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## **From Chief Editor's Desk**

It is a matter of satisfaction for me to present the second issue, the first volume of 'Rajarshi Janak University Research Journal', a multi-disciplinary and multi-lingual research journal, published by RJU Research Center. It contains a wide spectrum of research articles under different categories like review article, full length research paper, popular/general article and research/short communication. It is believed to serve concerned groups like teachers, researchers, scholars, interested readers, students, policy makers and intellectuals by providing updated information.

We are thankful to the Vice Chancellor and the Registrar, RJU for providing valuable and encouraging support throughout the process of publication. We also express our gratitude to teachers of RJU and the authors who provided their manuscript for publication.

We will be thankful to receive creative criticisms in order to improve the quality and the standard of this journal, which is our core commitment.

## **Editors' Note**

Vol. 1, No.2 of this Journal has been published after a long-interval of time than the expected schedule of publication due to some organizational and administrative issues. We express our deep regret to the authors, readers, and well-wishers for that. We are hopeful and would like to mention our commitment of publishing the next issue timely.

## **Message from the Vice-Chancellor**

Nowadays, in the context of qualitative higher education, publishing papers, articles and research works in a peer reviewed research journal is highly required and emphasized academic activities for the University faculty, research scholars, and students. Publication of Rajarshi Janak University Research Journal (Vol.1, No.2) including online print is a recognized endeavour of Rajarshi Janak University Research Center to all the versatile reader's community.

I would like to acknowledge with gratitude to all highly learned reviewers, who consistently supported and encouraged both the authors and the editorial team to improve and make an appropriate judgement on the research papers.

## **Message from the Registrar**

Rajarshi Janak University aims to offer very useful programs to the students and professionals. The University believes in providing quality education by using latest technology with high academic standards.

There is no gainsaying that without Science and Technology we cannot progress. Science is in our everyday life, needless-to-say from the age of Vedas to Newton and Agostini. Our University aspires to evolve scientific talent in the country. The fundamental goal of the University is to create a hub of open innovation networks for smart and skill manpower.

I appreciate the endeavour of the Research Director, Editorial Board members and the staffs for success in publishing this edition.

# RAJARSHI JANAK UNIVERSITY

## RESEARCH JOURNAL

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## MILLENNIUM CHALLENGE CORPORATION (MCC) AND NEPAL: BENEFITS AND DISPUTES

R. K. Shah\*

### Abstract

*The objective of implementation of Compacts and threshold programs are promoting growth opportunities, opening markets, raising the standard of living, and creating a more prosperous future for some of the world's poorest people. The Millennium Challenge Corporation (MCC) is an innovative and independent US foreign aid agency that is helping developing countries to fight against poverty through economic development. MCC's mandate is to assist the world's poorest countries in reducing poverty through economic growth while strengthening good governance, economic freedom, and investments in people in those countries selected to receive its assistance. The Millennium Challenge Corporation offers a workplace that is respectful, fair, and values diversity. Secondary data have been taken about MCC declared by the USA to develop the welfare of people at global level using internet and various global magazines. Descriptive and exploratory methods have been applied to discuss about MCC project for Nepal. Created in 2004, MCC provides time-limited grants and assistance to countries that meet rigorous standards for good governance, fighting corruption and respecting democratic rights. The MCC Nepal Compact has created a political divide in Nepal. Somebody are opposing the MCC Nepal Compact because it is a part of the 'grand design' of the US to pull Nepal to its side and counter the Chinese the Belt and Road Initiative (BRI). This may have some serious repercussions on Nepal's relationships with China. Although Beijing says that it is not against Nepal seeking assistance from anyone, the Chinese are keeping a keen eye on political developments in Nepal.*

**Keywords:** MCC, Poverty, Poor, Good governance, International AID, Independent, Projects

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\* Dr. Shah is Professor and Research Director at RJU, Janakpurdham.

## Introduction

The Millennium Challenge Cooperation says it is an ‘innovative and independent’ US foreign assistance agency that is helping lead the fight against global poverty. It was created by the US Congress in January 2004 with the aim of providing time-limited grants, promoting economic growth, reducing poverty, and strengthening financial institutions. The Millennium Challenge Corporation is an independent US government agency working to reduce global poverty through economic growth. MCC provides time-limited grants and assistance to countries that meet rigorous standards for good governance, fighting corruption and respecting democratic rights

*Nepal and China signed the memorandum of understanding (MoU) on the Belt and Road Initiative BRI with China on 12 May 2017. It aims “at promoting cooperation on policy exchanges, infrastructure connectivity, trade connectivity, financial integration, and connectivity of people (<https://www.mofa.gov.np/nepalchina-relations>).*

Nepal's Parliament without ratification further delays benefits to millions of Nepali households. The US Congress, in 2004, approved legislation for the establishment of the MCC as an independent bilateral foreign aid agency. The MCC was formed following dissatisfaction with the US’ other foreign aid programs, with an objective to reduce poverty through economic growth. Assistance under the MCC is given to low-income and lower-middle-income countries selected through competition.

The Millennium Challenge Corporation (MCC) is an independent foreign assistance agency of the United States Government. MCC’s mandate is to assist the world’s poorest countries in reducing poverty through economic growth while strengthening good governance, economic freedom, and investments in people in those countries selected to receive its assistance (Adhikari, 2021).

The USA is safer when abroad partners’ countries are stable and prosperous. With a goal of advancing developing countries from aid partners to trade partners, the Millennium Challenge Corporation pursues a singular mission of spurring economic growth-one of the most effective ways to achieve widespread and lasting reductions in poverty in the developing world. MCC provides funds to well-performing countries with large-scale grants to fund country-led solutions for reducing poverty through sustainable economic growth. MCC grants complement other US and international development programs (Bagale, 2020).

## **Objectives of the Study**

The general objective of MCC is to provide funds to well-performing countries with large-scale grants to fund country-led solutions for reducing poverty through sustainable economic growth, opening markets, raising the standard of living, creating a more prosperous future for some of the world's poorest people.

The specific objectives of MCC in Nepal are as follows:

- To understand about debate, discourse and discussion on MCC in Nepal,
- To suggest better ways to the Nepalese government about MCC,
- To promote the roads and energy sectors particularly in Nepal.

## **Significance of the Study**

The MCC- Nepal Compact will help the Government of Nepal better deliver critical services to its people, enhance and strengthen the country's energy sector, ease the movement of goods around the country, and open up new opportunities for private investment – all to create sustainable development for the people of Nepal.

Comprehensive benefits are generous, helping individuals to reach their individual goals by supporting professional growth, health, roads, well-being, and personal needs. The Compact aims to find innovative ways to increase access to clean energy while protecting the climate, such as supporting the construction of power-lines connecting clean energy generated by Nepal's hydropower resources to over 66 percent of homes and businesses, and using climate-smart technology to recycle roads asphalt.

## **Materials and Methods**

Secondary data have been taken about MCC declared by the USA to develop the welfare of people at global level and particularly for Nepal using internet and various global magazines, national newspapers, experts' view, bureaucrats, Ministry of Finance (MoF), Nepal Rastra Bank (NRB), National Planning Commission (NPC) and different government's organizations. Descriptive and exploratory methods have been applied to discuss about MCC project for Nepal.

## **History of MCC in the Nepalese Context**

The Millennium Challenge Corporation (MCC), an independent US foreign assistance agency, was established with broad bipartisan support in January 2004. The agency was designed to deliver aid differently, with a mission and model reflecting key principles

of aid effectiveness. In September 2017, the US Government's Millennium Challenge Corporation (MCC) signed Compact with the Government of Nepal (Balachandra, 2020).

MCC has a single objective-*reducing poverty through economic growth*-which allows it to pursue development objectives in a targeted way. There are three key pillars that underpin MCC's model (Baral, 2019):

1. **Policies Matter:** MCC partners only with countries that demonstrate commitment to good governance on the premise that aid should build on those practices and reward countries already pursuing policies conducive to private investment and poverty-reducing growth.
2. **Results Matter:** MCC seeks to increase the effectiveness of its programs by identifying cost-effective projects and investing only in those that promise to deliver positive development returns. MCC tracks the progress of its investments and has committed to measuring project impact through rigorous evaluations.
3. **Country Ownership Matter:** MCC works in partnership with eligible countries to develop and implement an aid program on the premise that investments are more likely to be effective and sustained if they reflect the country's own priorities and strengthen the partner government's accountability to its citizens.

## **Partnership between the Millennium Challenge Corporation (MCC) and Nepal**

The United States and Nepal have forged a partnership based on shared values, democratic ideals, and trust. From disaster assistance after the 2015 earthquake to our ongoing whole-of-government response to the corona-virus pandemic – including the donation of 1.6 million COVID-19 vaccines to date – the United States has been, therefore, the people of Nepal in their greatest times of need. The US\$500 million grant from the Millennium Challenge Corporation (MCC) is a continuation of the strong partnership between the United States and Nepal to reduce poverty through economic growth (Washington, DC, October 29, 2021).

MCC's senior delegation visit to Nepal in September 13, 2021 which provided clarifications on the MCC-Nepal Compact, combined with recent commitments from the Government of Nepal confirming their ongoing support for the Compact have laid a clear path forward for the Compact. Nepal's Parliament without ratification further delays benefits to millions of Nepali households. However, coalition leaders have expressed that they understand the steps they need to take to ratify the Compact, which

is required under Nepal's laws. The delays to ratification jeopardize the critical and timely support this US\$500 million grant would provide to help more than 30 million Nepalese access reliable energy and safer roads. The decision whether to move forward with the compact now rests with Nepal (Nepal won't Join, 9 January 2020).

MCC conducted feasibility studies to identify the projects in FY 2016-2017 and it submitted projects to the MCC Board on November 2016. The Nepal and MCC delegation concluded program negotiations in Washington, DC in June 2017. MCC Board of Directors approved Nepal Compact Program which includes US\$ 500 million grants in August 2017.

The Compact signing is done on September 14, 2017 in Washington, DC between Nepal and MCC at the State Department's Treaty Room. Finance Minister Mr. Gyanendra Bahadur Karki and MCC Acting CEO Mr. Jonathan Nash signed the Compact agreement.

The Electricity Transmission Project will focus on completing a segment of Nepal's 400 KV East-West transmission lines and Nepal portion of the second cross-border line with India, totaling approximately 300 km. of power lines from Lapsipedi – Galchhi-Damauli – Sunawal corridor along with 3 sub-stations and maintenance of about 300 km. Roads in various alignment of Mechi, Koshi, Sagarmatha, Tribhuvan Rajpath and East-West highway, roughly equal to one-third of the entire country. This will enable Nepal to provide more reliable electricity to homes and businesses, modernize Nepal's electricity grid, and support the increased trade of Nepal's surplus energy (<https://www.mcanp.org.nepal>).

MCC will provide grant of US\$ 500 million and Nepal bears US\$ 130 million for this US\$630 million project where US\$ 500 million goes to Energy sector and US\$130 million goes to Roads sector (Nepal's Communist Regime Backs, 2021).

## **Types of MCC Compacts**

There are three primary types of MCC Grants (Bagale, 2020):

- **Compacts:** are large, five-year grants for countries that pass MCC's eligibility criteria.
- **Threshold programs:** are smaller grants awarded to countries that come close to passing these criteria and are firmly committed to improving their policy performance, and

- **Concurrent Compacts for Regional Investments:** are grants that promote cross-border economic integration and increase regional trade.

### Benefits of MCC in Nepal

MCC will provide grant of US\$ 500 million and Nepal bears US\$ 130 million for this US\$ 630 million project where US\$ 500 million goes to Energy sector and US\$130 million goes to Road sector (Ghimire, 2020).

Government of Nepal and MCC conducted studies in Nepal to identify key problems where the MCC grant would be most valuable. Our government identifies that energy and roads are the two sectors where the money can create the impact.

With better access to electricity, more students can study at night, hospitals can provide better care, and business can grow and thrive. The MCC Nepal Compact will help increase the supply and access of reliable electricity to homes and businesses.

The MCC Nepal Compact will increase the availability of electricity and lower transportation costs- helping to spur investments, accelerate economic growth, and reduce poverty.

The Compact aims to maintain road quality, increase the availability and reliability of electricity, and facilitate cross-border electricity trade between Nepal and India.

### Compact Projects

Electricity Transmission Project	US\$ 500 million grant by the USA	US\$ 130 million budget by Nepal
Road Maintenance Project		

- On-site fitness center that encourages a healthy lifestyle through exercise,
- Cafes throughout the MCC workspace,
- Lactation rooms for nursing motherese,
- Bicycle parking racks,
- Lifestyle seminars on finance, health, and life transitions that assist employees with major life decisions.

MCC has approved over US\$ 10 billion in Compact and threshold programs worldwide in 2017 that support country-determined projects in such sectors as:

- Agriculture and Irrigation,
- Transportation (Roads, Bridges, Ports),

- Water Supply and Sanitation,
- Access to Health sector,
- Finance and Enterprise Development,
- Anti-corruption Initiatives,
- Land Rights and Access,
- Access to Education,
- Access to energy (Electricity).

### **Federal Employee Health Benefits (FEHB)**

The Federal Employee Health Benefits (FEHB) Program can help you and your family meet your health care needs. Employees can choose from a wide selection of health insurance plans for themselves and their families. MCC employees and their families may choose from the following types of plans:

- Fee-for-service
- High-deductible
- Consumer Driven
- Health maintenance organizations (HMOs)
- Preferred provider organizations (PPO)

### **Federal Employee Dental and Vision Benefits (FEDVIP)**

Eligible individuals can enroll in a dental and/or vision plan. They may enroll in any of the following plans:

- Self only
- Self plus one
- Self and Family coverage

Eligible family members include spouse and unmarried dependent children.

### **1. Federal Employees' Group Life Insurance Program (FEGLI)**

All employees are automatically enrolled in the Federal Employees' Group Life Insurance (FEGLI) Program unless they opt out of the coverage.

### **2. Federal Employee Retirement System (FERS)**

- Congress created the Federal Employees Retirement System (FERS) in 1986, and it became effective on January 1, 1987. Since that time, new Federal civilian employees who have retirement coverage are covered by FERS. The plan consists of three tiers:

- The **Basic Benefit Plan (BBP)** establishes an annuity based on an employee's age, years of Federal service at retirement, and average highest salary over a consecutive three-year period. Disability and survivor benefits are also provided.
- **Social Security (SS)** pays benefits at retirement based on an employee's age and earnings from Social Security-covered wages. Disability and survivor benefits are also provided.
- The **Thrift Savings Plan (TSP)** allows employees to save and invest part of their income for retirement, receive matching agency contributions, and reduce their current taxes.

### **Other Types of Retirements**

- Disability Allowance
- Early retirement
- Voluntary retirement
- Deferred retirement

## **1. Thrift Savings Plan (TSP)**

In addition to your annuity benefits, you may also save for your retirement by participating in the Thrift Savings Plan (TSP). TSP is a retirement savings and investment plan for Federal employees.

## **2. Federal Employees Flexible Spending Account Program (FSAFEDS)**

The Federal Employees Flexible Spending Account (FSAFEDS) Program allows employees to pay out-of-pocket health and dependent care expenses with tax-free dollars. Through the FSAFEDS program, employees are able to use pre-tax dollars to pay for eligible medical, dental, and vision care expenses that are not covered by your health care plan. Employees may also use pre-tax dollars to pay for eligible childcare or adult dependent care expenses for services necessary to allow for the care of loved ones while you work.

## **3. Federal Long - Term Care Insurance Program (FLTCIP)**

The Federal Long-Term Care Program (FLTCIP) provides long term care insurance to help pay for costs of care when enrollees need help with activities they perform every day, or have a severe cognitive impairment, such as Alzheimer's disease.



## **4. Agreement between Nepal and the USA**

Nepal agreed to sign the United States' Millennium Challenge Corporation (MCC) Nepal Compact in 2017. Under the Compact, the US will be providing US\$500 million in assistance that will help increase the availability of electricity and lower the cost of transportation in Nepal. These investments will help the Government of Nepal better 'deliver critical services to its people, and open up new opportunities for private investment.' The aid is bound to provide economic and social benefits to Nepal.

### **Disputes and Issues of MCC for Nepal**

The US government's Millennium Challenge Corporation (MCC) and the Government of Nepal on 14 September 2017, signed a US\$ 500 million Compact, to spur economic growth and reduce poverty in Nepal. The agreement was signed by Mr. Gyanendra Bahadur Karki, the then Finance Minister under Mr. Sher Bahadur Deuba government, on behalf of Nepal. However, it is yet to be passed by the House of Representatives due to concern raised by politicians, lawmakers, development experts, policy makers, bureaucrats, planners, economists, and the general public.

There wasn't much dispute over the compact until David J Ranz, Assistant Secretary for South Asia at the US State Department, during his Nepal visit in May last year said that the then MCC was a crucial part of the Indo-Pacific Strategy. Dissenting leaders within the ruling party have demanded that the government clarify if the MCC is a part of the US strategy. Referring to statements from US officials, politicians have said that Foreign Minister Mr. Pradeep Gyawali lied to them when he said, on December 26, that the deal was not a part of the Indo-Pacific Strategy (IPS). The Standing Committee meeting of the ruling party last month was unable to decide on ratification following sharp criticisms from its members (Sumar, 2018).

#### **There is also a clause (Section 7.1) in the MCC Nepal Compact that states:**

- The Parties understand that this Compact, upon entry into force, will prevail over the domestic laws of Nepal. This clause is related to, and in part derived from, Section 6.4 which states: This Compact is an international agreement and as such will be governed by the principles of international law.
- All international treaties signed by the Nepal government prevail over domestic laws in case of conflict, as per the Nepal Treaty Act, and require Parliamentary ratification. The relevant portion of Nepal Treaty Act states: In case of the provisions of a treaty, to which Government of Nepal is a party upon its ratification accession, acceptance, or approval by the Parliament, inconsistent with the provisions of prevailing laws.

The inconsistent provision of the law shall be void for the purpose of that treaty, and the provisions of the treaty shall be enforceable as good as Nepalese laws.

**The major disputes and issues are as follows:**

4. Politicians are divided over the MCC's links with the 'US Indo-Pacific Strategy' and provisions that say the agreement will prevail over Nepal's laws in case of conflicts.
5. MCC is a counter-part of the BRI (The Belt and Road Initiative). So, the USA wants to make the platform to fight against People's Republic of China.
6. Natural resources like forests and forest products, herbs, wildlife, and water resources of Nepal will be exploited about the name of MCC by the USA.
7. Any time, when the USA feels disturbance about grant, can do change into loan.
8. The MCC is part of the Indo-Pacific Treaty designed to counter China. The MCC's inclusion in the country's political class views the US strategy as anti-China. Beijing does not want Nepal to support the MCC because it could jeopardize the Belt and Road Initiative (BRI) that Nepal and China joined in 2017.
9. The MCC is a part of Washington, DC's Indo-Pacific Strategy, which has military components that are aimed at countering China, a friendly neighbor. They have opposed the Compact's retirement of house approval, as the Compact says that it would prevail over Nepali's existing laws in case of conflicts.
10. Is MCC the part of Indo-Pacific Strategy? It is a doubtful matter for Nepal.
11. MCC is a danger step for Nepal because American Law may affect as debt trap for its loan. For example, Afghanistan.
12. No need of Nepal's Judiciary Court and the government to face the laws of MCC when grant is taken.
13. MCC is the counter-part of BRI conducted by China and sometimes to change the government of India also.

To seek further clarifications, on 3 September 2021, a letter with questions regarding the MCC Nepal Compact was sent by the Nepal (Ministry of Finance) to the MCC's Headquarters in Washington, DC. Notably, Nepal's Finance Minister Mr. Janardan Sharma is from the Maoist Centre party which has serious reservations about the MCC Nepal Compact. The Maoist Centre Chair, Pushpa Kamal Dahal, approved the questions raised in the letter and the Prime Minister Mr. Deuba was also aware of them (<https://www.thekathmandupost.com/politics/2021/09/05/as-mcc-becomes-a-lightening-rod-for-controversy-deuba-is-in-a-tight-spot>, Accessed on 6 September 2021).

### **The major questions and queries raised in the letter are:**

- Whether the MCC Nepal Compact falls under the Indo-Pacific Strategy proposed by the US?
- Whether the MCC Nepal Compact has a security impact on Nepal?
- Whether the project will be audited by Nepal or the US? and
- Whether the agreement is above Nepal's Constitution or not?

### **Conclusion**

MCC's mandate is to assist the world's poorest countries in reducing poverty through economic growth while strengthening good governance, economic freedom, and investments in people in those countries selected to receive its assistance. In September 2017, the US Government's Millennium Challenge Corporation (MCC) signed a US\$ 500 million compact with the Government of Nepal. The MCC Nepal Compact marks a new chapter in the US-Nepal Partnership and is designed to increase the availability of electricity and lower the cost of transportation in Nepal. The Millennium Challenge Corporation is an independent US Government agency working to reduce global poverty through economic growth. Created in 2004, MCC provides time-limited grants and assistance to countries that meet rigorous standards for good governance, fighting corruption and respecting democratic rights.

The Millennium Challenge Corporation (MCC) is an innovative and independent US foreign aid agency that is helping developing countries to fight against poverty through economic development. It is created by the US Congress in January 2004 with strong bipartisan support; MCC is changing the conversation on how best to deliver smart US foreign assistance by focusing on good policies, country ownership, and results. MCC forms partnerships with some of the world's poorest countries, but only those committed to good governance, economic freedom and investments in their citizens. The Compact aims to create jobs in the market and promote growth through infrastructure. The projects will use Nepali human resources to undertake the project. Through this, it also wants to incentivize 'policy and institutional reform' to create a better future.

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# BASIC STATISTICAL TOOLS IN RESEARCH AND DATA ANALYSIS

Shyam Kishor Mahto\*

## Abstract

*Statistical methods involved in carrying out a study include planning, designing, collecting data, analysing, drawing meaningful interpretation and reporting of the research findings. The statistical analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data. The results and inferences are precise only if proper statistical tests are used. This article will try to acquaint the reader with the basic research tools that are utilised while conducting various studies. The article covers a brief outline of the variables, an understanding of quantitative and qualitative variables and the measures of central tendency. An idea of the sample size estimation, power analysis and the statistical errors is given. Finally, there is a summary of parametric and non-parametric tests used for data analysis. Statistical tools help with data sorting and cleaning. They also help to identify and remedy issues with the quality of data through various data cleaning techniques. The nature of data is descriptive and analytical. This study is based on secondary data.*

**Keywords:** Basic statistical tools, Degree of dispersion, Measures of central tendency, Parametric tests, Non-parametric tests, Variables, Variance

## Introduction

Statistics is a branch of science that deals with the collection, organisation, and analysis of data and drawing of inferences from the samples to the whole population (Winters et al., 2010). This requires a proper design of the study, an appropriate selection of the study sample and choice of a suitable statistical test. An adequate knowledge of statistics is necessary for proper designing of an epidemiological study or a clinical trial. Improper statistical methods may result in erroneous conclusions which may lead to unethical practice (Sprenst, 2003).

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\* Dr. Mahto is Professor of Statistics, University Campus, Rajarshi Janak University, Janakpurdham.

## Objectives of the study

The key objective of this study is to clarify the statistical tools in data analysis. But the specific objectives are as follows:

- To involve in carrying out a study including planning, designing, collecting data,
- To analyze drawing meaningful interpretation and reporting of the research findings, and
- To estimate the hypothesis in research works.

## Significance of the Study

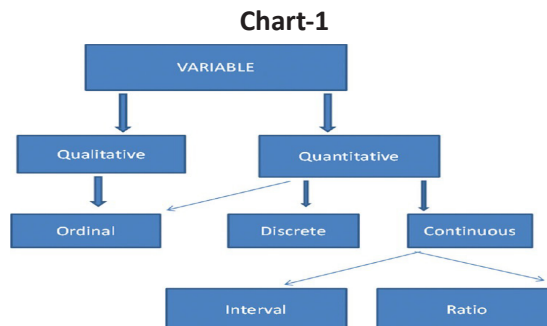
The statistical analysis gives meaning to the meaningless numbers, thereby breathing life into a lifeless data. Statistical knowledge helps the researcher about the proper methods to collect the data, employ the correct analyses, and effectively present the results. Statistics is a crucial process behind how the researcher makes discoveries in science, make decisions based on data, and make predictions. Statistical methods are essential for scientific research.

## Materials and Methods

Secondary data have been used from statistical magazines, various articles, books, and statistical policy and information. This study is basically descriptive in nature and provisions formulated in statistical policy.

## Concept of Variables

Variable is a characteristic that varies from one individual member of population to another individual. Variables such as height and weight are measured by some type of scale, convey quantitative information and are called as quantitative variables. Sex and eye colour give qualitative information and are called as qualitative variables (Kaur, 2013).



## Classification of Variables

### Quantitative Variables

Quantitative or numerical data are subdivided into discrete and continuous measurements. Discrete numerical data are recorded as a whole number such as 0, 1, 2, 3,... (integer), whereas continuous data can assume any value. Observations that can be counted constitute the discrete data and observations that can be measured constitute the continuous data. Examples of discrete data are number of episodes of respiratory arrests or the number of re-intubations in an intensive care unit. Similarly, examples of continuous data are the serial serum glucose levels, partial pressure of oxygen in arterial blood and the oesophageal temperature.

A hierarchical scale of increasing precision can be used for observing and recording the data which is based on categorical, ordinal, interval and ratio scales (Zulfiqar & Bhaskar, 2016 October).

- Categorical or nominal variables are unordered. The data are merely classified into categories and cannot be arranged in any particular order. If only two categories exist (as in gender male and female), it is called as a dichotomous (or binary) data. The various causes of re-intubation in an intensive care unit due to upper airway obstruction, impaired clearance of secretions, hypoxemia, hypercapnia, pulmonary oedema and neurological impairment are examples of categorical variables.
- Ordinal variables have a clear ordering between the variables. However, the ordered data may not have equal intervals. Examples are the American Society of Anesthesiologists status or Richmond agitation-sedation scale.
- Interval variables are similar to an ordinal variable, except that the intervals between the values of the interval variable are equally spaced. A good example of an interval scale is the Fahrenheit degree scale used to measure temperature. With the Fahrenheit scale, the difference between 70° and 75° is equal to the difference between 80° and 85°: The units of measurement are equal throughout the full range of the scale.
- Ratio scales are similar to interval scales, in that equal differences between scale values have equal quantitative meaning. However, ratio scales also have a true zero point, which gives them an additional property. For example, the system of centimetres is an example of a ratio scale. There is a true zero point and the value of 0 cm means a complete absence of length. The thyromental distance of 6 cm in an adult may be twice that of a child in whom it may be 3 cm.

## Statistics: Descriptive and Inferential Statistics

Descriptive statistics try to describe the relationship between variables in a sample or population. Descriptive statistics provide a summary of data in the form of mean, median and mode. Inferential statistics use a random sample of data taken from a population to describe and make inferences about the whole population. It is valuable when it is not possible to examine each member of an entire population (Satake, 2015).

### Descriptive Statistics

Descriptive statistics is *a set of brief descriptive coefficients that summarize a given data set representative* of an entire or sample population. The extent to which the observations cluster around a central location is described by the central tendency and the spread towards the extremes is described by the degree of dispersion.

### Measures of Central Tendency

The measures of central tendency are mean, median and mode (Manikandan, 2011). Mean (or the arithmetic average) is the sum of all the scores divided by the number of scores. Mean may be influenced profoundly by the extreme variables. For example, the average stay of organophosphorus poisoning patients in ICU may be influenced by a single patient who stays in ICU for around 5 months because of septicaemia. The extreme values are called outliers. The formula for the mean is:

$$\text{Mean, } \bar{X} = \frac{\sum X}{n}$$

Where,  $x$  = each observation and  $n$  = number of observations. Median is defined as the middle of a distribution in a ranked data (with half of the variables in the sample above and half below the median value) while mode is the most frequently occurring variable in a distribution. Range defines the spread, or variability, of a sample (Myles, 2000). It is described by the minimum and maximum values of the variables. If we rank the data and after ranking, group the observations into percentiles, we can get better information of the pattern of spread of the variables. In percentiles, we rank the observations into 100 equal parts. We can then describe 25 percent, 50 percent, 75 percent or any other percentile amount. The median is the 50<sup>th</sup> percentile. The interquartile range will be the observations in the middle 50 percent of the observations about the median (25<sup>th</sup> -75<sup>th</sup> percentile). Variance is a measure of how spread out is the distribution. It gives an indication of how close an individual observation clusters about the mean value. The variance of a population is defined by the following formula:

$$\sigma^2 = \frac{\sum (X_i - \bar{X})^2}{N}$$



Where,  $\sigma^2$  is the population variance,  $X$  is the population mean,  $X_i$  is the  $i^{\text{th}}$  element from the population and  $N$  is the number of elements in the population. The variance of a sample is defined by slightly different formula:

$$s^2 = \frac{\sum (X_i - X)^2}{n-1}$$

Where,  $s^2$  is the sample variance,  $x$  is the sample mean,  $x_i$  is the  $i^{\text{th}}$  element from the sample and  $n$  is the number of elements in the sample. The formula for the variance of a population has the value 'n' as the denominator. The expression 'n-1' is known as the degrees of freedom and is one less than the number of parameters. Each observation is free to vary, except the last one which must be a defined value. The variance is measured in squared units. To make the interpretation of the data simple and to retain the basic unit of observation, the square root of variance is used. The square root of the variance is the standard deviation (SD) (Binu et al., 2014). The SD of a population is defined by the following formula:

$$\sigma = \sqrt{\sum [X_i - X]^2 / N}$$

Where,  $\sigma$  is the population SD,  $X$  is the population mean,  $X_i$  is the  $i^{\text{th}}$  element from the population and  $N$  is the number of elements in the population. The SD of a sample is defined by slightly different formula:

$$s = \sqrt{(\sum [X_i - X]^2 / n-1)}$$

Where,  $s$  is the sample SD,  $x$  is the sample mean,  $x_i$  is the  $i^{\text{th}}$  element from the sample and  $n$  is the number of elements in the sample.

## Inferential Statistics

In inferential statistics, data are analysed from a sample to make inferences in the larger collection of the population. The purpose is to answer or test the hypotheses. A hypothesis (plural hypotheses) is a proposed explanation for a phenomenon. Hypothesis tests are thus procedures for making rational decisions about the reality of observed effects.

Probability is the measure of the likelihood that an event will occur. Probability is quantified as a number between 0 and 1 (where 0 indicates impossibility and 1 indicates certainty).

## Parametric and Non-Parametric Tests

Numerical data (quantitative variables) that are normally distributed are analysed with parametric tests (Altman & Bland, 2009).

Two most basic prerequisites for parametric statistical analysis are:

- The assumption of normality which specifies that the means of the sample group are normally distributed
- The assumption of equal variance which specifies that the variances of the samples and of their corresponding population are equal.

However, if the distribution of the sample is skewed towards one side or the distribution is unknown due to the small sample size, non-parametric (Bewick et al., 2014) statistical techniques are used. Non-parametric tests are used to analyse ordinal and categorical data.

## Parametric Tests

The parametric tests assume that the data are on a quantitative (numerical) scale, with a normal distribution of the underlying population. The samples have the same variance (homogeneity of variances). The samples are randomly drawn from the population, and the observations within a group are independent of each other. The commonly used parametric tests are the Student's *t*-test, analysis of variance (ANOVA) and repeated measures ANOVA.

### Student's *t*-test

Student's *t*-test is used to test the null hypothesis that there is no difference between the means of the two groups. It is used in three circumstances:

1. To test if a sample mean (as an estimate of a population mean) differs significantly from a given population mean (this is a one-sample *t*-test). The formula for one sample *t*-test is  $t = \frac{X - u}{SE}$

Where, X = sample mean, u = population mean and SE = standard error of mean

2. To test if the population means estimated by two independent samples differ significantly (the unpaired *t*-test). The formula for unpaired *t*-test is:

$$t = \frac{X_1 - X_2}{SE_{x_1 - x_2}}$$

Where,  $X_1 - X_2$  is the difference between the means of the two groups and SE denotes the standard error of the difference.

3. To test if the population means estimated by two dependent samples differ significantly (the paired t-test). A usual setting for paired t-test is when measurements are made on the same subjects before and after a treatment.

The formula for paired  $t$ -test is:

$$t = \frac{d}{SE_d}$$

Where,  $d$  is the mean difference and SE denotes the standard error of this difference.

The group variances can be compared using the  $F$ -test. The  $F$ -test is the ratio of variances (var 1/var 2). If  $F$  differs significantly from 1.0, then it is concluded that the group variances differ significantly.

### Analysis of Variance

The Student's  $t$ -test cannot be used for comparison of three or more groups. The purpose of ANOVA is to test if there is any significant difference between the means of two or more groups.

In ANOVA, the researcher studies two variances – (a) between-group variability and (b) within-group variability. The within-group variability (error variance) is the variation that cannot be accounted for in the study design. It is based on random differences present in our samples.

However, the between-group (or effect variance) is the result of our treatment. These two estimates of variances are compared using the  $F$ -test.

A simplified formula for the  $F$  statistic is:

$$F = \frac{MS_b}{MS_w}$$

Where,  $MS_b$  is the mean squares between the groups and  $MS_w$  are the mean squares within groups.

### Non-parametric Tests

When the assumptions of normality are not met, and the sample means are not normally distributed parametric tests can lead to erroneous results. Non-parametric tests

(distribution-free test) are used in such situation as they do not require the normality assumption (Nahm, 2016).

Non-parametric tests may fail to detect a significant difference when compared with a parametric test. That is, they usually have less power.

### **Median test for one sample: The sign test and Wilcoxon's signed rank test**

The sign test and Wilcoxon's signed rank test are used for median tests of one sample. These tests examine whether one instance of sample data is greater or smaller than the median reference value.

#### **Sign test**

This test examines the hypothesis about the median  $\theta_0$  of a population. It tests the null hypothesis  $H_0 = \theta_0$ . When the observed value ( $X_i$ ) is greater than the reference value ( $\theta_0$ ), it is marked as+. If the observed value is smaller than the reference value, it is marked as – sign. If the observed value is equal to the reference value ( $\theta_0$ ), it is eliminated from the sample.

If the null hypothesis is true, there will be an equal number of + signs and – signs.

The sign test ignores the actual values of the data and only uses + or – signs. Therefore, it is useful when it is difficult to measure the values.

#### **Wilcoxon's signed rank test**

There is a major limitation of sign test as we lose the quantitative information of the given data and merely use the + or – signs. Wilcoxon's signed rank test not only examines the observed values in comparison with  $\theta_0$  but also takes into consideration the relative sizes, adding more statistical power to the test. As in the sign test, if there is an observed value that is equal to the reference value  $\theta_0$ , this observed value is eliminated from the sample.

Wilcoxon's rank sum test ranks all data points in order, calculates the rank sum of each sample and compares the difference in the rank sums.

## **Mann-Whitney test**

It is used to test the null hypothesis that two samples have the same median or, alternatively, whether observations in one sample tend to be larger than observations in the other.

Mann-Whitney test compares all data ( $x_i$ ) belonging to the X group and all data ( $y_i$ ) belonging to the Y group and calculates the probability of  $x_i$  being greater than  $y_i$ :  $P(x_i > y_i)$ . The null hypothesis states that  $P(x_i > y_i) = P(x_i < y_i) = 1/2$  while the alternative hypothesis states that  $P(x_i > y_i) \neq 1/2$ .

## **Kolmogorov-Smirnov test**

The two-sample Kolmogorov-Smirnov (KS) test was designed as a generic method to test whether two random samples are drawn from the same distribution. The null hypothesis of the KS test is that both distributions are identical. The statistic of the KS test is a distance between the two empirical distributions, computed as the maximum absolute difference between their cumulative curves.

## **Kruskal-Wallis test**

The Kruskal-Wallis test is a non-parametric test to analyse the variance (It analyses if there is any difference in the median values of three or more independent samples. The data values are ranked in an increasing order, and the rank sums calculated followed by calculation of the test statistic.

## **Jonckheere test**

In contrast to Kruskal-Wallis test, in Jonckheere test, there is an a priori ordering that gives it a more statistical power than the Kruskal-Wallis test.

## **Friedman test**

The Friedman test is a non-parametric test for testing the difference between several related samples. The Friedman test is an alternative for repeated measures ANOVAs which is used when the same parameter has been measured under different conditions on the same subjects.

## **Tests to Analyse the Categorical Data**

Chi-square test, Fischer's exact test and McNemar's test are used to analyse the categorical or nominal variables. The Chi-square test compares the frequencies and tests

whether the observed data differ significantly from that of the expected data if there were no differences between groups (i.e., the null hypothesis). It is calculated by the sum of the squared difference between observed ( $O$ ) and the expected ( $E$ ) data (or the deviation,  $d$ ) divided by the expected data by the following formula:

$$\chi^2 = \sum \frac{(O-E)^2}{O}$$

A Yates correction factor is used when the sample size is small. Fischer's exact test is used to determine if there are non-random associations between two categorical variables. It does not assume random sampling, and instead of referring a calculated statistic to a sampling distribution, it calculates an exact probability. McNemar's test is used for paired nominal data. It is applied to  $2 \times 2$  table with paired-dependent samples. It is used to determine whether the row and column frequencies are equal (that is, whether there is 'marginal homogeneity'). The null hypothesis is that the paired proportions are equal. The Mantel-Haenszel Chi-square test is a multivariate test as it analyses multiple grouping variables. It stratifies according to the nominated confounding variables and identifies any that affects the primary outcome variable. If the outcome variable is dichotomous, then logistic regression is used.

## Summary and Conclusions

It is important that a researcher knows the concepts of the basic statistical methods used for conduct of a research study. This will help to conduct an appropriately well-designed study leading to valid and reliable results. Inappropriate use of statistical techniques may lead to faulty conclusions, inducing errors and undermining the significance of the article. Bad statistics may lead to bad research, and bad research may lead to unethical practice. Hence, an adequate knowledge of statistics and the appropriate use of statistical tests are important. An appropriate knowledge about the basic statistical methods will go a long way in improving the research designs and producing quality medical research which can be utilised for formulating the evidence-based guidelines.

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# HIGHER EDUCATION IN NEPAL: STATUS AND CHALLENGES

Jyoti Karna\*  
Bidyasagar Verma\*\*

## Abstract

*Education determines the ways and the extents of learning which ultimately help to realize the potentials of our being. In turn, it determines the form and figure of individual life and plays important role by affecting the fate of his/her family, the society, the nation and the global level including our environment. This article aims to explore the status and the challenges of higher education in Nepal as a whole, especially by investigating the objectives and challenges defined in the Constitution, in the national education policy and in the sustainable development goal of the nation, that actually drive the formal education system and determine its shape. This article also points out the objectives of higher education from the view point of the holistic and value base approach of higher education and their importance that help to address the psychological and existential need of individual learners along with physical need to make the education system life affirmative, more original and fruitful. The general objective of this article is to explore the status and challenges of formal education system and the role of University Grants Commission (UGC) in higher education. Secondary data has been used to analyze the study.*

**Keywords:** Constitution, Development, Holistic approach, Objectives, Higher Education

## Introduction

Higher education encompasses the levels of education after school education, also called as tertiary level education and ranges from bachelor level to doctoral and postdoctoral level. Education determines the ways and the extents of learning which ultimately help to realize the potentials of our being. In turn, it determines the form and

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\* Dr. Karna is Assistant Professor of Home Science at R.R. Campus, TU, Janakpurdham.

\*\* Dr. Verma is Professor of Zoology at RJU, University Campus, Janakpurdham.



figure of individual life and plays important role by affecting the fate of his/her family, the society, the nation and the whole globe including our environment. This article is aimed to explore the status and the challenges of higher education in Nepal as a whole, especially by investigating the objectives and challenges defined in the Constitution, in the national education policy and in the sustainable development goal of the nation that actually drive the formal education system and determine its shape. The role of University Grant Commission and the concerned universities and colleges that affect the status and challenges of higher education equally have also been reviewed.

## Objectives of the Study

The general objective of this article is to explore the status and challenges of formal education system and the role of University Grants Commission (UGC) in higher education.

The specific objectives are as follows:

- To point out the objective of higher education from the view point of the holistic and value base approach,
- To address the need to make the education system more original and fruitful,
- To suggest the ways to individual learners for their overall and integrated development.

## Materials and Methods

The secondary data have been used to fulfill the objectives and goals of this study. The descriptive method has been applied to discuss about the issues.

## Status of Higher Education in Nepal

### a) Education in the Constitution of Nepal, 2015

- The constitution of Nepal, 2015 has acknowledged basic education as the **right of every citizen**,
- The citizens with **disabilities and the economically indigent citizens** shall have the right to get **free higher education** in accordance with law,
- **Women** shall have the right to obtain **special opportunity in education**, health, employment and social security, on the basis of positive discrimination,
- Provision of **free education with scholarship**, from primary to higher education, shall be made by law for the **Dalit** students. Special provision shall be made by law for the Dalit in technical and vocational education,

- **The indigent citizens and citizens of the communities on the verge of extinction** shall have the right to **get special opportunities and benefits in education**, health, housing, employment, food and social security for their protection, upliftment, empowerment and development,
- to prepare human resources that are **competent, competitive, ethical, and devoted to national interests**, while making education **scientific, technical, vocational, empirical, employment and people-oriented**,
- to make **private sector investment** made in education **service-oriented** by regulating and managing such investment, while **enhancing the State's investment in the education sector**,
- to make higher education **easy, qualitative and accessible, and free gradually**.

**b) Higher education in national education policy and its objectives:**

- Education is **basic foundation of all round development of the nation**,
- To ensure **equitable and justified access to quality education for all the citizens**
- To achieve the resolution of **Socio-economic transformation**, education is taken up as an important sector of the national development,
- To make higher education more **competent, competitive, productive and job-oriented and ethical** to prepare **human resources devoted to national interests**,
- making education **scientific, technical, vocational, empirical, employment and people-oriented**,
- to establish access to the opportunity for technical and vocational education and training to all interested citizens and produce **competent, qualified, skilled and industrious human resources** for national development
- to produce **qualified, skilled, innovative, competent for global market and research-oriented** human resources that will be able to lead in different sectors by **increasing the access and the quality of higher education**, for the development of **knowledge base society and economy**,
- development of **life - long learning culture** through informal, alternative, traditional and open education,
- to produce qualified and competitive citizen to lead **worthful and respected life** by ensuring **access of quality education to all kinds of disabled person** through life long education,
- to establish **good educational governance** by ensuring **professional quality, ability, honesty, dedication, accountability of service holders** working as components of the education system
- to **enhance the quality standard of higher education**

- to **develop scientific thought process and practice in life of a person** by integrating science and technology in education system and to develop capability to use **traditional and modern technology** for the national development.
- c) **Higher education in the Sustainable Development Goal 4: Education 2030** aims to, “ensure inclusive and equitable quality education and promote life-long learning opportunities for all”. This goal recognizes **education as a driving force for the sustainable development of the nation** through transforming the lives of people.
- To ensure equal access for all women and men to **affordable and quality technical, vocational and tertiary education**, including university,
  - Substantially increase the number of youth and adults who have **relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship**,
  - Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations,
  - Ensure that **all learners acquire knowledge and skills** needed to promote sustainable development, including, among others, through education **for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity** and of culture’s contribution to sustainable development.
  - Build and upgrade education facilities that are child, disability and gender sensitive and **provide safe, non-violent, inclusive and effective learning environments for all**,
  - Substantially **expand the number of scholarships for enrolment in higher education**, including vocational training and information and communications technology, technical, engineering and scientific programs,
  - Substantially **increase the supply of qualified teachers**.
- d) **Ways of receiving higher education and Number of higher education institutions (HEIs)**  
Nepali students have been **receiving higher education in three major ways**
- About 441,819 students are studying at 1,432 higher education institutions of **11 universities and six health science academies**: that are offering various programs under different disciplines. In addition, eight academic institutions, are in the pipeline and are expected to run their education program in the future.

Some provincial governments have also established new universities and have started some academic programs (Table-1).

- **Institutions offering courses of foreign higher education:** Out of 88 such institutions (colleges and schools), **45 Nepali institutions** have also been offering **a few courses of foreign higher education** institutions through affiliation catering to about 20,000 students a year.
- **Going abroad for higher education:** A significant number of students have also been going abroad for higher education.

Since FY 2008/09, a total of 416,364 students have obtained no-objection letters from the Ministry of Education, Science and Technology. In addition, about 100 Nepali students per year also receive **government scholarships to undergo higher education in foreign universities**. The number of students receiving the no-objection letter has been increasing over the years i.e. 24,824 in FY 2008/09 and 63,259 in 2018/19 before the COVID-19 pandemic (Lamsal, 2021).

#### e) Nature of Higher Education Institutions (HEIs)

Number of higher education institutions under different universities and academies were 1391 in FY 2015/16 and increased to 1432 in FY 2019/20 (UGC, 2016/17 and UGC, 2019/20). Nepal Open University and Rajarshi Janak University has been established recently.

Altogether these are classified as:

- Constituent campuses of 147, Student share 36.01 percent,
- Affiliated community campuses of 538, Student share 27.41 percent,
- Private campuses of 747, Student share 36.56 percent.

In the year, 2021, students' enrolment has increased in the community campuses but decreased in constituent campuses (Table-2). Last year, there were altogether 4,41,819 students in higher education in Nepal with the highest share in TU about 76 percent (75.95) and lowest share in Karnali Health Science Academy (UGC, 2019/20). University-wise number of students has been shown in Table- 3. TU share range decreasing slowly.

Table- 4 shows student's enrollment as per subject choice. About 75 percent students are enrolled in Management, Education and Humanities. Science and Technology, Engineering, Health Sciences and other subjects account for about 25 percent enrollment.

Table- 5 depicts level-wise annual enrolment of students, 89.38 percent in Bachelor level and 9.87 percent in Master level.

A report published by the University Grants Commission (UGC) shows that **the gross enrolment ratio in higher education is 14.42 (FY 2018/19). Gender Parity Index is 1.09.** Share of female students in higher education has been increased with 52.04 percent enrolment making Gender Parity Index as 1.09. **Increasing number of HEIs and student's enrolment suggest that the attraction of Nepali students towards higher education courses, in-country and abroad, has been growing year after year.**

Table-6 presents number of teaching staffs in **constituent campuses which totals about 9677.** If we combine the teachers of the community and private campuses, there are about 20,500 full-time and part-time teachers in the HEIs. The number of professors and readers has increased recently and this might make the university teaching workforce pyramid imbalanced.

Table-7 presents student teacher ratio across universities. It ranges from 36.45 to 0.98 in FY 2016/17 across universities. Top universities have lower student teacher ratio. Lower ratio may be present in recently established universities or academy.

#### **f) Role of UGC**

UGC is an autonomous statutory body established under the University Grants Commission Act, 1993. UGC has the following **broadly envisioned objectives:**

- to promote, facilitate, support, and enhance the quality of higher education
- to enable educational institutions to meet the national need for an educated and trained workforce
- to develop Nepali academia as per the global standards
- to solve problems and address the challenges that have been historically impairing the development and quality of higher education in the country
- to make higher education inclusive and accessible to disadvantaged and marginalized communities.

#### **Functions**

UGC allocates and disburses grants to universities and higher education institutions to ensure their smooth operation and to help them realize academic excellence. UGC is also expected to define the academic standard of higher education and facilitate good

rapport and coordination among the universities in the country, thereby encouraging them to cooperate, collaborate, and exchange their academic experiences.

## **The Regular Programs of University Grants**

### **(1) Institutional Development Grants**

- i. Grants for Universities,
- ii. Regular Grants,
- iii. Physical Facility Development,
- iv. Special Grants, and
- v. Performance and Formula-Based Grants

### **(2) Quality Improvement Programs.**

- i. Fellowship,
- ii. Thesis Preparation Grants,
- iii. Scholarship,
- iv. Research Promotion,
- v. Capacity Development Program,
- vi. Teaching/Study Visit,
- vii. Research Infrastructure Development Support, and
- viii. Quality Assurance and Accreditation.

### **g) Finance in Higher Education**

Table- 8 presents budget allocation in education. Currently, Nepal government **allocates 4 percent of the GDP in education** and only **0.41 percent is allocated for higher education**. Overall education budget has decreased to 10.68 percent out of which only 9 percent is allocated in higher education. Thus, in order to upgrade Nepal from under-developed country to developing country by 2022, allocation in education should be increased to 6 percent in the GDP and 20 percent of the national budget. **Experience from Sub-Saharan Africa shows 10 percent increase in economic growth with one-level increase in education. This means that higher education plays important role in to minimize poverty. Investment in higher education should, thus, be increased (UNESCO, 2014).**

### **h) Quality assurance and accreditation (QAA) of HEIs**

*Accreditation is the process by which authorized body evaluates the quality of a higher education institution (HEI) as a whole or of a specific educational program in order to formally recognize it as having met certain predetermined minimal criteria or*

*standards. The QAA provides opportunities for HEIs and their programs to assess their performance and their weaknesses. Thus, accreditation is a process of quality assurance*

## Objectives

- Facilitating higher education programs, institutions and universities to develop quality assurance mechanisms by **providing formats for self-assessment, peer reviews and quality audits**
- The overwhelming objective of the accreditation process is **to recognize and acknowledge the value-addition in transforming a student** admitted to a program/institution into a graduate with **enhanced knowledge and unacceptable level of professional and personal competence.**

## Factors that influence the quality assurance

Internal forces and procedures	External forces
<ul style="list-style-type: none"> <li>• university regulations</li> <li>• strategic planning</li> <li>• the role of the faculty and the university</li> <li>• program design and approval</li> <li>• validation</li> <li>• reviews</li> <li>• annual course monitoring</li> <li>• student assessment and course monitoring</li> <li>• teaching and learning processes.</li> </ul>	<ul style="list-style-type: none"> <li>• regulatory bodies</li> <li>• international collaborators</li> <li>• funding</li> <li>• government requirements</li> <li>• external examiners, and</li> <li>• professional bodies.</li> </ul>

## Institutional Assessment and Accreditation Procedures

It consists of four-stage process, which is a combination of self-study and peer review.

- Submission of a Letter of Intent (LoI),
- Preparation and Submission of Self-Study Report (SSR),
- Peer Review,
- Final Decision for Accreditation.

Table-9 presents the number of HEIs undergone QAA process. Till FY 2019/20, 49 HEIs has been accredited and 358 have submitted their LOI for accreditation out of the total 1432. Figure-1 has presented the nature/type-wise status of accredited HEIs is

Nepal. Out of total accredited HEIs 34 are community campuses, 5,4,3 and 3 constituent campus, school/ central campus, Central Department and private campus/ college respectively.

### **Challenges identified in National Education Policy**

- Higher education could not be competitive, productive and research-oriented,
- Insufficient investment in education,
- Quality of education is relatively poor,
- Expansion of access to science and technology and vocational education has not been sufficient,
- Service delivery not being people friendly,
- Teaching process is too much exam-oriented,
- Professional capability of teachers and faculties,
- Shortage of ethics and motivation,
- Local community could not be identified with public education system,
- Private institutes being more profit-oriented rather than service-oriented.

### **Other challenges**

Table-10 shows the world ranking of Nepalese Universities. There are too much to do for better ranking.

- Gross enrolment in higher education of the developing countries (for example, India, Malaysia, Vietnam) is more than 26 percent and in technical subjects the student's enrolment is about 30 percent but in Nepal has only 14.42 percent and 23.02 percent respectively. Meeting the target of developing countries through enrolment in Nepal by 2022 is challenging. (UGC, 2020)
- Graduation rate in higher education is very minimum. TU's bachelor program occupies 69 percent of the total students but the graduation rate is 26.1 percent indicating 73 percent wastage. In such situation, quality enhancement of the higher education and making it market relevant is equally challenging.
- If we take the figures of the convocation ceremony, gross product of graduates in higher education ranges between 19 percent to 20 percent. This shows that the investment should be increased.
- Despite the expansion of higher education in the country, still a large number of students are going to the foreign countries in search of quality education particularly in the technical and vocational subjects and a huge amount of money is going out of the country.
- Community and private campuses have shown interest in the QAA but the constituent campuses and central departments need to be sensitized in this process.



- Meritorious students from the lower income group cannot afford higher studies either in the country or abroad.
- Critics argue that many programs in the Nepali higher education system are of little relevance to the current domestic and international market needs.
- weak governance in education system and over politicization of teaching and non-teaching personnel,
- ineffective management,
- absence of a research-oriented culture
- poor academic environment.
- can we stop Nepali students from going abroad?
- Calendar of operation is still a big-issues in the HEIs due to which there are delays in enrolment, exam, results and other important work.
- budget allocated under the Higher Education Reform Project has not been timely utilized.
- The Covid-19 pandemic has greatly affected higher education disrupting the regular classes and timely operation of exams, research and other activities.

## **Discussion and Conclusion**

Equitable, inclusive, justified and easy access of affordable and quality higher education to all the citizens has been ensured properly in the above mentioned principal legal documents. Need of the nation and the society are addressed well in the objectives of higher education. Terms and phrases like all round development of the nation, Socio-economic transformation, life-long learning culture, competent for global market, competitive, qualified, skilled, innovative, research- oriented, industrious, productive, job-oriented and ethical, entrepreneurship etc. about the quality objectives of human resources have been repeatedly included in the main directive documents that determine the shape and drive Nepalese formal education system. For achieving the goal of good educational governance professional quality, ability, honesty, dedication, accountability of service holders working as components of the education system have been targeted for the betterment. It has been ensured that all learners acquire knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Inclusive access to higher education, number of enrollments in higher education, increasing number of scholarships, number of higher education institutions is increasing gradually. Gradually and slowly research orientation is also intensifying. Quantitative aspect of education is expanding more or less in satisfactory pace.

Quality aspect of higher education either in teaching learning process, research and skill or in the field of quality governance of education system is challenging. It seems that the quality objectives and challenges have been identified well. But our commitment to preparedness for self-assessment, peer review and quality audit is not sufficiently strong. It can be seen by the fact that the very least number of HEIs have been accredited and prepared for quality assurance accreditation. Quality assurance accreditation should be mandatory for all at all level in education system.

The way and the direction we are advancing in higher education, it can be imagined that we will be like the present developed countries in far distant future. But what is the ongoing scenario of technologically ultra-advanced and sophisticated mass destruction in Europe? That is the fate of present education system. Mental obsession of desire to be dominant and first in competitive world has led to the consequences like war. Whether it can be said to be sustainable education?

Problems of thought process, behavior and emotional imbalance and inner conflicts of Individual learner should be addressed properly and effectively by higher education. Psychological and existential need of human should be addressed with physical need equally as well. Holistic and integrated development of individual student is essential need of twenty first century education. Life affirmative values should be incorporated and given priority in the objectives of higher education. Our ancient and traditional heritage like techniques of inner discipline given by Shiva, Yoga propounded by Patanjali, knowledge of witness and spirit of Astavakra, integrated and balanced life-style of Rajarshi Janak and meditation of Gautam Buddha, etc. can be relevant to make education system more original and fruitful.

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**Table 1: Number of Higher Education Institutions under different Universities and Academies**

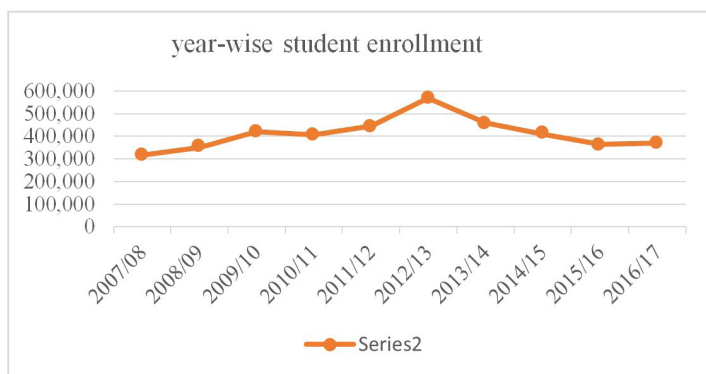
S.N.	Universities and Academies	Total Number of Colleges (FY 2015/16)
1.	Tribhuvan University	1,146
2.	Kathmandu University	21
3.	Purbanchal University	131
4.	Nepal Sanskrit University	18
5.	Pokhara University	62
6.	Lumbini Baudha University	6
7.	Agriculture and Forestry University	1
8.	Far-Western University	1
9.	Mid-Western University	1
10.	BP Koirala Institute of Health Sciences	1
11.	Karnali Academy of Health Sciences	1
12.	National Academy of Medical Sciences	1
13.	Patan Academy of Health Sciences	1
	<b>Total</b>	<b>1,391</b>

Source: Economic Survey 2016/17, MoF, UGC, Nepal, TU Planning Council.

**Table: 2- Number of students in higher education student enrollment**

Year	Enrollment
2007/08	315,965
2008/09	351,900
2009/10	420,728
2010/11	407,934
2011/12	444,994
2012/13	569,665
2013/14	458,621
2014/15	410,557
2015/16	364,244
2016/17	371,184

Source: EMIS Reports (2007/8 to 2016/17) UGC Nepal

**Table: 3- University-wise number of Students**

S.N.	University	No. of students
1	Tribhuvan university	<b>3,35,543</b>
2	Kathmandu University,	18356
3	Purwanchal University,	<b>27527</b>
4	Nepal Sanskrit University,	<b>3749</b>
5	Pokhara University,	<b>30542</b>
6	Lumbini Bauddha University,	<b>695</b>
7	Agriculture and Forestry University,	<b>3871</b>
8	Far Western University,	<b>10113</b>
9	Mid-western University,	<b>7353</b>
10	Nepal Open University	<b>955</b>

11	Rajarshi Janak University,	<b>153</b>
12	B P Koirala Health Science Academy	<b>1528</b>
13	National Medical Science Academy,	<b>447</b>
14	Patan Health Science Academy,	<b>931</b>
15	Karnali Health Science Academy,	<b>56</b>
16	Pokhara Health Science Academy and	
17	Rapti Health Science Academy,	

Source: UGC, Annual Report, 2019/2020

Pokhara Health Science Academy and Rapti Health Science Academy have not started bachelor level program yet.

**Table: 4- Regarding the subject choice: Student's enrolment**

Subject area	Percentage of total annual enrolment
Management subjects	<b>46.37</b>
Education	<b>17.19</b>
Humanities	<b>10.96</b>
Science and Technology,	<b>8.38</b>
Engineering subjects	<b>6.57</b>
Health Science, and	<b>6.39</b>
In other subjects (Sanskrit, Agriculture and Forestry, Ayurveda, Buddhism and Law, etc.)	<b>4.13</b>

Source: Annual report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Table: 5- Level-wise annual enrolment of students:**

Level-wise enrolment		
Level	No. of Students	Share percentage
Bachelor	<b>394889</b>	<b>89.38</b>
Masters	<b>43612</b>	<b>9.87</b>
PGD	<b>2019</b>	<b>0.46</b>
Mphil	<b>1075</b>	<b>0.24</b>
PhD	<b>224</b>	<b>0.05</b>
Total	<b>441819</b>	<b>100.00</b>

Source: Annual report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Table: 6- Number of teaching staffs**

HEIs	Level of Faculties	Number
Constituent campuses	Professors	846
	Reader	2,345
	Lecturers	5,099
	Teaching Assistants	1,252
	Instructors	135
<b>Total</b>		<b>9,677</b>

Source: Annual Report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Table: 7- Student teacher ratio across Universities**

FY	Students : Teacher Ratio											
	TU	KU	POKU	PURU	NSU	LBU	MWU	FWU	AFU	BPKIHS	NAMS	PAHS
2007/08	18.40	16.50	8.52	11.87	4.90					5.85	1.43	
2008/09	21.70	10.00	8.50	13.80	5.00					8.40	1.10	
2009/10	23.00	10.00	16.00	15.00	6.00					7.00	1.00	1.00
2010/11	22.00	11.00	10.00	18.00	3.00					7.00	1.00	1.00
2011/12	25.00	13.00	24.00	19.00	2.00					6.00	2.00	1.00
2012/13	24.72	24.39	14.68	14.00	1.93		24.72	11.08	1.73	1.53	0.52	0.53
2013/14	15.89	28.08	11.42			1.72	12.46	31.15		2.13	1.20	1.85
2014/15	16.06	17.67	12.35			1.72	16.17	23.15		6.82	1.82	2.32
2015/16	17.42	34.88				1.18	19.53	22.11		6.96	0.44	2.52
2016/17	12.48	36.45	18.43			0.98	17.81	20.99		6.96	2.65	1.20

Source: Annual Report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Table: 8- Budget Allocation in Education**

FY	Budget Share (%)	Budget for Higher Education (%)
<b>2009/10</b>	<b>17</b>	<b>13.79</b>
<b>2010/11</b>	<b>16.61</b>	<b>9.02</b>
<b>2011/12</b>	<b>15.67</b>	<b>9.32</b>
<b>2012/13</b>	<b>15.65</b>	<b>9.1</b>
<b>2013/14</b>	<b>13.92</b>	<b>8.19</b>
<b>2014/15</b>	<b>12.04</b>	<b>8.19</b>
<b>2015/16</b>	<b>11.09</b>	<b>8.55</b>
<b>2016/17</b>	<b>9.9</b>	<b>8.26</b>
<b>2017/18</b>	<b>10.2</b>	-
<b>2018/19</b>	<b>10.68</b>	<b>9</b>
<b>2019/20</b>	<b>11.68</b>	-
<b>2020/21</b>	<b>10.93</b>	-

Source: NCE, Nepal. 2021. Analysis of Education Budget of Fiscal Year 2021/22

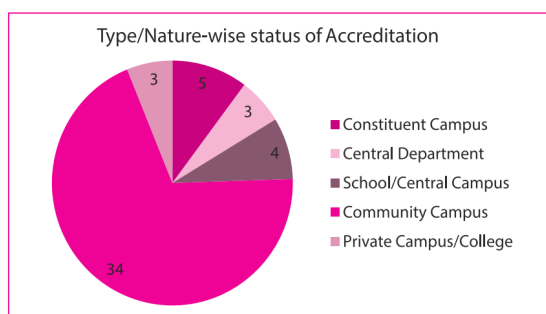
**Table: 9- HEIs undergone QAA process**

Stage-wise No. of Participating HEIs in QAA	FY 2018/19	Total Achievements
<b>No. of HEIs in Nepal</b>	<b>1,432</b>	<b>1432</b>
<b>LoI Accepted for QAA</b>	<b>27</b>	<b>358</b>
<b>SSR Accepted</b>	<b>30</b>	<b>107</b>
<b>PRT Formed</b>	<b>20</b>	<b>96</b>
<b>Pre-visit Completed</b>	<b>16</b>	<b>85</b>
<b>PRT</b>	<b>7</b>	<b>53</b>
<b>Cycle Completed</b>	<b>11</b>	<b>53</b>
<b>Accredited</b>	<b>17</b>	<b>49</b>

Source: Annual report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Figure-1: Type/Nature-wise status of Accreditation.**

Institutional Quality Assurance and Accreditation in 2076/077. The following figure has presented the nature/type wise status of the accredited HEIs in Nepal:



Source: Annual report 2019/20, UGC, Sanothimi, Bhaktapur, Nepal

**Table: 10- World Ranking of Nepalese Universities**

Nepal						
ranking	World Rank	University	Det.	Impact Rank*	Openness Rank*	Excellence Rank*
1	2783	Kathmandu University	+	4290	3157	3210
2	3413	Tribhuvan University	+	7327	7420	1788
3	4122	B.P.Koirala Institute of Health Sciences	+	8711	3922	4116
4	5204	Patan Academy of Health Sciences	+	15504	5325	4398
5	5266	Pokhara University	+	11856	5328	5166
6	8583	(3) Tribhuvan University Institute of Engineering	+	11182	4187	7190
7	8819	(3) Tribhuvan University Institute of Medicine	+	11434	4329	7190
8	12306	Agriculture and Forestry University	+	14816	5841	7190
9	12926	Puranchal University	+	25506	7420	5464
10	12972	Kathmandu Medical College	+	17441	7420	6488
11	14052	Nepal Engineering College	+	12269	7420	7190
12	14757	Manipal College of Medical Sciences	+	17336	7420	6775
13	15011	Nepal Medical College & Nepal Medical College Teaching Hospital	+	13501	7420	7190
14	15181	(3) Tribhuvan University Institute of Agriculture and Animal Science	+	17848	6219	7190
15	15464	Kantipur Engineering College	+	14027	7420	7190
16	17213	Rangjung Yeshe Institute. (Kathmandu University Centre for Buddhist Studies)	+	16094	7420	7190

Source: <https://www.webometrics.info/en/asia/nepal%20>

# IDENTIFICATION AND ANTIBIOTIC SENSITIVITY PROFILE OF NON-FERMENTERS ISOLATED FROM HOSPITALIZED PATIENTS

Santosh Kumar Yadav\*

## Abstract

**Introduction:** *Non-fermenters were previously considered as commensals or contaminants but are now emerged as an important nosocomial pathogen causing a wide variety of infections in hospitalized patients. The objective of this study was to isolate and identify non-fermenters causing infections in hospitalized patients and determine their antibiotic susceptibility patterns.*

**Methods:** *A cross-sectional descriptive study was conducted at the Department of Clinical Microbiology, Tribhuvan University Teaching Hospital, Kathmandu, Nepal. The non-fermenters isolated from different clinical specimens of hospitalized patients were identified by standard microbiological techniques and antibiotic susceptibility testing was performed by Kirby Bauer disc diffusion method according to Clinical and Laboratory Standard Institute guidelines.*

**Results:** *A total of 402 non-fermenters were isolated from different clinical specimens and among them, most were isolated from respiratory tract specimens (43.0%). The most common non-fermenters were Acinetobacter species (50.0%) and Pseudomonas species (40.6%) and others were Burkholderiacepacia complex (8.2%), and Stenotrophomonas maltophilia (1.0%). The isolated non-fermenters showed low level of susceptibility against most of the commonly used antibiotics.*

**Conclusion:** *From the present study it is clear that non-fermenters can cause a vast variety of infections in hospitalized patients. Proper identification and*

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\* Mr. Yadav is Microbiologist, Province Public Health Laboratory, Madhesh Province, Janakpurdham, Nepal (Email: [santooshydv@gmail.com](mailto:santooshydv@gmail.com))



*determination of the antibiotic susceptibility profile of non-fermenters will help in the effective management of hospitalized patients.*

**Keywords:** Acinetobacter species, Antibiotic resistance, Non-fermenters, Pseudomonas species.

## Introduction

Infections due to non-fermenters are common problem in hospitalized patients. The term non-fermenters or non-fermentative Gram-negative bacilli (NFGNB) means all aerobic Gram negative bacilli that show abundant growth within 24 hours on the surface of Kligler iron agar or Triple sugar iron medium, but neither grow in nor acidify the butt of this media (Koneman, 2010). In healthcare settings, these organisms may be isolated from instruments such as ventilator machines, humidifiers, mattresses, and other equipment as well as from the skin of healthcare workers (Mellmann et al., 2009). It can cause a vast variety of infections and account for approximately 15 percent of all Gram-negative bacilli cultured from clinical specimens (Siou et al., 2009). Serious infections due to this group of organisms are currently being reported with increasing frequency and make a significant contribution to in-hospital mortality (Vidal et al., 2003).

Over the years, the characteristic profile of hospitalized patients has been changed. Patients are sicker, underlying diseases are common, new varieties of microorganisms including non-fermenters get a chance for a wider spectrum of infections. The patients are clustered in specialized units and greater varieties of caregivers are involved in the care of patients. All these factors may increase the number of potential reservoirs of infections in hospitalized patients (Cosic et al., 2012). Risk factors for infection due to non-fermenters include immunosuppression (oncology patients on cytotoxic therapy/radiotherapy, organ transplant patients, and even patients with AIDS), neutropenia, mechanical ventilation, cystic fibrosis, indwelling catheters, invasive diagnostic and therapeutic procedures. Prolonged hospital stay, broad-spectrum antibiotic use, and underlying host factors are the best predictors of outcome (Malini et al., 2009).

Infection prevention and control through early detection of pathogens, initiation of rational and appropriate antimicrobial stewardship, and detection of healthcare-associated infections remains one of the essential goals in the management of hospitalized patients (Pagani, 2011). Hence, it is important to identify the non-fermenters responsible for infections in hospitalized patients and determine their antibiotic susceptibility pattern to provide proper rational antibiotic therapy. The findings of this study will be useful in the

formation of effective diagnostic approaches and policy of antimicrobial therapy for the treatment of infections due to non-fermenters in hospitalized patients.

## **Objective of the Study**

The objective of this study was to identify and determine antibiotic susceptibility patterns of non-fermenters causing infections among hospitalized patients in a tertiary care hospital in Nepal.

## **Materials and Methods**

This cross-sectional descriptive study was conducted at the Department of Clinical Microbiology, Tribhuvan University Teaching Hospital, Kathmandu among patients admitted to different wards of TUTH. The study period was one year from January 2017 to December 2017 and ethical approval was obtained from the Ethical Review Board of Nepal Health Research Council.

Different clinical specimens [sputum, endotracheal aspirate, bronchoalveolar lavage (BAL) fluid, urine, pus/swabs, urine, blood, catheter tips, and different body fluids] collected from hospitalized patients sent to bacteriology laboratory were processed for isolation of bacteria according to standard protocol. For this, urine samples were inoculated on Cystine Lactose Electrolyte Deficient (CLED) agar plates, catheter tips, and pus/swabs were inoculated on blood agar (BA) and MacConkey agar (MA) plates and these plates were incubated at 37°C for 24 hours in aerobic atmosphere. Blood culture bottles were incubated at 37°C and were subcultured on BA and MA plates and further incubated aerobically at 37°C for 24 hours. Expecterated sputum/tracheal aspirates/BAL fluid and different body fluid samples were inoculated on Chocolate agar (CHA), BA, and MA plates and were incubated at 37°C for 48 hours according to the standard protocol of ASM (Isenberg, 2007).

The non-fermenters isolated from significant bacterial culture were further processed for detailed identification by standard microbiological techniques which involved the morphological appearance of the colonies, Gram's staining, motility test, catalase test, oxidase test, and different biochemical tests. The biochemical media used were triple sugar iron agar, sulfide indole motility medium, Simmons citrate media, Christensen's Urease media, Moller's decarboxylase test media, Hugh and Leifson's OF test media, gelatin medium, and others as required (Isenberg, 2007; Mahon, 2015).

The antibiotic susceptibility profile of non-fermenters was determined by Kirby-Bauer disk diffusion method on Mueller-Hinton agar as recommended by Clinical

and Laboratory Standard Institute (CLSI) guidelines. The non-fermenters were tested against pre-determined concentrations of different antibiotics. The diameter of the zone of inhibition of each antibiotic disk was measured and recorded in millimeters. The results were then compared with a standard chart developed by CLSI to determine the bacterial susceptibility towards different antimicrobial agents in terms of “sensitive”, “resistant” and “moderately sensitive or intermediate”. *Pseudomonasaeruginosa* (ATCC 27853) and *Escherichia coli* (ATCC 25922) were also tested, in every set of experiments in parallel, as a part of quality control (CLSL, 2016). The data were analyzed using Statistical Package for the Social Sciences (SPSS) 16.0 version and interpreted according to frequency distribution and percentage.

## Results

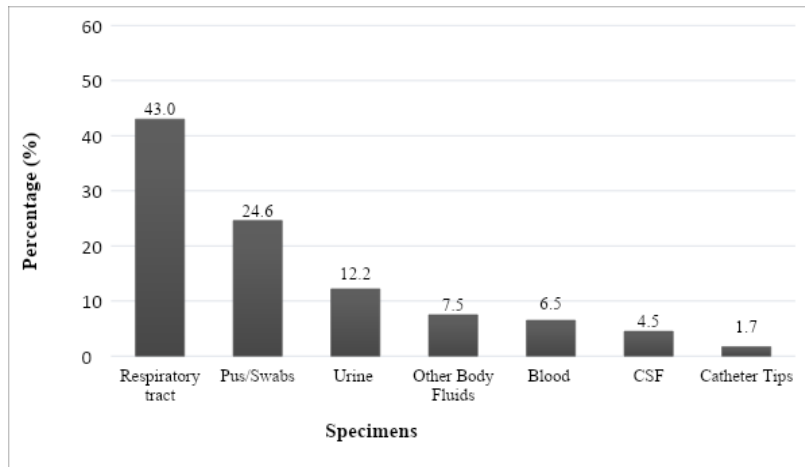
During the study period, a total of 402 non-fermenters were isolated from different clinical specimens such as respiratory tract specimens (sputum, bronchoalveolar lavage, and tracheal aspirate), pus/swabs, blood, urine, cerebrospinal fluid (CSF), and other body fluids (pleural, peritoneal, ascitic, synovial, etc.) which were collected from hospitalized patients. The distribution of non-fermenters isolated from different specimens is shown in figure 1. Monobacterial growth of non-fermenters was found in 245 (60.9%) clinical specimens, while 157 (39.1%) non-fermenters were associated with mixed bacterial growth and isolated along with other gram-positive and/or gram negative bacteria (Figure 2). Among the wards, higher numbers of non-fermenters were isolated from intensive care units (ICUs) (n=157, 39.1%) followed by surgical (n=88, 21.9%) and respiratory (n=34, 8.5%), while lowest number (n=1, 0.2%) was isolated from neonata ward (Figure 3).

Among total isolates of non-fermenters, 235 (58.5%) were isolated from male and 167 (41.5%) were from female patients. The highest number of isolates were from the age group 16-32 years, followed by 33-48 years and the least number was isolated from the age group 49-64 years (Table 1). Out of total 402 isolates of non-fermenters, the highest number were *Acinetobacter* species (n=201, 50.0%), followed by *Pseudomonas* species (n=163, 40.6%), *Burkholderiacepacia* complex (n=33, 8.2%), *Stenotrophomonasmaltophilia* (n=4, 1.0%) and a single isolate (0.2%) was *Sphingobacterium* species (Table 2).

Out of 201 *Acinetobacter* species, 26.9 percent were susceptible to ampicillin-sulbactam, 29.9 percent to meropenem, and 27.9 percent to imipenem (Table 3). Out of 161 *Pseudomonas* species isolates, 14.1 percent were sensitive to ceftazidime, 44.2 percent to gentamicin, 21.5 percent to piperacillin, 38.0 to piperacillin-tazobactam, and 14.7

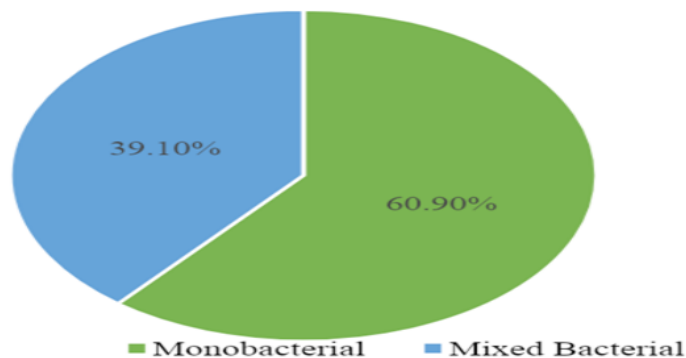
percent to ofloxacin (Table 4). Out of 33 *Burkholderiacepacia* complex isolates, 87.9 percent were resistant to ceftazidime and 84.8 percent were resistant to levofloxacin while 66.7 percent, 72.7 percent, and 45.5 percent were susceptible to meropenem, doxycycline, and chloramphenicol, respectively. All the isolates were susceptible to cotrimoxazole. A total of 4 *Stenotrophomonasmaltophilia* were isolated. Among them, 25.0 percent were susceptible to levofloxacin and chloramphenicol and 50.0 percent were sensitive to doxycycline while all the isolates were resistant to ceftazidime and all were susceptible to cotrimoxazole.

**Figure1: Distribution of non-fermenters in various clinical specimens.**

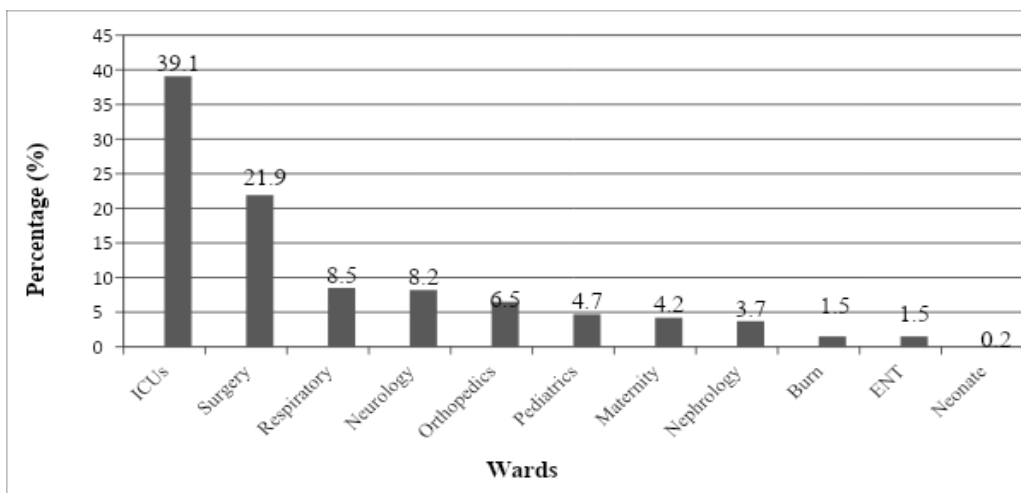


Source: Self calculation from primary data

**Figure 2: Mono bacterial and mixed bacterial growth pattern of non-fermenters.**



Source: Self calculation from primary data

**Figure 3: Ward-wise distribution of non-fermenters.**

Source: Self calculation from primary data

**Table 1: Distribution of non-fermenters by gender and age group of patients.**

Age Group	Number (%)		
	Female	Male	Total
≤15 Years	36 (9.0)	42 (10.4)	78 (19.4)
16-32 Years	43 (10.7)	57 (14.2)	100 (24.9)
33-48 Years	35 (8.7)	47(11.7)	82 (20.4)
49-64 Years	29 (7.2)	37 (9.2)	66 (16.4)
≥65 Years	24 (6.0)	52 (12.9)	76 (18.9)
<b>Total</b>	<b>167 (41.5)</b>	<b>235 (58.5%)</b>	<b>402 (100)</b>

Source: Self calculation from primary data

**Table 2: Distribution of different members of non-fermenters**

Non-fermenters	Number	Percentage
<i>Acinetobacter</i> species	201	50.0
<i>Pseudomonas</i> species	163	40.6
<i>Burkholderiacepaci</i> complex	33	8.2
Stenotrophomonas maltophilia	4	1.0
Sphingobacterium multivorum	1	0.2
Total	402	<b>100</b>

Source: Self calculation from primary data

**Table 3: Antibiotic susceptibility profile of *Acinetobacter* species**

Antibiotics	Number (%)	
	Sensitive	Resistant
Ampicillin-sulbactam	54 (26.9)	147 (73.1)
Ceftazidime	27 (13.4)	174 (86.6)
Gentamicin	44 (21.9)	157 (78.1)
Ciprofloxacin	34 (16.9)	167 (83.1)
Levofloxacin	52 (25.9)	149 (74.1)
Meropenem	60 (29.9)	141 (70.1)
Imipenem	56 (27.9)	145 (72.1)

Source: Self calculation from primary data

**Table 4: Antibiotic susceptibility profile of *Pseudomonas* species**

Antibiotics	Number (%)	
	Sensitive	Resistant
Ceftazidime	23 (14.1)	140 (85.9)
Gentamicin	72 (44.2)	91 (55.8)
Piperacillin	35 (21.5)	128 (78.5)
Piperacillin-tazobactam	62 (38.0)	101 (62.0)
Ofloxacin	24 (14.7)	139 (85.3)

Source: Self calculation from primary data

## Discussion

In the last decades, the importance of identification and determination of antibiotic susceptibility profile of non-fermenters has been increased because of the upward trend of infection outbreaks in hospitals, or healthcare-associated infections due to these bacteria. In this study, We have isolated, identified, and determined the antibiotic susceptibility profile of various non-fermenters from the specimens collected from patients admitted to different wards of Tribhuvan University Teaching Hospital, a tertiary care referral center in Kathmandu, Nepal. In this study, a total of 402 non-fermenters were isolated from 6216 various clinical specimens. The incidence of infections with non-fermenters was found to be highest from respiratory tract specimens (43.0%), followed by pus & swabs (24.6%), urine (12.2%), blood (6.5%), CSF (4.5%), and the least number from catheter tips (1.7%). In the study of Nautiyal et al from India (Kombade, 2015), non-fermenters were also most frequently isolated from respiratory tract specimens followed by pus samples. But in another study done in India, the majority of non-fermenters were obtained from pus samples, the next common being sputum (Bhatnagar, 2014).

Mono bacterial growth of non-fermenters was found in 60.9 percent of clinical specimens and the remaining 39.1 percent of non-fermenters were associated with polybacterial growth and isolated along with other gram-positive and/or gram negative bacteria (Malini et al., 2009) from Karnataka, India, found that 51.8 percent of specimens showed polymicrobial infection where non-fermenters were isolated along with other organisms and the remaining 48.2 percent showed monomicrobial infection. The pattern of non-fermenter infections in the patients of different wards was evaluated in the study. Higher numbers of non-fermenters (39.1%) were isolated from patients of intensive care units (ICUs) followed by surgical ward (21.1%), respiratory ward (8.5%), and neurology ward (8.2%). Other studies had also reported a higher incidence of infection by non-fermenters in ICU patients (Eltahawy et al., 2001). The demographic data in our study showed that the age group most commonly affected by non-fermenters was between 16-32 years which is consistent with a study done by (Malini et al., 2009). But another study from Iran showed a higher prevalence of non-fermenter infections in patients having age more than 60 years (Rahbar, 2010).

The isolated non-fermenters were identified phenotypically and among a total of 402 non-fermenter isolates, *Acinetobacter* species was the most common isolates (50.0%), followed by *Pseudomonas* species (40.6%), *Burkholderiacepacia* complex (8.2%), and *Stenotrophomonasmaltophilia* (1.0%). Parajuli et al., (2017) and Sah et al., (2014) have also documented *Acinetobacter* species as the most common non-fermenters isolated from hospitalized patients. However, other studies from different countries reported

*Pseudomonas* species as predominant non-fermenters (Malini, 2009; Jayapriya, 2014 & Sharma et al., 2014). *Acinetobacter* species is an important nosocomial pathogen associated with a wide variety of illnesses in hospitalized patients especially in the ICUs imposing greater challenges to the patient's management and infection control (Shrestha et al., 2015). In the current study, *P. aeruginosa* was the second most common non-fermenter. Infection in hospitalized patients with *Pseudomonas aeruginosa* is quite frequent despite the application of various preventive measures in hospitalized patients leading to increased morbidity, mortality, prolonged hospital stay, and increased hospital expenses. *Burkholderiacepacia* complex (Bcc) has emerged as a nosocomial pathogen and has the potential to cause infections in hospitalized patients, especially in the ICUs and its multidrug resistance makes its presence dangerous in hospital settings (Sharma et al., 2014). *Stenotrophomonasmaltophilia* infections are acquiring increasing importance in the hospital environment, as the size of the susceptible patient population increases and it is also intrinsic multidrug resistance (Looney, 2009).

In the current study, many non-fermenters were found to be resistant to different antimicrobial agents. Resistance to antimicrobial agents is a problem in health care facilities, but in hospitals, the transmission of bacteria is amplified because of the highly susceptible population (WHO, 2014). The antibiotic sensitivity of our study confirmed an alarming percentage of resistance exhibited by pathogens to the common antibiotics in use. *Acinetobacter* species were found significantly resistant to carbapenem, aminoglycoside, cephalosporin, and fluoroquinolone group of antibiotics in this study (Sattler et al., 2000). A study conducted by Xie et al., (2011) in China demonstrated that carbapenem resistance was seen in 85 percent of isolates (xie et al., 2011). A SENTRY study also reported that resistance to imipenem changed from 34.5 percent in 2006 to 59.8 percent in 2009 in the world (Gales, 2011). The increasing emergence of highly aminoglycosides-resistant strains is also a cause of major concern. Our result on resistance rate to gentamicin was 78.1 percent which is higher than 54.0 percent in a previous study from the same hospital (Mishra et al., 2013). Among the antibiotics tested, 85.9 percent of *Pseudomonas* species isolates were resistant to ceftazidime, 55.8 percent to gentamicin, 78.5 percent to piperacillin, 62.0 percent to piperacillin-tazobactam, and 85.3 percent to ofloxacin. A similar resistance rate was seen in a study done by Parajuli et al., (2017) in the same hospital and Fatima et al., (2012). Antimicrobial resistance was also found common in isolates of *Burkholderiacepacia* complex. Out of 33 *Burkholderiacepacia* complex isolates, 87.9 percent were resistant to ceftazidime and 84.8 percent were resistant to levofloxacin while 66.7 percent, 72.7 percent, and 45.5 percent were susceptible to meropenem, doxycycline, and chloramphenicol, respectively. All the isolates were susceptible to cotrimoxazole. A similar pattern of resistance was reported among *Burkholderiacepacia* by Parajuli et al. (2017).



## Conclusion

From the present study, it is clear that non-fermenters can cause a vast variety of infections in hospitalized patients. Most of the non-fermenters causing infections in the hospitalized patients were *Acinetobacter* species and *Pseudomonas* species and the majority of them were isolated from respiratory tract specimens. Antibiotic resistance was common among these bacterias which lead to problems in the treatment of infections caused by these bacteria in hospitalized patients. Therefore, accurate identification and determination of antibiotic susceptibility profiles of non-fermenters in time will help to fight against these pathogens and effective management of hospitalized patients.

**Conflict of Interest:** None declared.

## Acknowledgments

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## LABORATORY SERVICES FOR HIV/AIDS CARE IN NEPAL

Shravan Kumar Mishra\*  
Rosy Sharma\*\*  
Krishna Sharma\*\*\*  
Shyam Nandan Mishra\*\*\*\*  
Geeta Shakya\*\*\*\*\*

### Abstract

*Laboratory services in HIV care play a crucial role in screening, diagnosis, prognosis and treatment for HIV infected patients. The role of laboratory services in HIV surveillance and IBBS is also central to finding out the prevalence and further helping national plans. HIV Reference Laboratory is a unit of National Public Health Laboratory (NPHL), Department of Health services (DoHS), Ministry of Health and Population (MoHP), Nepal providing HIV diagnostic services, Laboratory tests for Anti-retroviral treatment (ART) initiation and monitoring of ART, quality assurance program, training and research on HIV/AIDS. Scale up of HTC sites and increment in coverage of HIV/STD testing, increase in the coverage of IDUs in the reach of HTC services. Scale up of viral load assay in the regional level laboratories, organism isolation and molecular diagnosis of STIs and OIs. Maintenance of equipment, annual maintenance contract, calibration of equipment, pipettes, bio-safety cabinet, maintenance of pressure in the room need to be resolved. Issues that require attention are risk factors assessment before the start of ART and six months after the start of ART, Drug resistance assay, issue of IRIS development after ART among HIV/AIDS, identification of cohort for Rapid Progressor, long-term non-progressor (LTNP), non-progressor (NP) based on*

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\* Dr. Mishra is Director of Provincial Public Health Laboratory, Madhesh Pradesh, Janakpurdham, Nepal.

\*\* Ms. Sharma is involved at Seti Provincial Hospital, Dhangadhi, Nepal.

\*\*\* Mr. Sharma is involved at Sagarmatha Polyclinic, Kathmandu, Nepal.

\*\*\*\* Mr. Mishra is involved at Prakauli Health Post, Mahottari, Madhesh Pradesh, Nepal.

\*\*\*\*\* Dr. Shakya is Ex-Director, National Public Health Laboratory, Kathmandu, Nepal.

(corresponding author: shravan.nepal@gmail.com)

*viral set point among HIV infected before ART initiation, subtype identification in HIV-1, a search of autologous and heterologous broadly neutralization antibody (bNAbs) and screening for HPV and PAP smear among HIV/AIDS infection among Nepalese population.*

**Keywords:** Cohort, Progressor, Autologous, Assessment, HIV/AIDS, Anti-retroviral treatment (ART), Health.

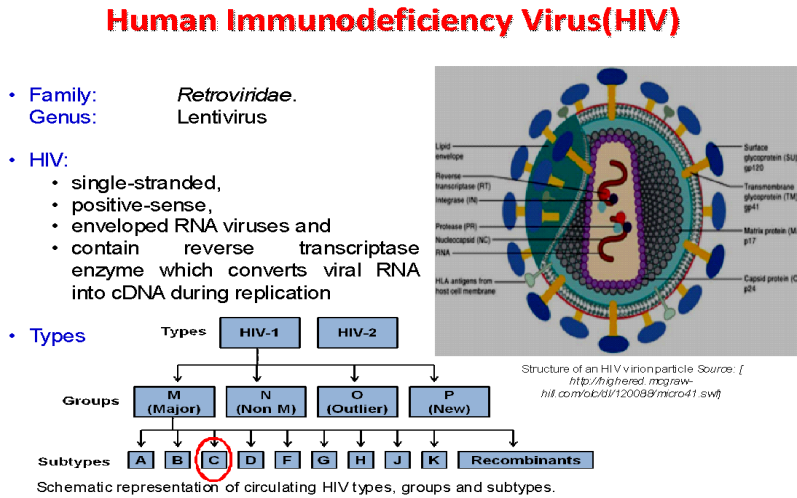
## Introduction

National Policy on HIV and STIs is aimed to establish Nepal as "Society free of HIV/AIDS and STIs". The current statistic shows that 29,503 out of 30 million populations are living with HIV wherein, adult prevalence rate is 0.13 percent. In Nepal, the key population prone to HIV/AIDS and STIs are categorized to be male sex workers, female sex workers, transgender sex workers, gay men, prison population, people who inject drugs and the migrants going to India. As of December 2019, 18,628 receive free ART from 78 sites located in 60 districts of Nepal. There are more than 175 HIV testing and counseling services operated nationwide. The support from the Government to implement the various strategies has been significant, along with the help of our Government and external donor agencies, to execute our vision towards ending the HIV/AIDS epidemic by 2030.

Nepal was in a state of concentrated epidemic having prevalence of < 1 percent in the general population and more than 5 percent in IDUs. The estimated number of cases being 50,288 and laboratory confirmed cases are 20,583 (Male = 13,157, Female = 7,417 and TG = 9) and 7,142 are on ART as of 2012.

Human Immunodeficiency Virus (HIV) is a member of genus Lentivirus, belonging to the family *Retroviridae*. Lentiviruses are single-stranded, positive-sense, enveloped RNA viruses, and contain reverse transcriptase enzymes which convert viral RNA into cDNA during replication. There are two types of HIV namely HIV-1 and HIV-2. There are 4 main groups which include major (M), non Major (N), outlier (O) and new (P). HIV-1 has nine subtypes namely A, B, C, D, F, G, H, J and K. There is emergence of a number of recombinants reported worldwide. Subtype C has been reported among IDUs in Nepal.

Figure 1: Morphology of Human Immunodeficiency Virus.



## HIV Testing for Screening and Diagnosis in Adults

HIV screening and testing is performed based on serial (First, Second and third as tie-breaker) testing using rapid testing kits and include Determine, Unigold, and Statpack at HIV Testing and Counseling (HTC ) sites (formerly called as Voluntary Counseling and Testing, VCT) and at the peripheral level. ELISA testing is done as a screening test in the blood bank and at higher level laboratories with well-equipped laboratories.

Figure 2: HTC acts as an entry point to HIV prevention care and support Services for risk group of people.

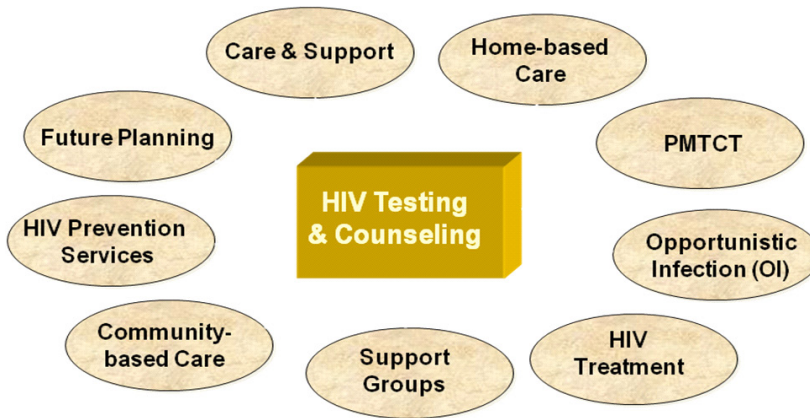


Figure 3: HIV testing at different setting for HIV care in Nepal.

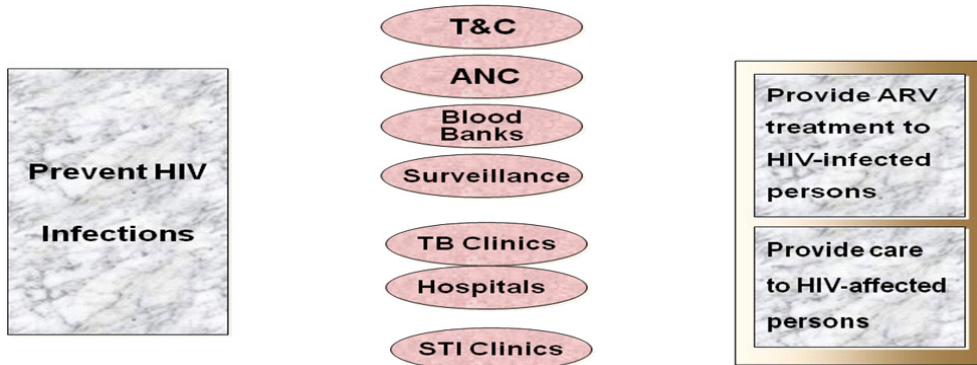


Figure 4: National Algorithm for HIV testing.

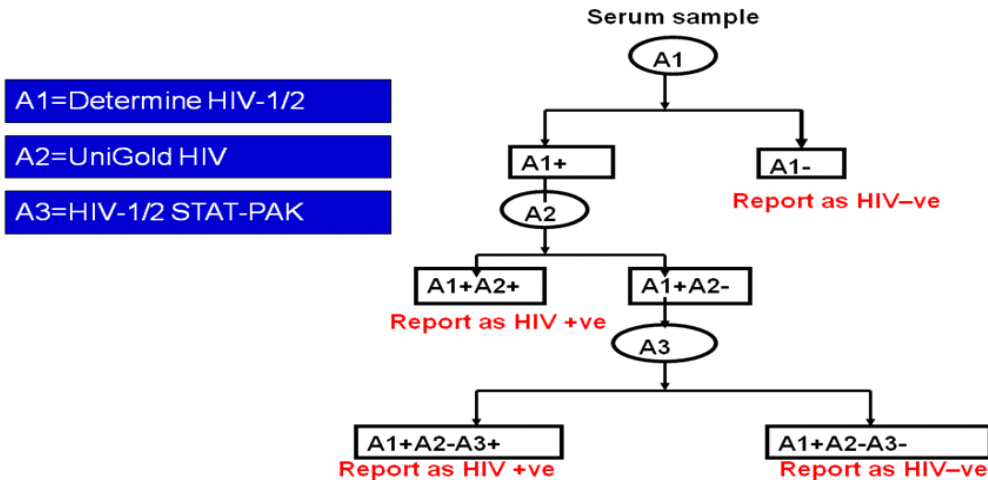


Table 1: showing sensitivity and specificity of HIV testing kits used in national Algorithm<sup>1,2,3</sup>

Rapid HIV Test Kits	Sensitivity (percentage)	Specificity (percentage)
Determine HIV-1/2	100(95.5-100.0)	99.4(96.7-100.0)
Uni-Gold HIV	100 (95.5-100.0)	100.0(97.9-100.0)
HIV-1/2 STAT-PAK	100 (98.8 - 100)	99.3 (98.1 - 99.9)



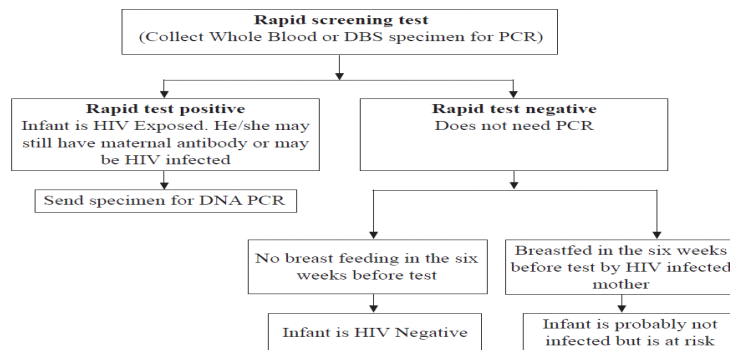
## HIV Testing and Diagnosis Services for Infant and Children

There are three strategies for early infantile diagnosis (EID) to diagnose HIV infection

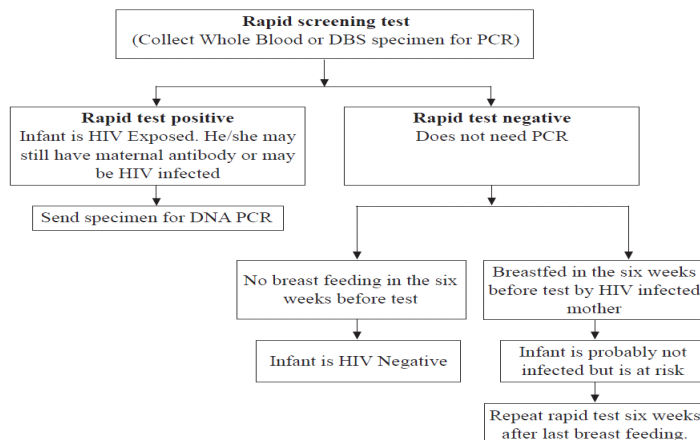
- Strategy for diagnosis of HIV in infants six weeks to nine months of age
- Strategy for diagnosis of HIV in infants nine to eighteen months of age
- Strategy for diagnosis of HIV in infants more than eighteen months of age

The baby tested by strategy 1 and strategy 2 should be tested by strategy 3 after 18 months of age which is similar to adult HIV diagnosis (based on antibody testing which is raised against HIV in baby serum)

**Figure- 5: Strategy for diagnosis of HIV in infants six weeks to nine months of age**



**Figure- 6: Strategy for diagnosis of HIV in infants nine to eighteen months of age**



## Results and Discussion

### Milestone in HIV Reference Laboratory Establishment

CD4 Count Investigation:	2005
EQAS for HIV Antibody Test:	2008
HIV viral load Test (For PLHIV who undergo Clinical /Immunological Failure):	2009
Viral Load EQAS:	2011
Test Kits Evaluation:	2013
CD4 Machine Evaluation:	2013
Early Infant Diagnosis (EID):	2014
EID EQAS:	2014
HIV/Syphilis Duo Kits Evaluation:	2014
Viral Load Scale up (for All PLHIV on ART for 6 months):	2014
HIV Drug Resistance Monitoring and Surveillance:	2015

### Evaluation of Instruments and Kits

HIV reference laboratory at national public health laboratory (NPHL) evaluates instruments which are used in HIV/AIDS patient care for maintaining uniformity in quality provided at peripheral health institution including HIV testing centers (HTCs). Evaluation of instruments for point of care testing of CD4 like PIMA and PARTEC CD4 testing instruments by comparing the test result with BD Facts caliber instrument as standard. Evaluation of test kits like rapid testing kits for HIV and other kits like RPR for syphilis. Evaluation of instruments like biochemistry analyzers for laboratory monitoring tests for HIV patients is also done.

**Table 2:** Showing instruments and testing kits used for evaluation.

Laboratory comodities	Evaluation method used	
Presto for CD4 test	Compared with BD facts caliber	2015
PIMA for CD4 test	Compared with BD facts caliber	2014
PARTEC for CD4	Compared with BD facts caliber	2013
RPR test kits	Compared with test kits used at NPHL	2013

### National Quality Assurance Program

HIV Reference laboratory unit is involved in national quality control program on regular basis by retesting of all positive and 10% of negative samples tested at HTCs. The retesting is done from dried blood spots (DBS) cards sent from HTCs to NPHL. After retesting regular feedback is provided to participating HTCs. Basic and refresher

trainings are provided to laboratory personals working at HTC's by NPHL. Out of 180 HTC sites, only 20 sites send samples every month are received at NPHL for national Quality Assurance Scheme (QAS). Other HTC's are encouraged to participate in the quality assurance program.

**Table 3:** Showing laboratory parameters, training, quality control, and feedback system.

<b>Parameters</b>	<b>Training</b>	<b>Quality control</b>	<b>Feedback system</b>
Rapid testing at the point of care (POC)	Basic and refresher trainings to all laboratory professionals at POC	Retesting of DBS samples sent from POC to NPHL	Regular feedback
ELISA test for TTI screening for screening blood bags	Basic and refresher training to all laboratory professionals	Quality control (proficiency Testing) sera are sent from NPHL to all sites	Regular feedback
Confirmation of diagnosis in case of indeterminate results	Proper consultation and confirmation in case of indeterminate results	confirmation in case of indeterminate results at NPHL	Coordination with POC and other laboratories

## External Quality Assurance Program

HIV Reference laboratory unit takes part in external quality assurance program in CD4 testing, viral load testing and early infantile diagnosis for children with different organizations. Proficiency testing (PT) samples are received from concerned centers and regular results are sent to international organizations and feedback is received by NPHL. HIV reference laboratory has received certification from respective organization.

**Table 4:** showing laboratory parameters, training, quality control and feedback system for EQA.

<b>Parameters</b>	<b>Training</b>	<b>Quality control</b>	<b>Feedback system</b>
CD4 testing	Testing training	PT sample from Bangkok, Thailand	Regular feedback
Viral load testing	Basic training	National Reference Laboratory (NRL) Australia	Regular feedback
HIV testing for early infantile diagnosis (EID)	Basic training	APRO Laboratory Bangkok	Initiation of HIV DNA for EID

The unit participates in external QAS (EQAS) for HIV testing by rapid methods from National Reference Laboratory (NRL), Australia. 400 CD4 tests per month at NPHL, 1600 tests from 18 sites per month (1 BD facs caliber, 13 BD facs count, 2 PIMA, and 2 Partek machines). The unit participates in CD4 EQAS by Sri raj Hospital Bangkok, Thailand and at present 14 sites participating in EQAS, other sites are going to be enrolled. Viral load tests 60 per month at NPHL only, EQAS from CDC, USA, currently services are provided through FHI Bangkok and Shortly NPHL will start HIV DNA PCR for EID services. It conducts training at NPHL to enhance, strengthen and sharpen the knowledge and laboratory testing capacity of laboratory professionals.

## **Training for Laboratory Personnel**

HIV Reference laboratory unit provides training to laboratory personnel on CD4, early infantile diagnosis, viral load, DBS external quality assurance training. The different training modules include: basic and refresher laboratory training on VCT/STI, training on dried blood spot (DBS) technique, training on laboratory monitoring of anti-retroviral treatment, and training on CD4 testing.

## **Training modules, SOP, and manuals for laboratory personnel**

- |   |      |
|---|------|
| 1. Training Module for basic training for laboratory personal                     | 2009 |
| 2. Training Module for refresher training for laboratory personal                 | 2009 |
| 3. Training Module for preparing DBS for laboratory personal                      | 2009 |
| 4. Training Module for CD4 testing for laboratory personal                        | 2009 |
| 5. Training Module for Early Infantile Diagnosis (EID) for laboratory personal    | 2010 |
| 6. Training Module for viral load testing for laboratory personal                 | 2011 |
| 7. National Guideline for Early Infantile Diagnosis (EID)                         | 2012 |
| 8. National Guideline for Prevention of mother to child transmission (PMTCT)      | 2011 |
| 9. National Laboratory policy   | 2013 |
| 10. HIV Viral Load Testing Scale-up Plan for Nepal 2014-2018                      | 2014 |
| 11. National Strategy on HIV Drug Resistance Monitoring and Surveillance in Nepal | 2014 |

## **Types of Research and Publications**

Multiple researches were carried out at NPHL related to CD profile of healthy Nepalese population, subtypes of HIV-1, HIV syphilis duo testing kits, viral load scale-up, co-receptor usage, HIV drug resistance. The golden period in the successful prevention, treatment, and treatment monitoring with increased viral load scale in the year 2012 to 2015 was led by Ex-Director Dr. Geeta Shakya and Head of the Department Dr. Shravan Kumar Mishra.

The study was carried out by Shakya G. et. al., (2012) among 602 healthy adult populations for subtypes of lymphocytes showed the average value of CD4, CD8, CD4:CD8 ratio, and ALC of Nepalese adult population were ranging from 538-1034, 337- 797, 0.93- 2.11 and 1876-3548.

The study was carried out by Mishra SK et. al., (2013) at the Antiretroviral Therapy Centre of Seti Zonal Hospital (SZH), Dhangadi in the Western region of Nepal. The study included 760 HIV infected heterosexual, migrant laborer to India from Nepal and their spouses and children. CD profile was enumerated by FACS Count System. Out of 760, 33(5%) had normal (between 1-4) CD4/CD8 ratio, 727 (95%) had abnormal ratio (less than 1) of CD4/CD8. The chance of getting IRIS after ART treatment initiation in HIV infected people was 47 percent among which 30 percent were found to be at high risk of getting IRIS (having CD<sup>+</sup>/CD8<sup>+</sup> ratio less than 0.15) and 17 percent had chance of immune reconstitution inflammatory syndrome (IRIS) in future course of treatment (having CD<sup>+</sup>/CD8<sup>+</sup> ratio between 0.15-0.30). The study provides the first baseline data on CD4, CD8, and CD4<sup>+</sup>/CD8<sup>+</sup> ratio in HIV infected people in far-western region of Nepal and will sensitize the clinician about the risk of developing an IRIS during ART treatment. Furthermore, no test is currently available to establish an IRIS diagnosis. Standardized disease-specific clinical criteria for common infectious manifestations of the disease should be developed.

The study was carried out by Shakya et al., (2016) found the performance characteristics of the SD Bioline HIV/Syphilis duo kit were found almost concordant with the kits being used for HIV and Syphilis diagnosis separately. The sensitivity, specificity, Negative predictive value and Positive predictive value of the kit for HIV diagnosis were 100 percent (95 % CI 83.18–100 %, 99.96–100 %, 83.18–100 %, and 99.96–100 %, respectively). Kappa value was found to be 1.0. Out of total cases, results of 9985 (99.85 %) cases were concordant with National algorithm for syphilis diagnosis. Thirteen (0.13 %) cases were found false positive while two were false negative. The sensitivity of the kit for syphilis diagnosis was found to be 95.45 percent (95 % CI 84.86–98.74 %) and specificity was 99.87 percent (95 % CI; 99.78–99.92 %). Positive predictive value was 76.36 percent (95 % CI; 63.65–85.63 %) and Negative predictive value was 99.89 percent (95 % CI; 99.39–99.99 %). Kappa value was found to be 0.85.

The study was carried out by Mishra et al., (2020) established National reference value of CD4 to be (798±335) cells/μl for healthy Nepalese adults. They found the average values (mean±SD) of CD4 and CD3 T cell in this study was (819±294) cells/μl and (1546±532) cells/μl, respectively. The absolute CD4 T cell (914±303) and CD3 T

cell ( $1671 \pm 560$ ) count in female were significantly higher than those from male, CD4 ( $757 \pm 270$ ) and CD3 ( $1465 \pm 499$ ) (p value-0.000).

## Issues and Challenges

Scale-up of HTC sites and increment in coverage of HIV/STI testing, increase in the coverage of IDUs in the reach of HTC services. Scale up of viral load assay in the regional level laboratories, organism isolation, and molecular diagnosis of STIs and OIs. Maintenance of equipment, annual maintenance contract, calibration of equipment, pipettes, bio-safety cabinet, and maintenance of pressure in the room need to be resolved.

Issues that require attention are risk factors assessment before the start of ART and six months after the start of ART, Drug resistance assay, issue of IRIS development after ART among HIV/AIDS, identification of cohort for Rapid Progressor, long-term non-progressor (LTNP), non-progressor (NP) based on viral set point among HIV infected before ART initiation, subtype identification in HIV-1, the search of autologous and heterologous broadly neutralization antibody (bNAbs) and screening for HPV and PAP smear among HIV/AIDS infection among Nepalese population.

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# A STUDY OF ANEMIA AMONG FEMALE STUDENTS OF UNIVERSITY CAMPUS, RAJARSHI JANAK UNIVERSITY, JANAKPURDHAM, NEPAL

Uday Kant Jha\*

## Abstract

*World Health Organization estimates 293 million young children and 468 million non-pregnant women to be anemic. Women have a higher prevalence of anemia than men, ranging from 21-80 percent worldwide. Improper food habits, stress, and a hectic schedule all contribute to poor nutrition which can contribute to a higher risk of anemia. Therefore, this study was conducted in the Department of Hematology to determine the status and severity of anemia among the female students of University Campus, Rajarshi Janak University, Nepal. The hemoglobin was estimated by cyanmethaemoglobin method using Drabkin's solution. Among total female students, 38.0 percent were anemic and 26.0 percent students have mild anemia, 10.0 percent have moderate anemia, and 2.0 percent have severe anemia. The mean hemoglobin concentration among the students was 11.45 gm/dl. According to the findings of this study, it can be concluded that the mild form of anemia is common among female student participants.*

**Keywords:** Anemia, Female, Hemoglobin, Students, University

## Introduction

Anemia is defined as a decrease in either the percentage of red blood cells (hematocrit), or a decrease in the concentration of hemoglobin (Hb) in a sample of venous blood when compared with reference values. World Health Organization (WHO) estimates 293 million young children and 468 million non-pregnant women to be anemic. Among which 50 percent are due to iron deficiency (ID). Anemia occurs when the amount of red blood cells (and thus their oxygen-carrying capability) is insufficient to meet the body's

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\* Mr. Jha is Assistant Lecturer at Department of Hematology, RJU, University Campus, Janakpurdham, Nepal (Email: dr.udaykant@gmail.com)



physiologic requirements. Age, gender, residential elevation above sea level (altitude), smoking behavior, and different phases of pregnancy all influence physiologic demands. Anemia can be caused by a variety of factors, including iron deficiency, nutritional deficiencies (such as folate, vitamin B12 and vitamin A), acute and chronic inflammation, parasitic infection, and inherited or acquired disorders that affect hemoglobin synthesis, red blood cell production, or red blood cell survival (WHO, 2007). Anemia is a major public health issue around the world, with a prevalence rate of 43 percent in developing countries and 9 percent in developed countries (Habibzadeh, 2012). It affects people at all stages of life, but pregnant women and young children are more vulnerable, raising the risk of impaired cognitive and physical development, as well as an elevated mortality and morbidity rate (Khaskheli et al., 2016).

Women have a higher prevalence of anemia than men, ranging from 21-80 percent worldwide. Improper food habits, stress, and a hectic schedule all contribute to poor nutrition. According to evidence, students who live in hostels are at a higher risk of anemia due to their busy college schedules, clinical assignments, stress, and the hostel's inappropriate diet. Iron insufficiency is a serious problem for women in developing countries (Yadav, 2020). Adolescence is an especially vulnerable period in the human life cycle for the development of nutritional anemia, which has long been overlooked by public health initiatives. Due to a variety of factors, girls are more prone to be victims. The female youngster is more likely to be ignored in a family with minimal finances. She is deprived of good food and education, and is utilized as an extra working hand to carry out the household chores. The increased stress of menstrual blood loss, whether regular or atypical, triggers crises far too frequently (Chaudhary & Dhage, 2008).

### **Objective of the Study**

This study was conducted to determine the status and severity of anemia among the female students of University Campus, Rajarshi Janak University, Janakpurdham, Nepal.

### **Significance of the Study**

Hemoglobin is the main protein in your red blood cells. It carries oxygen, and delivers it throughout your body. If you have anemia, your hemoglobin level will be low too. If it is low enough, your tissues or organs may not get enough oxygen. The erythropoietin test measures the amount of a hormone called erythropoietin (EPO) in blood.

## Materials and Methods

This descriptive cross-sectional study was conducted in the Department of Hematology, University Campus, Rajarshi Janak University, Janakpurdham, Nepal from October 2020 to December 2020. All the interested healthy female students from different study program and study year were included. The student participants were from Bachelor of Science in Medical Laboratory Technology (B.Sc. MLT), Bachelor of Science in Computer Science and Information Technology (B.Sc. CSIT), and Bachelor of Computer Application (BCA), Bachelor of Business Administration (BBA), and Master of Business Administration (MBA) programs. A well-designed Performa was prepared and recording of each subject like age, weight, marital status, study program, and study year must put scientifically. Students with cardiovascular illness, renal disease, diabetes, obstructive or restrictive lung disease and other chronic illness, known hemoglobinopathies and worm infestations were excluded from the study.

The hemoglobin was estimated by cyanmethaemoglobin method using Drabkin's solution. This is the internationally recommended method for determining hemoglobin. In this method, blood is diluted in a solution containing potassium cyanide and potassium ferricyanide. The later converts Hb to methemoglobin which is converted to cyanmethemoglobin (HiCN) by potassium cyanide. The absorbance of the solution is then measured in a spectrophotometer at a wavelength of 540nm or in a colorimeter using a yellow green filter. In cyanmethaemoglobin method, 5ml of Drabkin's solution was measured in a test tube and firstly, the blood sample was mixed by gentle inversion and 20 $\mu$ l of venous blood sample was pipetted by using Hb pipette. The outer surface of the pipette was wiped to remove excess blood and placed the pipette into the tube containing Drabkin's solution and slowly expelled the blood into the solution. It was mixed well and let it to stand undisturbed for 5 minutes. The absorbance of this solution was measured at 540nm in a spectrophotometer after adjusting the OD at zero by using Drabkin's solution as blank. Finally, the hemoglobin concentration was calculated by using a standard curve (Chaudhary & Dhage, 2008; Kapoor et al., 2002).

In present study, all the student participants were categorized into different groups as Group-1, 2, 3 and 4 based on the concentration of hemoglobin according to WHO criteria (Yadav et al., 2020).

- Group 1; Normal = >11gm/dl
- Group 2; mild =10–11 gm/dl,
- Group 3; moderate =7 to 9.9 gm/dl, and
- Group 4; Severe anemia= <7 gm/dl

The data generated during the study were analyzed by using MS Excel Sheet as frequency and percentage.

## Results and Discussion

In this study, a total of 50 students from different study programs and levels of University Campus, Rajarshi Janak University, Janakpurdham were participated. The participants included 90.0 percent bachelor level students and 10.0 percent master level students. The highest number of students was from B.Sc. CSIT and B.Sc. MLT program (28.0% each) followed by BBA (24.0%), BCA and MBA (10.0% each). The age of student participants was ranged from 19-32 years. The distribution of participant's age, weight and marital status of study participant is shown in Table 1.

Among total female students participated in the study, 38.0 percent (n=19) were some degree of anemia while remained students (62.0%, n=31) have normal level of hemoglobin concentration (Figure 1). Among the total students (N=50), 26.0 percent (n=13) have hemoglobin concentration of 10-11 gm/dl (i.e. mild anemia), 10.0 percent (n=05) students have hemoglobin concentration of 7-9.9 gm/dl (i.e. moderate anemia), and 2.0 percent (n=01) have hemoglobin concentration of <7 gm/dl (i.e. severe anemia) (Figure 2). The mean hemoglobin concentration among the students was 11.45 gm/dl.

When compared with different characteristics of student participants with status of anemia, among the total anemic students, the highest number of students has ages between 21-25 years (57.9%) followed by 16-20 years (31.6%) and lowest number of students has ages between 26-30 years (10.5%). Out of total anemic students, the highest number of student have weight between 41-50 kg (47.4%) and lowest have weight of 61-70 kg (5.3%). Among total anemic students, 89.5 percent were unmarried while 10.5 percent were married.

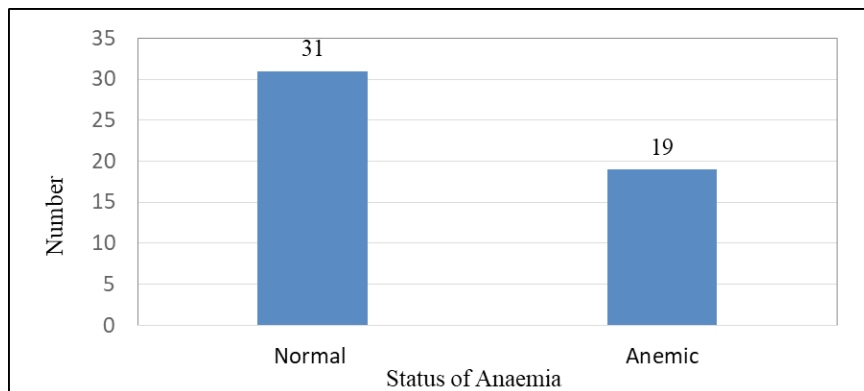
**Table-1: Socio-demographic and Educational Characteristics of Study Participants**

Characteristics	Number of Participants (N=50)	Percentage
<b>Age (Years)</b>		
16-20	15	30.0
21-25	29	58.0
26-30	04	8.0
31-35	02	4.0

<b>Weight (Kg)</b>		
31-40	05	10.0
41-50	29	58.0
51-60	09	18.0
61-70	06	12.0
71-80	01	2.0
<b>Marital status</b>		
Married	04	8.0
Unmarried	46	92.0
<b>Education Level</b>		
Bachelor	45	90.0
Master	05	10.0
<b>Study Program</b>		
BBA	12	24.0
B.Sc. CSIT	14	28.0
B.Sc. MLT	14	28.0
BCA	05	10.0
MBA	05	10.0

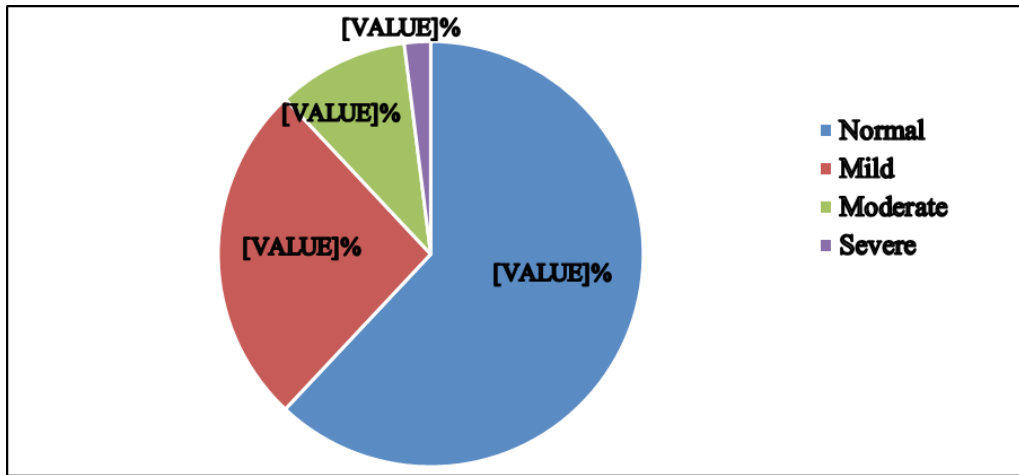
Source: Self Calculation

Table 1 has been shown in the following figure:



Source: Self Calculation

**Figure 1: Status of Anemia among Female Student Participants**



Source: Self Calculation

The frequency of students having anemia with regards to study level and study program is shown in Table-2.

**Table-2: Anemia among Different Characteristics of Students.**

Characteristics	Number of Anemic Students (n=19)	Percentage
<b>Age (Years)</b>		
16-20	06	31.6
21-25	11	57.9
26-30	02	10.5
<b>Weight (Kg)</b>		
31-40	05	26.3
41-50	09	47.4
51-60	04	21.0
61-70	01	5.3
<b>Marital status</b>		
Married	02	10.5

Unmarried	17	89.5
<b>Education Level</b>		
Bachelor	18	94.7
Master	01	5.3
<b>Study Program</b>		
BBA	05	26.3
B.Sc. CSIT	05	26.3
B.Sc. MLT	07	36.8
BCA	01	5.3
MBA	01	5.3

Source: Self Calculation

## Results and Discussion

The most frequent kind of malnutrition-related illness is anemia, which is a public health concern. Several studies have found a high prevalence of anemia among students as a result of a nutritionally deficient diet. Present study is conducted to assess the status and severity of anemia among the female students of University Campus, Rajarshi Janak University, Janakpur, Nepal. The age of student participants was ranged from 19-32 years. In present study, the minimum recorded concentration of hemoglobin among female participants was 6.8 gm/dl and maximum concentration of hemoglobin was 14.5 gm/dl. The mean hemoglobin concentration among the students was 11.45 gm/dl. Among total female students participated in the study, 38.0 percent (n=19) were some degree of anemia while remained students (62.0%, n=31) have normal level of hemoglobin concentration. Among the total students (N=50), 26.0 percent (n=13) have hemoglobin concentration of 10-11 gm/dl (i.e. mild anemia), 10.0 percent (n=05) students have hemoglobin concentration of 7-9.9 gm/dl (i.e. moderate anemia), and 2.0 percent (n=01) have hemoglobin concentration of <7 gm/dl (i.e. severe anemia).

-In a study by Jawed et al. (2017) from Pakistan, anemia was observed in 33.4 percent students out of total 221 students. 25.8 percent of students were having mild anemia, 7.2 percent had moderate anemia and only 0.5 percent were severely anemic. In study of Yadav et al. (2020) from Biratnagar, Nepal, the minimum recorded concentration of hemoglobin among female student participants was 6 gm/dl and maximum was 14 gm/dl. The mean hemoglobin was 11.18 gm/dl for female students. Among 55 female

participants 41.8 percent were mild anemic, 9.1 percent were moderately anemic and 1.8 percent were severely anemic. Both the result showed a common finding that the percentage of severely anemic was less than 2 percent. Our study also reported the high percentage of mild anemia compared to moderate and severe anemia. A higher prevalence of anemia was noted by Rajaratnam et al. (2000) in Tamil Nadu, India. Toteja *et al.* (2006) found 90.1 percent prevalence of anemia among adolescent girls from 16 districts of India, with 7.1 percent having severe anemia. A study observed anemia in 29.07 percent of students out of which prevalence of anemia was significantly higher among female (41.92%) than male (11.64%) as analyzed (Agarwal et al., 2017).

When different features of student participants with anemia status were examined, the total anemic students had the largest percentage of students aged 21-25 years (57.9%), followed by 16-20 years (31.6%), and the lowest percentage of students aged 26-30 years (10.5%). The majority of anemic students (47.4%) have a weight of 41-50 kg, whereas the minority has a weight of 61-70 kg (5.3%). 89.5 percent of anemic students were unmarried, whereas 10.5 percent were married. Specifically, the prevalence of anemia among people in poor regions is twofold compared with their rich counterparts in numerous countries. The potential demographic risk factors associated with low anemia proxies in respondents include age, work status, menstrual cycle, breastfeeding and number of kids as well as insufficient intake of nutrients (AlFaris et al., 2021).

## Conclusion

According to the findings of this study, it can be concluded that the mild form of anemia is common among female student participants. Though the students are not severely affected, it is a reason for concern because the cause could be due to poor dietary habits or a reduction in food facilities. To obtain a complete analysis of causes for the risk of anemia among female students, more research with a complete food habit of the individuals is required.

## Acknowledgements

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# THE PLACE OF JANAKPUR IN THE ORIENTAL PHILOSOPHY

Ram Sagar Pandit\*

## Abstract

*Ancient Mithila was very famous in the world. The Mithilapuri was named by King Mithi who was the famous king of Mithila. Ramayana, Mahabharat, and Puran were also explained in Mithilapuri. Janakpur was the capital of Mithilapuri. In ancient times, the name of Janakpur was Baijanta, which is available in Balmiki Ramayana. The description of Baijanta is also available in the Devi Bhagabatpuran. After the disappearance of Baijanta, Janakpur made a famous city in the period of the Janak dynasty. In that period, Ram (A prince of Ayodhya) and Sita (A princess of Mithila) married with one-another and made a husband and wife. Among the Mithi dynasty, King Janak was very famous king in Mithila kingdom. Different scholars of various subjects participated in the discussion programme at the palace of King Janak. Among them, some were very famous scholars named Yagyabalkya, Ashtabakra, Gargi, Maitreyee, etc. By that discussion, King Janak was attributed by sage king (degree).*

**Keywords:** Janak, Gargi, Vishnu Puran, Devibhagawat, Puran

## Introduction

Janakpur refers to the village of the father. This means Janakpur is named by the name of sage King Janak. Both epics, Ramayana and Ramcharitramanas were written by Balmiki and Tulsi Das authenticate those respectively. Besides these, Janakpur was mentioned in the ancient religious scriptures like the Saptapath Brahman, the Brihad Vishnu Puran, the Vishnu Puran, the Vayu Puran, and the Mahabharat, etc.

The ancient name of Janakpur was Baijanta. It was justified by Balmiki Ramayana as:

पुरस्य सुकृत नाम बैजन्तमिति श्रुतम् ।

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\* Dr. Pandit is Formar Associate Professor at Population Studies, TU, R.R.M. Campus, Janakpurdham, Nepal.

निवेशं यत्र राजर्षिर्निमिश्वके महायशः ॥

This above Sanskrit sloka also notes that the Baijanta was named by the name of great King Nimi and kept the capital of Mithila Kingdom. It was the first city of Mithila according to the arguments of the Devibhagawat Puran.

Mithi became a king after Nimi. Mithi changed the name of Baijanta as Mithilapuri. Mithilapuri was made by two words like Mithila and Puri, Mithila refers to the state and Puri to capital. In this way, it showed that Mithilapuri was the capital of Mithila. Mithilapuri was explained by ancient epics like Ramayana, Mahabharat, and Puran as a popular city of Mithila.

After some decades, Ajatshatru (King of Magadh) conquered Mithila and joined Magadh. Magadh king changed the name to Mithila as Tirmukti which was the corrupt name from the Tirhut. In that era, Mithila disappeared from history. The Gopal Raja Bansavali showed the Mithila as Tira. There is no evidence of when Mithilapuri made Janakpurdham.

First, we get the words Janakdesh and Janakpur in the book 'Bhuparikrama' written by Vidyapati a great poet of Maithili from 1360 to 1450 AD. Sage King Janak was a renowned personality for scholarly in the sectors of learning, Justice, and discussion over the sacred scriptures. Scholars from different parts of the world came to participate in the discussion program organized by Royal scholars of Mithila state.

According to the Mithila Mahatmya on the basis of Brihad Vishnu Puran noted that the boundary of ancient Janakpur, the following Sanskrit shloka has cleared the boundary of Janakpur.

समारभ्यमहाभागपुर्वे हरिहरालयम् ।

तयामैत्रेय निर्दिष्टा पश्चिमेवाजलेश्वरम् ॥

गिरिजालय मारभ्य यावद्धैधनुष स्थितिः ।

इतिदुर्गस्य मर्यादा मिथिला सा महापुरी ॥

According to the above shloka, it started from Hari-haralaya of east to Jaleshwar of the west and from GirijaSthan of south to Dhanusha of north. In that time, Janakpur was greater than now. The kings of Janak dynasty ruled for fifty seven generations from Nimi to Karal. After the Janak dynasty, Janakpur became out of light and went into hole of history.

Modern Janakpur is searched by Late Surkishor Das Baishnab. He was the first Mahantha (Head) of Janaki temple. According to the Mithila Bilas, About three hundred-fifty years ago, he came to Janakpur from lohagarha of Rajsthan (India). Mithila Bilas was written by Sage Surkishor Das Baishnab. At that time, the king of Makawanpur named Maniksen donated 1400 bighas land for the management and maintenance of religious places especially Ram Temple of Janakpur on the impressive faith of Sage Surkishor Das in 1984 B.S. In this way, Janakpur made a famous place in the field of Saints; Mithila and Janakpur have a greater importance in the field of Hindu society. It needs a broad study and research to understand deeply.

## **Review of Literature**

Ancient works of literatures are followed by people for the better survival of life. Some magnum opus has explained in detail about Mithila and Janakpur. They are Ramayana, Mahabharat, Brihat Vishnu Puran. We can get more about Mithila and Janakpur by those religious books.

Janakpur is the place, where world mother Janaki was born and married with lord Ram who was the elder son of King Dasharath. He was an emperor of Ayodhya kingdom. Out of six philosophies of Aryan culture, were developed in this ancient land. It was also the centre of civilization and culture. People came to Janakpur from different parts of the world to learn the different subjects by Mithila scholars. We get a broad description of Janakpur in Suptapath Brahman written by Yagyawalkya. Other saints and personalities like Ashtabakra, Gargi, and Matreyi increased their knowledge in this sacred land.

Mithila King Videh was also an impressive king in Janak dynasty. We get the description of his impressions in different scriptures like Veda Upanishad, Saptapath Brahman and Baudha philosophy. The significance of the Janakpur are described in different Baudha scriptures like Makhadeo, Choolajanak, Vinilak, Mahapanad, Gandhar, Kumbhakar, Suruchi, Sadhin, Sankhapal, Nimi, Mahajanak, Bhuridhatta, Mahanarakashyap, Vidur and Mahakumbh. They explained the different Kings of Mithila also.

Janakpur is chiefly incorporated in the Hindu sacred scriptures including the Saptapath Brahman, the Vishnupuran, the Balmiki Ramayana, the Mahabharat and the Shrimadbhagabat Mahapuram. These literatures are the main sources for understanding the historical and cultural evolution of Videh. Dr. Jaykanta Mishra (1976, January 1) has

written in his book, 'History of Maithili' literature the earliest available records reveal that Mithila was for long a centre of Vedic and Upanishadic lore.

According to the Vayupuran, the rulers of Videh were also known by the name of Janak dynasty. According to the "BrihadaranyakUpanishada" and the counts in the Purans, the domain of Mithila seems to have held its eminence in spiritual discussion. It also seems to have had men of learning and thinkers who were well versed in the science of spiritualism.

Seven Sages (Saptarishi) named Kashyap, Vashishtha, Bhardwaj, Gautam, Vishwamitra, Jamdagni, and Arundhati had always participated in the discussion assembly of Sage King Janak. They advised the king on different subjects. At that time, Janakpur was rich in education. From the every corner of the world, scholars had come to participate for learning of politics, Diplomacy, Ethics, Chemistry, Astronomy, Geography, History, Demography etc. Such acquired education they had applied at their own places for better life of human beings.

Some modern scholars have also written to Mithila and Janakpurdham such as Dr. Yogendra Prasad Yadav, Tara Prasad Upadhyay, Ram Kumar Sharan, Dr. Ram Dayal Rakesh, Ram Hriday Prasad, Pt. Krishna Chandra Mishra, Dr. Shailendra Narayan Mallik, Dr. Rawati Raman Lal, Shiwendra Lal Karna, Basudeo Lal Das, Dr. Rajendra Prasad Bimal, Ram BharosKapari, Makhana Jha etc. Various resources of the ancient era are available for researching and writing in Janakpurdham. Now, these resources encourage scholars to write and research about Mithila and Janakpurdham.

## **Objectives of the Study**

The key objective of Oriental Philosophy is to introduce some important ideas of Eastern Philosophies and to show how these ideas are of significant practical importance in everyday life. The specific objectives of this study are as follows:

- To compend the current thoughts that address the existential concerns of the human being and,
- To arise in the Middle East, India, and China, among other places including in the world for around 5000 years.

## **Significance of the Study**

Oriental philosophies are considered some of the most intricate on the planet. They are also very popular, since they have many followers in different religious currents and they

have become increasingly influential in the West: sometimes, they even challenge and oppose the assumptions of their counterpart, Western philosophy.

Oriental or Eastern Philosophies are many and many different sets of beliefs and principles and scholars distinguish themselves from Western Philosophies. Oriental is used because they want to bring the roots to Chinese schools of thinking and Western because they offer the roots as the Greek schools of thought. Both comment on the appropriate philosophies of life in life about life. Eastern has many religious and or spiritual influences. Eastern has been more subjective and collective and spiritual or spiritually principled or both.

## **Materials and Methods**

Various spiritual books are written by many hermits, saints, ascetics, and spiritualists. Every written religious scripture has explained Janakpur as a centre of origin and development of such scripture spiritualism. Scholars use various types of methodologies for writing and researching. Data are needed for any research writing. Every research paper should include a full identification and description of each object, its associations, provenance, condition, treatment and present location. Such data should be collected in a limited area. It should be known by the researchers.

There are various ways to complete the research work. Specific research is a systematic controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena (Kerlinger, 2000). Nepali scholar Pokharel (2005) states that research may involve a scientific study and result in discovery which would aid either scientific development or decision making. The research itself is to dig and explore either in a totally new field or add some more information which already had been attempted. Cultural research is such research that involves the human in centre, how they do cultural activities and interact with one-another, within the certain norms, values, beliefs, systems, and way of life.

There are two types of collection of data. They are Primary and secondary. Primary data refers to the collection of data from related fields. This is called original data but secondary data is such data that are taken from published books, papers, magazines, journals, layouts etc. Both data are used for completing this paper. Different kinds of religious and sacred scriptures are used to collect such related data. The main books are Ramayana, Mahabharat, Brihad Vishnu Puran, various modern books are also used for data collection which are written by local scholars.

Some statistics are collected by the method of primary data. Enumerators have gone to the saints and hermits of Janakpurdham who have a good knowledge of Mithila and Janakpurdham. They help with studying and researching different religious books. Now also, some saints of Janakpurdham have written some books related to Mithila and Janakpurdham.

Generally, while making the objectives of the research project, there is a trend to follow-up the formula SMART. SMART refers to the specific, measurable, achievable, realistic, and time-bound. Various scholars accept different methods to analyze the data to complete the research paper. A researcher has to do research work. He should be clear with objectives and planning modalities to work. The researcher should always be alert to the writings to upgrade the research paper.

## **Discussion and Presentation**

Ancient Janakpur was a great kingdom in the field of education. It was the hub of education due to the expertness of Sage king Janak. Sage King Janak was the leader of all scholars and advised for a long discussion programme. The sage refers to the wise and scholar. So, King Janak was a scholar king in Mithila kingdom. Therefore, King Janak was called a sage king Janak or RajarshiJanak in the ancient world.

Various teachers (Guru) had engaged in that scripture discussion. Sage King Janak was a Hindu so he did work as Hinduism. He followed the religion of forefathers (Sanatan Dharma). Different saint teachers had gotten proper respect in the place of King Janak. These facts are written in detail especially in both epics: Ramayana and Ramcharitmanasa written by a great poet Balmiki and Saint Tulsi Das respectively. They both had explained the character of Ram and Sita who are symbol of characters. People from ancient to present follow those characters for a better life. They take such characters to form their children as an idealizer. In modern era, we learn also different lessons from such philosophy, how to make a better life for our family members.

On the marriage occasion of Ram and Sita from different kingdoms, king and emperors had come to Janakpur to show their strongness but any could not break the pinak bow of Janak except prince Ramchandra. Prince Ram Chandra showed skill as a spert archer. He uplifted the bow and broke into two pieces. It shows the Mithila was the state where art of archer was also ahead than other kingdoms. That bow was the Sage Parshuram who had got from lord Shiva. At that time, all presented kings and emperors had understood as a strong personality of King Janak and all praised Janakpurdham as a strong kingdom.

At the period of Karaljanak, Mithila was joined in Magadh by the victory of king Ajatshatru. Magadh king Ahatshatru changed the name of Mithila as Tribhukti, a part of Magadh. A corrupt form of Tirbhukti was Tirhut, Tirhut was known as the karnata's Mithila. Now, Tirhut is a commissary of Bihar where most of the Maithili people reside.

The first prose writer of Maithili named Jyotirishwar wrote a book named "Barnaratnakar'. He used different sacred pilgrimage places in his book except Janakpur during 1294 to 1348 AD. It means that Janakpur was not in light to 1348 AD.

First, we get the words, Janakdes and Janakpur in the book 'Bhumiparikrama' written by Vidyapati, a great poet of Maithili literature during 1360 to 1450 AD. Janakpur was named by the name of Sage King Janak, which was the capital of ancient Mithila Kingdom. Sage King Janak was renowned for scholarly in the scholars of learning, justice, and discussion over the sacred scriptures. After the Janak dynasty, Janakpurdham became out of light and went in the womb of history. Gradually, Mithila was covered by green forest and Janakpur made a part of green forest.

Modern Janakpur is searched by late Sage Surkishor Das Baishnab. He was the first Mahanth (Head) of the Janaki Temple. Nearly four hundred years ago, he came from lahagarh of Rajasthan (India). We get his detailed description in the book 'Mithila Vilas is written a religious book by himself. He established the worship place of goddess Sita and Lord Ram.

Some famous temples are the examples as Ram, Janaki, Laxman, Hanuman etc. Today Janakpur is a renowned religious place in the world especially among Hindus. In recent-time, Janakpur is made Janakpurdham by the impressive work of present mayor Lal Kishor Sah of Janakpurdham. Dham refers to the place, which is renowned in the field of pilgrimages and traditional rituals. This city is also called a city of ponds.

Some modern inns and guesthouses, hostels and lodges, educational and health institutions, club and libraries etc are the facilities for tourists. The electricity and roads are under the improved condition. Electrification, transportation and communication attract the tourists and uplift the level of business and commerce. Local people use Maithili, Hindi and Nepali languages for conversation. Some tourists come to Janakpur with their guides due to the difficulties of languages. Some foreigners visit Janakpurdham to study and research of historical and mythological cultures. Hindus come from different parts of the world to Janakpurdham for the blessing of Lord Ram and Goddess Janaki.

Janakpurdham has continued its various festivals, fairs, and ceremonies like Ram and Janaki Nawami, Vivah Panchmi, Jhoola, Chhath, Deepawali, Dashin, Sun and Moon Eclipse, Chauthachandra etc. Now, it is also a great hub of education Yagyabalkyas Sanskrit Vidyapith is the oldest high school in Janakpurdham. Another, Sarswati High school is also vey old in Janakpurdham. They have produced too much scholars in Nepal.

Different educational institutions are working in the field of education. Some technical and vocational schools and colleges are working in the field of occupational studies. The students of surroundings of Janakpurdham locality come to study and research. They gain higher certificates of education also. Now, constituent, community and private colleges (campuses) are working in the field of higher education. Among them, RamswarupRamsagar Multiple Campus (RRMC) is the oldest campus in Janakpurdham locality. It covers surrounding districts for higher education and researches. But now, the level of education has decreased in Janakpurdham locality due to looseness of central, provincial and local government agencies. For this work, teachers and guardians are chief responsive components. Now every responsive parts should be alert to control such decreasing trend of the level of education. Janakpurdham our pride, so we all save Janakpurdham as neat, clean and green Janakpurdham from present to future also.

## **Conclusion and Recommendations**

According to the Mithila Mahatmya, a pilgrimage cannot be completed without the pilgrim's visit of Janakpurdham. Janakpurdham is very famous due to holy ponds, temples and hermitages. Among them, Janaki temple and Ganga Sagar pond are the holiest cultural heritages for pilgrimages and tourists.

In another aspect, Janakpurdham is the place where world mother Janaki was born and married with lord Ram, who was the son of King Dasharath of Ayodhya. Out of six philosophies of Aryan culture described this ancient land. It was the centre of civilization and culture. People had come from different parts of the world to learn by sage king Janak. We get its detailed description in Saptapatha Brahman written by Yagyawalkya. Another saint and personalities like Ashtabkra, Gargi, Maitreyi had increased the knowledge from this sacred land. It is also noted that only one city in the world have more than one hundred fifteen ancient ponds and tanks. According to the different Hindu scripture, the eastern philosophy has originated from Janakpurdham.

Modern Janakpurdham has a broad area and dense population. It is the centre of governmental administrative offices. It is the capital city of Madhesh Pradesh. But, there



is lack of archeological study and research. It is needed an abroad study of Janakpurdham from ancient to present. Janakpurdham is identified by temples, hermitages and ponds.

Its educational condition is under reformative condition. Now, nearly two hundred schools are in conducting condition. Among them, English medium schools are more than general community schools. They are running without the syllabus of eastern culture. Different institutions of higher education are also working in the field of education.

Recommendation refers to suggestions for betterment. The writer wants to advice for deep study and research of ancient scriptures for the betterment of present life. We are living in the age of science and technology. Science and technology believe in the fact not only mythology.

Some recommendations are forwarded to improve in the field of scripture and civilizations. They are the basic tools for eastern philosophy.

### **1. Proper planning**

Without proper planning, anybody improves a wanted topic of philosophy. Plan refers to make a scheme for development. A plan is divided into two types:

- Short-term planning, and
- Long-term planning

Planning is needed to manage properly the ancient heritages of Janakpurdham.

### **2. Proper management of Temple, hermitage, pond and tanks**

Janakpurdham is identified by temples, hermitage, ponds, and tanks all over the world. They are our ancient cultural heritages. They are our pride by such heritages.

### **3. Better opportunities for scholar, researcher and discoverers**

Scholar, researcher and discoverers should be active for researching the old heritages of Janakpurdham. Government should also be active to attract foreign researchers for intensive research of our ancient culture and educations.

#### 4. Proverb and episodes

Janakpur is an ancient cultural and religious city in the world. Temples and hermitages of this city should be decorated by different religious proverbs and episodes.

#### 5. Rajarshi Janak University

It is a matter of pride for Janakpur. The major works of a University to study and research, which are needed for government and people. We hope this University will also research the ancient philosophy of Janakpur. Now, some such heritages have already disappeared and some are in the verge of extinction.

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## MARXISM IN TAGORE'S PLAY 'MALINI'

Sammi Kumari Karn\*

### Abstract

*The objective of this study is to review the play "Malini", by Rabindranath Tagore to analyze and interpret it from Marxist perspective. **Marxism**, a body of doctrine developed by Karl Marx and, to a lesser extent, by Friedrich Engels in the mid-19th century. "Malini", a play by Rabindranath Tagore, depicts the traditional Indian society when the new ideology based on Buddhism arose. It shows the hindrance brought by Hindu Brahmins against the new ideology which Malini, the princess is practicing. This article aims to review this play using the Marxism perspective. The review concludes that though "Malini" seems just a simple play based on religious conflict; it is a play full of the symbols of Marxism. Data have been taken from secondary sources. Among the various literary theories, Marxist theory has been selected to review this play. The play "Malini", though, seems a story of religious conflict between Hinduism and Buddhism; is full of the various symbols of Marxism.*

**Keywords:** Marxism, Hegemony, False consciousness, Reification, Class, Consciousness

### Introduction

Literature holds the mirror of any society. To have a clear picture of the society depicted in the literature, analysis, and interpretation of the text is necessary and this review article is an attempt to analyze the play "Malini" from a Marxist perspective. It analyzes the aspects of this play that depict Marxist ideologies. These ideologies seem applicable to clarify the socio-cultural picture of that time when Buddhism was on the verge of arrival and there was a racial conflict between the supporters of Hinduism and Buddhism. As it is one of the famous plays of all time, through the Marxist analysis, more can be known and understood about it.

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\* Ms. Karn is Assistant Professor at R.R.M. Campus, Janakpurdham, Tribhuvan University.  
(E-mail: sumikarn@gmail.com)

“Malini” is a two-act poetic play composed by a Bengali Indian poet, writer, and philosopher Rabindranath Tagore. It is a story of love and hatred. It revolves around the main character Malini, who is the princess of Kashi, a Hindu kingdom. Other characters of the play are the King, Queen, Prince, Supriya, Kemankar, and Brahmins. The play opens with the agitation of the Hindu Brahmins for the banishment of Malini, who is taught by the Buddhist monks and she is practicing Buddhism, a new creed at this time. She wants to leave the palace and help people to solve their problems. She does not find any attachment to the worldly beauty and the material world.

The Brahmins march into the ground of the palace and start protesting against Malini. Both the King and Queen along with the prince get worried. Malini is charged as a poisonous snake by the Brahmins because she is aiming at the heart of the Hindu religion.

But when Malini leaves the palace and comes out, all the Brahmins except Supriya and Kemankar, bow to her regarding her as Goddess. Supriya and Kemankar are good friends from their childhood. Kemankar, a firm and determined youth, is the leader of agitators. Supriya does not approve the idea to banish Malini in the name of religion thinking that the truth cannot be determined by the force of numbers. He supports Malini's belief in taking love and truth as the soul and body of all religions. The Brahmins ask for forgiveness with Malini and request her to help them and she becomes ready to serve them. Now, Kemankar becomes alone in the agitation and so he makes a plan to go to the foreign land to bring soldiers to fight against the king to protect his religion. He leaves Supriya there to keep him informed. He also warns him to be careful so that the new religion would not betray their old friendship. Supriya also assures him to believe on him as nothing could break their friendship.

But after Kemankar, Supriya comes closer to Malini. He starts following her, forgetting his religion. He even informs the King about Kemankar's plan and Kemankar is captured by the King's soldiers. The King plans to execute him but Malini and Supriya request the King not to kill Kemankar. Kemankar has great hatred against his friend Supriya. He blames Supriya for being faithless. Thinking that they will be judged in front of the death, Kemankar kills Supriya striking with his chains and calls for his executioner. The king asks for his sword to kill Kemankar but Malini requests the king to forgive him where the play ends.

## Literature Review

### • Theoretical Review

Marxism is the understanding that follows the views of Karl Marx. Marx compiled a great theory of economic system, social system, and political system which greatly attacks capitalism.

#### a. The Base- Super Structure

Base refers to the forces and relations of production- to all the people, relationships between them, the roles that they play, and the materials and resources involved in producing the things needed by society. The superstructure, on the other hand, refers to all other aspects of society like culture, ideology, norms, and expectations, the identity of the people, and social institutions. Marx argues that the superstructure grows out of the base and reflects the interests of the ruling class that control the base (Marx, 2004).

#### b. Dialectical Materialism

“Dialectical Materialism” is the criticism of the "dialectical idealism“ of Hegel by Karl Marx. Idealism holds that there is no 'objective reality' and that reality is in some way dependent on the human mind. For Hegel, human history is the result of clashes of ideas in the forms of major ideas and opposing ideas, and their synthesis, which ultimately becomes a new thesis. An alternative to Hegel, for Marx, Consciousness is determined by the material conditions (Marx, 1932).

#### c. The hegemony of Ruling Class

Marxism focuses on the hegemony of the oppressor over the oppressed. In each society, the ruling class establishes its ruling ideas which create intellectual force and presents it as rational, universally valid ones that all the people just follow silently.

Gramsci, a key neo-Marxist, describes how the state and ruling capitalist class uses cultural institutions to maintain power in capitalist societies. They develop a hegemonic culture as common sense, using ideology rather than violence, economic force, or coercion. Hegemonic power is used to maintain consent to the capitalist order (Gramsci, 2004).

#### d. Reification

It is a process in which social relations are considered as inherent attributes of people involved. It has shown that when human creation is specifically misunderstood as natural facts, the results of cosmic law or manifestations of the divine will.

**e. Class struggle**

The most common principle of Marxism is the class struggle which according to Marxists is a never-ending process. The conflict between dominant and subordinate can always be seen in society and for the emancipation of oppression; revolution is necessary between oppressors and oppressed.

“The history of all hitherto existing society is the history of class struggles. Freeman and slave, patrician and plebeian, lord and serf, guild-master and journeyman, in a word, is oppressor and oppressed, stood in constant opposition to one another” (Marx & Engels, 1969, p.98).

**f. Class and Status**

People in capitalism, are divided into two classes i.e. 'have' and 'have not'. People in the 'have' class are 'the bourgeoisie', who control and own the means of production and in the 'have not' class are 'the proletariats', who do not have the means of production. Power distribution and wealth have a major role in this class division and class affects the social behavior of people.

**g. False Consciousness**

False consciousness refers to a certain state of thinking that prevents a person from perceiving the true nature of their social situation. The oppressed class in society often does not know that they have been oppressed all along by the ruler. False consciousness blinds their mental state to get freedom from the oppression of the ruler class. Marx regards ideology as false consciousness because it is what people do not know, but are doing (Marx & Engels, 1967).

Louis Althusser, a French Marxist Philosopher, on the other hand, doesn't regard ideology as 'false consciousness' like Marx. He says that the power of the state is maintained by the 'Ideological State Apparatuses' (ISA) in a very subtle manner through the internal agreement or 'willing compliance' of the citizens. In contrast to ISA, RSAs (Repressive State Apparatuses) is involuntary compliance by a direct external force, is the system and structure in a society that controls the relations of production mainly through repressive, physical means (Althusser, 1970).

Salvok, Zizek and another Marxist opines that reality cannot reproduce itself without so-called ideological mystification as Marx talks about. In modern days, people are aware of their exploitation, yet they are ready to be exploited. So, for him, ideology

is now, they know it, but they are doing it. People even sell their freedom in exchange for certain other things. (Zizek, 1989)

#### **h. Class consciousness**

According to Marxism, oppressed people in society stay in false consciousness thinking the oppressor's ideology as a valid one. But when one gets rid of the false consciousness, they come to an understanding of the place of his/her class in the overall history that is called class consciousness.

- **Review of the Text**

Nobel laureate Tagore's play received warm appreciations and critique after its publication. Kulkarni (2012) has reviewed the play "Malini" in his paper under the title "Tagore's Malini- A Socio-Cultural Preview of Buddhism". In this paper, he has reviewed the Buddha's humanitarian ideals of universal brotherhood, non- violence, peace, religious tolerance, and secularism advocated by Tagore in "Malini". He has symbolized this play as a treatise on Buddhism as it strongly reflects the impressions of the Buddha and his devotees upon its theme and characterization. He compares Malini, the protagonist with Visakha, the Bouddha Bikhuni. According to him "Malini" highlights the religious conflict and draws the attention of the world to where stand the ideals of true humanity, religious tolerance, and secularism. He has just focused on the socio-religious strife and tries to points out its socio-realistic values (Kulkarni, 2012).

Tagore's "Malini" is filled with Buddhism, the new philosophy at that time. Singh and Sharma (2003) have reviewed the play "Malini" in their joint paper named "Tagore's Treatment of Buddhism in his Plays: Malini and Sacrifice". In this paper, the writers have discussed that as Buddhism has a great impact on the thoughts and reflections of the Tagore, his play like Malini, is replete with the spirit of Buddhism and it depicts a conflict between Buddhism and Brahmanism i.e. the true religion and false religion. By giving different symbols related to the Buddhist religion, to different characters, they have concluded that in the play "Malini" Tagore criticizes customs and traditions, which have become worn-out and outdated (Singh & Sharma, 2013).

In this way, in both of the above papers, the writers have analyzed the play "Malini", linking it with Buddhist philosophy and focusing on the cultural and religious aspects. There seems a literature gap as none of them analyze it from a Marxist point of view. It seems that this review article differs from all the two mentioned above as it focuses on the symbols of Marxism in "Malini".

## **Objectives of the Study**

The objective of this study is to review the play “Malini”, by Rabindranath Tagore to analyze and interpret it from Marxist perspective.

## **Significance of the Study**

**Marxism**, a body of doctrine developed by Karl Marx and, to a lesser extent, by Friedrich Engels in the mid-19th century. It originally consisted of three related ideas: a philosophical anthropology, a theory of history, and an economic and political program. There is also Marxism as it has been understood and practiced by the various socialist movements, particularly before 1914.

## **Materials and Methods**

Data have been taken from secondary sources. Among the various literary theories, Marxist theory has been selected to review this play. Various concepts concerning Marxism and neo-Marxism are used to analyze and interpret this famous play. Before entering into examining the play from this perspective, the reviewer read the story several times and went through the huge literature concerned with Marxism. This study has been taken by applying historical and literature method.

## **Analysis and Interpretation of Data**

Marxism plays a great role in the play “Malini” which clearly shows the religious conflict between Hinduism and Buddhism. Despite the seeming religious conflict, the play camouflages the class struggle, a conflict between the rich powerful class and the powerless poor class. Hinduism, at that time, was the dominant religion and the supreme leaders of it were Brahmins, who regarded themselves as superior and oppress the other. So this is the beginning of the struggle against the supremacy, oppression, and domination of Brahmins. Similarly, the end of the play does not indicate whether the King forgives Kemankar or not and whether it is the end of the revolution or it goes on. That's why it indicates the conflict as a never-ending process as the theory of Marxism says.

The Brahmins, the supporter of Hinduism who is supporting Kemankar in the agitation, start to follow Malini when they find something attractive by her appearance. Not only the Brahmins but even Supriya follows Malini leaving his old creeds and wisdom and even betraying his friend in the search of answers which he could not find in his holy books. This theme of the play well symbolizes the



polarization process of Marxism where people having the same ideas and beliefs get united.

Similarly, it also shows the socio-cultural reality of the society where the Brahmins, the dominator of the society are hegemonizing people through their dominated cultures and beliefs in the name of religion. They impose their ideologies upon the other subordinates and all of them are just following them regarding as to be their fate as the principle of reification in Marxism. Here, the Brahmins are oppressors, and all others seem as the oppressed. Brahmins as the ruling class, regard Hinduism as a rational, universally valid one and Buddhism as falsehood and they wish all the people just to follow them silently. It can be found in the play when Malini supports Buddhism then the Brahmins accuse her as a poisonous snake and demand for her banishment but none speak in support of Malini. Though Malini could see the sorrow of people in the outside world none in the play has spoken against their oppressors. This shows that the so-called lower castes are dependent on the Brahmins as Gramsci's idea on the dependency of working-class people on intellectuals in order to understand the social structure and cultural hegemony (Gramsci, 2004).

The principle of false consciousness is also applicable in the play as the so-called lower castes do not know what religion is but they are just following what the Brahmins impose on them. They often do not know that they have been oppressed all along by the Brahmins, as the false consciousness has blinded their mental state to free themselves from the oppression of Brahmins. While we see from another perspective, not only the so-called lower castes but the Brahmins themselves are not aware of the crux of the religion and they are protesting against Malini. This seems in the play when the Brahmins along with Supriya and Kemankar are protesting in front of the King's palace, the Brahmins start to shout for the banishment of princess Malini and then showing his disagreement, Supriya questions them, either it is their religion that claims the banishment of an innocent girl (Tagore, 1980).

Again, when Malini comes out of the palace in front of the protesters, then the Brahmins bow in front of her and after forgiving with her, they request her to help the world which is waiting for her (Tagore, 1980). This situation resembles the class consciousness because, after that, all of them start to follow Malini, thinking of her to be the owner of the terrible power who can rescue the world from its pain. Malini herself is the symbol of class consciousness as she being aware of the truth wants to help the helpless to get rescued from the pain.

Supriya in the play doesn't favour the demand of the revolutionists but he is with them only for his friendship with Kemankar. Here, the notion of Slavoj Zizek, "they know it, but they are doing it" is applicable. As Zizek says, though they know the reality, people still follow the ideologies of the ruling class in exchange for certain other things (Zizek, 1989).

In the play "Malini", the Brahmins who are the ruling class of society, have their supreme ideologies and all belief systems are only the product of cultural conditioning by them. The religion, which is in the society for the ideological formation of people without any force through the internal agreement, is working as 'Ideological State Apparatuses'. The Brahmins who have the more powerful imagination are using them to dominate others' imagination and exploiting them in the name of religion. On the other hand, as 'repressive state apparatuses', the Brahmins are trying to produce involuntary compliance by direct external repressive force upon Malini to follow Hinduism.

Hinduism in "Malini" can be taken as the base as it is the creator of all other cultures and ideologies. On the ground of this base, the superstructure i.e. all other aspects of society - the world views, values, beliefs, norms and expectations, the identity of the people, etc are made. The new ideology that is based on Buddhism has challenged the base due to which the supremacy of the Brahmins is on the verge of declination and they try to suppress it at any cost.

The Queen, in the play, asks Malini about religion. According to her, religion can't be found by seeking. It is just like the sunlight which is given to us forever and can't be changed (Tagore, 1980). The religion which is human creation is misunderstood as natural creation which can't be found by seeking and it is unchangeable. This again symbolizes the reification principle of Marxism.

## **Conclusion**

The play "Malini", though, seems a story of religious conflict between Hinduism and Buddhism; is full of the various symbols of Marxism. Brahmins, in the name of religion, are hegemonizing the others and taking it as their destiny, the powerless people are being the victim of reification and false consciousness. It clearly shows how the oppressor tries to suppress the new ideology which is not in their support. Analysis of the Marxist ideologies within the play has presented a real picture of the society at that time.

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## REFLECTION OF SOCIAL IDENTITIES IN ORAL NARRATIVES OF THE CHEPANG COMMUNITY

Rishiram Adhikari\*

### Abstract

*The key objective of this study is to analyze the living standard of Chepang community in Nepal. The study of Chepang community is very important to understand the socio- economic situation in Nepal. The Chepang community is one of the indigenous nationalities of Nepal having separate social identities with a distinct language, culture, myth, and belief patterns. All these are reflected through the literary texts since a century ago, however, their literary tradition is based on orality. Shamanic poems are the most important literary verbal text of the Chepang community that found as form of chanting and chants through the agency of apande, priest of the Chepang community, on various occasion with special performance. In this study, it analyzes the shamanic poetry and interprets how Shamanic poetry reflects the social identities of Chepang community and why Shamanic poetry is important verbal texts to reflect identities of the Chepang community. The study was based on qualitative research design with interpretation of texts and conclusion of the study has been made. Shamanic poetry not only covers myth and religion of the Chepang community but also reflects food habit, dressing pattern, and other belief practice so that traditional social identities of the Chepang community is preserved and making through shamanic poetry. The word 'pande' has derived from the word Sanskrit word 'pandit'. Literal meaning of the pandit refers to a person having knowledge about myth, ritual, legend, etc. The study was based on qualitative research design with interpretive paradigm. No doubt that the identity of the Chepang community is also developing in multiple faces but some entities look fixed in a set which make them different from other community.*

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\* Dr. Adhikari is Lecturer at Balmiki Campus, Kathmandu, Nepal Sanskrit University, Nepal.

**Keywords:** Shamanic poetry, Chepang community, Oral narrative, Literature, Belief practice.

## Introduction

With increasing populations, lack of arable land and few irrigation options, malnutrition has been a historic problem for the Chepang despite forest supplements. Chepang community is indigenous nationalities living in the central part of Nepal: Chitwan, Makawanpur, and Dhading districts of Bagmati Province and Gorkha district of Gandaki Province. Most of the Chepang rural municipalities are scattered at the altitude between 800-1500 meters in the very rugged and partially forested hills. But in the recent years, they are also migrated to the plain area. The total population of Chepang community is 68,399 (CBS, 2011). Physical features of the Chepang community are not so different from other indigenous people of hills like Rai and Tamang. Ganeshman Gurung states, "have flat and short nose, round face, dark and brown complexion, thin and medium ears, dark eyes and prominent eyebrows" (Dhugel, 1994). The physical features of Chepang community are similar to the people of other indigenous groups of Nepal although they have their own language, rituals, traditions and beliefs which make them different and unique among other ethnic communities.

Chepang community is aware of their rights/ recognition and considers themselves as one of the indigenous communities of Nepal. Due to political changes in Nepal, The level of awareness among Chepang community has been increasing tremendously and the identity of Chepang community has been recognized like other indigenous communities. Today, it is a matter of pride for them to be Chepang community rather than *Praja*. Chepang community has been identified as one out of 59 indigenous nationalities of Nepal (NFDIN, 2002). Nepali *Janajati* is the term that is generally used to address ethnic/indigenous people of Nepal. Literally the word "indigenous" refers to original dwellers (*aadibashi*) and the word "ethnic" refers to minority people. In Nepal, both indigenous and ethnic are used synonymously because most of the indigenous people are in minority. However, the ILO Article No.169 categorizes indigenous people and ethnic people differently. Minorities and immigrants are known as ethnic groups in Europe and America. Chepang community is indigenous nationalities rather than ethnic people because their history shows they are the first people of that territory. Their cultural practices and myths are about local surroundings. Chepang community's history shows that they are different from other groups such as Tamangs, Raies and Sherpas as Chepang community is the primitive inhabitants of the land they inhabit now whereas other groups are supposed

to have migrated from trans-Himalayan regions. Officially Chepang community is categorized as highly marginalized indigenous nationalities having limited numbers and inhabitants in limited geography (NFDIN, 2002).

## Review of Literature

Many scholars, writers, and anthropologists have carried out research on Chepang community and identified them on the basis of their observations in different periods of time. Hodgson (1857) wrote descriptions on the Chepang community in *Asiatic Society of Bengal*. He is the first known scholar who wrote about Chepang community and their language for the first time. According to him, "Interesting tongues of genuinely aboriginal characters, which are spoken in the East of the Kali by the certain forest tribes existing in scanty numbers nearly in a state of nature such as the *Chepang* and *Kusanda*" (1236 AD).

Hodgson's description mainly focuses on the language as it was based on the mission of collecting language spoken in different parts of the Mahabharat range. He was very much interested in Chepang community and asked the Government of Nepal about their identities whilst the Nepalese government answered, "Oldest people living in Nepal" (Adhikari, 2013, p.7). It makes clear that Chepang community is one of the oldest communities having separate ethnic identities.

There is no particular description or a documented history of Chepang community, so it is not clear about their original place, however, it is accepted that they are one of the oldest communities of Nepal living in the central southern part of Centre Mountain.

In the 20<sup>th</sup> century, a number of writings on the Chepang community are found. (Bista, 1967) mentioned about Chepang community in his book *People of Nepal*. His descriptions fulfilled the long gap of study although his interpretation about Chepang community is similar to that of the western researchers. He identified Chepang community in this way, "Chepang community is one of the least known minority groups of Nepal and little former study has been made them" (p.91). He also used the same adjectives to address the Chepang community which foreigners have already used while writing on Chepang community. In this regard, he says, "They speak their language, Tibeto Burman dialect which is quite different from the language of Tamang living close to them in the same area" (91). Bista (1967) wrote a few sentences about Chepang community and their identities and established new landmark for further study. In the periphery of the time, many western researchers studied the Chepang community for various purposes.

## **Objective of the Study**

The key objective of this study is to analyze the living standard of Chepang community in Nepal and the food habits, residence, education, health, etc.

## **Significance of the Study**

The study of Chepang community is very important to understand the socio- economic situation in Nepal. Chepangs walked for eight hours on end along a rivulet that was on its way to meet the Narayani River. He had spent a few days in Martal and Parkhal, talking to villagers about education, cleanliness, and community groups. Nights were spent with any family that welcomed him. A vehicle had brought him from Bharatpur and dropped him off at a nondescript, sparsely populated place called Dam. But since his plans were not finalized, he was unable to find transportation for the journey back.

## **Materials and Methods**

The study was based on a qualitative research design with an interpretive paradigm. Some shamanic poems are analyzed and interpreted from the perspective of social identity. The conclusion of this study has been made through the closed reading of the selected Shamaic poems. Four selected poems have purposively been selected for this study analyzed according to the objective.

## **Discussion and Explanation**

- **Orality and Shamanic Poems**

Orality is the medium of transmitting the cultural tradition of society in the form of narratives and poetry. It is responsible for perpetuating the memory of the speakers. So, orality is the restitution of memory transmitted through diverse expressions of voice or words of a culture. Orality transports cultural images through language, sounds and metaphors in a particular level of creation and expression. It especially happens with oratory arts, in which Orality touches upon the liberation of memory and the re-creation of culture as a form of literature. Chepang literature is highly dominated by oral tradition. In Chepang community, orality has been the only medium to transfer their experiences, myth and history from generation to generation. Moreover, it is the main identity marker of Chepang because it is based on folk tradition in which messages are verbally transmitted in speech, for example, folktales, sayings, ballads, songs, or chants. Since the messages of the past were handed down in oral traditions and folk practices, they are thought to be more real.



### • Reflection Identities in Shamanic Poems

Shamanic poetry is the main source of oral literature on the Chepang that covers myth, history and communal problems, and preserves the ethnic existence as well as reflects ethnic identities of the Chepang. In this study it analyzes five short Shamanic poems from the books of Adhikari (2013) identified that, *Selected Shamanic Chanting of the Pande*. There has collected more than fifty shamanic poems in the book related to various aspects of the Chepang, however, in this study only five selected shamanic poems are analyzed and presented. *Pande* is the main orator of that poetry who orate these poems along with paraphernalia. As the poem regards:

Guru, please give me singe surface drum  
 Please, give a tree for this drum  
 Up these three...  
 I am playing by using this drum oh, guru hear me, hear me,  
 I want to dance on this right surface  
 To send the demon away to send the demon away! (*Adhikari, pp.9-10*)

Festivals and *pujas* preserve the ethnicity of indigenous people like Chepang. *Chhonam* is the native festival when they perform overall shamanic practices through the chantings of *pande*. The above lines are chanted by *pande* on the occasion for *Chhonam*. *Chhonam* is the prime occasion of chanting of *pandes* which generally occurs in the month of September. During the festival, the main *pande* and others are invited and they *collectively* sing the rhythmic song in trance. The poem reflects the traditional Chepang culture which preserves their ethnic identities and makes them distinct from other ethnic communities. This poem and performance form one of is the main social identity markers of Chepangs.

### Conclusion

No doubt that the identity of the Chepang community also developing in multiple faces but some entities are fixed in a set which make them different from other communities. Literary texts are the main document that preserves the identity of respected community in a set that also manifested in Shamanic poems of the Chepang community. Shamanic poems are based on orality that orates by *pande*. *Pande* is not only the orator but also the performer of shamanic poem in fix values and norms so social identity of the Chepang community is manifested in shamanic poems through the agency of Chepang community.



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## Map of Chepang Area in the Map of Nepal

Chepangs' Settlement



Source: Adhikari, 2013

# COOPERATIVES AND SUSTAINABLE LIVELIHOODS: A STUDY OF SYANGJA DISTRICT

Chandra Prasad Dhakal\*

## Abstract

*The study highlights the issues of cooperative and sustainable livelihood of the local community in references to Syangja District in Nepal. The primary objective of every cooperative is to provide goods and services to its members and thus enable to attain increased income and savings, investment, productivity and purchasing power, and promote among them the equitable distribution of net surplus. Cooperatives aim to provide goods and services. They aim to eliminate the unnecessary profits of middlemen in trade and commerce. Descriptive survey research design was used by following a mixed-method approach. As tools of research instruments questionnaires, interviews and observation were used. Purposive sampling technique was adopted and data were collected from six cooperatives of Syangja, especially, rural area of Syangja District, mainly Putalibazar Municipality and Phedikhola Rural Municipality. 25 research participants were involved in the study. In the study area, cooperatives were established as a strategy to sustain the livelihoods of rural communities.*

**Keywords:** Cooperatives, Rural livelihood, Management, Production, Financial.

## Introduction

Cooperative is an autonomous organization of the people that made for the improvement of economic benefit. The word 'cooperative' is derived from the Latin word 'cooperari', which means working together with others. Generally, cooperative is known as a 'give and take' process to each other, working together for similar and a common cause. In the global context cooperatives play a formative role in the enhancement of the livelihood situation of people? Around the periphery of 19<sup>th</sup> century cooperative movement forwarded from Europe specially, from France and England. During the

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\* Dr. Dhakal is Assistant Professor at Saraswati Multiple Campus, Tribhuvan University, Kathmandu, Nepal.

time of industrial revolution that revolution increased the mechanization of the economy transformed society and threatened the livelihoods of low class workers. The first documented consumer cooperative was founded in 1769, in Fenwick, East Ayrshire. Like that in 1810, Rev Henry established cooperatives as form of depository institution that help to poor people through providing financial support . Cooperative is "an autonomous association of persons united voluntarily to meet their common social, economic and cultural needs as well as their aspirations through a jointly owned and democratically controlled enterprise" (ICA, 2005). ICA focuses on the value of cooperatives which are described as a distinct, mutual-based association or group with varied capital and membership base and democratically managed. In the context of Nepal, Cooperative Bulletin (2020) notes, "Cooperatives is one of the collective efforts to uplift the poor people and allocate the resources on the basis of their need".

Cooperative is a kind of collective business that is governed by several values. Mainly, seven major principles play an important role to enable cooperatives. Cooperatives are the principle of voluntary and open membership; the principle of democratic member control; the principle of member economic participation; principle of autonomy and independence; principle of education, training and information; the principle of cooperation and, principle of concern for community ( Kumar, Wankhede, & Gena, 2015).

Generally, cooperatives are controlled through adopting a democratic process and exercising equal voting rights by virtue of the ‘one member one vote’ rule. On the basis of the principle of member participation, all the members are equally participated in each of the activities through democratic process. It is the organization that formed on the principle of self help motto and is controlled by the members of the organization. (Galor, 1996). Like that Tchami (2007) highlights the issues of mutual interest of group which guide the members to work together for a common purpose. (Ortmann & King , 2007).

### **Cooperative in the Context of Nepal**

Cooperative Division was established in 2010 BS under the Ministry of Agriculture. Cooperative programs at the field level were launched in Chaitra 20, 2013. After lunched the cooperative act in 1992 new dimension began in the practice of cooperative that helps to enhance the economic condition of rural people in Nepal.

## **Cooperatives and Sustainability of Livelihoods of Communities**

Cooperatives are formed to fulfill different purposes in community so that we can see various types of cooperatives around us. However, all these cooperatives are conscious to sustainability of livelihoods of rural communities.

Cooperatives help their members to cooperate in solving social problems they share. Cooperative Bulletin (2020) notes, "cooperatives are formed by their members, especially when the market fails to provide the much-needed goods and services at affordable prices and of acceptable quality". Self-help project that runs by a cooperative plays a significant role to enhance the quality life of people through increased economic activities. In the same line, Barton (2000) states, "The major reason why cooperatives are formed is to strengthen the bargaining powers of their members, help them in maintaining access to comparative markets and to capitalize on new market opportunities". Cooperatives members can easily obtain the services on a competitive basis, even at the same time they improve income opportunities, reduce costs and manage risks of the members. Government policy and values of the society play a vital role to run cooperatives in a certain nation. In development nation cooperatives play a significant role to narrow down the gap between rural and urban areas in terms of financial related activities.

In less developed countries agriculture is considered to be the main source of livelihood, rural communities across Nation find the need to increase agricultural productivity through cooperatives (Kumar, Wankhede, & Gena, 2015). In Nepal, rural cooperatives were promoted by the NGOs since its' established time. The first cooperative of Nepal also formed on the financial and technical support of American Aid. The scope of that cooperative was to help people to cope with the economic, social and environmental problems. Cooperative Bulletin (2020) notes that, "with the establishment of rural cooperatives, governments of Nepal were able to introduce new farming and marketing techniques to the rural farmers". Through the cooperatives, farmers acquired various services related to agriculture easier and cheaper than in the past. This reflects that the group approach of cooperatives became important to extension agencies that makes easier and less expensive for such agencies to deal with groups rather than with individuals. In an agrarian society, rural cooperatives play as a role of mediator to transfer agriculture-related from people to people. Farmers get information from group-help to enhance agriculture related activities. In the context of Nepal, from the cooperatives people are getting benefit through a collective operating method in a large scale. It shows that the bigger the scale of operations of rural cooperatives become, the more benefits the members derive. Rural cooperatives are successful to enhance economic development

because they are working as commercial organizations and operate by a broader set of values (Cooperative Bulletin, 2020). Cooperatives have been working as business enterprises, and practice economic fairness by ensuring equal access to markets and services among open and voluntary membership bases (Dhakal, 2021).

## **Objectives of the Study**

The primary objective of every cooperative is to provide goods and services to its members and thus enable them to attain increased income and savings, investment, productivity and purchasing power, and promote among them the equitable distribution of net surplus.

The specific objectives of cooperatives are as follows:

- To play a key role in the strengthening of the economic system of Nepal.
- To teach farmers to be economically independent.
- To promote the feelings of production pride in the rural societies.
- To help the locals in improving the quality of life as well as poverty alleviation.

## **Significance of the Study**

They aim to provide goods and services. They aim to eliminate the unnecessary profits of middlemen in trade and commerce. They seek to prevent the exploitation of the weaker members of society. They aim to protect the rights of people both as producers and consumers.

Cooperatives raise the achievement of students. It builds positive relationships among students - important for creating a learning community that values diversity. It provides experiences that develop both good learning skills and social skills.

## **Materials and Methods**

The study has been taken the primary data from different cooperatives. The study was based on a mixed-method approach through adopting both quantitative and qualitative. The quantitative method used for data collection procedures resulted primarily in numerical data which was analyzed by statistical tools. On the contrary, the qualitative method used in the study for data collection procedures yield open and non-numerical data.

## Study Area

Syangja District is one of Nepal's seventy-seven districts and is located in Gandaki Province. Syangja bazaar is the district head quarter of the district which covers 1,164 km<sup>2</sup> (449 sq mi) and has lived 289,148 populations (National Population Report 2011, p. 34). It is located in a hilly area with elevations ranging from around 300 meters along the banks of the Kaligandaki River to several thousand meters above sea level. Syangja secured millions of dollars in foreign funding under the auspices of the UNDP's South Asia Poverty Alleviation Program (SAPAP) in 1994 and has since become a model for national growth. Cooperatives play a significant role to enhance the sustainable livelihood of people living in a rural area in Syangja.

## Results and Discussion

The cooperative movement began in Nepal during the time of 1955 A.D. from Chitwan district. The first modern cooperative name Bakhan cooperative was established in Citawan 1955 A.D., and registered in 1959 A.D. after promulgated the cooperative act in 1959 A.D. In the same process, numbers of cooperatives were established in Syangja. Now the total number of cooperatives is 344 in Syangja (Sahakaari Jhalak, 2021). Among them, only a few number cooperatives have been sustaining the livelihoods of the rural communities through providing employment to their members. In addition, the cooperatives have provided different facilities to the poor people to sustain their livelihood. In this study, five cooperatives were selected from different sectors including, saving and Credit, multipurpose, agriculture user group, fruit, and vegetable.

**Table-1: Name of Selected Cooperatives**

S.N.	Name	Address
1.	Phedikhola Small Farmer Agriculture Cooperative Limited	Phedikhola, Syangja
2.	Suryodaya Saving & Credit Cooperative Society Ltd.	Putalibazar, Syangja
3.	Jaya Janta Multipurpose Cooperative Ltd.	Siddartha Rajmarg, Putalibazar, Syangja
4.	Pareli Krisi Sahakari, Ltd.	Siddartha Rajmarg, Phedikhola, Syangja
5.	Chandikalika Coffee, Fruits and Vegetable Cooperative Ltd.	Thulapadhera, Putalibazar, Syangja

Source: Field Survey, 2021

Table-1 shows that the name and address of selected cooperatives. These cooperatives play a significant role to enhance the sustainable livelihoods of the people from poor communities. Phedikhola Small Farmer Agriculture Cooperative is working in Phedikhola Rural Municipality, providing service to poor people. Like that Pareli Krisi Sahakari also provides support to the farmers for enhancing their livelihood. In the same way Suryodaya Saving and Credit Cooperative Society also provides small scale loan to the people and with certain training. Chandikalika Coffee, Fruits and Vegetable Cooperative helps people of this community by providing various kind of support like seed of crops, agricultural tools, fertilizer, and medicine for domestic animals. Like that Jaya Janta Multipurpose Cooperative has been working to sustain the livelihood of the people.

### Socio-economic Status of the Participants

In this study, 25 individuals participated. Each of the cooperatives has 5 individuals, (5 beneficiaries including women members). Under the social status, it analyzes cast/ethnic, education and sex status of the participants and in economic status it presents occupation, income expenditure and saving.

**Table-2a: Social Status of the Participants**

S.N.	Sex	No.	%	Education	No.	%	Caste\Ethnicity	No.	%
1	Male	13	52	Illiterate	1	4	Bramin /Chhetri	7	28
2	Female	12	48	Primary	5	20	Ethnic	13	52
3	Total	25	100	Secondary	15	60	Dalit	5	20
4	-	-	-	Above Secondary	4	16	Total	25	100
-	-	-	-	Total	25	100	-	-	-

Source: Field Survey, 2021

Table 2a indicates that the social status of the respondents. Data shows that 25 participants of this study are male and 48 percent are female. Like that 4 percent are illiterate and 20 percent passed primary level. In the same line 60 percent passed secondary level and 16 percent studied higher education. While analyzing the caste/ethnic status of the respondents, it is found that 28 percent are from Brahmin/Chhetri community, 52 percent are from ethnic communities like Gurung, Magar, Newar and 20 percent are from Dalit community.

**Table-2b: Economic Status of the Participants**

S.N.	Family Occupation	No.	%	Annual Income	No.	%	Annual Expenditure	No.	%	Saving	No.	%
1	Farmer	15	60	Upto 1 lakh	16	64	Up to 1 lakh	10	40	No saving	15	60
2	Wage labor	5	20	1 to 2 Lakh	5	20	1 lakh to 2 lakh	11	44	Up to 50,000	10	40
3	Job	3	12	More than 2 lakh	4	16	More than 2 lakh	4	16	Total	25	100
4	Business	2	8	Total	25	100	Total	25	100	-	-	-
5	Total	25	100	-	-	-	-	-	-	-	-	-

Source: Field Survey, 2021

Table 2b indicates that the economic status of the participants. Data show that 60 percent of participants are farmers, 20 percent are involved in wage labor and 12 percent are involved in job. Like that 8 percent followed small business as the main occupation. Like that 64 percent annually earn up to one lakh and 20 percent earn one to 2 lakh. In the same way, 16 percent earn more than 2 lakh. In the same way, 40 percent spend up to 1 lakh and 44 percent spend 1 to 2 lakh and 16 percent spend more than 2 lakh. Like that 60 percent have no saving and 40 percent have only up to NRs. 50,000 saving.



In the process of the individual interview, there has been asked the reason for establishing cooperatives. The following table highlights participant's opinions about the reasons for establishing cooperative.

**Table-3: Reasons for Establishing Cooperatives**

S.N.	Reason	No.	Percentage
1.	Economic development to meet members' economic needs	10	40
2.	To address market failures– to increase bargaining power on the market	5	20
3.	As a defense against adverse social-economic conditions	3	12
4.	To access cheap transport and storage facilities	4	16
5.	To purchase goods at lower prices	3	12
	Total	25	100

Source: Field Survey, 2021

Table- 3 indicates the participants' perception on the reason of establishing cooperative in the locality. Data shows 40 percent opinioned the cooperatives are established to address market failures to increase bargaining power on the market" and 20 percent notes, "to address market failures to increase bargaining power on the market". In the same way, 12 percent argued that" As a defense against adverse social-economic conditions" and 16 percent respondents highlights as "To access cheap transport and storage facilities" Like that 12 percent said that cooperatives are formed due to purchase goods at lower prices.

By functioning, various activities among the members, cooperatives have contributed to building sustainable livelihoods by providing needed services, providing access to basic services in the community, and enabling members to access and benefit from markets, and that this has resulted in members' productive agriculture, small and medium enterprises and stable community development.

### **Roles of Rural Cooperatives in Improving Livelihoods of Rural Communities**

Cooperatives form livelihood strategy in rural communities. In discussing these roles, a specific focus is made on how rural cooperatives have helped in improving the standards of living among the rural populace. From the interviews carried out, respondents indicated the roles of cooperatives as that of employment creation, poverty alleviation, food security, women empowerment, human capital development, creation

of rural markets, and social integration. Table 4 presents the opinions of the respondents in detail.

**Table 4: Roles of Rural Cooperatives in Improving Livelihoods of Rural Communities**

S.N.	Roles	No.	Percentage
1.	Employment creation	5	20
2.	Poverty reduction	3	12
3.	Improved food security	2	8
4.	Women empowerment	6	24
5.	Human capital development	4	16
6.	Creation of rural market	3	12
7.	Social integration	2	8
	Total	25	100

*Source:* Field Survey 2021

The major role of the cooperatives in the rural communities in Syangja District as indicated by the respondents is that of poverty reduction (12%), followed by employment creation (20%), improved food security (8%), women empowerment (24%), social integration (8%), creation of rural markets (12%) and human capital development (16%), as indicated above table 3. It was also observed by the researcher that whilst cooperatives were found to directly benefit their members, they also offered positive externalities to other members of the society. Cooperatives played a minimal role towards promoting rural livelihoods, the feature that made the poverty situation to persist the community members.

### **Challenges Faced by Cooperatives in Sustaining Livelihoods of Rural Communities**

Rural cooperatives in Syangja District face certain challenges in their day-to-day activities. The notable challenges that were identified by the researcher included poor management, a small value of shares, lack of access to credit facilities, and lack of access to competitive markets. Major challenges that were perceived by the participants are as follows.

**Table 5: Challenges for Cooperatives in Sustaining Livelihoods**

S.N.	Challenges	No.	Percentage
1.	Poor management	4	16
2.	Small value of shares	6	24
3.	Lack of access to credit facilities	5	20
4.	Lack of access to competitive markets	10	40
	Total	25	100

*Source:* Field survey 2021

As can be observed table cooperatives are faced with some challenges in sustaining the livelihoods of rural communities in Syangja District. As indicated by the respondents, the major challenge is the lack of access to competitive markets (40%), followed by lack of access to credit facilities (20%), poor management (16%) and the small value of shares (24%). According to the respondents, the main reason not to get competitive markets is because of a low volume of production, resulting in the cooperatives only affording to serve the small local markets. Poor management implies that training programs, which were observed to be in place in most of the rural cooperatives, are insufficient to develop the necessary leadership skills for proper management of the business of the cooperatives at a professional level. These findings support the previous results that for cooperatives to be viable there is a need for capable management and governance, as well as the ability to adapt to the prevailing business conditions, whereby rural cooperatives are expected to develop professional management which is democratic, inclusive, fair, transparent and with strong leadership.

## Conclusion

Conclusion and findings of the study have been made on the basis of the analysis of the data. Data were collected through personal interviews. 25 individuals were participated in this study from five selected cooperatives that have been working in rural areas of Syangja district for enhancing sustainable livelihood of the poor people. Five cooperatives were randomly selected from five different sectors like farmers' cooperatives, users' group cooperatives, saving and credit cooperatives. All these cooperatives are working in Putalibazar Municipality and Phedikhola Rural Municipality.

Cooperative and the issue of livelihood is not the new issue of study area. Since long time cooperative play important role in rural community and its' develop as part of rural life. Cooperatives play a significant role for sustaining the lives of vulnerable communities. Through the programs run by cooperatives rural people have achieved various direct and indirect benefits. Cooperatives are established for various purposes,

including economic development, empowering marginalized members of communities. Cooperatives play a role to access cheap transport and storage facilities and purchasing inputs at affordable prices. The major roles of the cooperatives in my study area play various roles to reduce poverty, unemployment and improved food security, women empowerment and human capital development. Due to various problems cooperatives cannot run effectively in rural area on basis of its basic principle. , however, cooperatives are established as a part of rural life and play a significant role in the development of sustainable livelihood in the rural community.

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# VALUE ADDED TAX IN NEPAL: A CRITICAL ANALYSIS OF ITS CONTRIBUTION IN GOVERNMENT REVENUE

Shivendra Labh Karna\*

## Abstract

*The main objective of this study is to examine the contribution of VAT to tax revenue and government revenue of Nepal. Value Added Tax (VAT) is a new phenomenon in the area of taxation in Nepal. Value-added tax avoids the cascade effect of sales tax by taxing only the value added at each stage of production. As it has a high potential to yield revenue for the government, developing countries like Nepal are engaging in the study of VAT more seriously. In this study, an attempt has been made to assess the contribution of value added tax towards tax revenue and government revenue of Nepal. This study is mainly based on secondary data collected from government sources. The last eight years of data (from F/Y 2011-12 to F/Y 2018-19) have been taken for the study. To assess the role of VAT towards government revenue percentage, averages and graphs have been used. The study found that VAT contributes around 31 percent to tax revenue and 29 percent to government revenue of Nepal. The study has concluded that value added tax plays a major role in the government revenue of Nepal. Value Added Tax has been taken as an independent variable while tax revenue and government revenue have been taken as dependent variables in this study. Value Added Tax is that indirect tax is imposed only on the value added at each stage of production and distribution of goods and services.*

**Keywords:** Value Added Tax (VAT), Tax Revenue, Secondary Data, Government Revenue, Potential

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\* Mr. Karna is Assistant Professor at R.R.M. Campus, Janakpurdham, Tribhuvan University, Nepal (E-mail: shivendralabhkarn@gmail.com)

## Introduction

Being a developing country, the role of government in Nepal is still vital to undertake various activities for the development of the nation, and the betterment of its people. These activities include carrying out development plans, making infrastructures, generating employment opportunities, providing education and medical facility, handle day to day administration, maintaining peace and security, and launching other public welfare activities. These activities cannot be executed without adequate resources.

Taxes are the most important and reliable sources of government revenue. Especially, based on the shifting of burden, these are either direct tax or indirect tax. Income tax, property tax, gift tax, etc are direct taxes, and sales tax, value added tax, etc. are examples of indirect taxes. Among the indirect tax, value added tax is the most recent innovation in the field of taxation (KC, 2007). Value added tax is a multistage tax charged by the government on the added value at each stage in the process of production and distribution of goods or services. Added value means the amount added to the cost of the purchase to determine selling price which includes a payment made for the factor of production such as wages, rent, interest, depreciation, and profit. The stages in the distribution of goods can be import, manufacturing, dealer, wholesaler, and retailer.

Value added tax is an indirect tax. Especially, there are two main types of indirect taxes such specific and Ad-valorem. Value added tax is an Ad valorem tax because it is charged as a percentage of the value of goods and services (Kandel, 2011). It is a consumption tax because it is borne ultimately by the final consumer. It is charged as a percentage of the price, which means that the actual tax burden is visible at each stage in the production and distribution chain. It is collected fractionally via a system of deductions whereby taxable persons (i.e. VAT-Registered businesses) can deduct from their VAT liability the amount of value added tax they have already paid to other taxable persons or purchases for their business activities (Dhakal,2019). It is the improved and modified form of traditional sales tax and avoids the cascading effect of sales tax.

Generally, the tax base (value added) can be directly ascertained from the following equation:

$$\text{Value added} = \text{Conversion Cost} + \text{Profit}$$

Or

$$\text{Sales} - \text{Cost of bought-in Materials and Services}$$

The concept of VAT in Nepal was introduced in the early 1990s. Nepal government indicated its intention to introduce VAT in the Eighth Five-Year Plan. To introduce

the VAT in Nepal, a "VAT Task force" is organized in 1994 under the financial and technical co-operation of USAID and Harvard University, USA respectively. This task force evaluated a variety of circumstances concerning tax structure, VAT operation, and the economic condition of the country and drafted VAT legislation as a multistage tax instead of a single-stage tax like sales tax, hotel tax, contract tax, and entertainment tax. The government of Nepal presented this VAT legislation as a VAT bill in parliament for adequate discussion in the session. It was passed after discussion by both House of Representatives and National Assembly of parliament in December 1995 and Royal sealed on it in March 20, 1996. After the completion of the Value Added Tax Act 1995, then Value Added Tax Rules 1996 was carried out in 1996. Although the Act was passed in 1995, its implementation was delayed due to political instability and strong opposition from the business community. VAT with a single rate of 10% was fully implemented with effect from November 16, 1997. It has replaced sales tax, hotel tax, contract tax, and entertainment tax (Dhakal, 2019). The Government of Nepal has increased VAT to 13 percent with effect from January 14, 2005.

## **Review of Literature**

### **1. National Review**

Ghimire (2019) focused on the contribution of tax revenue to GDP and government revenue of Nepal. To assess the contribution of tax revenue on government revenue and GDP, correlation and multiple regression analysis has been done separately and the results have been verified by using test statistics. This paper showed the structure of government revenue of Nepal, share of government revenue and tax revenue to GDP, the contribution of direct tax to GDP, government revenue and tax revenue, the contribution of indirect tax to GDP, government revenue and tax revenue, the structure of resource gap, and time series analysis of tax revenue. He concluded that tax revenue played a major role in government revenue and also to GDP.

Gyawali (2018) showed the views of taxpayers toward VAT. This paper explained the introduction of VAT in Nepal, views of the real taxpayer of VAT, the current rate of VAT, views on introducing to the invoicing system, etc. For this purpose, 150 questionnaires were distributed to Kathmandu valley. Respondents were divided into five groups as tax officials, tax experts, businessmen, taxpayers, and consumers. For analysis, generally, a percentage, trend, and charts were used. It was found that 88 percent of respondents are aware enough to ask tax invoice after purchasing goods or services. He concluded that VAT broadens the tax base, eliminates tax cascading, creates an investment-friendly tax system that exempted export and basic goods from taxation, and finally increases revenue.

Dangal (2017) assessed that practices of VAT and VAT administration as well as its contribution to GDP in the Nepalese context. The study was based on secondary data which was analyzed on descriptive/comparative methods. The study found that the department of Vat and its field offices were responsible for administering VAT functions that were not yet attractive and efficient. However, data showed that collecting VAT is in increasing order. The contribution of VAT as a percent of GDP remained at an average of 4.04 percent during the study period.

Sharma (2014) overviewed the role of VAT on the Government of Nepal budget and its challenges and possible opportunities for the economy. Secondary as well as primary sources of data have been used. It disclosed the challenges and opportunities with regards to small traders, business structure and practices, tax administration, open border and unauthorized trade, equity, tax evasion, etc.

Koirala (2010/11) examined critically the performance of VAT in Nepal since its inception to date focusing basically on three aspects of it, viz. (i) Current scenario of VAT administration (ii) Urgent corrective actions required. Most of the data were collected from the Economic Surveys and Office of the Inland Revenue Department. The study concluded that the most challenging aspects of VAT were to address the no-billing and under-billing malpractices of the vendors head-on.

## **2. International Review**

Izedonmi and Okunbor (2014) empirically analyzed the contribution of VAT to the development of the Nigerian economy. Time series data is used on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2010 sourced from Central Bank of Nigeria (CBN) were analyzed, using both simple regression analysis and descriptive statistical method. The finding showed that VAT Revenue accounts and total revenue account for as much as 92 percent significant variations in GDP in Nigeria. A positive and insignificant correlation exists between VAT Revenue and GDP. Both economic variables fluctuated greatly over the period though VAT Revenue was more stable. This study, therefore, recommends that all identified administrative loopholes should be plugged for VAT Revenue to continue to contribute more significantly to the economic growth of the country.

Keen and Lockwood (2010) explored the causes and consequences of the remarkable risk of the Value Added Tax, asking what has shaped its adoption and, in particular, whether it has proved an especially effective form of taxation. It is first shown that a tax innovation, such as the introduction of a VAT, reduces the marginal cost of public funds



if and only if it also leads an optimizing government to increase the tax ratio. This leads to the estimation on a panel of 143 countries for 25 years, of a system describing both the probability of VAT adoption and the revenue impact of the VAT. The results point to a rich set of determinants of VAT adoption, and to a significant but complex impact on the revenue ratio. The estimates suggest, very tentatively, that most countries that have adopted a VAT have thereby gained a more effective tax instrument, though this is less apparent in sub-Saharan Africa.

### **Objectives of the study**

The main objective of this study is to examine the contribution of VAT to tax revenue and government revenue of Nepal. The main questions addressed for the study are to find the proportion of VAT in tax revenue collection and government revenue collection and to know whether the VAT is in an increasing or decreasing trend. The specific objectives of the study have been set as:

- To assess the proportion of Value Added Tax to the tax revenue of Nepal,
- To examine the contribution of Value Added Tax to the government revenue of Nepal

### **Significance of the Study**

Value-added tax avoids the cascade effect of sales tax by taxing only the value added at each stage of production. For this reason, throughout the world, VAT has been gaining favor over traditional sales taxes. In principle, VAT applies to all provisions of goods and services. Value-added tax (VAT) is a type of indirect tax levied on goods and services for value added at every point of production or distribution cycle, starting from raw materials and going all the way to the final retail purchase. VAT was introduced on April 1, 2005.

### **Materials and Methods**

Value Added Tax has been taken as an independent variable while tax revenue and government revenue have been taken as dependent variables in this study. This study solely depends on secondary data collected from government publications through Economic Surveys, through visiting websites, unpublished theses as well as books and journal articles. Descriptive and analytical research design has been used in this study. The statistical tools like percentage, average, tables, and graphs are used to analyze the quantitative/ time-series data from FY 2011/12 to FY 2018/19. This study is concerned with the presentation and analysis of data obtained through different secondary sources.

## Presentation and Analysis of Data

Value Added Tax is the focal part of the study to analyze the contribution of VAT to tax revenue and government revenue of Nepal.

### \* Contribution of Value Added Tax to Tax Revenue of Nepal

Tax revenue of government includes direct tax and indirect tax. VAT is a kind of indirect tax revenue. It plays a major role in the tax revenue of the government of Nepal. The contribution of value added tax to tax revenue of the Government of Nepal is presented in the table given below.

**Table-1: Contribution of VAT to Tax Revenue of Nepal (NRs. in crore)**

Fiscal Year	Value Added Tax	Tax Revenue	Percentage of VAT to Tax Revenue
2011/12	7093	21172	33.50
2012/13	8341	25921	32.18
2013/14	10110	31244	32.36
2014/15	11252	35595	31.61
2015/16	12241	42109	29.07
2016/17	16106	55386	29.08
2017/18	20680	65949	31.36
2018/19	24161	72903	33.14
Total	109984	350279	-
Average	13748	43784.875	31.54

Source: Economic Survey, Ministry of Finance, Nepal, F/Y 2011/12 to 2018/19

Table-1 shows that the amount of value added tax has been increasing from FY 2011/12 at NRs. 7093 crore to FY 2018/19 at NRs. 24161. It has increased by around 3.41 times over the study period. Similarly, tax revenue has been also increasing from FY 2011/12 to FY 2018/19. It has increased by around 3.44 times over the study period. The percentage of value added tax to tax revenue has shown increasing as well as decreasing trend over time. It is highest in the FY 2011/12 at 33.50 percent and lowest in the FY 2015/16 at 29.07 percent. The average contribution of Value Added Tax to Tax Revenue is 31.54 percent. The increasing amount of Value Added Tax, as well as Tax Revenue, is a good sign for the government. The composition of Value Added Tax and Tax Revenue can also be seen in the figure given below:

**Figure-1: Composition of Value Added Tax and Tax Revenue**

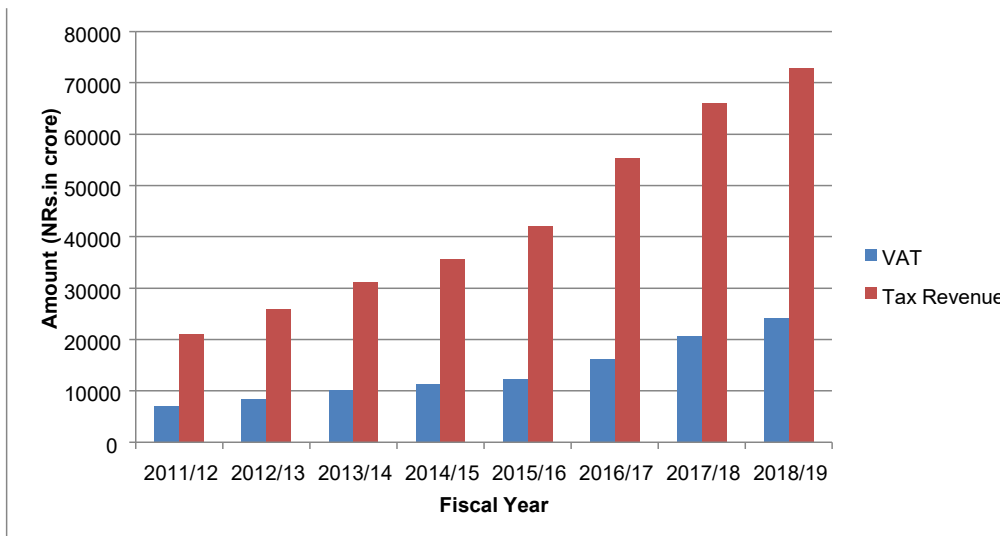


Figure-1 shows the composition of value added tax and tax revenue of the Government of Nepal. During the study period, it is found that VAT as well as tax revenue of the Government of Nepal are in increasing order. In FY 2018/19 amount of VAT is 24,161 crores and Tax Revenue is 72,903 crores. It is around 3.41 and 3.44 times respectively in comparison to FY 2011/12.

**\* Share of Value Added Tax to Government Revenue of Nepal**

The major sources of government revenue are Tax Revenue and Non-Tax Revenue. That means the sum of Tax Revenue and non-tax revenue is called Government Revenue. As

Value Added Tax is an indirect tax, it also contributes to the government revenue of Nepal. The share of Value Added Tax to the Government Revenue of Nepal is presented in the table given below:

**Table-2: Share of Value Added Tax to Government Revenue of Nepal (NRs. in Crore)**

Fiscal Year	Value Added Tax	Government Revenue	Percentage of VAT to Government Revenue
2011/12	7093	24437	29.02
2012/13	8341	29601	28.18
2013/14	10110	35661	28.35
2014/15	11252	40586	27.72
2015/16	12241	48195	25.40
2016/17	16106	60917	26.44
2017/18	20680	72671	28.45
2018/19	24161	82962	29.12
Total	109984	395030	-
Average	13748	49378.75	27.835

*Source:* Economic Survey, Ministry of Finance, Nepal, F/Y 2011/12 to 2018/19

Table- 2 shows the percentage of Value Added Tax to the Government Revenue. It shows that Value Added Tax holds around 27 percent of Government Revenue. Along with time, the composition of Value Added Tax, as well as Government Revenue, has been showing an increasing trend. But the percentage contribution of Value Added Tax to Government Revenue has been showing increasing as well as decreasing trend. At FY 2018/19, Value Added Tax is around 29 percent of government revenue which is

the highest of the study period. In FY 2015/16, it is around 25 percent of government revenue which is the lowest of the study period. On average, the share of value added tax to Government Revenue is 27 percent. Thus, the Value Added Tax is a significant source of Government Revenue. The composition of Value Added Tax and Government Revenue of Nepal can be presented in the figure as given below:

**Figure 2. Composition of VAT and Government Revenue**

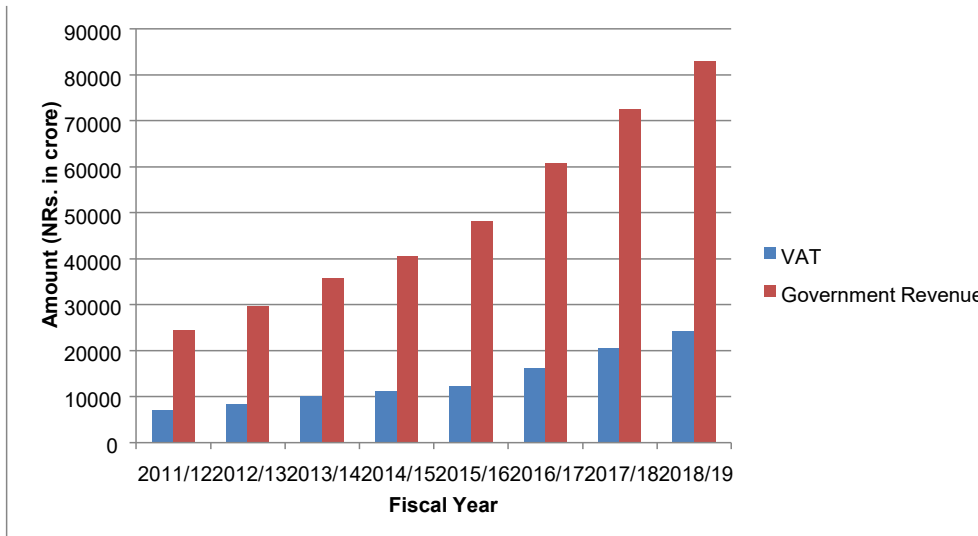


Figure 2 shows the composition of Value Added Tax and Government Revenue. Both VAT and Government Revenue are in increasing trend during the study period. Government Revenue has gone to 82,962 crores in FY 2018/19 in comparison with 24,437 crores in FY 2011/12 which is around 3.44 times.

**\* Trend of the percentage of Value Added Tax to Tax Revenue and Government Revenue**

The percentage of Value Added Tax to tax revenue as well as Government Revenue has been showing increasing as well as decreasing trend in the study period. The trend of the percentage of VAT to the Tax Revenue and Government Revenue can be seen in the figure given below:

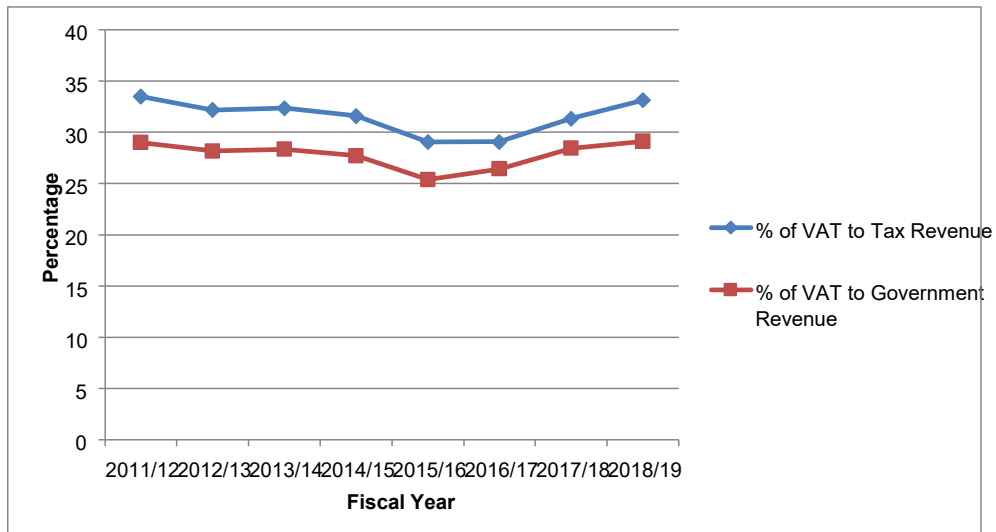
**Figure-3: The Trend of VAT to the Tax Revenue and Government Revenue**

Figure- 3 shows the trend analysis of VAT to the tax revenue and government revenue of Nepal. During the study period, the percentage of VAT to Tax Revenue and the percentage of VAT to Government Revenue has shown increasing as well as decreasing trend. The First five year shows nearly decreasing trend in the percentage of VAT to tax revenue and the Government Revenue but the last three year shows an increasing trend. It is a good sign for the economy.

## Conclusion

Value Added Tax is that indirect tax is imposed only on the value added at each stage of production and distribution of goods and services. Over the past eight fiscal years, the composition of value added tax, tax revenue, and government revenue have been showing an increasing trend. But the percentage of value added tax to tax revenue and government revenue has been showing increasing as well as decreasing trend. Value added tax plays a major role in the indirect tax revenue as well as government revenue of Nepal. Therefore, VAT collection must be encouraged. VAT is charged at a flat thirteen percent but this is not a correct practice. It is recommended that basic and essential goods required for daily consumption of the general public should have a lower percentage of VAT. It is also recommended to broaden the scope of indirect tax by implementing other indirect taxes.

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# CONSUMERS' ATTITUDE TOWARDS ONLINE SHOPPING IN KATHMANDU VALLEY

Gunja Kumari Sah\*

## Abstract

*The research study aims to analyze the consumer's attitudes toward online shopping in Nepal in Kathmandu Valley. This research study has carried out utilizing a quantitative approach based on a survey method. Online shopping is a rapidly expanding field of technology. E-commerce in Nepal is currently undergoing a period of rapid expansion. A firm foundation for the evolution of the online retail industry has been formed by the growing number of internet users and technological advancements. The study examines consumer's attitudes toward online shopping in Kathmandu Valley. A descriptive research design was used for the study. The data was collected from the 390 online shopping customers, in which 149 were incomplete and 44 were invalid, while the remaining 197 responses were valid for analysis by SPSS version 20. The findings revealed that online shopping is less effective than traditional shopping. The majority of consumers have positive attitudes towards online shopping.*

**Keywords:** Consumers, Attitude, Online shopping, Technology, Traditional shopping

## Introduction

Online shopping is an effective form of E-commerce. Customers purchase goods or services directly from a seller via the internet. An online shop, e-shop, e-store, internet shop, or online store is a form of the online shop (Kiruthika, 2016). In the twenty-first century, online shopping has become the new business trend. People have been drawn to it and its popularity has grown over time since it is convenient to acquire products or services from the comfort of their own home or workplace (Prabha & Karunanidhi, 2017).

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\* Ms. Sah is Assistant Professor at Patan Multiple Campus, Patandhoka, Lalitpur, Tribhuvan University, Nepal. (Email: gunja.sah@pmc.tu.edu.np)



People's attitudes have changed dramatically as a result of online shopping. Online shopping has emerged, influencing the lives of ordinary people due to this blessing (Jha, 2018). It had grown in popularity as a kind of electronic commerce since the middle of the 1990s, when information technology became an essential function. It depends upon firm reputation, price, convenience, trust, and other factors (Khanh & Gim, 2014; Sah, 2021).

Online shopping has also commenced in Nepal, but users have not yet become familiar with doing so regularly. There have been many new online shopping portals launched. Hamrobazar.com, Kaymu.com.np, Nepbay.com.np, Meroshopping.com, Harilo.com, Foodmandu.com, Yeskantipur.com, Muncha.com.np, Metrotarkari.com, Rojeko.com, Estorenepal.com, Gogazzab.com, Shopmandu.com, kinmel.com.np, Thread paints.com, Daraz.com.np, Metrotarkari.com, Phuche.com, Bigpasal.com, Style97 etc. Online businesses (e-commerce) operate on a Business-to-Consumer (B2C) or Consumer-to-Consumer (C2C) basis. For the first time, NepBay began in 2006 as an online shop in Kathmandu. Most companies interact with consumers either through their websites or through social media (Vaidya, 2019). The number of customers buying online has risen.

The consumer's attitude has a direct impact on their shopping behavior. Consumers worldwide can now shop for a wide range of things online based on their requirements. The widespread use of internet technologies and their advances has had a revolutionary impact on people's daily lives. It is clear now that the internet and related technologies have facilitated the development of new and diverse businesses to fulfill customers' needs (Al-Debei et al., 2015; Jha, 2018; Vaidya, 2019).

Consumer attitudes toward online shopping have been significantly influenced by COVID-19. Consumer shopping habits have evolved increasingly from traditional shopping to online platforms. A change in customers purchasing behavior has been noticed due to COVID 19's pandemic situation (Showrav et al., 2021; Tyagi & Pabalkar, 2021). During the COVID-19 epidemic, e-commerce played a vital role, and retailers devoted a lot of effort to creating, improving, and promoting their online storefronts (Koch et al., 2020; Sah, 2021). Consumer attitudes change dramatically as a result of the COVID-19 epidemic.

## Literature Review

Ahn *et al.* (2004) did research to examine the online and offline characteristics of internet shopping malls and their links to customer acceptance behavior. Data were obtained

from 932 users based on the technology acceptance model. They found both online and offline characteristics have more significant effects on the usefulness, attitude, and intention to use.

Kiruthika (2016) discovered the key factors that influence the online shopping attitude of consumers. It also aimed to describe how online customers behave influenced by various factors at three purchasing stages using a descriptive approach. The study found that online sellers can be more concerned about delivery times, delivery charges, and product return policies.

Prabha and Karunanidhi (2017) examined the factors that influenced purchasing the products through online shopping. Data were obtained from 50 respondents by convenience sampling method. The result showed that understanding the need of consumers is one of the challenging tasks for marketers.

Vaidya (2019) explored preferences of online shopping by Nepalese shoppers. They found time-saving, offers, an easy ordering system, and information available at the online shopping portal were the main reasons the shoppers preferred online shopping. In Nepalese internet purchasing, the quality of the goods supplied to the customer was identified as a severe issue. One of the challenges with internet buying in Nepal has been the delivery of incorrect merchandise.

Vijay *et al.* (2019) examined the influence of hedonic and utilitarian shopping values and atmospheric web cues on e-satisfaction. Data were obtained from 200 respondents, and the collected data were analyzed with structural equation modeling (SEM). The study explained the significance of mediating the importance of e-satisfaction between shopping values, website characteristics, and e-loyalty.

Sharma (2020) investigated reflect on different issues and perspectives of online marketing due to COVID-19. The study explores the epidemic's impact from toilet tissue rolls to baby gear, pet food, and many more daily essentials. The findings suggest that internet marketing and purchasing will soon return to normal, but the losses and downshift caused by the epidemic cannot be overlooked.

Ali Taha *et al.* (2021) aimed to explore the impact of social media on consumer behavior. It investigates the impact of social media on the choice of various e-shops during the first wave of the COVID-19 epidemic. Data were collected from a sample of 937 respondents. The results revealed the use of social media during the first wave of the

COVID-19 pandemic was statistically significant. They also found a weak relationship between the social media users and the purchase in the e-shop promoted on the social media.

## **Objectives of the Study**

The general objective of the study is to analyze the consumer's attitudes toward online shopping in Nepal in Kathmandu Valley.

The specific objectives are as follows:

- To understand the online shopping by younger consumers in Kathmandu Valley,
- To provide quick and easy access to technology by the use of smartphones,
- To convince online retailers and online stores to provide their offering online.

## **Significance of the Study**

Attitude study is important for marketers because it affects consumers' selective processes, learning, and ultimately the buying decision making. As consumers' attitudes influence their intention to buy, knowledge of different aspects of consumers' attitudes may help marketers make a sales forecast of their products.

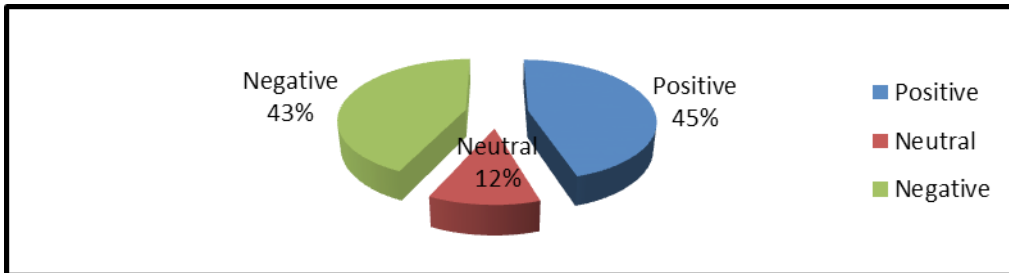
## **Materials and Methods**

This research study carried out utilizing a quantitative approach based on a survey. A descriptive research approach was used to attain the research purpose. The study's populations were online shopping users of Kathmandu Valley. The research sample consisted of 197 online shopping consumers out of 390, with 149 being incomplete and 44 invalid. A sample size larger than 30 but less than 500 is sufficient for most research work (Cooper & Schindler, 2014; Krejcie & Morgan, 1970; Sekaran & Bougie, 2016). A structured questionnaire called seven-point Likert scales designating "7 – strongly agree" to "1 – strongly disagree" was used as the research tool prepared in Google Docs. The data were obtained from a structured questionnaire through a convenience sampling method between April and May 2022. The descriptive approach was utilized to analyze the data, which was entered into a statistical package for the social sciences (SPSS). An independent-samples t-test was conducted to compare the effect of gender on online shopping consumer attitudes. The impact of age, education level, and employment status on online shopping consumer attitudes were studied using a one-way ANOVA.

## Results and Discussion

The study includes the attitudes of online shopping consumers. Figure 1 illustrates the attitudes of consumers towards online shopping.

**Figure 1: Online Shopping Attitude of Consumers**



Source: Online Survey, 2021

The survey participants' attitudes are depicted in Figure 1. Most consumers had good attitudes, with 45 percent having positive attitudes, 43 percent having negative attitudes, and 12 percent having the same viewpoint. Daroch *et al.* (2021) revealed that most respondents had had both positive and negative experiences purchasing online.

Frequency analysis was done to demonstrate the basic demographic information with the effectiveness of online shopping. The study includes demographic status based on gender, age, education level, marital status, and employment status.

Table-1 illustrates the results of the questions on gender, age group, education status, marital status, employment status with the effectiveness of online shopping.

**Table-1: Demographic Profile of Respondents**

Demographic Status		Effective	Same	Worse	Total
Gender	Male	60	11	46	59.39
	Female	29	12	39	40.61
	Total	89	23	85	100
Age Group	15-24	43	10	54	54.31
	25-34	39	7	22	34.52
	35-44	5	5	3	6.60
	Above 45	2	1	6	4.57
	Total	89	23	85	100

Level of Education	Primary level	10	4	26	20.30
	Secondary level	33	5	25	31.98
	Bachelors level	31	11	23	32.99
	Masters and Above level	15	3	11	14.73
	Total	89	23	85	100
Marital Status	Unmarried	50	5	31	43.65
	Married with no child	23	11	44	39.59
	Married with children	16	7	10	16.76
	Total	89	23	85	100
Employment Status	Employed	68	14	34	58.88
	Unemployed	21	9	51	41.12
	Total	89	23	85	100

Source: Online Survey, 2021

Table-1 depicts a profile of the survey respondents' personal data. The majorities of consumers were males, with 59.39 percent. Maximum consumers were between the ages of 15 to 24 with 54.31 percent, bachelor's degree holders with 32.99 percent, unmarried 43.65 percent, and employed 58.88 percent.

Males had a more favorable view toward the effectiveness of online shopping than females. Ages 25 to 34 had a more upbeat attitude than those over 45. Secondary, bachelor, and master's degree holders felt online shopping is more effective than primary degree holders. Consumers who were not married found online shopping to be significantly more enjoyable than those who were married. Employed consumers also believed that online shopping is more effective than unemployed consumers.

To compare the effect of gender on online shopping consumer attitudes, an independent-samples t-test was used. Table 2 shows the impact of gender on online shopping attitudes.

**Table-2: Independent Sample t-test Between Gender and Online Shopping Attitude**

Gender	N	Mean	Std. Deviation
Male	117	4.97	1.33
Female	80	4.92	1.26

Source: Online Survey, 2021

There was an insignificant difference in the mean level of online shopping attitude between the male ( $M= 4.97$ ,  $n = 117$ ,  $SD=1.33$ ) and the female ( $M= 4.92$ ,  $n = 80$ ,  $SD=1.26$ ). The above result confirms that there was no association between gender and attitudes towards online shopping. Kiruthika (2016) reported the means of females were significantly higher than males.

**Table-3: Levene's Test for Equality of Variances**

Levene's Test for Equality of Variances					
Variance	F	Sig.	t	Df	Sig. (2-tailed)
Equal variances assumed	0.459	0.499	0.258	195	0.797
Equal variances not assumed			0.262	178.348	0.794

Source: Online Survey, 2021

According to Levene's test, there is insignificant value of  $F = 0.459$ ,  $p = 0.499$ . There was no significant association between gender and online shopping attitude.

A one-way ANOVA was conducted to examine the effect of age group, level of education, and employment status on attitudes towards online shopping. The differences between age group and online shopping attitudes are shown in table-4.

**Table-4: One way ANOVA between Age Group and Online Shopping Attitudes**

Age	Mean	Std. Deviation	F	Sig.
15-24	5.061	1.187	2.864	0.038
25-34	4.621	1.447		
35-44	5.442	1.026		
Above 45	5.417	0.935		
Total	4.951	1.284		

Source: Online Survey, 2021

Table-4 presents the average value of online shopping attitude based on the age group of respondents. The average mean value was 4.951, and the standard deviation was 1.284. Since then, the average age groups of 35 to 44 have shown a positive attitude. A one-way ANOVA test was performed, and the p-value came to be 0.038, which was less than 0.05. Therefore, it indicates there was a difference between the age group and consumer attitude. The relationship between the level of education and online shopping attitudes is shown in table-5.

**Table-5: One way ANOVA between Level of Education and Online Shopping Attitudes**

Level of Education	Mean	Std. Deviation	F	Sig.
Primary level	4.819	1.160	0.440	0.725
Secondary level	5.075	1.222		
Bachelor's level	4.877	1.392		
Master's and Above level	5.026	1.360		
Total	4.951	1.284		

Source: Online Survey, 2021

Table-5 presents the average value of online shopping attitude based on the level of education of respondents. The average mean value was 4.951, and the standard deviation was 1.284. Since then, the secondary level average value has shown a positive attitude. A one-way ANOVA test was performed, and the p-value came to be 0.725, which was greater than 0.05. Therefore, it indicates there were differences between the level of education and consumer attitude. The relationship between marital status and online shopping attitudes is shown in table-6.

**Table-6: One way ANOVA between Marital Status and Online Shopping Attitudes**

Marital Status	Mean	Std. Deviation	F	Sig.
Unmarried	4.9593	1.33277	2.462	0.088
Married with no child	4.7692	1.26886		
Married with children	5.3561	1.11983		
Total	4.9505	1.28389		

Source: Online Survey, 2021

Table-6 presents the average value of online shopping attitude based on the marital status of respondents. The average mean value was 4.951, and the standard deviation was 1.284. Since then, the married with children average value had shown a positive attitude. A one-way ANOVA test was performed, and the p-value came to be 0.088, which was greater than 0.05. Therefore, it indicated there were differences between marital status and consumer attitude.

## Conclusion

Online shopping is a rising trend in the urban areas of Nepal (Sah, 2021; Vaidya, 2019). With the increasing number of online shopping, many businesses have been inspired to sell goods and services through the internet (Kiruthika, 2016).

The study reports the consumer's attitude towards online shopping. According to the findings, there was a significant association between age group and attitude toward online shopping. However, gender, level of education, and marital status had no significant impact on attitudes regarding online shopping. Kiruthika (2016) found substantial different means between males and females for online shopping.

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## मिथिला-जनकपुरको ऐतिहासिक सर्वेक्षण

- शैलेन्द्र नारायण मल्लिक\*

सार

यस अनुसन्धान अध्ययनको मूल उद्देश्य राजर्षि जनक, याज्ञवल्क्य, अष्टावक्र, सदानन्द, गार्गी, मैत्रेयी आदि जस्ता विदुषी र विद्वान्हरूद्वारा सिञ्चित "मिथिला" को इतिहास र पुराणमा वैदिक संस्कृति केन्द्रको रूपमा नेपालसहित विश्वमा नै चर्चित रहेको पाईन्छ । यस अध्ययनले अनुसन्धानमूलक सामग्रीहरु, प्रकाशित जर्नल, लेख-रचना आदिलाई समावेश गरेको छ । यस लेखमा प्राथमिक तथ्याङ्कका साथै द्वितीयक तथ्याङ्क समेत प्रयोग गरिएको छ । रामायणकालीन अर्थात् त्रेतायुगमा मिथिलाका राजा जनककी छोरी सीताको अयोध्याका राजा दशरथका पुत्र रामसँग विवाह भएदेखि नै राजर्षि जनक, उनका राज्य मिथिला र राजधानी जनकपुरको ख्याति बढ्नुका साथै ज्ञान एवं वैदिक संस्कृतिको केन्द्रस्थल मानिएको हो । तात्कालिक मिथिलाको केन्द्रस्थल जनकपुरको अस्तित्वको खोजीको क्रममा दुई धर्माचार्यहरूको योगदानबाट वर्तमान जनकपुर उजागर भई सेन तथा शाहवंशीय राजाहरूबाट संरक्षण पाउनुका साथै संवर्द्धनको मार्गमा अग्रसारित भयो । यसै परिप्रेक्ष्यमा ऐतिहासिक पवित्र पावन भूमि जनकपुरको इतिहास यस लेखमा प्रस्तुत गरिएको छ ।

**सूचक शब्द-** विदेह, तिरहुत, प्राचीन, धर्मावलम्बी , पौराणिक, वैदिक, वंश, शताब्दी ।

### विषय प्रवेश

मिथिलाका राजा जनकको नाउँबाट प्रख्यात भएको जनकपुरधाम हिन्दू धर्मावलम्बीहरूका लागि एउटा पावन तीर्थस्थल वा धामको रूपमा प्रसिद्ध रहनुका साथै राजर्षि जनक एवं सीतासहित याज्ञवल्क्य, अष्टावक्र, सदानन्द, गार्गी, मैत्रेयी आदि जस्ता विदुषी र विद्वान्हरूद्वारा सिञ्चित "मिथिला" इतिहास र पुराणमा मात्र प्रसिद्ध नभई वैदिक संस्कृतिको केन्द्र भूमिका रूपमा विश्वमा नै चर्चित रहेको छ । मिथिला र विदेह पर्यायवाची शब्दहरू हुन्, जसले एउटै राज्यलाई जनाउँछन् । जनकपुर राजर्षि जनकको नगरी मिथिलाको राजधानी एवं जानकीको जन्मभूमिको रूपमा चिनिन्छ । यसर्थ मिथिलाको इतिहास वा जनकपुरको इतिहास एक अर्काका पूरक हुन् । त्यही मिथिला वा जनकपुरको ऐतिहासिक सर्वेक्षणमा प्रस्तुत लेख केन्द्रित रहेको छ ।

\* डा. मल्लिक राजर्षि जनक विश्वविद्यालय जनकपुरधाममा इतिहास विषयको अवकासप्राप्त प्राध्यापक हुनुहुन्छ ।

## उद्देश्य

त्रेतायुगदेखि राजर्षि जनक र उनको राज्य मिथिलाको राजधानी जनकपुरको ऐतिहासिक पक्षसहित मिथिला जनकपुरको तथ्यलाई पुनःस्मरण गर्नु गराउनुका साथै यो पावन भूमिको धार्मिक, सामाजिक-साँस्कृतिक प्रतिष्ठालाई जनसमक्ष उजागर गरी सोको संरक्षण संवर्द्धनका लागि सम्बन्धित सबैको ध्यान आकृष्ट गर्नु गराउनु प्रस्तुत लेखको उद्देश्य रहेको छ ।

## महत्त्व

मिथिलाराज्यको राजधानी जनकपुरधाम हिन्दू धर्मावलम्बीहरूका लागि एउटा पवित्र तीर्थस्थल वा धामको रूपमा प्रसिद्ध छ । राजर्षि जनक एवं सीतासहित याज्ञवल्क्य, अष्टावक्र, गार्गी, मैत्रेयी आदि जस्ता विदुषी विद्वानहरूद्वारा सिञ्चित यस भूमिको ऐतिहासिक सर्वेक्षण प्राज्ञिक दृष्टिले अत्यन्त महत्त्वपूर्ण कार्य हो ।

## तथ्याङ्क र विधि

प्रस्तुत लेखका लागि प्राथमिक तथ्याङ्क १९८६बचथ म्बतब० र द्वितीयक तथ्याङ्क १९८७अयलमबचथ म्बतब० को प्रयोग गरिएको छ । प्राथमिक तथ्याङ्क अन्तर्गत तत्कालीन शासकहरूद्वारा प्रदत्त लालमोहर, दानपत्रलाई तथ्याङ्कका रूपमा प्रयोग गरिएकोछ भने द्वितीयक तथ्याङ्कको लागि पूर्व प्रकाशित धार्मिक ग्रन्थ एवं विभिन्न पुस्तकहरूका साथै मिथिलाका बारेमा गरिएका अनुसन्धान, प्रकाशित जर्नल, लेख-रचना आदिको अध्ययन गरी तथ्यपरक विषय वस्तुको प्रयोग गरी यो लेख तयार पारिएको छ ।

## ऐतिहासिक सर्वेक्षण

मिथिलाको व्युत्पत्तिका सम्बन्धमा धर्मग्रन्थ, पुराणलगायत अनेकानेक विद्वान् लेखकहरूले बृहत् चर्चा गरिसकेका छन् । अतीतको गौरवगाथा बोकेको मिथिला वा विदेह अति प्राचीन मुलुक हो र महाभारत युद्धकाल भन्दा करिब १५००-२००० वर्ष पहिले अर्थात् आजभन्दा ४५००-५००० वर्ष पहिले ताम्रयुगदेखि मिथिलाको पौराणिक इतिहास सुरु भएको देखिन्छ (मल्ल, २००४, पृ. १०१)। नेपालको इतिहासमा गोरखाका राजा पृथ्वीनारायण शाहले आफ्नो राज्य विस्तार गर्नु पूर्व नेपालमा सेन, ओइनवार, द्रोणवार, कर्णाटक, पाल, गुप्त, नन्द, मौर्य, लिच्छवी, गणतन्त्रका सदस्य र जनकवंशी आदि राजाहरूले शासन गरेको तथ्य विभिन्न ऐतिहासिक स्रोतहरूबाट थाहा हुन्छ । यद्यपि मिथिलाको प्राचीनता उजागर गर्ने स्रोतहरूमा वेद, ब्राह्मण साहित्य, उपनिषद् आदि पौराणिक ग्रन्थहरू पर्दछन् । यजुर्वेदमा मिथिला वा विदेह राजाहरूको वर्णन हुनुका साथै अथर्व परिशिष्टमा विदेह उल्लेख भएको पाइन्छ (मल्ल, २००४, पृ. १०१)। हुनत यस प्रदेशको नाम मिथिलाका अतिरिक्त विदेह, तिरभुक्ति, तपोभूमि, शाम्भवी, सुवर्णकानन, मन्तती, वैजयन्ती आदि रहेको भए पनि यी सबैमा मिथिला, विदेह र तिरभुक्ति (तिरहुत) परम्परा तथा इतिहासमा सुपरिचित रहेको छ (ठाकुर, १९८०, पृ. ३) । सनातनदेखि नै आर्य संस्कृतिमा सम्मानित एवं पूजनीय रहेका वैदिक वाङ्मय, पुराण, रामायण, महाभारत लगायतका ग्रन्थहरूले मिथिलाको अस्तित्वलाई स्वीकार गरिसकेको ऐतिहासिक परिप्रेक्ष्यमा यसको नामकरण सम्बन्धमा पौराणिक अवधारणा वैवश्वतमनुले आफ्ना नौ छोराहरूलाई राज्य बाँडफाँड गरिदिने क्रममा जेठा छोरा इक्ष्वाकुलाई मध्यदेशका राजा बनाइ दिएको पाइन्छ । यिनकै कान्छा

छोरा निमिले अयोध्या र वैशालीबिचमा मिथिलालाई राजधानी तुल्याई एउटा राज्य खडा गरेका थिए भन्ने उल्लेख छ। मिथिला देशको नाम निमिका वंशज 'मिथि' को नामबाट रहेको चर्चा विभिन्न पौराणिक ग्रन्थ एवं साहित्यहरूमा गरिएको छ। प्रख्यात विद्वान् पार्जितरको पनि यही अभिमत रहेको छ। तर राजा निमिको इक्ष्वाकुको श्रद्धाला राजा मिथिको उदय भएपछि टुटेको र माथवविदेह नै 'मिथि' भएको ऐतिहासिक तथ्य हुन सक्दछ। तर यसको निरूपण भएको छैन(मल्ल,२००४,पृ.१०२)। एवम् प्रकार विद्वान्हरूका विविध विचार र तर्कहरूलाई संश्लेषण गरी समष्टिमा निमिका पुत्र मिथिबाट 'मिथिला' भएको निचोड निकाल्न सकिन्छ। मिथिलामा इक्ष्वाकु वंशका निमिदेखि कृति जनकसम्म जम्मा ५४-५६ राजाहरू भएको बुझिन्छ। प्रथम राजाका रूपमा निमि थिए भने यस वंशका दोश्रो राजा मिथि थिए जसका नामबाट मिथिला देशको प्रादुर्भाव भएको थियो। यसै वंशका शिरध्वज जनक (सीता र उर्मिलाका पिता) को समयमा सीताको अवतरण भएको र अयोध्याका राजा दशरथका छोरा रामसंग सीताको, लक्ष्मणसंग उर्मिलाको तथा शिरध्वजका भाइ कुशध्वजकी छोरी माण्डवी एवं श्रुतिकीर्तिको क्रमशः भरत र शत्रुघ्नसंग विवाह भएको प्रसङ्गबाट जनकपुरको ख्याति बढ्न गएको बुझिन्छ। जनकवंशका अन्तिम राजा कृति वा कराल जनक थिए। भनिन्छ; कराल जनकसम्म पुग्दा यस वंशको गौरवशाली परम्परा समाप्त भई यस वंशको विनाश भएको थियो। कौटिल्यको अर्थशास्त्रमा कृति करालले ब्राह्मण कन्याको अपहरण गरेका कारण उनको पतन भएको चर्चा गरिएको पाइन्छ। कृतिको पतन भएपछि २८ मैथिल राजाहरूले जनकपुरमा शासन गरेको उल्लेख पौराणिक स्रोतहरूमा पाइन्छ। तर त्यसपछि विदेह वा मैथिलहरूले गणतन्त्र व्यवस्था मान्न थालेका थिए भनी मानिएको छ (रेग्मी,२०३६,पृ.२५-२६)।

मिथिलाको सीमाक्षेत्रबारे प्राचीन ग्रन्थहरूमा निकै नै चर्चा भएको पाइन्छ। यस सन्दर्भमा पूर्व अध्ययनमा प्रकाशित विभिन्न मतहरूको अध्ययनबाट मिथिलाको अस्तित्व पूर्ववैदिककालमा संस्थापित नेपालभन्दा परवर्ती उत्तर वैदिककालमा भएको शास्त्रीय आधारलाई ऐतिहासिक तथ्य मान्नुपर्ने देखिन्छ। त्यसैले यसको भौगोलिक सीमा तत्कालीन विशाल नेपालको गण्डक (सदानीरा नारायणी) देखि कोसीपूर्व पश्चिम र उत्तर-दक्षिण हिमालयदेखि गङ्गासम्म समानान्तर फैलिएको विष्णुपुराण तथा अन्य संस्कृत वाङ्मयहरूमा उल्लेख छन्।

### गण्डकीकौशिक्यौञ्चैव प्राक्प्रत्यङ् मिथिला स्मृता : ॥

महामहोपाध्याय परमेश्वर भाले पूर्वमा कौशिकीदेखि पश्चिममा शालग्रामीपर्यन्त र दक्षिण गङ्गा प्रवाहदेखि उत्तरमा हिमालयको वनपर्यन्त ९६ कोश लामो र ६४ कोश चौडाइमा मिथिला देश रहेको छ र मिथिला नगरी भन्नाले जनकपुर मात्र बुझिने गरिन्छ। यस क्षेत्रमा दरभङ्गा, मुजफ्फरपुरको सम्पूर्ण क्षेत्र, चम्पारनको पूर्वभाग, भागलपुर तथा मुँगेर जिल्लाको उत्तरभाग र नेपालराज्यको दक्षिणीभाग सम्मिलित मिथिलाको मुख्य स्थान जनकपुर नेपालराज्य अन्तर्गत रहेको उल्लेख गरेका छन् (भा, १९७७,पृ.३७)।

प्राग्भदेखि करिब ईसापूर्व ५०० सम्मको विदेहको वैभवको चर्चा वेद, उपनिषद्, शतपथ ब्राह्मण र बौद्धग्रन्थहरूमा गरिएको पाइन्छ। तत्पश्चात् बज्जी गणतन्त्रमा परिणत भयो। ई.पू. सातौं शताब्दीमा आर्यावर्तमा स्थापित १६ महाजनपदहरूको सूचीमा बज्जीको नाम परेकोमा मिथिला वा जनकपुर पनि त्यसैमा सम्मिलित रहेको मान्न सकिन्छ। शासन पद्धति परिवर्तन भइसके पनि राज्यका मनोनीत नेताका

रूपमा निमिका वंशजहरू (जसलाई जनताले राजा भनी सम्बोधन गर्थे) ले उक्त राज्यमा तबसम्म शासन गरिरहे जबसम्म विदेह राज्यको अवसान मगधका सम्राट् अजातशत्रु ई.पू. ४५९-१९ कालमा उनका अधीनस्थ मिथिला जैन वंशावलीका अनुसार महावीरले मिथिला राज्यमा छ वर्षायामसम्म वास गरे भने मच्छिम निकायका अनुसार गौतमबुद्धले विदेह राज्यको दुईपल्ट भ्रमण गरे । त्यसबेलाको गान्धार जातक र सुरुचि जातक अनुसार तत्कालीन विदेह तीनसय योजनसम्म र जनकपुर सात योजनको क्षेत्रफलमा फैलिएको थियो । बौद्धका पन्ध्र जातक-मखादेव, चूलजनक, विनीलक, महापणाद, गान्धार, कुम्भकार, सुरुचि, साधीन, शङ्खपाल, निमि, महाजनक, भूरिदत्त, महानारदकश्यप, विदुर र महाकुम्भसहितका बौद्ध ग्रन्थहरूमा मिथिला अथवा जनकपुरको वर्णनका साथै अनेक राजाहरूको नामोल्लेख गरिएको पाइन्छ (रेग्मी, २०३६, पृ. २७) । अजातशत्रुपश्चात् शैशुनाग, नन्द, मौर्य, शुङ्ग, कुषाणहरूको शासनसम्म मिथिला उनीहरूको अधीनमा थियो । कुषाणहरूको पतन र गुप्तसाम्राज्यको उत्थान बीचको मध्यवर्ती कालमा दुईवटा प्रमुख वंश राज्यसत्तामा आए । त्यसमा प्रथम थिए नागहरू र दोस्रो वाकाटक वंश । चौथो शताब्दीमा गुप्तहरूले भारतमा शक्ति हत्याएपछि विदेह तिनको एक राज्यका रूपमा रहन गयो । गुप्त शासकहरू विष्णुपूजक थिए । विष्णुको बराह रूपको पूजा गुप्तकालमा बढी प्रचलित रहेको पाइन्छ । डा. रामनिवास पाण्डेका अध्ययनअनुसार जनकपुरधामको कुपेश्वरनाथ महादेवको मन्दिर (कुवामठ) मा पूजित शिवलिङ्ग गुप्तकालीन बराहदेवको प्रतीक हुन्छ । उक्तमन्दिर भित्र स्थापित खण्डित मूर्ति र मन्दिरको निर्माण गुप्तकालमा भएको मतअनुसार जनकपुरक्षेत्र गुप्तहरूको प्रभाव क्षेत्रमा रहेको बुझिन्छ (विमल र कर्ण, २०६९, पृ. १२१) । पाँचौं शताब्दीको प्रारम्भमा चिनियाँ यात्री फा-ह्यानले यस क्षेत्रको भ्रमण गरेका थिए भने छैटौं शताब्दीमा भ्रमण गर्ने चिनियाँ यात्री ह्वेनसाङ्गले मिथिलालाई 'चेन सुना' भनी वर्णन गरेका छन् । उनले आफ्नो यात्रावृत्तान्तमा जनकपुरको पवित्रताको चर्चा गरेका छन् (सुवेदी, २०६५, पृ. ४४) । यस्तै सातौं शताब्दीमा इत्सिंग नामक चिनियाँ यात्री पनि तिरहुत आएका थिए । यसप्रकार चिनियाँ यात्रीहरूका यात्रावृत्तान्तमा तिरहुत जनकपुरको चर्चाले यतिबेलासम्म तिरहुत (जनकपुर)को अस्तित्व कायमै रहेको बुझिन्छ । सातौं शताब्दीमा गुप्तहरूको पतनपछि बङ्गालका गौड राजा शशाङ्गले यस क्षेत्रमा शासन गरे तर तिनको मृत्युपछि यो क्षेत्र हर्षवर्धन (६०६-६४३ ई.) को अधीनमा पर्न गयो । हर्षवर्धनको मृत्यु पछि लगभग दुई सय वर्षसम्मको यस क्षेत्रको इतिहासका बारेमा यसै हो भन्न निकै गाह्रो छ । तिरहुतको इतिहास अन्धकारमय रह्यो । विद्यमान अभिलेखहरूका आधारमा सातौं शताब्दीका अन्तिम वर्षहरूमा यस क्षेत्रमाथि पुनः मगधका राजा आदित्यसेनको शासन थियो भन्ने उल्लेख पाइन्छ । आठौं शताब्दीको उत्तरार्धमा बङ्गालका पालहरूले यस क्षेत्रमाथि कब्जा गरी एघारौं शताब्दीसम्म शासन गरे (पाण्डे, २०५५, पृ. १२२) ।

रामायणकालीन मिथिलाको राजधानी जनकपुर अत्यन्तै प्रसिद्ध रहेको परिप्रेक्ष्यमा मध्यकालमा कर्नाटवंशी नान्यदेवद्वारा ११५४ (सन् १०९७)मा तिरहुत (मिथिला) राज्यको स्थापना वर्तमानको बारा जिल्लाको सिमरौनगढ नामक स्थानमा गरिएको थियो । जुन कालान्तरमा उनकै उत्तराधिकारी हरिसिंहदेव १३८२ (सन् १३२४) को समयमा सुल्तान गयासुद्दीन तुगलकको आक्रमणपश्चात् दक्षिण मिथिलाको प्रशासन ओइनवारवंशका ब्राह्मण कामेश्वर ठाकुर (दरभङ्गा) लाई कर तिर्ने सर्तमा जिम्मा लगाइयो भने उत्तरी मिथिलामाथि द्रोणवारवंशीको शासन कायम भयो । तर पनि धेरै दिनसम्म यी दुवै वंशले शासन गर्न सकेनन् र अन्ततः दक्षिणी मिथिलामाथि जौनपुरका सुल्तान गयासुद्दीनवेग र उत्तरी मिथिलामाथि सेनवंशको शासन कायम भयो । पछि १८७२ (सन् १८१६) को सुगौली सन्धि पश्चात् मिथिला दुई देश नेपाल र भारतबिच विभक्त भयो । नेपालको मानचित्रको

परिधिभिन्न वर्तमान मिथिलाको सीमाक्षेत्रलाई रेखाङ्कन गर्दा पूर्वमा कोसी, पश्चिममा गण्डकी (नारायणी) को स्थानमा वाग्मती, उत्तरमा हिमालयको ठाउँमा पूर्व-पश्चिम राजमार्ग उत्तरको चुरेजङ्गल र दक्षिणमा गङ्गा नदीसम्मको भारतको विहार राज्यसम्मको भू-भागलाई मिथिला क्षेत्र मान्नु पर्नेहुन्छ। यस अर्थमा मिथिला एक प्रख्यात राज्यका रूपमा पौराणिक एवं ऐतिहासिक रहेको भए पनि यसको वर्तमान भूभाग सङ्ग्रहित अभिलेख र विचारहरूको निष्कर्षका आधारमा मैथिली भाषाभाषीको बाहुल्यक्षेत्रलाई स्वीकार गर्दै पूर्वमा कोसी, पश्चिममा वाग्मती, उत्तरमा चुरे क्षेत्र र दक्षिणमा भारतको विहार राज्यसम्मको क्षेत्र मिथिला भएको तर्कलाई वर्तमान नेपालको भौगोलिक अवस्थितिलाई भाषिक आधारमा पुष्टि गर्न सकिन्छ।

वैदिककालीन जनकपुरको इतिहास मिथिलाको नामबाट प्रख्यात रहेको छ। प्राचीनकालीन मिथिलाको राजधानी जनकपुर नगरको विनाश महाभारत युद्धपश्चात् भएको र सोपछि यो क्षेत्र वनजङ्गलले ढाकिएर त्यसको पहिचान हराएको थियो (बर्घट, १९७८, पृ. २५८)। मध्यकालमा कर्नाटवंशको अभ्युदयसंगै मिथिला राज्यले पुनर्जीवन पायो भने जनकपुरको अस्तित्व पनि पुनर्स्थापित भयो। तर त्यसपछिको इतिहास अस्थिरताका साथै प्रमाणविहीन रहँदै नाममात्रको रहे पनि चौधौं शताब्दीका विद्यापति (१३५०-१४४० ई.) का कृतिमा जनकपुरको चर्चा पाइनुले जनकपुरको अस्तित्वलाई उजागर गर्दछ। इसाको सोह्रौं-सत्रौं शताब्दीतिर गङ्गाको मैदानी भागमा भगवान् श्रीरामको भक्ति र उपासनाको प्रचार हुँदा विशेष गरी वैष्णव रामानन्दीय सम्प्रदायका भक्त र सन्तहरूले आफ्ना उपास्यदेव श्रीरामका चरण परेका स्थलहरूको खोजी कार्य गर्ने अभियान चलाएका थिए (दास, २०७२, पृ. २९)। इसाको सत्रौं शताब्दीसम्म जनकपुरधामको खोजी हुन सकेको थिएन, अर्थात् जनकपुर नामले अस्तित्वमा रहेपनि स्थान अज्ञात नै रहेको थियो (बर्घट, १९७८, पृ. २५८)।

वर्तमान जनकपुरधामको खोजीको श्रेय चतुर्भुज गिरी र सुरकिशोर दासलाई दिइन्छ। वस्तुतः यी दुवै आधुनिक जनकपुरका निर्माता हुन्, जो अठारौं शताब्दीको प्रारम्भताका वन-जङ्गलले ढाकिएको यस स्थानमा आई यहाँको ऐतिहासिक-धार्मिक महत्त्वको प्रचार-प्रसारका साथै जनकपुरको पौराणिक एवं ऐतिहासिक गौरवलाई उजागर गरी प्राचीन मिथिलाको सम्भनालाई समेत जीवन्त तुल्याउने कार्य गरेका थिए। जनकपुरको खोजी तथा पहिचानविषयक सूचना मकवानपुरका राजासमक्ष पुगेपछि यस स्थानमा स्थापित मठहरूका लागि तत्कालीन समयका राजाहरूद्वारा अनेक अधिकारपत्र प्रदान गरिएका थिए। यस सन्दर्भमा मकवानी राजा इन्दुविधाता (फसली संवत् ११९४) र त्यसपछि मकवानी राजा जगतसेन (वि.सं. १७६७) का समयदेखि श्री ५ राजेन्द्रविक्रम (वि.सं. १८८५ को लालमोहरपत्र) सम्म यस क्षेत्रको संरक्षण र संवर्द्धनमा तात्कालिक शासक, प्रशासकहरूबाट योगदान दिइँदै आएको कुरा अभिलेखपत्रहरूबाट ज्ञात हुन्छ।

यसप्रकार सेन राजाहरूबाट नै जनकपुरको संरक्षण एवं स्थायित्वका लागि मठ-मन्दिरहरूलाई गरिएका भूमिदान, जग्गादानका साथै महन्तादिको नियुक्ति सम्बन्धी ताम्रपत्र, अभिलेखादिहरूबाट जनकपुरप्रति सेनवंशी शासकहरू सकारात्मक रहेको र जनकपुरको विकासमा महत्त्वपूर्ण योगदान गरेको प्रस्टिन्छ। पछिल्लोकालमा पृथ्वीनारायण शाहको एकीकरण अभियानअन्तर्गत जनकपुर परेपश्चात् जनकपुरको विकासमा पृथ्वीनारायण शाह तथा उनका उत्तराधिकारीहरूद्वारा ती अधिकारपत्रहरूलाई विभिन्न लालमोहरहरूद्वारा बेला-मौकामा पूर्व दानकार्यको थमौती एवं जग्गादानका साथै मठ-मन्दिरहरूमा महन्तादिको नियुक्ति गरी प्रशासनिक प्रभुत्वको रूपमा जनकपुरको ऐतिहासिक विकासक्रमलाई गति प्रदान गर्दै आएको विभिन्न

उपलब्ध तथ्यहरूबाट पुष्टि हुन्छ ।

अठारौं शताब्दीको प्रारम्भताका जनकपुरको पहिचान गरी यसको ख्यातिलाई पुनर्स्थापित गर्ने कार्य भारतको बद्रीनाथबाट आएका चतुर्भुज गिरी र लोहाडगढ (लोहागढ), जयपुर भारतबाट आएका सुरकिशोर दासका कार्यहरूबाट भएको मानिन्छ । यी दुवै सन्तहरूको जनकपुरधाम आगमनबारे तिथिमिति यकिन नभए पनि सम्भवतः यिनीहरू विक्रम संवत् १७१४-१७५७ (१६५७-१७००ई.) मा आएको हुनुपर्छ (मल्लिक, २०७४, पृ. २७) । डा. माखन झाको अनुसन्धानात्मक कृति 'द सेकेन्ड कम्प्लेक्स इन जनकपुर'मा सन् १६५७ मा जनकपुरमाथि मकवानपुरको शासन रहेको र मकवानपुरका राजाले चतुर्भुज गिरीलाई सैकडौं एकड जग्गा दान दिएको र सोही समय सुरकिशोर दास जनकपुर आएको भन्ने उल्लेख गरिएको प्रसङ्गमा तत्कालीन समयमा हरिहरसेन (१६३१-१६७२ई.) मकवानपुरका राजा थिए र उनीबाट कुनै जग्गादान गरिएको भेटिन्छ । चतुर्भुज गिरीलाई राजा इन्द्रविधाता सेनले संवत् १११४ साल स्रावण सुदि ३ अर्थात् (१११४+५९३.=१७०७ इ.) मा जग्गा दान गरेका थिए । यो जग्गा दानबारे विक्रम संवत् १८६३ साल मार्ग वदि १२ रोज १ का दिन नेपालका तत्कालीन राजा गीर्वाणयुद्धविक्रम शाहको ताम्रपत्रबाट पनि पुष्टि हुन्छ, जुन गुठी संस्थान, जनकपुरसँग सुरक्षित छ । यसै पनि सन् १६७२-१७०६ सम्म मकवानपुरका शासक इन्द्रविधाता थिए र उनीबाट सन् १७०६-०७ मा गरिएको जग्गादानलाई तिथिको योगफलले सामान्य फरक देखिनु संयोग मात्र हो । अर्थात् सन् १७०६ ताका चतुर्भुजगिरी जनकपुरमा स्थापित भए । चतुर्भुजगिरी र सुरकिशोर दास समकालीन भएको प्रसङ्गको आधारमा सुरकिशोर दास पनि जनकपुरमा स्थापित भएको सहजै बुझ्न सकिन्छ । यस अर्थमा डा. झाको उपर्युक्त कृतिमा संवत् १७१४ (१६५७ इ.)मा जनकपुरमाथि मकवानपुरको शासन रहेको र सो समय चतुर्भुज गिरी र सुरकिशोर दास जनकपुर आएको कुरा स्वीकार्न सकिए पनि सो समयमा सेकडौं एकड जग्गादान बारेमा कहीं केही भुलचुक भएको बुझिन्छ । 'मेचीदेखि महाकाली' भाग-२ (पृष्ठ २६४) मा पनि सत्रौं शताब्दीको आधाआधीदेखि सन्यासी चतुर्भुज गिरी र बैष्णव सुरकिशोर दासले यहाँ राम र सीताको मूर्ति फेला पारेदेखि पुनः यस स्थानको गौरव बढ्दै गयो । त्यसवखत यो क्षेत्र मकवानपुर राज्यद्वारा प्रशासित थियो । यस ठाउँको विकासका निमित्त मकवानपुरे राजाले सयौं एकड जमिन दिएका थिए भन्ने उल्लेख भएबाट पनि दुवै सन्तको आगमनको काल र शासन क्षेत्रबारे पुष्टि गर्दछ । तर भूमिदानलाई स्वीकार गर्न सकिए पनि सन् १६५७ मै दान गरेको भन्ने बेहोल पुष्टि हुन्छ; बरु पछि भएकोलाई समेटिएको भन्ने बुझिन्छ ।

सन् १७२७ मा मकवानपुरका राजा मानिक सेनले जानकी मन्दिरका गोसाईं रामदासलाई विर्ता दान गरेको प्रमाण सजीव नै छ । यस आधारमा पनि विचार गर्दा सुरकिशोर दास पछि प्रयाग दास, त्यसपछि जनकविदेही दास र त्यसपछि मात्र राम दास महन्त भएका थिए । अर्थात् जानकी मन्दिरका एक महन्तको कार्यकाललाई विचार गर्दा र सामान्य हिसाब जोड्दा पनि एउटा महन्त कम्तीमा २० वर्ष नै महन्त भएको भए पनि ८० वर्षको अन्तर हुनुपर्ने जबकि इन्द्रविधातापछि राजा भएका मानिक सेन कालको २१ वर्षको अन्तरालमा चार चार जना महन्त भएका कुरा विचारनीय छ । रामदास पछि पाँचौं महन्त भएका हरिनारायण दासलाई सन् १७३३ मा जगत् सेनले दिएको 'बाजनामा' अभिलेखको तिथिमितिबाट पनि तत्कालीन शासक र महन्तबारे जान्न पाउनुले अधिपछिका बारेमा बुझ्न मद्दत गर्दछ । यी सबै माथि विचार गर्दा मानिक सेनको विक्रम संवत् १७८४ (सन् १७२७)को सजीव प्रमाणलाई आधारमा टेकी सुरकिशोर दास ६०-७० वर्ष पहिला जनकपुर आएको देखिन्छ । औरङ्गजेवका समकालीन सुरकिशोर दास थिए ।



औरङ्गजेवको हिन्दू धर्ममाथिको अत्याचारबाट पलायन भई सुरकिशोर दास मिथिला आएका थिए भन्ने पनि उल्लेख पाइन्छ । यस अर्थमा माखन भाको विक्रम संवत् १७१४ ( १६५७ ) मा सुरकिशोर दास जनकपुर आएको भन्ने भनाइलाई सही ठम्याउन सकिन्छ । यसैगरी केही विद्वान्का विचारमा प्रयागदास महन्त रहेको बेला रामदासलाई बिर्ता दान दिएको कुरा बारे विचार गर्दा सन् १६५७ देखि १७२७ बिच ७० वर्षको अन्तरालमा दुई जना मात्र महन्त रहेको हुन सक्ने सम्भावनालाई पनि स्वीकार गर्न गाह्रो छ । यद्यपि उनीहरूको औसत आयु ९० वर्षभन्दा बढी नै थियो भन्न सकिएला । तथापि प्रमाणको अभावमा समयको अन्तराललाई तर्कको आधारमा पुष्टि गर्नु उचित मानिन्छ । सन् १७२७ मा प्रयागदास महन्त थिए भने सन् १७३३ मा हरिनारयण दास हुँदा बिचको ६ वर्षको अन्तरालमा जनकविदेही र राम दास कति-कति वर्षको अन्तरालमा महन्त भएका थिए होलान् ? यी सबै पक्षमाथि विचारपश्चात् समग्रमा ती दुवै सन्तहरूको जनकपुरमा प्रादुर्भात काल संवत् १७१४ (१६५७ ) देखि संवत् १७५७ ( १७०० ) भएको मान्नु उपयुक्त नै हुन्छ, (मल्लिक, २०७४, पृ. २७-२८) ।

यी सन्तहरूको योगदानबारे रमाइला किंबदन्तीहरू समाजमा चर्चित छन् । एउटा बहुप्रचलित किंबदन्तीअनुसार चतुर्भुजगिरी दुर्गानाथ ज्योतिर्मठाधीश बद्रिकाश्रमबाट दीक्षित सन्यासी थिए । उनी दशनामी सम्प्रदायका दुर्गानाथ गिरीका शिष्य थिए । श्री सीतारामको भक्ति एवं उपासना गर्न श्री जानकीको जन्मस्थल मिथिलाको खोजीका क्रममा उनी यस्तो ठाउँमा आए जसको पूर्वमा कोसि, पश्चिममा गण्डकी, उत्तरमा हिमाल र दक्षिणमा गङ्गा थिए । पुराणमा उल्लिखित मिथिलाको जनकपुर यही हो भनी सम्भेर उनी राममन्दिर पछ्याडि रहेको वरको रुखमुनी भगवान्को स्तुति गरेर बसे । एक दिन सपनामा भगवान् श्री रामचन्द्र प्रकट भएर भने- “विदेह राजाहरूको राजधानी जनकपुर यही हो र तिमी बसेको रुखमुनि श्री सीतासहित मेरा चारै भाइहरूको पञ्चमूर्ति, शेषावतार श्री लक्ष्मीनारायणका मूर्तिहरू छन् । ती सबै मूर्तिहरूलाई निकालेर पूजाआजा गर, तिमीलाई ठूलो पुण्य हुने छ ।” भगवान्बाट सपनामा भएको आज्ञानुसार भोलिपल्ट उनले वरको रुखमुनिबाट भगवान्का मूर्तिहरू निकालेर प्रतिष्ठित गरी पूजाआजा सुरु गरेका थिए (कर्ण र रिमाल, २०६५, पृ. ५२) । यो किंबदन्ती (राममन्दिरको इतिहास) ले जनकपुरको धार्मिक महत्त्व एवं ख्यातिलाई टेवा पुऱ्याएको पाइन्छ ।

यसै समयतिर सन्त सुरकिशोर दास पनि जनकपुरको खोजी गर्दै आएका अर्का विभूति हुन्, जो लोहाडगढ (लोहागढ), जयपुरबाट मिथिलाको खोजीको क्रममा मटिहानी हुँदै जनकपुरधाम आएका थिए । उनका सम्बन्धमा चर्चित किंबदन्तीअनुसार महात्मा सुरकिशोर दास स्वयं आफूलाई जनकको भाइ मान्दथे । उनी सीताको मूर्तिलाई छोरीको भावमा सेवा सुश्रवा गर्दथे र “किशोरी जू” भनी सम्बोधन गर्दथे । सुरकिशोर दासको भक्तिभाव, आदर र सत्कार देखेर एक रात सपनामा सीताले सुरकिशोर दासलाई भनिन्- “बुवा, यो मेरो बुवाको घर होइन । तपाईंले मलाई जति सेवा, भक्तिभाव गरे पनि पाउन सक्नुहुन्न । मेरा बुवाको घर (माइतीघर) यहाँबाट धेरै टाढा मिथिला जनकपुरधाममा छ, जसको पूर्वमा कोसि, पश्चिममा गण्डकी, उत्तरमा हिमाल र दक्षिणमा गङ्गा बहेकी छिन् ।” सीता ( किशोरीजू) बाट सपनामा प्राप्त निर्देशअनुसार सुरकिशोर दास लोहाडगढबाट मिथिला जनकपुरको खोजीमा पैदल हिँडेर मटिहानी आए । मटिहानीबाट उत्तरतर्फ लागेर घनघोर जङ्गलमा जनकपुरको खोजी गर्न लागे । खोजी गर्ने क्रममा एकदिन थकित भएर नीमको रुखमुनि सुस्ताउन बसे । यत्तिकैमा उनलाई निद्रा परेछ । सपनामा किशोरीजू स्वयं प्रकट भई भनिछन् “मेरा बुवाको घर जनकपुरधाम यही हो । मेरा मूर्तिहरू यही नीमको रुखमुनि



छन् । त्यसलाई निकालेर पूजा गर्नुहोस्” । किशोरीजूको आदेशानुसार सुरकिशोर दासले नीमको रुखमुनि रहेका सीतारामको मूर्ति निकाली त्यहीं सानो कुटी बनाई भगवान्को भजन कीर्तन गर्न सुरु गरे (कर्ण र रिमाल, २०६५, पृ. ५२-५३) ।

यी दुई धर्माचार्यहरू सँग सम्बन्धित किंबदन्तीअनुसार जनकपुरमा प्राप्त भएका भगवान्का मूर्तिहरू हेर्न र दर्शन गर्न साधु सन्तका साथै विभिन्न स्थानबाट दर्शनार्थीहरू जनकपुर आउन थाले । यसै सिलसिलामा मकसुदावाद, बङ्गालबाट रघुनाथ दास (रत्नसागर मन्दिर), गोरखपुर मुरिया रामपुर मठबाट प्रितम दास (हनुमानगढी), सीतामढी विहारका श्री राम दास (सीताकुण्ड) आदि थिए, जसले जनकपुरमा कुटी बनाई बस्न लागेका थिए । वस्तुतः साधुसन्तहरू विभिन्न स्थानहरूबाट आई जनकपुरमा बस्न थालेपछि नै वर्तमान जनकपुरको व्यापक प्रचार-प्रसार भएको हो । बारास्थान अयोध्याका रघुनाथ प्रसादले सन् १८०५ मा ‘श्रीमहाराज चरित्र’ नामक रचनामा जनकपुरधामको जुन वर्णन गरेका छन् (बर्घट, १९७८, पृ. २८०)। त्यसबाट जनकपुरवरिपरि अनेक सहर अस्तित्वमा आइसकेको प्रमाणित हुन्छ ।

### निष्कर्ष

दुई धर्माचार्य चतुर्भुज गिरी एवं सुरकिशोर दासबाट मिथिला-जनकपुरको खोजीकाक्रममा पौराणिक मिथिलाको जनकपुर अस्तित्वमा आएको ज्ञात हुन्छ । इतिहासका ग्रन्थ तथा विभिन्न अभिलेखादिहरूबाट सेन तथा शाहवंशीय राजाहरूद्वारा प्रदत्त योगदानले जनकपुरको पौराणिक एवं ऐतिहासिक अस्तित्वको संरक्षण मात्रै होइन कि विकासमा समेत टेवा पुऱ्याएको तथ्यलाई नकार्न सकिन्न । यसर्थ, जनकवंशी (रामायण) कालमा मिथिलाको राजधानी जनकपुर ‘किशोरीजी के स्थान’, ‘जानकीजी को दरवार’, ‘जनकजी को राजधानी’, ‘रामजी को ससुराल’ आदि नामबाट परिचित ऐतिहासिक पवित्र पावनभूमि जनकपुर वर्तमानमा पनि धार्मिक एवं पवित्र धामको रूपमा विख्यात छ ।

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