread). In this study, minimum value, maximum value, average value, Skewness value, Kurtosis value and standard deviation have been calculated.

Table 4.1
Descriptive Statistics.

Mean	1181.144	22.67094	0.796800	18.11949
Median	970.5335	19.00500	0.800000	15.79500
Maximum	5328.370	242.5400	1.040000	110.0000
Minimum	8.923003	0.025800	0.450000	0.052600
Std. Dev.	964.4054	20.12370	0.105677	17.37837
Skewness	1.317548	6.969422	-0.880773	1.860458
Kurtosis	5.011584	73.15169	4.421742	8.250513
Observations	200	200	200	200

Source: *Appendix 1.*

Correlation Matrix: This shows the correlation between the variables used in the study.

Table 4.2
Correlation Matrix.

Variables	PL	PE	DP	LD
PL	1			
PE	-0.1966089	1		
DP	0.32423428	0.05131661	1	
LD	0.18674940	-0.1221225	-0.1848350	1

Source: *Appendix 2.*

This results the association between the two variables. Mainly, from the above table, it can be seen that the co-relation between the two variables. Almost variable shows the low correlation among the variables. However some of the variables like PE and PL shows the negative correlation and other variable shows the positive correlation.. From these values, we can say that there is the low chance of multicollinearity in the model.

Panel Unit test:

In order to use the correct panel data analysis method, the stationary of the series must be taken into account. The econometric estimation embarks on the unit root tests which inquire whether variables we obtain maintain the stationary property or not? Whenever panel data set is used to test the presence of unit root; testing the cross sectional dependence is crucial. If cross-sectional dependence is rejected, then using the first generation unit root tests is more suitable. On contrary, if it is determined that cross-sectional dependence is valid, then using the second generation unit root tests provides more consistent results in panel in data set (Çınar, 2010: 594). In this study, LM Pearson cross sectional dependence test is applied and it is observed that variables are not cross sectional dependent. Therefore, it would be suitable to use the first generation for panel data unit root tests (Shrestha, M. B., & Bhatta, G. R. 2018).

Table 4.3

Panel Unit Root Test.

Methodology	Variables	Statistic	Probability	Number of Cross	No. of Observation
Levin, Lin and Chu t Statistic	DP	-8.65273*	0.0000	20	174
	PE	-6.25038*	0.0000	20	178
	LD	-5.75892*	0.0000	20	177
	PL	-10.5625*	0.0000	20	154
Im, Pesaran and Shin W Statistic	DP	-3.78747*	0.0001	20	174
	PE	-2.95728*	0.0016	20	178
	LD	-2.86452*	0.0028	20	177
	PL	-5.37172*	0.0000	20	154
ADF-Fisher χ^2 Statistic	DP	80.9670*	0.0001	20	174
	PE	68.6909*	0.0032	20	178
	LD	55.6235*	0.0082	20	177
	PL	108.041*	0.0000	20	154
PP-Fisher χ^2 Statistic	DP	75.4783*	0.0006	20	180
	PE	77.2782*	0.0004	20	180
	LD	69.2531*	0.0009	20	180
	PL	126.784*	0.0000	20	160

Source: Author Calculation. The statistics for Fisher tests are computed using an asymptotic Chi-square distribution and all other tests assume asymptotic normality. *, ** and *** indicate the stationary of the variables at the significance level of 1 percent, 5 per cent and 10 per cent, respectively.

Table 4.3 presents the unit root test results of the variables that are used in the model and various types of the unit root tests. According to results of the various types of the unit root tests, all variables used in the model are stationary at the first difference. Since variables are found to be stationary at the first difference, there is no need to investigate a co-integration relationship which requires to investigate the long term relationships among the financial variables. Therefore, there is no need to investigate a long run causal relationship for this model (Perman, R., & Stern, D. I. 2003).

Common effect model or Panel OLS: A panel data model is model combining the time series and cross section data. This is assumed that all identities have the same intercept and coefficient. This model doesn't consider the time and individual dimensions, so it is assumed that the behavior of the used data is the same in various periods. This methods can use the ordinary least square approach for estimating the panel data model.

The form of panel data regression equation is similar to ordinary least square, which can be expressed in the following.

$$PL_{it} = \beta_0 + \beta_1 PE_{it} + \beta_2 DP_{it} + \beta_3 LD_{it} + \mu_{it}$$

Dependent Variable: PL

Methods: Panel Least Square.

Sample: 2010-2019

Period Included: 10

Cross sections Included: 20

Total Panel observations: 200

Table: 1

Panel OLS model.

Variables	Coefficient	Std. Error	t-Stat	Prob.
C	-692.5668	507.0470	-1.365883	0.1735
PE	-8.982611	3.080943	-2.915539	0.0040
DP	20.92258	3.603030	5.806940	0.0000
LD	2131.337	596.1938	3.574906	0.0004
R-Square	0.202709			
Adj-R Square	0.190505			
F-Stat	16.61080			
Prob (F-stat)	0.000000			

Source: *Appendix 1.*

Based on the above output, periods include the number of period or sequence of time involved in the analysis. Where in this panel data regression example, the period used is 2010 to 2019. So the number of years used in the analysis is as much as 10 years. Cross section includes the number of cross sections or panels involved in the analysis. Where in this panel data regression, the panel used is a banks whose number is 20. Total Panel (Balanced) observations is the number of observations involved in the analysis. The term balanced means balance, ie the amount of time (year) used each panel is the same or constant. So the calculation is $10 \times 20 = 200$ observations. All the coefficient values are significant and because P-value of each coefficients (PE, DP and LD) is less than 1 percent. There is positive impact of the dividend payout ratio and lending to deposit received ratio but there is negative impact of the price earnings ratio in the profitability of the banks. In this panel data regression example, the R Square value is 0.2027, which means that the predictor variable have explained only 20.27% variation in the response variable which is not very strong in explaining the response variable. Prob (F-Statistics): is the p value of the F test which is the significance level of the F value, that is to assess the simultaneous influence of the predictor variable to the response variable whether statistically significant or not and the overall model is fit. Similarly it requires to check the Breusch- Pagan (BP) test for detecting the appropriateness of POLS.

Lagrange Multiplier Test or Breusch- Pagan (BP) test: Lagrange Multiplier Test Test or commonly referred to as Lagrangian Multiplier Test is an analysis performed with the aim to determine the best method in panel data regression, whether to use common effect or random effect. The Lagrange Multiplier test has a function to determine the best estimate, whether using a random effect or not (Zulfikar, R., & STp, M. M. 2019).

Null Hypothesis (H₀): POLS is appropriate than FEM/REM or No effect of cross section on the intercept.

Alternative Hypothesis (H₁): POLS is not appropriate than FEM/REM or effect of cross section on the intercept.

Table 4.2

Lagrange Multiplier Tests for Random Effectiveness.

Tests	Test Hypothesis		
	Cross Section	Time	Both
Breusch-Pagan	68.56445 (0.0000)	139.7691 (0.0000)	208.3336 (0.0000)

Source: *Appendix 2.*

If P-value is greater than 0.05, it suggest to accept null hypotheses or go for POLS. If P-value is less than 0.05, it suggests go for FEM or REM. P Value is shown by the number below which is 0.000 where the value is less than 0.05. So the Lagrange Multiplier Test indicates that receiving H1 means the best estimation method is Random Effect.

Random Effect Model: This model will estimate panel data where interference variables may be interconnected between time and between individuals. In the Random Effect model, the difference between intercepts is accommodated by the error terms of each company. The advantage of using the Random Effect model is to eliminate heteroscedasticity. This model is also called the Error Component Model (ECM) or Generalized Least Square (GLS) technique. In principle, the random effect model is different from the common effect and fixed effect, especially this model does not use the principle of ordinary least square, but using the principle of maximum likelihood or general least square. This model assumes that there is a difference of intercept for each individual and the intercept is a random variable. So in the random effect model there are two residual components. The first is the residual as a whole where the residual is a combination of cross section and time series. Torres-Reyna, O. (2007). The second residual is an individual residual which is a random characteristic of the i-th unit observation and remains at all times. This random effect model is useful to solve the problem by using residual variable.

$$PL_{it} = \beta_0 + \beta_1 PE_{it} + \beta_2 DP_{it} + \beta_3 LD_{it} + \mu_{it} + \epsilon_{it}$$

Dependent Variable: PL

Methods: Panel ELGS.

Sample: 2010-2019

Period Included: 10

Cross sections Included: 20

Total Panel observations: 200

Table: 3

Random Effect model.

Variables	Coefficient	Std. Error	t-Stat	Prob.
C	-1254.000	457.3630	-2.741805	0.0067
PE	-6.946965	2.634771	-2.636649	0.0090
DP	12.08951	3.137621	3.853083	0.0002
LD	2978.894	540.9352	540.9352	0.0000
R-Square	0.188160			
Adj-R Square	0.175734			
F-Stat	15.14227			
Prob (F-stat)	0.000000			

Source: *Appendix 3.*

All the coefficient values are significant and because P-value of each coefficients (PE, DP and LD) is less than 1 percent. There is positive impact of the dividend payout ratio and lending to deposit received ratio but there is negative impact of the price earnings ratio in the profitability of the banks. In this panel data regression example, the R Square value is 0.1881, which means that the predictor variable have explained only 18.81% variation in the response variable which is not very strong in explaining the response variable. Prob (F-Statistics): is the p value of the F test which is the significance level of the F value, that is to assess the simultaneous influence of the predictor variable to the response variable whether statistically significant or not and the overall model is fit.

Values of intercepts of individual banks is as follows: Below table shows the intercepts of the each banks and serial number of the intercept values are according to the table No.....

Table 4.

Intercept Values

1. 1000.48	2. -496.508	3. -483.037	4. -358.823	5. -244.538
6. -158.483	7. 306.899	8. 591.883	9. -103.339	10. -70.5942
11. -411.507	12. 150.048	13. -12.2284	14. 155.198	15. -319.932
16. -218.561	17. 827.432	18. 407.900	19. -303.210	20. -259.04

Source: *Appendix 4.*

Hauseman Test: Before confirming the Random effect model, Housman test should be carried out for confirming the model. Hausman test test is a statistical test to select whether the most appropriate Fixed Effect or Random Effect model is used If P-value is greater than 5% then accept Null hypothesis and go for Random Effect Model. If P-value is less than 5% then reject Null hypothesis and go for Fixed Effect Model, Torres-Reyna, O. (2007).

If Result: H0: Select RE ($p > 0.05$) or REM is appropriate than FEM.

H1: Select FE ($p < 0.05$) or FEM is appropriate than REM

Table 5.

Correlated Random Effect: Hausman Test

Test Summary	Chi-Sq. Stat	Chi- Squ. d.f.	Prob
Cross Section Random	29.700277	3	0.0000

Source: *Appendix 5.*

If P-value is greater than 0.05, it suggest to accept null hypotheses or go for fixed effect model. If P-value is less than 0.05, it suggests Random effect model is appropriate. P Value is shown by the number below which is 0.000 where the value is less than 0.05. So the Hausman Test indicates that receiving H1 means that the best estimation method is Fixed Effect model.

Fixed Effect Model

This model assumes that differences between individuals can be accommodated from different intercept. The Fixed effect model differs from the common effect, but still uses the ordinary least square principle. The assumption of modeling that produces a constant intercept for each cross section and time is considered less realistic, so more models are needed to capture the difference. Fixed effects assume that differences between individuals (cross section) can be accommodated from different intercept Torres-Reyna, O. (2007).

Table: 6

Random Effect model.

Variables	Coefficient	Std. Error	t-Stat	Prob.
C	-1725.651	479.2166	-3.600984	0.0004
PE	-5.881588	2.724874	-2.158480	0.0322
DP	6.773753	3.291470	2.057972	0.0411
LD	3661.395	581.4158	6.297379	0.0000
R-Square	0.547034			
Adj-R Square	0.490733			
F-Stat	9.716261			
Prob (F-stat)	0.000000			

Source: *Appendix 6.*

All the coefficient values are significant and because P-value of each coefficients (PE, DP and LD) is less than 1 percent. There is positive impact of the dividend payout ratio and lending to deposit received ratio but there is negative impact of the price earnings ratio in the profitability of the banks. In this panel data regression example, the R Square value is 0.5470, which means that the predictor variable have explained only 54.70% variation in the response variable which is the strong in explaining the response variable. Prob (F-Statistics) value is significant because it p-Value is less than 5 percent. After running the Fixed Effect Model, it requires to run the Chow test or Likelihood ratio.

Chow Test: Chow test is a test to determine the model of whether Common Effect (CE) or Fixed Effect (FE) is most appropriately used in estimating panel data.

Null Hypothesis (H0): Select CE ($p > 0.05$) or Common Effect is better than fixed Effect model.

Alternative Hypothesis (H1): Select FE ($p < 0.05$) or Fixed effect is better than Common effect model.

Table 7

Redundant Fixed Effect Tests or Chow Test.

Test Summary	Chi-Sq. Stat	d.f.	Prob
Cross-Section F	7.081456	(19, 177)	0.0000
Cross-Section Chi-Square	113.080528	19	0.0000

Source: *Appendix 7.*

If P-value is greater than 0.05, it suggest to accept null hypotheses or go for fixed effect model. If P-value is less than 0.05, it suggests Random effect model is appropriate. P Value is shown by the number below which is 0.000 where the value is less than 0.05. So the Chow Test indicates that receiving H1 means that the best estimation method is Fixed Effect model than common effect model.

IV. Conclusion

The main result as equation of this paper confirms that there is significant association of financial ratios and profitability of the banks. Financial ratio clearly predicts the profitability of the banks. Price earnings ratio has negative impact on the profitability of the bank and similarly dividend payout ratio, lending to deposit ratio have the positive impact of the bank profitability. Therefore a rational investors should also consider the financial rations while making the investment decisions.

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Teachers' Experiences on the Students' Behaviors and their Ways of Managing those Behaviors

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Abstract : *This article focuses on how teachers experience the behaviors of students and manage to shape these behaviors in the school. Ten teachers were the participants in my study. The required information regarding the experiences of the teachers on the students' behaviors in the school and their ways to shape these behaviors in the school were explored through interview. The collected views, opinions and ideas explored through interview were presented in the same way as they were expressed by participants without using any statistical tools. Different themes were also created to make the analysis of the data more economical and systemic. From the interviews with participants, it was explored that the management of students' behaviors has been the great challenge for teachers in the classroom. Both desirable as well as undesirable behaviors were perceived by the teachers in the classroom and undesirable behaviors have really made - teaching- learning process unproductive and failure.*

Keywords: *challenge, classroom Lecturer management, disruptive behavior, pose*

Background

The case from my own context;

In general, student behavior is defined as disruptive when the student in question is not engaged in a task set by the teacher or when this behavior interferes to the efforts of fellow students. Even Identifying disruptive behavior in crowded classes is one of the most difficult tasks the teachers have to deal with in our Nepalese context. The crowd classes have been the burden and have posed big challenge to the teachers. In my classroom also there are more than forty students. This may not be the problem of my school only; rather, it may be the problem of many schools in our context. As I talked with other teachers of my school as well as the teachers of other schools of my area, they expressed the same problems in their classes too. Shouting, fighting with other students, coming late or even going back to bring text book from a student of other classes are some common activities the students do every day in my classroom. This causes disruption not only inside the class but also to neighboring classes. I often set task for the students thinking that the task may engage them teaching and learning process. But most of the students talk going beyond the subject matter claiming that they are asking friends about the task they are engaging with rather than actually do the task they are assigned. I tried to punish them for such

work but they are ready to accept punishment rather than being conscious about doing the task. In this way, I set the task to increase the student talking time but students utilize this valuable time talking unnecessarily with their friends. I assume students are on-task but actually students do not do the task, and many students write few sentences within the whole period. Disruptive students normally sit in back benches or in any other places in the class which is invisible to me. The sitting management of student sometimes allows a kind of pair or group misbehavior. Even students who sit far from each other misbehave by throwing stuff at each other. Such stuff encompasses crumpled pieces of paper, panes, small piece of wood or any things like that. From my formal as well as informal sharing with many teachers, I came to know that varieties of behavior of the students are not the typical problem of my classes. This is the problem of many schools. So, I made plan to explore teachers views on this burning issue through research study.

It is normal to find out different types of students in the classroom. They are different from each other not only in terms their academic merit but they also differ in terms of their behavior. Student's behavior has big influence in the academic activities of the classroom. Nowadays, the disruptive behavior of the students in the classroom has posed the challenges in overall academic success of the students. The classroom atmosphere becomes completely unproductive in case the classroom management is not effective. The teaching learning activities becomes meaningless if students show reluctance in teaching learning process. Classroom disruptive behavior is one of the main challenges for teachers (Demir, 2009; Pane, 2010; as cited in Lopes et al., 2017). There are not hard and fast criteria which can help us to demarcate disruptive behaviors from the good behavior in the classroom. However, these disruptive behaviors include disrespect for rules and procedures and wandering around a room taking out of turn, passive engagement in the classroom, disruption of classmates' work (ibid). The disruptive behavior of the students is a major concern in today's school. Students' misbehavior and lack of discipline create many problems in teaching learning process. Nagler (2016) argues that the most difficult aspect of teaching for many beginner's teacher is managing students' behavior They have far reaching effect on children education. Specifically, fighting and illicit drugs have been identified as problems in school that may underline students' education (Bushaw & Lopez, 2012 as cited in Matinez et al., 2016)

Students having misbehavior have comparatively poor results in the examination. Those teachers may be successful in the classroom who can manage the classroom properly and engage students into different learning activities. Wiseman and Hunt, 2008 argue that to be successful teacher he/she must be able to establish appropriate student behavior in their classroom in order to maximize the time that they and their students spend on learning. This fact helps us to claim that discipline enhances academic performance. So, discipline and academic performances are the core of our today's education. If school is effectively disciplined, the academic performance on the part of student and teacher will be highly rated (Gawe, Vakalisa and Jacobs, 2001 as cited in Stanley, 2014). Indiscipline in school has many adverse impacts on multitude sectors of teaching learning process. In this regard, Stanley (2014) argues that indiscipline in school can manifest itself in students' violent behavior, poor disciplinary style, ineffectiveness and inefficiency of teacher, poor time management and ineffective code of conduct and so on.

Teachers need to have special skills to handle the behaviors of the students and enhance their academic achievement. Teachers' behavior has great influence on students' learning and

their academic achievement as well. How teachers establish the relationship with students also helps teachers to achieve the success in their work. Teacher and student's relationship is crucial for the success of both teachers and students. As part of classroom management, such relationship is the most significant factor in determining a teacher's work as successful (Derk, 1974 as cited in Mehdipour and Balaramulu, 2013). In case the students' behaviors being the disruptive one and having their impacts on even their academic achievement, how the teachers experience about the behaviors of students and how they manage them is really a researchable issue in my context.

Students' behaviors and the challenges their behavior have posed in teaching learning process from my own context may be a representative issue to reflect the behaviors of the students in the classroom and the challenges posed by those behaviors in our overall teaching learning activities of the classroom.

The Study

It is very important to manage good teaching environment in the classroom. How teachers manage classroom has great impact on teaching learning process. Management of the students' behaviors in the classroom is one of the essential parts of classroom management. Oliver, R.M., Wehby, J.H., & Reschly, D.J. (2011) argue teacher's classroom management practices have a significant, positive effect on decreasing problems behavior. Many studies have been carried out on the issue of classroom management but these studies have less prioritized teachers' experiences on students' behavior and ways to manage them in my local context. As we know management of the students' behavior has been an important issue each and every teacher has to deal every day, this issue has been an important issue to be explored in a great detail. Therefore, this study has attempted to explore the issue of students' behaviors in the classroom and the ways to handle them from the experiences of different teachers. The study was carried out to seek the answers of the following questions:

- i. How is teachers' experience of the students' various behaviors in school?
- ii. How do teachers manage to shape students' various behaviors in the school?
- iii. What may be the pedagogical implications of the study?

The study was based on qualitative research design. As Kumar (2014) argues that qualitative research follows an open, flexible and unstructured approach to enquiry; aims to explore diversity than to quantify; emphasize the description and narration of feelings, perceptions and experiences rather than their measurement and communicate findings in a descriptive and narrative way rather than analytical manner, I followed qualitative research design in order to explore subjective experiences of the teachers regarding students' behavior and the ways they follow to manage these behaviors in the classroom. All the teachers teaching at secondary level of Surkhet valley were the participants in this research study. Ten teachers were selected for the study purpose. They were purposively selected for the study. After selecting the participants, I Visited them and clarified them about the study and took consent from them to have interview. I used semi-structured interview as research tool in order to explore the views, opinions and the experience of the teachers towards the behaviors of the students and their ways to manage different types of behaviors in the Classroom. I prepared some guideline questions to have interview with participants, set time taking participants' consent for interview and collected data.

Analysis and Interpretation

As we know, qualitative data are usually long narratives and description. They are also not structured systematically and they are often vague, open and subjective. So, they need to be analyzed by categorizing them into various themes/topics. In this study also I created different broad themes on the basis of their views and opinions and analyzed the information given by the informants into these various themes. The data were narrated, described and elaborated under these different themes. To make the analysis systematic and more economical, I created different themes which could include all the information given by the informants. The views expressed by the participants on different issues of students' behavior, the management of different behaviors of the students and the challenged posed by the students' behaviors in classroom management were incorporated within these several themes. The participants were given pseudo name and their opinions were quoted exactly as they expressed and analyzed later on.

Result

The result of the study was derived on the basis subjective views and opinion of the participants regarding students' behaviors and the ways they follow to manage students' behavior in the classroom. On the basis of regularities and pattern of data, different themes were created and the result was prepared on the basis of information included under these different themes in the following way:

Teachers' perception on different behaviors of the students

Different teachers argued that they perceived the students' behaviors differently in the classroom. Most of them perceived the students' behaviors as challenging one in the process of teaching and learning. All most all the teachers agreed that students' behaviors have powerful impacts on the overall activities of the classroom. In this case, the idea expressed by T2 is quite interesting. He opined "Students' behaviors have powers to make classroom heaven or hell".

Similarly, T3 opined that the students' behaviors such as making noise, not paying attention to teaching learning process, not completing the assignment, not being serious in teaching learning activities, desire to talk about the subject matter going beyond the subject-matter, sleeping in the classroom, disturbing other students during the time others are reading and writing, changing the seat, coming late in the classroom, going outside in each and every period, producing unpleasant sound, making paper ball and hitting other students with that paper ball, not bringing copy, book and other reading materials in the classroom, copying other answer while writing are the behaviors perceived by him in his classroom.

The ideas expressed by T7 are a bit different from the ideas of others. He opined, "I perceive the students' behaviors always positively. I think there is reason behind students' disruptive behaviors. So, I study their family background and I sometimes carry out the action research to solve the behavioral problems of the student". The ideas and experiences expressed in the interviews by other teachers were similar to that of T2, T3 and T7.

Desirable behaviors of the students in the classroom

All most all the teachers expressed the similar kinds of views on desirable behaviors they want from their students. They agreed that obeying the teachers, following the classroom rules,

doing assignment in time, regularity in the classroom, polite behavior, cooperative, self-aware about their study, disciplined, active participation in teaching learning activities etc. are some of the desirable behaviors of the students in the classroom. In this regard, the ideas given by T5 are quite interesting to be noted here. He opined, “Obeying teacher, doing daily classroom assignment, showing good moral character are the desirable behavior in the classroom”. The views expressed on the same subject matter by T1, T2, T3, T6, T9 and T10 are somehow same to that of T5.

But the ideas expressed by T8 are a bit different from the others ideas. He said “listening teachers and paying attention to teaching, asking questions to the teacher, being curious on the subject matter are the desirable behaviors of the students”. Similarly, the ideas of T7 are also quite interesting to be noted here. He stated, “Creative, curious, problem solver, cooperative, benevolent are the desirable behavior of the students”.

Undesirable behavior of the students in the classroom

Almost all the teachers expressed similar views on undesirable behaviors. They opined site talking, asking question going beyond subject matter, talking beyond content, teasing other students and even teachers, not showing interest teaching learning process, interested to do other kinds activities except reading writing, immediate reactive, making noise and producing unpleasant sound in the classroom are the undesirable behaviors for the teachers. In this regard, the views of T5 seemed quite interesting. He opined, “making noise, site talking, breaking rules, not taking teachers suggestions seriously, less enthusiastic, producing irritating sounds, and teasing the teachers are undesirable behaviors in the classroom”. Other teachers (T1, T2, T4, T6 and T7, T8, T9 and T10) expressed somehow the same ideas to that of T5. The ideas expressed by T3 are a bit different from others. He opined that raising unnecessary questions while teaching learning process keeps on going is undesirable behaviors.

In this way almost all the teachers expressed their views regarding undesirable behavior of students and their views are not totally different although their choice of words to express views on undesirable behaviors of the students are a bit different from each other.

Challenges posed by undesirable behaviors of the students

Many teachers shared different bitter experiences about the challenging behavior of the students. Some of them expressed that they had big problems in managing the students' behavior but they were not quite sure that what activities could really help them to overcome such problems. T10 shared very much long and unpleasant experiences of his own classroom regarding the challenging behaviors of the students. He expressed;

I always face behavioral problem of my students. Some students often sleep in the classroom, some students often talk with other students in the classroom, some students often involve inside talking, some student often inter the classroom after me, I always tell them not to do these kinds of behaviors. Sometimes, I scold and even beat them. But all these techniques work for a moment. Time and again the students repeat the same activities in my classroom. Only few students seem paying attention on teaching learning process. This situation has made me fill sick and frustrated on my profession. What is solution for me?

Almost all the teachers accepted the views that students' behaviors have posed many challenges in teaching learning process. The classrooms have become noisy. Teachers felt discouraged, extra mental presser on them. In this regard, T5 stated;

Teaching learning process go out of content, Teaching environment is disturbed, I feel boring, and my attitude change to see the students, it becomes difficult for me to finish course in time, I have no trust on my students, there is a lack of negotiation and collaboration between me and students, there is a disturbance in the flow of teaching-learning process sometimes confrontation between students and me, I feel really hard in getting students attention in teaching learning process, etc. are some of the challenges posed by disruptive students in my classroom

Similarly, the views and experiences expressed by T2 are also quite useful to be noted here. He said, "Students disruptive behaviors which is now has been the burning problem of many classes. Such behaviors pose many challenges in teaching learning process. The classroom becomes noisy, disruptive behaviors discourages the teacher in the classroom, add extra mental presser to teachers. Moreover, disruptive behaviors of the students really make the survival of novice teachers difficult in the classroom. Similarly, students' disruptive behaviors have lessened the people interest towards teaching profession to some extent. Other teachers' views are similar to that of T2 and T5.

All most all the teachers strongly agreed in one point that so many challenges have been posed by students' behaviors and showed serious concern on the subject matter. They argued Students' behaviors have powerful influence on the classroom management as well. The management of students' behaviors has doubled the challenges of teaching. The quality of teaching has been affected adversely. In many cases, the relationship between teachers and students have been like that of enemy when they reject each other. The future of many students has been uncertain due to their bad behavior at present.

Managing behaviors of students as a part of classroom management

Almost all the participants accepted that managing students' behavior is a great challenge for them. However, their views and experiences regarding the ways of managing such behavior differs from each other. The ideas expressed by T4 included many teachers' ideas who were interviewed. He said, "disruptive behavior can be managed motivating the students, sending them out of class, asking questions, making the students standing in front of the classroom, asking about family background and treating them accordingly". Regarding the strategies of students' behavior management, the ideas of T5 are also quite interesting to be noted. He said that giving leadership, counselling, contacting parents, visiting home of students, making the students feel teacher is observing them, light punishment such as sweeping the floor, standing in front of the classroom, making them do extra exercises are the strategies he follows to manage the students' behavior.

Similarly, T4 expressed different activities he does to manage students' behaviors. He further said, "I motivate students for good behavior sometimes I send them out of class, ask question, make them standing in front of the class, ask about their family background, etc. are the strategies apply to manage the students' behavior in the classroom.

The ideas expressed by T3 are a bit different from others. He said, “I use word threat, I sometimes boycott students from participating into different extra-curricular activities, create humiliated type of environment for disruptive students, and ask DI or even principal to give punishment to these students”. Quite interestingly, T6 opined her ideas in favor of constructive activities to manage the student’s behaviors. She argued that teaching through game, asking questions on students’ interest and addressing their interest could help manage students’ behavior.

T8 expressed his view in different way to manage the behaviors of the students. He focused on building the good relationship between the teacher and students. He further said, “I first recognize the family background of the students so that many things of the students could be guessed behind the disruptive behaviors of the students”. The similar ideas were also presented by T1. He argued that teacher should teach according to the interest of the students. He further argued teachers’ behaviors have powerful effect on students’ behaviors. How teacher presented in the classroom determines what students do in the classroom.

In this way different teachers expressed different ideas on ways of managing students’ behaviors. Counselling, motivating, asking them questions, consulting individual interest, studying family background of the students and treating them accordingly, managing seating arrangement, keeping friendly relationship with students, praising the students even in small achievement, etc. are the common strategies followed by all the teachers to manage the students’ behavior.

Findings and conclusions of the study

From the discussion, analysis and interpretation of the different views and experiences of the teachers, it was found that different behaviors of the students were perceived in the classroom by the teachers. Such behaviors were both desirable as well as undesirable in the classroom. But the undesirable behaviors of the students were found to be really posing the challenges in the effective teaching learning process from the shared stories of the participants(teachers) of the study. Different strategies the teacher reported that they followed to manage the students behaviors (especially disruptive behaviors in the classroom) were ; teaching according to their interest of the students, studying the family background of the students and treating them accordingly, keeping friendly relationship with the students to understand their real problems, motivating the students, giving constructive suggestions to the students, arranging proper sitting arrangement, giving varieties of activities to the students, consulting with parents of the students and collaborating with them to shape the good behavior of the students, praising them , making them aware about the aims of students’ study, etc.

All the informants agreed in one-point that teaching has been very much difficult due to the disruptive behavior in the classroom even if they have other several contrasting views. All most all the participants accepted that although there are comparatively a smaller number of disruptive students in the classroom, their influence in the classroom is very much powerful in the sense that whole classroom is disturbed due to the behaviors. However, ways of managing students’ behavior are quite different from each other view. But it doesn’t mean that the strategies followed by teacher in order to manage the students’ behaviors are totally different from each other.

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Digital Tools and Technology in Language Teaching: Killing the Creativity or Cultivating the Creativity

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Abstract : *This article examines use of digital tools and technologies in language teaching classroom as beneficial tools in cultivating learners' creativity or kills creativity. Though there are basically two claims against: it paralyzes the learners' activities and restricts their ability to think resulting in killing the learners' creativity. However, many studies in different contexts around the world have shown that if used carefully and after proper guidance, the digital tools and technologies can contribute in enhancing the learners' creativity. I found the digital tools and technologies effective as they promote higher level of collaboration, exposure in target language culture and ensure continuity in language teaching even in critical times. I also found that appropriate use of tools and dealing with people belonging to different culture, language and ecology also enriches learners' creativity. Many language schools have adopted digitalized language teaching both because of pandemic and effectiveness of the tools in promoting active and creative classrooms. This study suggests for the rational use of digital tools for cultivating learners' creativity in language teaching.*

Keywords: Collaboration, exposure, digital tools, pandemic, technology

Innovations in the field of education are the dire needs of globalized world today. The need to large extent is addressed through the invention of digital tools and technologies. Digital tools and technologies, broadly speaking, include electronic devices and systems that can generate process and store informations such as social media, online games and multimedia. Though the tools have a short historical development, the presence of these tools have made twenty-first century a digital era. Human beings live around them and they assist in many of daily human activities. They have changed the way people live, work and think. Similarly, technological advancement has opened new job opportunities that demands young generations with ample knowledge to handle these tools (Voogt et al., 2013). The young generations are born and grown up with digital tools while their teacher may not be, still they need critical and creative knowledge to work with digital tools and technologies. Henriksen et al. (2018) argued that the effective way to utilize these tools itself depends on human creativity and is called core skill in twenty-first century. The use of tools largely depends on the creativity of user. Further, the global demand is always the demand of creative manpower. This global demand has made the use of digital tools and technologies integral part of education in which students are more interested than dry erase board and boring lectures of their teachers (Ghasemi & Hashemi, 2011).

Interested or compelled most educational institutes in developed countries and many in developing countries have shifted their educational activities in digitalized technology (Dhawan,

2020). The use of such technology in Nepal is growing day by day (Shakya et al., 2017). Likewise, digital tools and technology has equally become important in language teaching and it provides teachers with more opportunities of using tools to enhance learners' language learning activities (Kessler, 2018). In context of Nepal, the use of digital tools and technology in education is highly aspired and applied in a limited way and with semi skills to operate them (Dahal et al., 2021). However, with these tools language teachers can make their teaching-learning activities interesting, enthusiastic and full of life. Further language learning possibilities through digital tools in critical pandemic situation like Covid-19 has created new scope of tools and technologies both in the field of education and in language teaching (Iivari et al., 2020). But heavy human reliance on these tools attracts critical attention of thinkers. Some raise the issues of digital tools and technology and learners' creativity. They claim that digital tools like television paralyzes the learners (O'Keeffe et al., 2011; Strasburger et al., 2010) and kill their ability to think (Dykman & Davis, 2008; Rothenberg, 1997) while others strongly support that the tools are useful to cultivate creativity (Nikolopoulou, 2018). Despite many studies that claim digital tools and technology harmful for learners, this study finds such tools beneficial for learners in language learning. The study gathers literature to support the claim and fill the gap in literature. Digital tools and technologies in language teaching fosters cultivating creativity through higher opportunities of collaboration, increased amount of exposure in target culture language and through the accessibility of teaching-learning activities any time, place and in any critical situations like Covid-19 pandemic.

Digital Tools and Technology as a Means of Collaboration among Students

Digital tools and technology promotes students' motivation, engagement and collaboration in language teaching and learning activities (Goria et al., 2016). Collaboration in language learning process, further needs active participation of learners and has many other advantages like flexibility and continuity in use, socialization, inspiration and peer coaching (Kukulska-Hulme & Viberg, 2018). The claim that digital tools and technology paralyzes the learners in language learning is baseless as it incorporates many activities that keep the learner active. Further, collaboration in language learning process involves seeking for information, retrieving, analyzing, sharing and using information via multiple sources and the contextual situation determines which digital tool and technology is to be used for collaboration (Given & Willson, 2015). In other words, passivity of language learner makes all these collaborative activities impossible and as the learner has to take rational decisions about the appropriate tool and technology for collaboration depending upon the context, it makes the learner a critical thinker and promotes in cultivating creativity. Collaboration on the one hand stands for active participation of learner while on the other hand it stands for creativity.

Collaboration through digital tools and technology promotes at least eight ways of creativity : allows the team members to express their insights, embraces potentiality of tools for creative action; enriches participants' experiences; contributes in creative team collaboration; provides rich and visual information; facilitate team communication; offers a selection of appropriate tools and supports the utilization of tool in creative collaboration (Alahuhta et al., 2014). The other claim that digital tools and technologies kill the creativity of language learner is also baseless. In fact, collaboration through digital tools always opens door for higher level of collaboration with people from different ecology, language and culture. This kind of opportunity is always fruitful to language learners in cultivating creativity. Digital tools and technology in language learning assists two way creativity: the first is creativity needed to make appropriate choice of

tools and the ways to operate them and the second way is to deal with informations gathered from various sources of digital collaboration. Traditional language classrooms with teacher as the only source of knowledge and information fail to provide higher level of collaboration for cultivating creativity. But it is highly possible through digital tools and all the claims that the digital tools make the learner passive and kill their creativity are baseless. Digital tools and technology in language classroom promotes language learning activity and cultivates creativity.

Digital Tools and Technology as a Means of Exposure

Digital tools and technology ensures higher level of exposure to the learners in language teaching that makes both teacher as well as learner active and creative. Digital social networks in fact provide more opportunities of social interaction in meaningful and authentic language teaching and learning than that are actually available in language classrooms (Richards, 2015). In some language teaching activities, exposure is taken as the opposite pole of instruction but they are complementary and exposure implements instruction in practice to enhance natural use of language (Baleghizadeh & Farshchi, 2009). Higher level of exposure demands active participation of both teachers and learners which is possible through digital tools. The claim that digital tools can make language teaching a passive activity is baseless. Through digital tools the teacher and learner can obtain exposure in target language culture. Involvement in target language culture requires many activities that keep them active all the time. With digital technology such exposure of target language culture is possible at any time and from any place. With tools, the higher the interest, the higher is the possibility.

Many scholars agree about the importance of culture in language teaching and native speakers are also hired to teach authentic language but this sometimes becomes problematic as the learners feel heavy imposition of target culture as a kind of threat to their own culture and the native speaking teacher are mostly unaware about the cultural values of learners (Kramsch, 2013). Digital tools solve this problem because the teacher and learner can determine the right amount of exposure themselves: exposure that neither becomes threat to their culture nor they feel offended. But taking rational decisions on this aspect of language teaching through digital tools need energetic and creative participation of teachers and learners. With digital tools exposure to multicultural experiences in language teaching enhances creativity in generation and reception of ideas from target culture replacing fear of other culture in to respect and dignity towards them (Leung & Chiu, 2010). The higher exposure to multicultural experiences through digital tools in language teaching enhances both creative performance and creativity supporting cognitive processes (Leung et al., 2008). Traditional language classrooms with teacher as the only source of knowledge and information fail to provide higher level of exposure for cultivating creativity. But it is highly possible through digital tools and the claims that the digital tools make the learner passive and kill their creativity are baseless. Digital tools and technology in language classroom promotes exposure in language learning activity and cultivates creativity.

Digital Tools and Technology as Teaching and Learning Platform in Critical Times

Thirdly, digital tools and technology ensures language teaching and learning activities in any critical times like pandemic covid-19 at least if the devices and connectivity are available. This continuity of teaching learning activities keeps both teachers as well as learners active and surely such continuity also promotes creativity. Many human activities suffer restriction because of pandemic but in the field of education, digital education has been quickly adapted to keep

education running (Teräs et al., 2020). The use of digital tools in language teaching can be highly possible in such situations. These tools assist language teaching and learning activities regardless of time and space and they also can exhibit facial expressions and movements that are crucial in language teaching (Chun et al., 2016). Digital education in language teaching can include various various activities like video games that keeps the learners active and creative if the video games are prepared with clear goals (Reinders & Wattana, 2012). Similarly, there can be other many activities like storytelling, dealing with context and participating in the practice of language functions through digital tools that keeps the teaching learning process active and creative. These activities are possible even during pandemic situation away from classroom and teachers with the help of digital tools.

In other words, digital tools keep language teaching active and creative. Creativity in language teaching in the past was understood as the teaching of literary texts from language teacher who could make the ideas affective but the new concept of creativity in language teaching has appeared along with time and technological change and creativity in language teaching nowadays is defined as cognitive, socio-cultural dimension as well as the changes appearing in the daily use of language due to technological progress (Jones & Richards, 2015). Adopting this new concept of creativity in language teaching in pandemic situation is highly possible with digital tools. Creativity in digitalized pedagogy in language teaching classroom becomes effective even in pandemic situation when the language teacher plays the role of instructor guiding students for self-learning through different digital tools in computerized world (Akinwamide & Adedara, 2012). The more digital tools the learners go on using, the more they acquire critical and creative ability. Traditional language classrooms with teacher as the only source of knowledge and information become impossible in pandemic situations for cultivating creativity. But it is highly possible through digital tools and the claims that the digital tools make the learner passive and kill their creativity are baseless. Digital tools and technology in language classroom ensures language teaching activity in critical times to cultivate creativity.

Conclusion

Digital tools and technologies are already integral part of education. Many human activities have come to stoppage because of pandemic but education in most of the part of world is going on. News related to cyber crimes and psychological impacts are common in daily news. In such a context, issues appear related to the usefulness or impact of digital tools in education. In Language teaching debate arises related to creativity. Some people report that the tools may kill creativity while others reply that the tools rather promote creativity. Basically, there are two charges against the tools that they obstruct language teaching because they make learners passive and stun their thinking. However, the claims look baseless because the tools in language teaching are useful in cultivating creativity. The tools promote creativity through higher level of collaboration, increased exposure in the culture of target language and through the continuity of teaching and learning activities in critical times too. Furthermore, creativity is also enriched as the teachers and learners have to be very skilled with proper use of the tools as well as they have to be conscious and careful dealing with people belonging to different culture, language and ecology. Thus, it can only be a neo-luddite who opposes digital tools in language teaching.

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नेपाली भाषाका भाषिका

पवित्रा पौडेल

सार : प्रस्तुत लेख नेपाली भाषाका भाषिकाहरूको अध्ययनमा केन्द्रित छ । लेखमा नेपाली भाषाका भाषिकाका सम्बन्धमा हालसम्म भएका अध्ययनहरूको खोजी गरिएको छ । नेपाली भाषा र यसका भाषिकाका सम्बन्धमा हालसम्म गरिएका खोजीहरूको विश्लेषण गर्ने उद्देश्य यस लेखको रहेको छ । यस सन्दर्भमा भाषा र भाषिका सम्बन्धी अवधारणा, नेपाली भाषाको उत्पत्ति र विकास तथा नेपाली भाषिका निर्धारणमा विभिन्न विद्वानहरूका धारणाहरूको विश्लेषण गरिएको छ । नेपाली भाषा भारोपेली भाषा परिवारअन्तर्गतको सतम वर्गको आर्य इरानेली शाखाबाट विकसित भाषा हो । यो भाषा संस्कृत भाषाबाट प्राकृत तथा अपभ्रंश हुँदै विकसित भएको हो । नेपाली भाषा संसारकै समृद्ध भाषाहरूमध्येको एउटा भाषा हो नेपाली भाषामा प्रसस्त खोज तथा अनुसन्धानहरू सम्पन्न भएका छन् । यस भाषामा साहित्यिक सिर्जनाहरू पनि थुप्रै भएका छन् । शब्दभण्डार तथा व्याकरणिक व्यवस्थाका आधारमा पनि यस भाषालाई उत्कृष्ट भाषा मान्न सकिन्छ । नेपाली भाषाका भाषिकाहरूका सम्बन्धमा अध्ययन अनुसन्धानहरू भएका छन् तर ती अध्ययनहरू पूर्ण र प्रयाप्त भने छैनन् । भौगोलिक दूरी, समयसम्बन्धी लामो अन्तराल, यातायातको कठिनाई, चेतनाको स्तर, पेसागत विविधता जस्ता पक्षहरूको परिणामस्वरूप एउटै भाषाका थुप्रै भाषिकाहरू जन्मने गर्दछन् । यसकारण बोधगम्यता, भाषा प्रयोगको स्थिति, भौगोलिक दुरता, समयको अन्तराल, जनसङ्ख्या, यातायातको कठिनाई, भाषाद्विपको स्थितिजस्ता आधारहरूलाई लिएर नेपाली भाषिकाहरूको निर्धारण गर्नुपर्दछ भन्ने निष्कर्ष यस अध्ययनबाट निकालिएको छ ।

मुख्य शब्दावली : भारोपेली, आर्य इरानेली, ध्वनि अवयव, भाषिक भेद, बोधगम्यता, खस प्राकृत, खस अपभ्रंश ।

१. विषयपरिचय

भाषा मानवीय भाव तथा विचार विनिमयको सशक्त साधन हो । मान्छेले भाषाका माध्यमबाट आफ्ना दैनिक व्यवहारहरू चलाइ रहेको छ । भाषाकै माध्यमबाट मान्छेले आफ्ना कयौं आवश्यकताहरू पूरा पनि गरिरहेको छ । मानवीय ध्वनि अवयवहरूका सहायताले भाषिक ध्वनिहरू उच्चारित हुन्छन् । भाषा हुनका लागि यसरी उच्चारित ध्वनि सार्थक हुनु पर्दछ वा सम्प्रेषणीय हुनु पर्दछ किनभने वक्ताले बोलेको बोली श्रोताले बुझ्नु पर्दछ तबमात्र भाषिक प्रकार्य पूरा हुनसक्दछ । भाषा ध्वनिका माध्यमबाट गरिने सम्प्रेषणीय व्यवस्था हो (ढकाल, २०७५, पृ. ३ बाट उद्धृत) । यसकारण भाषाको कार्य नै सम्प्रेषण हो । भाषा र सङ्केत फरक हुन् । भाषा विश्लेष्य हुन्छ भने सङ्केतलाई भाषाविज्ञानको हैसियतले विश्लेषण गर्न सकिदैन (ढकाल, २०७४, पृ. २) । मानवीय बोली वा मानवीय वाणी भाषा हो । वाणी परा, पश्यन्ती, मध्यमा र बैखरी गरी चार प्रकृतिको हुन्छ । परा, पश्यन्ती र मध्यमा आन्तरिक अवस्थामा सीमित रहने वाणी हुन् भने बैखरी बाह्य रूपमा प्रकटित वाणी हो । आधुनिक भाषाविज्ञानले बैखरी वाणीको मात्र विश्लेषण गर्दछ । तसर्थ

भाषा मूलाधारचक्रबाट परा वाणीको रूपमा उत्पत्ति हुँदै वैखरीका रूपमा आएर मात्र बाह्य रूपमा प्रकटित हुन्छ। वैखरी वाणी श्रुतिग्राह्य स्वरूपमा देखापर्दछ। भाषा पहिला कथ्य रूपमा प्रकट हुन्छ त्यसपछि मात्र लिपिका माध्यमबाट लेख्य रूपमा देखा पर्दछ। भाषा परिवर्तनशील हुनेभएकाले भाषाका जति धेरै वक्ताहरू हुन्छन् त्यति यसको स्वरूपमा विविधता देखापर्दछ। भाषाको स्वरूप व्यक्ति व्यक्तिमा पनि फरक फरक देखापर्दछ। भाषिका भाषाको स्थानीय कथ्यगत भेद हो। समान साँस्कृतिक र राजनीतिक स्थितिमा भौगोलिक फैलावट र भू-प्रकृतिका कारणले देखिने भाषाको स्थानीय भेदलाई भाषिका मानिन्छ। एउटै भाषाको अलग-अलग भाषिक क्षेत्रमा बोलचाल गरिने भाषिक भेद नै भाषिका हो (लम्साल र अन्य, २०७३, पृ.११)। एउटै भाषाका प्रयोगकर्ता बीच देखापर्ने भाषिक विविधता नै भाषिका हो। भाषाले एउटा निश्चित क्षेत्र ओगटेका हुन्छन्। यस्ता क्षेत्र साना ठूला जस्ता पनि हुन सक्दछन्। यस्ता क्षेत्र एउटा गाउँमात्र पनि हुन सक्दछ र पूरै जिल्ला तथा त्यो भन्दा ठूलो अञ्चल वा क्षेत्रसमेत हुन सक्दछ। व्यक्तिले प्रयोग गरेको भाषा र अर्को व्यक्तिले प्रयोग गर्ने भाषामा स्पष्ट भिन्नता फेला पार्न सकिन्छ। निश्चित भौगोलिक क्षेत्रमा बसोबास गर्ने व्यक्तिहरूले बोल्ने परस्परमा पर्याप्त समान व्यक्तिभाषाको समुच्चयलाई भाषिका भनिन्छ। भाषाको सबैभन्दा सानो रूप व्यक्तिभाषा हो भने ठूलो रूप भाषा हो भने मझौला रूप भाषिका हो (न्यौपाने र अन्य, २०७३, पृ.२८३)। यसप्रकार व्यक्तिभाषा भन्दा ठूलो र भाषाभन्दा सानो भाषाको प्रायोगिक रूपलाई भाषिका भनिन्छ। यो भाषाको क्षेत्रीय भेद हो। कुनै निश्चित क्षेत्रमा बसोबास गर्ने निश्चित समुदायका व्यक्तिहरूले प्रयोग गर्ने एकआपसमा पर्याप्त समान व्यक्तिभाषाहरूको समुच्चय नै भाषिका हो। भाषिका भाषाको भौगोलिक तथा सामाजिक भिन्नताबाट उत्पन्न हुने भाषाको भेद हो। भाषा सामाजिक आवश्यकताको वस्तु हो। भाषिकाहरूको निर्माणमा भाषाको इतिहास, त्यसको विस्तार, वक्ताहरूको सङ्ख्या, सम्पर्कको अवस्था, भाषाद्वीपको अवस्था आदिले भूमिका खेल्दछन् (न्यौपाने र अन्य, २०७३, पृ.२८३)। भाषिका निर्धारणका लागि बोधगम्यता, भाषिक समुदायको विस्तार, भौगोलिक दुरी, भाषाको समयावधि, भाषाद्वीप स्थिति, जनसाङ्ख्यिकीय वितरण, राजनीतिक सीमा, लेखन प्रणाली जस्ता कुराहरूलाई आधार मानिन्छ (लम्साल र अन्य, २०७३, पृ.१३-१५)। अतः खास स्थानमा बसोबास गर्ने एकभन्दा बढी व्यक्तिले प्रयोग गर्ने भाषाको रूपलाई भाषिका भनिन्छ।

नेपाली भाषा भारोपेली भाषा परिवार सतम् वर्ग अन्तर्गत आर्य इरानेली शाखाबाट संस्कृत भाषाको प्राकृत तथा अपभ्रंश हुँदै विकास भएको हो। अतः नेपाली भाषाको उत्पत्ति संस्कृत भाषाबाट भएको हो। संस्कृतको कुन प्राकृत र कुन अपभ्रंशबाट भएको हो? भन्ने विषयमा भने भाषाविद्का विच एक मत पाइदैन तर संस्कृत भाषाको खस प्राकृत र खस अपभ्रंशबाट यसको उत्पत्ति भएको कुरामा धेरैजसो विद्वानहरू सहमत रहेको देखिन्छ। भौगोलिक दूरी, भाषाद्वीपको स्थिति, समयको अन्तराल, यातायातको कठिनाइजस्ता विविध कारणले नेपाली भाषामा थुप्रै क्षेत्रीय भेदहरू देखिएका छन्। नेपाली भाषामा के कस्ता क्षेत्रीय भेदहरू रहेका छन्? नेपाली भाषाका भाषिका निर्धारणमा हालसम्म के कस्ता खोजहरू गरिएका छन्? भन्ने प्राज्ञिक जिज्ञासा समाधानमा प्रस्तुत आलेख केन्द्रित रहेको छ। नेपाली भाषाका भाषिकाका सन्दर्भमा विद्वानहरूको मत एकै प्रकारको पाइदैन। बालकृष्ण पोखरेलले प्रस्तुत गरेको भाषिका निर्धारणलाई भने अधिकांशले स्वीकार गरेको देखिन्छ। प्रस्तुत लेखमा नेपालीका भाषिकसम्बन्धित हालसम्म भएका अध्ययनको विश्लेषण गरिएकाले यसका वारेका अध्ययन गर्न चाहने जो कसैका लागि उपयोगी हुन सक्दछ।

२. अध्ययन विधि

प्रस्तुत अनुसन्धानात्मक लेख गुणात्मक अनुसन्धान पद्धतिमा आधारित भएकाले यसमा गुणात्मक अनुसन्धान ढाँचाअन्तर्गतको फेनोमेनोलोजी (phenomenology) विधिको उपयोग गरिएको छ । फेनोमेनोलोजी एउटा दर्शन हो । गुणात्मक अनुसन्धान अन्तर्गतको फेनोमेनोलोजी अध्ययनले व्यक्तिका अनुभूतिलाई केन्द्रविन्दुमा राखेर सामाजिक यथार्थको खोजी गर्दछ । व्यक्तिका अनुभव वा अनुभवकै आधारमा बहुसत्य निर्माण भएको मान्यताका आधारमा यस अध्ययनले व्यक्तिले आफ्नो अनुभवहरूको जसरी अर्थ दिएका हुन्छन् त्यसरी नै उनीहरूका अनुभवहरूको व्याख्या र विवेचना गर्दछ (The phenomenological study is designed to describe and interpret an experience by the people who have participated in it) (खनाल, २०७३, पृ.१५९) । यस्ता अध्ययनले व्यक्तिका अनुभवहरूलाई विश्लेषण गरेर राम्रो नराम्रोको निर्णय नगरी ती अनुभवहरूको आधारमा यथार्थलाई उजागर गर्ने कार्य गर्दछ । यसै मान्यताका आधारमा प्रस्तुत आलेख तयार पारिएको छ । यस अध्ययनमा मुलतः द्वितीयक स्रोतका सामग्रीको उपयोग गरिएको छ । आवश्यक द्वितीयक स्रोतका सामग्री सङ्कलनका लागि पुस्तकालयीय कार्यलाई अवलम्बन गरिएको छ । यस अध्ययनको मूल विश्लेष्य सामग्रीहरू नेपाली भाषा र यसका भाषिकाको सम्बन्धमा लेखिएका लेख रचना तथा सन्दर्भ पुस्तकहरू रहेका छन् । आलेख तयार गर्ने क्रममा भाषा, भाषिका र नेपाली भाषा तथा नेपाली भाषिका सम्बन्धी गरिएका पूर्ववर्ती अध्ययनका सामग्रीहरूलाई उपयोग गरिएको छ । आलेखलाई विश्लेषणात्मक विधिबाट तयार गरिएको छ ।

३. भाषा र भाषिका

३.१ भाषा

भाषा मानवीय विचार अभिव्यक्तिको सशक्त साधन हो । भाषा मान्छेको अमूल्य सम्पत्ति हो । भाषाको प्रयोग केवल मान्छेले मात्र गर्न सक्दछ । भाषालाई विचार विनिमयको सर्वोत्कृष्ट साधन र मानवको सर्वोच्च निधिका रूपमा चिनाउन सकिन्छ (न्यौपाने र अन्य, २०७३, पृ.२) । अन्य प्राणीहरूले पनि ध्वनि सङ्केतहरूको प्रयोग गर्दछन् । ती ध्वनि सङ्केतलाई भने भाषाविज्ञानले भाषाको मान्यता दिएको छैन । पशुपन्छीहरूले खाली सङ्केतहरूको प्रयोग गर्दछन् । भाषाका माध्यमबाट मानिसहरूले आफ्नो विचार, अनुभूति तथा भावनाहरू एक अर्कामा साटासाट गर्दछन् । भाषामा सम्प्रेषणीयता हुने गर्दछ । भाषा मानवीय ध्वनि अवयवहरूबाट निःसृत हुन्छ । भाषाका कथ्य र लेख्य गरी दुई माध्यम हुन्छन् । कथ्य माध्यमका लागि श्रोता र वक्ता दुबै आवश्यक हुन्छन् भने लेख्यका लागि श्रोता आवश्यक हुँदैन । वक्ताले श्रोतासमक्ष आफ्नो अनुभूति अभिव्यक्त गर्दछ । श्रोताले त्यस अभिव्यक्तिको प्रतिक्रिया दिन्छ । त्यसकारण भाषा विचार विनिमयको साधन हो । भाषा ध्वनि सङ्केतको त्यस्तो व्यवस्थालाई भनिन्छ जहाँ समाजका सदस्यहरू त्यसको माध्यमबाट आपसी व्यवहार तथा विचारको आदान प्रदान गर्दछन् (लामिछाने, २०५८, पृ.४) । फोक्सोबाट निस्केको सास विभिन्न ध्वनि अवयवहरूको माध्यमबाट बाहिर निष्कन्छ । त्यही प्रस्फुटित आवाज नै भाषा हो । भाषामा सार्थकता हुन्छ । निरर्थक बोली भाषा होइन । भाषा बिना मान्छेको दैनिक व्यवहार असम्भव हुन्छ । भाषाशास्त्री ब्लुमफिल्डका अनुसार “भाषा एक किसिमको उत्तेजनाको प्रतिक्रिया हो” (ढकाल, २०६५ पृ.४ बाट उद्धृत) । मानिस उत्तेजित भएर वाणीको रूपमा आफ्नो प्रतिक्रिया दिन्छ । जस्तै : एकजनालाई तिर्खा लाग्छ । उसले अर्कोजनासँग पानी भएको देख्छ । उसमा पानी पिउने उत्कण्ठा जाग्छ । त्यस तिर्खाएको व्यक्तिले भाषाको माध्यमबाट पानी माग्छ । पानी साथमा रहेको व्यक्तिले पानी मागेको बुझ्छ अनि पिउनलाई पानी दिन्छ । यसप्रकार भाषाका माध्यमबाट मान्छेले आफू ना अवधारणको सम्प्रेषण गर्दछ ।

वाणीका आन्तरिक र बाह्य गरी दुई अवस्था हुने गर्दछन् । बाह्य वाणी फोक्सोबाट निस्किएको सास विभिन्न ध्वनि अवयवहरूमा सङ्घर्ष गर्दै शब्दको रूपमा प्रस्फुटन हुने गर्दछ । तर आन्तरिक वाणी भने त्यसरी प्रस्फुटन नहुने भएकाले अविश्लेष्य हुन्छ (न्यौपाने, २०५१ पृ.१) । आधुनिक भाषाविज्ञानले यसको व्याख्या विश्लेषण गरेको छैन । वास्तवमा आन्तरिक अवस्था पूरा भएर मात्र शब्दको रूपमा वाणीले बाह्य स्वरूप धारण गर्दछ । यसरी आन्तरिक अवस्थामा रहने वाणीका स्वरूपहरू परा, पश्यन्ती र मध्यमा हुन् । तर बाह्य स्वरूपमा प्रकटित ध्वनि वैखरी हो । मानिस शरीरको मूलाधारचक्रमा परा वाणीको उत्पन्न हुन्छ । परा वाणीको शाब्दिक रूपमा अनुभूति गर्न सकिँदैन । वायुका सहायताले मूलाधारचक्रदेखि नाभिस्थलसम्म प्रवेश गरेको वाणी पश्यन्ती हो । पश्यन्तीको अवस्थामा मानिसले बोल्ने इच्छा राख्दछ । समाधिमा लिप्त योगी तथा गहन चिन्तनशील व्यक्तिहरूले यसप्रकारको वाणीलाई अनुभूति गर्न सक्दछन् । मध्यमा वाणी अव्यक्त र व्यक्त वाक्को सङ्गम स्थल हो । यसले नाभिस्थल हुँदै हृदय वा मनमा प्रवेश गरिसकेको हुन्छ । यसले बुद्धि स्तर कायम गरिसकेको हुन्छ । यस अवस्थामा हृदय र मस्तिष्कको सम्पर्क भइसकेको हुन्छ । वक्ताले भाषिक वर्णक्रम मिलाइ सकेको हुन्छ । यो वैखरीको आधारबिन्दु हो । वाणीको अन्तिम अर्थात् चौथो अवस्थालाई वैखरी भनिन्छ । वैखरी शाब्दिक स्वरूपमा व्यक्त हुने तथा श्रुतिग्राह्य हुने भएकाले सबैजसोले यसको अनुभूति गर्न सक्दछन् । आधुनिक भाषाविज्ञानले वैखरी वाणीको व्याख्या विश्लेषण गर्दछ ।

३.२ भाषिका

भाषाको क्षेत्रीय वा सामाजिक भेद भाषिका हो । व्यक्तिभाषाभन्दा ठूलो र भाषाभन्दा सानो भाषिक संरचनालाई भाषिका भनिन्छ । समान राजनीतिक तथा सांस्कृतिक स्थितिमा भौगोलिक भिन्नताका कारण कुनै भाषामा देखिने स्थानीय भेदलाई भाषिका भनिन्छ जसमा कुनै प्रशिक्षण विना परस्पर सापेक्षिक बोधगम्यता हुन्छ (न्यौपाने, २०५१ पृ.३१) । भाषिकामा बोधगम्यता अनिवार्य मानिन्छ । बोधगम्यता रहेसम्मको भाषाको स्वरूपलाई भाषिकाको रूपमा चिन्ने गरिन्छ । यदि बोधगम्यता नरहने स्थिति भए त्यो भाषिका नभई अर्को भाषा हुन पुग्दछ । भाषिक बोधगम्यतालाई भौगोलिक दुरत्व र आपसी सम्पर्कले प्रभाव पार्दछ । भाषाले ओगडेको स्थान व्यापक छ र भू-प्रकृति पनि बेग्लामेग्लै छ भने त्यस भाषामा स्वाभाविक रूपमा भाषिक भेदहरू देखा पर्दछन् (ढकाल, २०६५ पृ.४४) । भौगोलिक अवस्थाले विभिन्न भाषिक भेदहरू उत्पन्न हुन सक्छन् । भौगोलिक विकटता, खोलानाला, समुद्र, हिमाल आदिको कारण मानवीय आवागमनमा समस्या आएमा एकापसमा नियमित सम्पर्कमा कमी आउँछ । यस्तो स्थानहरूमा यातायात सुविधा पनि हुँदैन । जसको परिणामस्वरूप एउटै भाषाका विभिन्न भाषिक भेदहरूको जन्म हुन पुग्छ ।

लेख्य भाषा लिपिबद्ध हुने भएकाले परिवर्तनको सम्भावना कम रहन्छ । तर कथ्य भाषा मौखिक परम्परा मा जीवित रहने हुनाले यसका ध्वनि, शब्द र व्याकरणमा परिवर्तन देखा पर्दछ । लेख्य परम्परामा रहेका भाषाहरूको तुलनामा कथ्य परम्पराबाट विकसित भाषाहरूका भाषिक भेदहरू अधिक हुने सम्भावना रहन्छ ।

भाषावैज्ञानिक रविन्सका अनुसार भाषिका निर्धारणका तीन फरक मान्यताहरू हुन्छन् जस्तै : (१) भिन्नता भएपनि विशेष प्रशिक्षण विना बोधगम्य (२) राजनीतिक दृष्टिले एकीकृत क्षेत्रमा प्रयोग (३) एउटै सर्वस्वीकृत लेखन प्रणाली (ढकाल, २०६५ पृ.५० बाट उद्धृत) । भाषिकाको पहिचान यी तीनवटै मान्यतामा आधारित हुन्छ । तीनमध्ये कुनै एक मान्यताको आधारमा मात्र भाषिकाको पहिचान गर्न सकिँदैन । बोधगम्यता हुँदैमा भाषिका नहुन सक्छ । यसको लागि राजनीतिक सीमाले पनि प्रभाव पारिरहको पनि हुन सक्छ । पश्चिम नेपालका केही भाषिकाहरू बोधगम्यताको हैसियतले कुमाउनी गढवालीको नजिक रहेर पनि ती भाषाका भाषिका मानिँदैनन् । कुनै भाषाहरूका लेखन प्रणाली

एउटै हुन सकछ तर ती भाषाहरु बिच बोधगम्यता नहुन सकछ । बोधगम्यताका हैसियतले टाढा देखिने कतिपय भाषाहरु बिचको सांस्कृतिक पृष्ठभूमिको सामीप्यताका आधारमा पनि भाषिका निर्धारण गरिएको पाइन्छ । अतः भाषिका निर्धारणका लागि उपयुक्त र सान्दर्भिक आधारहरु छैनन् ।

४. नेपाली भाषा

नेपाली भाषा भारोपेली भाषा परिवारको सतम् वर्ग अन्तर्गतको आर्य इरानेली शाखाबाट विकसित भाषा हो । यो संस्कृत भाषाबाट प्राकृत तथा अपभ्रंश हुँदै विकसित भएको मानिन्छ । नेपाली भाषा संसारका समृद्ध भाषाहरुमध्ये एक हो । यस भाषामा थुप्रै अध्ययन अनुसन्धानहरु सम्पन्न हुनुका साथै साहित्यिक सिर्जनाहरु भएका छन् । शब्दभण्डार तथा व्याकरणिक व्यवस्थाको आधारमा यसलाई उत्कृष्ट भाषा मान्न सकिन्छ ।

संस्कृत भाषाबाट प्राकृत र अपभ्रंश हुँदै नेपाली भाषाको उत्पत्ति भएको कुरा सबै विद्वानहरु स्वीकार गर्दछन् । प्राकृत र अपभ्रंशको कुन शाखाबाट यसको उत्पत्ति भयो भन्ने विषयमा भने विद्वानहरुको एक मत पाइँदैन । नेपाली भाषाको उत्पत्तिका सम्बन्धमा स्वदेशी तथा विदेशी विद्वानहरुले आ-आफ्नो दावी प्रस्तुत गरेका छन् । विदेशी विद्वान जर्ज ग्रियर्सनले आधुनिक आर्य भाषाहरुलाई आभ्यान्तर, बाह्य र मध्यदेशीय गरी तीन भागमा बाँडेका छन् । यिनले नेपाली भाषा मध्यदेशीय अन्तर्गत पहाडी भेदबाट शौरसेनी प्राकृत र अपभ्रंशबाट विकसित भएको तर्क प्रस्तुत गरेका छन् (गौतम, २०४९ पृ. ३६) । होर्नलेले आधुनिक आर्य भाषालाई पूर्वी, पश्चिमी र उत्तरी गौडीको रूपमा विभाजन गरी कुमाउनी, गढवाली र नेपाली भाषालाई उत्तरी गौडी अन्तर्गत राखेका छन् । सुनीतिकुमार चटर्जीले आर्य भाषाहरुलाई उदीच्य, प्राच्य, प्रतीच्य, दाक्षिणात्य र मध्यदेशीय गरी पाँच भागमा विभाजन गरेका छन् । नेपाली भाषा प्रतीच्य खस भेद अन्तर्गत पर्ने कुरा बताएका छन् । नेपाली विद्वान सूर्यविक्रम ज्ञवालीले जर्ज ग्रियर्सनको मतलाई स्वीकार गर्दै शौरसेनी प्राकृतबाट नेपाली भाषाको उत्पत्ति भएको उल्लेख गरेका छन् । बल्लभमणि दाहाल र चूडामणि बन्धुले नेपाली भाषाको उत्पत्ति खस प्राकृत र खस अपभ्रंशबाट भएको कुरामा समान विचार राखेका छन् । अतः संस्कृत भाषाबाट नेपाली भाषाको जन्म भएको हो । संस्कृत भाषा प्राकृत तथा अपभ्रंश हुँदै नेपाली भाषाले आफ्नो स्वरूप निर्धारण गरेको कुरा मा दुई मत हुन सक्दैन ।

५. नेपाली भाषाका भाषिकाहरु

नेपाली भाषाको विकास तथा विस्तारको क्रममा थुप्रै भाषिकाहरुको जन्म भएको पाइन्छ । नेपाली भाषाका वक्ताहरु ठूलो क्षेत्रमा फैलिएका छन् । यातायात, सञ्चार आदिको कारण नेपाली भाषीहरुबिच निरन्तर सम्पर्क तथा भेटघाट हुन नसक्दा नेपाली भाषामा धेरै भाषिका जन्मिएका छन् । नेपाली भाषाको अध्येताहरुले यस भाषाका फरक फरक तरिकाले भाषिका निर्धारण गरेका छन् । विदेशी विद्वानहरु जर्ज अब्राहम ग्रियर्सनले पाल्पा र दैरे गरी नेपाली भाषाका जम्मा दुई भाषिक भेद रहेको चर्चा गरेका छन् भने टि.डब्लु. क्लार्कले नेपालीका पूर्वी, केन्द्रीय र पश्चिमी गरी तीन भेद भएको बताएको छन् (न्यौपाने, पृ. २८७ उद्धृत) । बिम्सले नेपालीका पाल्पा, गढवाल, कुमाउ र थारु नामका चारवटा भाषिक भेदहरू रहेको चर्चा गरेका छन् । यीमध्ये थारु बेग्लै भाषा भए पनि अन्य तीनवटा भेदहरू राजनीतिक सीमाले नअलग्याउने हो भने एउटै भाषाका भाषिका कहलाउन सक्तछन् । बिम्सले नेपालीसँग सम्बन्धित भाषिक भेदको चर्चा गर्ने परम्पराको थालनी गर्ने नयाँ काम भाषिक क्षेत्रमा गरे । भाषाको अध्ययन-परम्परामा उनको यस कामले विशेष महत्व पाएको छ (शर्मा, २०५८ पृ. ३७ उद्धृत) । केलग्ले उच्च हिन्दीको एक भेदको रूपमा नेपाली भाषाको

चर्चा गरका छन् । नेपाली तीर्थयात्रीहरूसँग हिन्दीमा कुरा गर्दा हिन्दी बुझेका आधारमा नेपाली भाषालाई हिन्दीको भेद मान्नुपर्ने तर्क गरे तापनि यो तर्क फितलो मानिन्छ (शर्मा, २०५८ पृ. ४३ उधृत्) । विदेशी विद्वान टर्नबुलले दार्जिलिङी र काठमाडौँ गरी नेपाली भाषाका दुई भाषिकाको चर्चा गरेका छन् । नेपाली विद्वान सूर्यविक्रम ज्ञवालीले दार्जिलिङको नेपाली भाषाको चर्चा गर्ने क्रममा राष्ट्रभाषाभन्दा डोटी र जुम्ला-हुम्लाको नेपाली भाषा फरक भएको धारणा राखेका छन् । यस धारणाले पनि नेपालीका भाषिक भेद निर्धारणमा महत्वपूर्ण काम गरेको छ । कमला सांकृत्यायनले पूर्वी नेपाली (धनकुटा र इलामको), केन्द्रीय नेपाली (गोरखा र काठमाडौँ उपत्यकाको), मादी नेपाली (बूढी गण्डकीको) र पश्चिमी नेपाली (जुम्ला, डोटी र अछामको) का रूपमा नेपालीका भाषिकाहरूको वर्गीकरण गरेकी छन् । उनको अध्ययन केही नमुना र अनुमानमा आधारित देखिए तापनि नेपालीका भाषिक भेद वर्गीकरणका लागि वास्तविकताको नजिक छ (दाहाल, इ १९७४ पृ. १८) दयानन्द श्रीवास्तवले कमला साङ्कृत्यायनले प्रस्तुत गरेका भेदहरूलाई नेपाली भाषाका भेदहरू भएको बताएका छन् । भाषाविद् बालकृष्ण पोखरेलले नेपाली भाषिका विभाजनको सम्बन्धमा व्यापक अध्ययन गरेका छन् । उनले नेपालीका पुर्बेली, माझाली, ओरपच्छिमा, मझपच्छिमा र परपच्छिमा गरी जम्मा पाँच भाषिकाहरू रहेको निष्कर्ष निकालेका छन् । पुर्बेलीभित्र खसानी, पर्वती र गोर्खाली, माझालीभित्र आसादराली, तिब्रीकोटी, हुम्ली, रास्कोटी इत्यादि, ओरपच्छिमाभित्र बझाङ, बाजुरा र अछामका भाषिकाहरू, मझपच्छिमाभित्र डोटी र डडेलधुरातिरका भाषिकाहरू र परपच्छिमाभित्र महाकाली अञ्चलका बैतडी र अन्य केही ठाउँका भाषिकाहरूलाई समेटेका छन् (पोखरेल, २०३१ पृ. ४१-४२) । यो नेपाली भाषिका विभाजनको लागि बढी विश्वसनीय तथा तथ्यपरक देखिन्छ । टी. डब्ल्यु. क्लार्क (इ १९६३) ले पोखरेलको यसप्रकारको विभाजनलाई स्वीकार गरेका छन् । चूडामणि बन्धुले नेपाली भाषाका स्थानीय भेदसम्बन्धी राम्ररी अध्ययन नभएको तर्क प्रस्तुत गरेका छन् । उनको नेपालीका एउटा भाषिकाभित्र रहने उपभाषिकाहरू बिच भिन्नता देखिएमा तिनीहरू अर्कै भाषिका हुन सक्ने तर्क छ । उनले भाषिकाहरूलाई भाषिका समूह भन्नुपर्ने उनको सुझाव दिँदै नेपाली भाषिका समूह पूर्व नेपाली, केन्द्रीय नेपाली र पश्चिमी नेपाली गरी तीनप्रकारका बताएका छन् (बन्धु, २०२५ पृ. ५८) । बन्धुले दैलेखदेखि पूर्व इलाम तथा भापा हुँदै भारतका दार्जिलिङ, आसाम, सिक्किम जस्ता क्षेत्रहरू, भुटान, वर्मा, मलायासम्म वसोवास गर्ने नेपालीहरूको बोलीचालीका भाषिकाहरू पूर्वी नेपाली भाषिका समूह अन्तर्गत पर्ने विचार व्यक्त गरेका छन् । केन्द्रीय नेपाली अन्तर्गत कर्णाली प्रदेशका जुम्ला, हुम्ला, तिब्रीकोट, मुगु, रास्कोट, बाजुरा र अछाम तथा बझाङको चिबुङ्गलबाहेक बझाङलाई समेटेका छन् भने पश्चिमी नेपाली भाषिका समूहमा महाकाली र सेती अञ्चलका बैतडी, डडेलधुरा, दार्चुला, डोटी, बाजुरा र बझाङ चिबुङ्गलसम्मको क्षेत्रमा बोलिने नेपाली भाषिकाहरूलाई मानेका छन् । उनले केन्द्रीय नेपाली भाषिका समूहलाई खसानी र जुम्ली पनि भन्ने गरिएको तथा प्राचीन नेपालीका अभिलेखहरू सोही भाषिकामा रहेको चर्चा गरेका छन् । आचार्यले बालकृष्ण पोखरेलको नेपाली भाषिका वर्गीकरणलाई संशोधन गरेका छन् । पोखरेलले पुर्बेली भाषिका अन्तर्गत राखेका खसानी, गोर्खाली र पर्वती उपभाषिकालाई भेरीक्षेत्र, गण्डकी क्षेत्र, कोशी क्षेत्र र मेची पूर्व क्षेत्र भनेर नामाकरण गरेको पाइन्छ । अन्य भाषिकामा सिँजाली वा केन्द्रीय नेपाली तथा पश्चिमी नेपाली भनेर चर्चा गरेका छन् (आचार्य, २०४८ पृ. ६०-६२) । भाषाविद् देवीप्रसाद गौतमले बालकृष्ण पोखरेलको नेपाली भाषिका विभाजनलाई स्वीकार गरेको देखिन्छ । उनको विचारमा खसानी उपभाषिका दाङ देउखुरीदेखि उत्तर, चाखुर्या र ठाँगा हिमालदेखि पूर्व, महीकोट र भल्कोटदेखि पश्चिम तथा जुम्लेली भाषिका क्षेत्रदेखि दक्षिण खासगरी जाजरकोट, दैलेख र सुर्खेत आदि ठाउँमा बोलिने कुरा गरेका छन् । यस्तै माझाली भाषिका कर्णाली अञ्चल तथा पश्चिममा कर्णाली नदीसम्म

र उत्तरमा हुम्लासम्म प्रचलित रहेको बताएका छन् । ओरपच्छमा डोटीको चौखुट्ट्या पर्वतदेखि पूर्वका ठाउँहरूमा, मझपच्छमा डोटी र डडेलधुरामा तथा पच्छमा महाकाली अञ्चलका विभिन्न ठाउँमा बोलिने कुरा पनि उनले उल्लेख गरेका छन् (गौतम, २०४९ पृ.११) । शर्मा र बरालले सुदूर पश्चिमेसी भाषिकासमूह, मध्यपश्चिमेसी भाषिकासमूह, पश्चिमेसी भाषिकासमूह, केन्द्रीय भाषिकासमूह र पूर्वेसी भाषिकासमूह गरी नेपाली भाषाका जम्मा पाँच भेदहरू रहेको चर्चा गरेका छन् । सुदूरपश्चिमेसी भेद महाकालीका विभिन्न स्थानहरूमा, मध्यपश्चिमेसी भेद डडेलधुरा र यसका आसपासका क्षेत्रहरूमा, पश्चिमेसी बझाङ, बाजुरा र अछाममा, केन्द्रीय कर्णाली अञ्चल र पूर्वेसी भेरी अञ्चलका सुर्खेत, दैलेख र जाजरकोटमा र ती जिल्लाभन्दा पूर्वतर्फ बोलिने विचार राखेका छन् (शर्मा र बराल, २०५० पृ.३६-५२) । यज्ञप्रसाद निरौलाले क्रियाका रूपतत्त्वको अध्ययनको आधारमा नेपाली भाषिकाहरूको विभाजन गरेका छन् । उनले दार्चुलाली, बैतडेली, डडेलधुराली, बझाडी, डोट्याली, बाजुराली, अछामी, जुम्ली सिँजाली, दैलेख कालीकोटे, भेरीक्षेत्रीय, गण्डकेली र पूर्वेसी गरी जम्मा बाह्रवटा भाषिकाहरूको चर्चा गरेका छन् (निरौला, २०५० पृ.४८-५०) । आचार्यले उच्चारणका आधारमा नेपाली भाषाका दार्चुलाली, बैतडी-डडेलधुराली, बझाडी, डोट्याली, बाजुराली, अछामी, जुम्ली-सिँजाली, हुम्ली, मुगु-डोल्पाली, कालीकोटे, जाजरकोटे, रुकुम-सल्यानी र पूर्वेसी गरी जम्मा तेह्रवटा भाषिका भएको निष्कर्ष निकालेका छन् (आचार्य, २०५३) । स्वदेशी तथा विदेशी विद्वानहरूद्वारा नेपाली भाषिकाहरूको निर्धारणमा महत्वपूर्ण कार्यहरू भएको देखिन्छ । सबैले आ-आफ्नो तवरले अध्ययन विश्लेषण गरेका छन् । कसैको अध्ययन वस्तुपरक देखिन्छ भने कुनै भने तथ्यगत आधारमा अलिक कमजोर प्रकृतिका छन् ।

६. निष्कर्ष

भाषा मानवीय विचार विनिमय गर्ने एउटा सशक्त साधन हो । यो मान्छेको अमूल्य सम्पत्ति हो । भाषाका माध्यमबाट नै मान्छेका दैनिक व्यवहारहरू सम्पादन हुँदै आइरहेका छन् । भाषा मानवीय उत्तेजना र प्रतिक्रियामा आधारित छ । वाणीका परा, पश्यन्ती, मध्यमा र वैखरी गरी चार अवस्था हुन्छन् । यी चार अवस्थामध्ये ध्वनि प्रष्फुटन वैखरीबाट हुन्छ । आधुनिक भाषाविज्ञानले यसै वैखरीको व्याख्या विश्लेषण गरेको पाइन्छ । भाषाका अन्य तीन स्वरूपहरू अविलेख्य तथा अव्यक्त हुन्छन् ।

भाषाको क्षेत्रीय भेदलाई भाषिका भनिन्छ । व्यक्ति बोलीभन्दा माथिल्लो र भाषाभन्दा तल्लो स्वरूप नै भाषिका हो । यसको सम्बन्ध एकातिर व्यक्तिबोलीसँग रहेको हुन्छ भने अर्कातिर भाषासँग रहेको हुन्छ । जुन भाषिकाले शिक्षा, साहित्य, सञ्चार, राजनीति आदि क्षेत्रमा आधिपत्य जमाई लोकप्रियता हासिल गर्दछ त्यसलाई भाषाका रूपमा मान्यता दिइन्छ र अन्यलाई त्यस भाषाका भाषिका मान्ने गरिन्छ । भौगोलिक दुरी, लामो समयको अन्तराल, यातायातको कठिनाई, चेतनाको स्तर, पेसागत विविधता जस्ता पक्षहरूको परिणामस्वरूप एउटै भाषाका थुप्रै भाषिकाहरू जन्मन्छन् । भाषिका निर्धारणको लागि निश्चित तथा सर्वमान्य आधारहरूको विकास भइसकेको छैन । नेपाली भाषाको उत्पत्ति भारोपेली भाषा परिवारको सतम् वर्गान्तर्गत आर्य इरानेली शाखाबाट संस्कृत, प्राकृत र अपभ्रंशबाट भएको हो । यसको जन्म संस्कृतको कुन प्राकृत र कुन अपभ्रंशबाट भएको भन्ने बारेमा सबै भाषा वैज्ञानिकहरूको एक मत पाइदैन तापनि खस प्राकृत र खस अपभ्रंशबाट भएको भन्ने कुरामा भने दुईमत छैन । नेपाली भाषाको विकासक्रमलाई सिँजाली भाषा (वि.सं. ११५०-१४५०), पर्वते भाषा (वि.सं. १४५०-१८५०) र नेपाली भाषा (वि.सं. १९९० पछि) को रूपमा विभाजित गर्ने गरेको देखिन्छ । पहिलेको खस बोली खसभाषामा परिणत भएर गोर्खा वा गोर्खाली भाषा हुन पुगेको र अहिले तमाम नेपाली

जातिको भाषा हुन पुगेको हो । यतिमात्र होइन भारतका मणिपुर, दार्जिलिङ, उत्तराञ्चलको देहरादुन, असाम, अलमोडा लगायतका विभिन्न ठाउँमा बसोबास गर्ने नेपालीहरूको प्रियभाषाको रूपमा नेपाली भाषाको प्रयोग भइरहेको छ र भारत सरकारले सरकारी भाषा सरहको मान्यता दिएर नेपाली भाषालाई अन्तर्राष्ट्रिय मान्यता समेत प्रदान गरेको छ ।

नेपाली भाषा आफ्नो विकासयात्रामा प्राचीन, मध्य हुँदै आधुनिक कालसम्म आइपुग्दा मौलिक एवम् समृद्धिको बाटोतर्फ अघि बढिरहेको पाइन्छ । नेपाली भाषा संस्कृत भाषाबाट प्रभावित छ । नेपाली भाषाको माउ भाषा संस्कृत भाषा भएकाले यो स्वाभाविक पनि हो तर समयअनुसार यसमा सुधार हुनु आवश्यक देखिन्छ । साहित्यिक गतिविधिले गुणात्मक तीव्रता पाउनु, राणा शासनको अन्त्यपछि शिक्षाको द्रुत विकास हुनु, भाषिक अध्ययन र अनुसन्धान बढ्नु, भाषाको स्तरीकरण र आधुनिकीकरणमा व्यक्तिगत र संस्थागत प्रयासहरू बढ्नु जस्ता कुराहरूबाट नेपाली भाषाले आधुनिकता प्राप्त गर्दै गएको देखिन्छ । हिजोभन्दा आज, आजभन्दा भोलिलाई आधुनिक काल मानिन्छ । त्यस्तै भाषा पनि निरन्तर आधुनिक बन्ने, विकास हुँदै जाने वस्तु हो ।

नेपाली भाषाका भाषिका निर्धारण सम्बन्धी लामो समयदेखि तर्क, वहस र प्रयत्नहरू भएका छन् । विभिन्न स्वदेशी तथा विदेशी विद्वानहरूले विभिन्न आधारमा नेपाली भाषाका भाषिका निर्धारण गरेका छन् । नेपाली भाषाका भाषिका निर्धारणका लागि बोधगम्यता, भाषा प्रयोगको स्थिति, भौगोलिक दुरता, समयसम्बन्धी अन्तराल, जनसङ्ख्या, यातायातको कठिनाई, भाषाद्विपको स्थिति, राजनीतिक अवस्थितिजस्ता आधारहरूलाई लिएर निर्धारण गर्नुपर्ने अहिलेको आवश्यकता हो । यसैमा विश्वसनीयता र सान्दर्भिकता कायम रहन्छ त्यसैले नेपाली भाषाका पुर्बेली, माझेली, ओर पच्छिमा, मझ पच्छिमा, पर पच्छिमा गरी पाँचवटा भाषिका र पुर्बेलीका खसानी, पर्वती, गोर्खाली गरी तीन उपभाषिका, माझेलीका सिंजाली, असिदराली, हुम्ली, रास्कोटी, तिव्रिकोटी गरी पाँच वटा उपभाषिका, ओर पच्छिमाका बझाडी, बाजुराली, आछामी गरी तीनवटा उपभाषिका त्यस्तै मझ पच्छिमाका डोटेली, निरोली, डडेल्धुराली, र डुम्राकोटी गरी चारवटा उपभाषिका र पर पच्छिमाका बैतडेली, दुहेली, मारमाली, लेकमेली, चुहागढी, पुचौडी, मेलौली, मल्लो सोराढ र तल्लो सोराढ गरी नौ उपभाषिका निर्धारण सर्वमान्य र सर्वस्वीकार्य देखिन्छ ।

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