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Editorial Note ....

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The authenticity of the thoughts and views expressed in the articles solely goes to the authors. We are very much grateful for the contributors for research articles. We are also indebted to all the reviewer who has helped us to review the article. Finally, the campus chief of JMC is also thankful for his continuous support in publishing the journal.

Editorial team

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Nutritional Value of Some Local Mushroom Species of Nepal

Akkal Deo Mishra & Manju Mishra

Abstract

A study on the nutrients of cultivated and wild mushrooms as a sample analysis is carried out. The variation of chemical constituents based on the species, substratum and season has been observed for three cultivated species namely Agaricus bisporus, Pleurotus sajorcaju and Laccaria leccata alongwith one wild species namely Laetiporus sulphureus. The observations have been made for saw dust, paddy straw and wheat straw as substratum. Saw dust is found to produce higher yield followed by paddy straw in summer season as compared to winter vegetation. On the average 1.5 kg of saw dust produced 1 kg of mushroom.

Some principal nutrients like carbohydrates, amino acids, proteins, fats, minerals, fibre and ash, moisture content, etc. are estimated from the mentioned mushroom species. The maximum amount of nutrients contained in 100gm of dry mass is 90% moisture, 15% fibre and ash, 8% carbohydrates, 12% amino acids, 32% proteins and 2.5% fat contents among the mushroom species studied. These mushrooms possess considerable amount of minerals like sodium, potassium, calcium, iron, phosphorus, etc. The maximum amount of these mineral elements in the mushrooms under experiment is 5% sodium, 6% phosphorus, 4% potassium, 2.5% calcium and 3% iron in straw based vegetation grown in summer season.

The mushroom species studied have been tested against different fungal and bacterial strains to observe their microbiological activities by using their biomass extract. They are found mild to moderate in antifungal and antibacterial activities. The wild species have shown higher potentiality against in vitro tested microbes as compared to cultivated mushrooms under experiment.

Keywords: Substratum, nutrients, extraction, saprophytes, antimicrobial.

1. Introduction

Mushroom is a saprophytic plant which feeds on dead and decaying organic matters. These are cosmopolitan in natural occurrence. Most of the mushrooms are wild, yet considerable species are cultivated worldwide. About 38,000 species of mushrooms are known in the world, out of which around 2,000 species are edible, more than 1,000 species are poisonous (Chang, et al, 1995).

China, India, Greece, France, Netherlands, Tiwan, Thailand, Germany, Vietnam, UK, USA, etc. countries in the world use mushroom with different specifications of delicious food (Aneja,1996). Nepalese rural tribes such as Sherpa, Tamang, Tharu, Newar, Gurung, Chepang, Rai, Limbu, etc. have been utilizing this indigenous form of food from time immemorial (Bhandary, 1985). Mushroom serves as reliable openly accessible and less expensive article of food among rich and poors. The fast growing habit of mushroom has received a remarkable interest in recent times with the realization of delicious food with high nutritional and medicinal values. Mushroom is good oxygen carrier and adaptogen (Mehrotra, 1990). It has been used as traditional medicinal article in China, Japan, Korea, Thailand, Germany, Vietnam, UK. USA. etc. countries. Use of mushroom as food checks arthritis, hepatitis, diabetes, cancer, heart problems, chest problems, skin diseases, diuretics, ulcer, constipation, asthma, chronic, bronchitis, etc (Dube, 1992). Mushrooms are reported to act as detoxicant, cardiotonic, cold tonic, anticholesterol, blood pressure regulator, muscular relaxant, energy tonic, etc.

Mushroom has got diverse applications as food articles such as vegetable, soup, food additive, edible powder, water extract, alcoholic extract, tonic capsule,etc(Jayaraman,1992 and Joshi, 2005). Mushrooms contain various nutritional components like carbohydrates, adenosines, terpenoids, hormones, proteins, vitamins, amino acids, fibres, minerals, essential oils, steroids, etc.

Nepal is an agricultural country with diverse habitats for mushroom cultivation. Melamchi, Hele, Phulchoke, Sing Gompa, Ghorepani, etc. represent best sites for Himalayan fungal flora (Aryan, 2005). In addition to this mountains and mid-mountainous reasons of Nepal from east to west are rich in wild and cultivated mushroom species. Some work has been done about the survey of mushroom species in Nepal which reveals that there are about 1,000 species of conspicuous mushroom in our country (Bhandari, 2001). It has been noticed that although considerable work has been done for the collection and identification of Nepalese mushrooms but their chemical analysis for nutritional and medicinal values have not been attempted experimentally yet. It is estimated by the experts that there are about 200 edible varieties of mushroom in Nepal but less than 20 kinds only appear in local markets(Bhattarai,2001).

Professional mushroom cultivations have started in Nepal for 30 years in different parts. Some of the commonly cultivated mushroom species in Nepal are *Agaricus bisporus* (Gobre Chyau), *Pleurotus sajor caju* (Kanne chyau), *Laccaria leccata* (wood mushroom), *Oyster, Volvarilla, Shitake, Ganodirma*, etc. Among wild species, *Laetiporus sulphureus* (Rato Chyau), has drawn concern of people for its versatile food and medicinal values. Professional mushroom farming has been started in some districts, such as Kathmandu, Lalitpur, Bhaktapur, Kaski, Nuwakot, Dhading, Parbat, Baglung, Manag, Mustang, Myagdi, Palpa, Shyangja, Tanahun, Gulmi, Lamjung, Gorkha, Dhankuta, Sholukhumbu, Bhojpur, etc. Mushroom farming is done on different substratum like straw, husk, saw dust, cow dunk, wood, compost manure, banana leaves, sunflower leaves, etc. In Pokhara too, some varieties of cultivated mushroom like *Agaricus bisporus* (Gobre Chyau), *pleurotus sajor caju* (Kanne chyau), *Laccaria leccata* (wood mushroom) and some wild species like *Laetiporus sulphureus* (Rato chyau), etc. are available in the market.

2. Mushroom Species Studied

The selected mushroom species under the investigation are:

2.1. Cultivated mushroom species:

a. *Agaricus bisporus* (Gobre chyau)

b. *Pleurotus sajarcaju* (Kanne chyau)

c. *Laccaria leccata* (Wood mushroom)

2.2. Wild mushroom species:

a. *Laetiporus sulphureus* (Rato chyau)

3. Study Site

Kaski of Gandaki and Baglung and Myagdi of Dhaulagiri zone are selected as study site of some cultivated and wild mushroom species.

A good number of people in Gandaki and Dhaulagiri zone are found to take even small quantity of mushroom in daily diet. Among the cultivated edible mushrooms, Agaricus bisporus (Gobre chyau), Lentinus edodes (shitake), volveriella volvacea (paddy straw), pleaurotus sajor caju (Oyster), etc. are commonly taken by local people as vegetable and soup. Similarly, Agaricus campestris (Khumb) and Laetiporus sulphureus (Rato chyau), etc. are most popularly used mushrooms in these areas.

Presently about five genera of edible mushrooms are cultivated viz, Agaricus lentinus, Volvariella, Pleurotus and Flammulina (Manandhar, 2007). In addition to these cultivated mushroom species, people have started farming some wild species like Laetiporus sulphureus (Rato chyau) as it is widely demanded medicinal fungus.

In Kaski, mushroom farming is done on commercial scale in mushroom houses with the mentioned species whereas in Baglung and Myagdi districts, it is done in smaller scales and in household farming also. The farming is run throughout the year, yet the market demand of mushroom is not fulfilled. Physiology of some commonly used mushrooms is given below.

Fig.1: Kanne Chyau

Fig. 2: Shitake Chyau

Fig.3: Ganoderma Chyau

4. Experimental Methods and Materials

4.1. Collection of Mushroom Samples

Three samples of cultivated species, viz, Agaricus bisporus (white button or Gobre chyau), *pleurotus sajorcaju* (Kanne chyau) and *Laccaria leccata* (wood mushroom) were collected from Beni, Baglung and Pokhara as representative centres of Myagdi, Baglung and Kaski districts respectively. 1kg of fresh sample of each mushroom was collected in winter and summer seasons. Fresh weight of each sample was observed and the samples were packed in perforated polythene bags for their laboratory analysis. Mushrooms grown on wheat straw, rice straw and saw dust were collected under experiment.

One of the popular wild mushroom namely *Laetiporus sulphureus* (Rato chyau) was also collected in the amount of 1kg in the similar way as that for three cultivated mushrooms. It was collected from nearby forest of the mentioned districts.

4.2. Drying of Mushroom Samples

All the collected mushroom samples were dried in dark room to prevent the decomposition and evaporation of essential compounds. Air drying was done completely to get dry mass under the experiment. The drying process was made effective with the aid of fast moving fans. It took about two months for complete drying of the mushroom sample.

4.3. Estimation of Chemical Constituents

Different mushroom samples under experiment were subjected to the estimation of chemical constituents by taking 100 gms of each sample. The estimation was done twice in a year, i.e. one for winter and another for summer vegetation for same species and for the same constituents. On the top of this the estimation was done for different substratum which includes wheat straw, paddy straw, and saw dust and agro-waste compost (Aneja, 1996 and Bansal, 1994). The samples were analyzed for moisture content, fiber and ash, carbohydrates, amino acids, proteins, fats and minerals. Air-dried mushroom samples were grinded into fine powder followed by chemical analysis by different prescribed methods as mentioned below.

4.3.1. Moisture Content

It was determined by taking fresh weight of 100 gm of mushroom samples followed by taking the weight of completely dried sample. For drying of the samples, 100 gms of fresh mass was chopped into fine powder followed by absorption of water content in the bed of blotting paper for several turns. Then the mass was dried completely in room conditions for about two months. The dry mass was weighed to get constant weight which was then subtracted from the weight of fresh sample to obtain the moisture content in the sample. Moisture content in various samples of mushrooms was found within the range of 83-89% (table 1).

4.3.2. Fibre and Ash Content

100 gms of fresh sample was treated with dilute sulphuric acid (1%) to dissolve all of the fleshy mass leaving behind residue which is fibre and ash present in the sample. The residue was dried in air completely till getting constant weight. The amount differs

in winter and summer vegetations as well as for the nature of the substratum used for the cultivation of mushrooms. The fibre and ash content was found within the range of 7.0-15% in the sample studied (table 1).

4.3.3. Carbohydrates

The amount of carbohydrates present in 100 gms of the dry sample was determined by Benedict's method. In this method, 100ml ethanolic extract of 100 gms of powdered mushroom sample was titrated against Benedict's reagent. 10ml of Benedict's reagent was taken in a conical flask and titrated against standard solution of sugar (0.5% solution). The volume of sugar solution was noted at the end point whereby the disappearance of white precipitate occurs. Similarly, the titration was done with unknown sugar solution, i.e. mushroom extract and the volume was noted. From the observations, 1ml of Benedict's reagent is equivalent to 0.05 mg of sugar in the standard solution. 10ml of unknown sugar solution was consumed against 10ml of Benedict's reagent under experiment.

10ml of ethanolic extract = 0.5 mg of carbohydrate

100ml of ethanolic extract = 5.0 mg of carbohydrate

It means 100 gm of mushroom contains 5.0 mg of carbohydrate.

The titration was performed with each sample of mushrooms in the similar way to obtain the amount of carbohydrate contained in them (table 1).

4.3.4. Amino Acids

The amount of amino acids collectively in mushroom samples was determined by colorimetric method. 100gm of powder of dry sample of mushroom under experiment was digested with ethanol to get 100ml of extract. For the estimation of composite amino acids, 2 ml of the extract was taken in a test tube followed by dilution with 10ml of distilled water. Then, 2ml of ninhydrin solution was added in the test tube and boiled in water bath for about 15 minutes. The content was cooled and 1ml of 50% ethanol was added to observe pink colour which was measured in a colorimeter to obtain the concentration of amino acids. Prior to this, colorimeter analysis of standard amino acid was performed for comparative study with reference sample. Standard solution of any amino acid was prepared by dissolving 5mg of amino acid in 10ml of 0.1N hydrochloric acid. Estimation of amino acids in all the samples was done in the similar way. The amount of amino acids differs in the samples tested which ranges within 3.0 to 12.0 mg/100gm of the dry mass of mushrooms (table 1).

4.3.5. Proteins

Estimation of proteins was carried out by kjeldahl's method which involves the digestion of the ethanolic extract with conc-sulphuric acid to get ammonium sulphate. The solution of ammonium sulphate was then reacted with standard sodium hydroxide solution to liberate ammonia completely and thus liberated ammonia was absorbed in excess of N/10 hydrochloric acid. Unused acid was determined by titration with N/10 sodium hydroxide solution, so that the consumed hydrochloric acids is determined.

On knowing the amount of acid used to absorb ammonia liberated from ammonium sulphate, the amount of ammonia or free nitrogen can be calculated by applying normality equation. The amount of ammonia is directly proportional to the amount of protein in the mushroom sample.

1000 ml N –HCl ≡ 1000ml N –NH_3 ≡ 17gm of NH_3 ≡ 14gm of N_2

On an average most of the proteins have 16% nitrogen in their composition. In other words, 1mg nitrogen equals 6.25 mg protein. Thus, by finding out the amount of ammonia or nitrogen from a known amount of mushroom sample, calculation of amount of protein present in that sample can be done by multiplying the value with 6.25. The estimation procedure was repeated in similar way for all the samples of mushrooms. Various samples contained 20-32% of protein in the dry mass (table 1).

4.3.6. Fats

The amount of fat content in mushroom samples was determined by saponification value, which involves alkaline hydrolysis of fats or oils followed by back titration with unused alkali by using standard acid. The amount of consumed alkali thus was calculated from which the concentration of fatty acids was observed which is equivalent to the fats or the oils present in mushroom samples. 100gm of dry sample of mushroom was subjected to extraction with 4×25ml of ethanol. The extract was then hydrolyzed with 50ml of N/10 KOH solution which is an excess amount. 10ml of resulted solution was taken in a conical flask and few drops of phenolphthalein was added as indicator followed by titration against N/10 solution of HCl to find out the actual amount of KOH solution consumed by the fatty acid. On knowing the amount of standard KOH consumed by fats or oils in the form of fatty acids, the concentration of them can be calculated by applying normality equation. Hence, the percentage composition of fats in mushroom samples was calculated. It arises in different species and according to the nature of substratum materials, which ranges from 0.5 to 2.5% (table 1).

4.3.7. Minerals

Minerals were detected and estimated by flame photometry and usual inorganic analytical methods. Ethanolic extract of 100 gms of dry mass of mushroom sample was used for identification and estimation of these elements in their respective compounds or salts. Flame photometry was adopted for the identification of Na, K, Ca, etc. A bright golden yellow, pale violet and brick red colours to the flame indicates the presence of Na, K and Ca ions is the mushroom extract respectively. Similarly, formation of blue colour with potassium ferricyanide solution indicates the presence of iron in the test sample. The amount of these minerals was determined by gravimetric analysis which involves the precipitation of metal ions followed by weighing to calculate the amount of the metal ions contained in 100gms of dry mushroom sample. Sodium was precipitated out as yellow crystalline solid by treating ethanolic solution with zinc uranyl acetate. On the other hand potassium was obtained as orange red precipitate by reacting the test solution with dipicryl amine. Calcium was obtained as yellow precipitate by the treatment of ammonium sulphide and dihydroxy tartarate osazone with the ethanolic extract of mushroom samples. Iron was precipitated as ferric hydroxide to get ferric oxide from which iron was estimated. In this estimation procedure, the precipitate of each metal ion was filtered off and the next ion was precipitated out from the filtrate. In the similar way, phosphorus was estimated as phosphate in the test samples. The amount of these minerals slightly differs in mushroom samples (table 2).

5. Microbiological Screening

Mushrooms have been reported to possess different antimicrobial compounds and thus are extensively used as medicinal herbs (Bhattarai, 2001). Both cultivated and wild mushrooms have shown some antifungal and antibacterial activities. The biomass of mushroom species was screened *in vitro* against three fungal strains namely *Aspergillus niger, Alternaria solani* and *Candida albicans* by paper dise diffusion method (Karanagh, 1983) and three bacterial strains namely *Bacillus substilis, Staphylococus aureus and Salmonella typhi* by cup diffusion method (Evans, 1985). Salicylic acid and oxytetracycline were used as standard drugs for antifungal and antibacterial screenings. Different mushroom samples showed mild to moderate antimicrobial activities (table 3).

6. Results and Discussion

6.1. Chemical Constituents

Paddy straw, wheat straw and saw dust were used as substratum for the growth of mushroom species separately. The vegetations were examined twice in a year, i.e., in winter and summer seasons. Saw dust has been proved an excellent substratum for mushroom cultivation. 1.5kg of saw dust produced 2kgs of mushroom. Paddy straw and wheat straw produced some lesser amount of mushrooms as compared to saw dust. 3kgs and 4kgs of paddy straw and wheat straw gave 1kg of mushrooms respectively. The amount has been observed higher in summer season as compared to winter which may be due to temperature and humidity concerns. The summer season provides optimal temperature and humidity for mushroom growth. The effect of substratum on the productivity of mushrooms is shown is table 4.

The vegetation is best in case of *Laccaria leccata* and *Laetiporus sulphureus* with saw dust where 1.5 kg and 2.0 kg of substratum produced 1.0 kg of respective mushrooms. But the farming on saw dust is limited as compared to paddy straw and wheat straw.

Agaricus bisporus was found to possess 89% moisture which is maximum of all the species and *Laetiporus sulphureus* contained least moisture, i.e. 83%. Similarly, fibre and ash contents range from 7.0 to 15% *Laetiporus sulphureus* contained 8% of carbohydrates which is highest among the species studied. Amino acid content was found in the range of 3.0-12.0%. *Agaricus bisporus* contained 12.0% and *Laetiporus sulphureus* 3%. The amount of proteins seemed to be comparative for all the species studied. It ranges from 20-32% for straw based substratum. *Agaricus bisporus* contained the highest amount of proteins. Although mushrooms are considered to be fat-less herbs, they possess some fats and oil contents as well. This content is least among the nutrients studied under experiment. Fat content ranges in between 0.5-2.5% in different species of mushrooms. Among the mushroom species studied, *Laetiporus sulphureus* contained 0.5% of fats and *Agaricus bisporus* contained 2.5% (table 1). These were the observations for paddy straw based substratum and were found to be higher than for saw dust and wheat straw.

Table 1: Amount of nutrients in different species of mushrooms

(straw based substratum)

Mushroom Species	Chemical nutrients (mg/100gm of dry mass)					
	Moisture	Fibre and ash	Carbohydrates	Amino acids	Proteins	Fats
1. *Agaricus bisporus*	89	7.0	5.0	12.0	32.0	2.5
2. *Pleurotus Sajorcaju*	87	10.0	6.0	10.0	28.0	2.0
3. *Laccaria leccata*	86	12.0	7.5	8.5	24.0	1.5
4. *Laetiporus sulphureus*	83	15	8.0	3.0	20.0	0.5

Mushrooms are considered to be good source of different minerals. Although mushrooms may contain various mineral contents, only sodium, potassium, calcium, iron and phosphorus have been observed in this study. The amount of these minerals is shown in table 2 for straw based summer vegetation of four mentioned species. The amount of sodium ranges from 1.0 to 5.0% and that of phosphorus from 2.0 to 6.0%. This indicated that the amount of phosphorus is higher than that of sodium. The amount of sodium and phosphorus is higher in *Agaricus bisporus* as compared to other species. The amount of potassium is less than that of sodium; it levels up from 0.5 to 4.0%. Similarly, the amount of calcium is comparatively less in mushroom species. It ranges from 1.0 to 2.5% *Laetiporus sulphureus* possessed least and *Agaricus bisporus* possessed highest amount of calcium. Mushrooms also contain a fair amount of iron. Its amount is higher than that of calcium which ranges from 0.5 to 3.0% among the mushroom species under experiment.

Table 2: Amount of minerals in different species of mushrooms

(straw based substratum)

Mushroom species	Mineral contents (mg/100gm of dry mass)				
	Na	P	K	Ca	Fe
1.*Agaricus bisporus*	5.0	6.0	4.0	2.5	3.0
2.*Pleurotus Sajorcaju*	3.5	4.5	2.5	2.0	2.0
3. *Laccaria leccata*	2.0	3.5	1.5	1.5	1.0
4.*Laetiporus sulphureus*	1.0	2.0	0.5	1.0	0.5

6.2. Microbiological Screening

Mushrooms possess antifungal and antibacterial activities due to presence of some medicinal compounds. *In vitro* antifungal and antibacterial screening revealed that the wild species are more potential against microbes. *Laetiporus sulphureus* showed moderate antimicrobial activities. *Agaricus bisporus* and *Pleurotus sajorcaju* showed very weak activities whereas *Laccaria leccata* proved to be mild against the tested strains of fungi and bacteria. This mild to moderate antimicrobial activities has made mushrooms popular food article as well as medicinal herb for their wider spectrum of users. Antimicrobial screening has supported the age-long tradition of mushrooms to be taken as food and medicinal dose.

Table 3: In vitro antifungal and antibacterial activities of different mushroom samples

Mushroom Species	Fungal strains *			Bacterial strains **		
	Aspergillus niger	*Alternaria Solani*	*Candida albians*	*Bacillus subtilis*	*Staphylococcus aureus*	*Salmonella typhi*
1.*Agaricus bisporus*	+	-	+	+	++	+
2.*Pleurotus sajorcaju*	+	+	+	+	-	+
3.*Laccaria leccata*	+	+	++	-	+	++
4.*Laetiporus sulphureus*	+	++	++	+	++	++
Salicylic acid/ oxytetracycline	+++++	+++++	+++++	+++++	+++++	+++++

* Reference drug, Salicylic acid: – = No measureable activity, + = 2–7mm, ++ = 8–12mm, +++ = 13–17mm, ++++ = 18–22mm, +++++ = 23 – 26mm.

** Reference drug, Oxytetracycline: – = No measurable activity, + = 3–8mm, ++ = 9–13mm, +++ = 14–18mm, ++++ = 19–23mm, +++++ = 24–28mm.

Table 4: Effect of substratum on the productivity of mushroom

Mushroom species	Amount of substratum in kgs to produce 1 kg of mushroom		
	Saw dust	Paddy straw	Wheat straw
1.*Agaricus bisporus*	2.5	3.0	4.0
2. *Pleurotus Sajorcaju*	2.0	2.5	3.5
3. *Laccaria leccata*	1.5	2.5	3.0
4.*Laetiporus sulphureus*	2.0	3.0	3.5

7. Conclusion

Western region is much rich in mushroom cultivation. Kaski, Baglung and Myagdi districts come in front line in this region for mushroom cultivation. Local peoples use some wild mushrooms as well. This food article has been cultivated throughout the year under different substratum like paddy straw, wheat straw, saw dust, agro-wastes compost, etc. Among the various mushroom species cultivated here are *Agaricus bisporus, Pleurotus sajorcaju*, and *Laccaria leccata,* etc. One of the wild mushroom species– *Laetiporus sulphureus* is found popular for its food as well as medicinal values.

The production on saw dust is higher followed by paddy straw. On the top of this summer vegetation yield good amount as compared to winter and other vegetations which may be due to optimal temperature and humidity in summer season in this region.

The mushroom species mentioned above possess high protein and low fat contents. They possess almost 90% moisture, 15% fibre and ash, 8% carbohydrate, 12% amino acids, 32% proteins and 2.5% fat contents as the maximum amount among the mushroom species studied. There occurs a slight variation in the amount of these nutrients based on the mushroom species. These mushrooms possess considerable amount of minerals like sodium, phosphorus, potassium, calcium, iron, etc. The maximum amount of these minerals present in the mentioned mushrooms is 5% sodium, 6% phosphorus, 4% potassium, 2.5% calcium and 3.0% iron in straw based substratum in summer season.

The mushroom species studied were found mild to moderate in antifungal and antibacterial activities. The wild mushrooms were more potential against the tested microbes as compared to the cultivated mushrooms.

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An Overview of Insurance Services in Nepal

Prof. Dr. Puspa Raj Sharma

The present scenario of micro (finance and insurance) seems a lot of uncertainty. Naturally uncertainty gives birth to risk. Therefore, the need for risk-management solutions is undisputed by policy makers, who are aware that poor families can lose - in a matter of hours - assets that took years to accumulate, due to a sudden sickness or accident. The policy to provide free primary care and to a certain degree secondary care is positive step and could effectively help to reduce financial exposure of Nepal's poor when the policy is implemented and functional on large scale. But even if this would succeed, only a part of the vulnerability is reduced: the poor still have to pay for services not covered under this policy, such as certain hospitalization cases, the transportation to health care providers, wage-loss – to name a few. The poor households currently need to finance huge amounts of health expenses (out of pocket expenditure) which are over and above their current income(s) and savings. They therefore need to resort to multiple sources of financing, of which a major source is borrowing.

At present, there are 25 registered insurance companies in Nepal. Of these, 8 are private commercial life insurers, 16 are private commercial non-life insurers and 1 is composite insurer, i.e., Rastriya Beema Sansthan owned by the government.

Key words: Micro insurance, Risk Management, poverty , microfinance

1. Introduction - Micro insurance

In the movement of Microfinance –micro insurance also plays vital role for its success. There is a simple and proven tool to reduce the vulnerability to the financial consequences of ill health: insurance. Unlike the burden of financing huge health expenses from current income or through borrowing, insurance uses a solidarity mechanism and spreads the costs of illness over many households. It thus reduces the burden on the effected household. Furthermore, insurance converts unpredictable health expenses into predictable costs in form of health insurance premiums. This makes financial planning for households much easier and reduces the need to borrow money in an emergency situation at unfavorable rates. Health insurance can do more than only covering the medical costs: it can also provide coverage for the indirect costs, such as loss of income during hospitalization or the cost of transportation to the hospital. Health insurance can thus play an important role to reduce the vulnerability of the poor(Sharma, 2011). .

Micro Insurance is a new concept and still in a nascent stage in developing countries including Nepal. Generally, it is a means of protecting the low income households from risks and alleviating poverty. However, the concept of micro insurance means different things to different people. Insurance regulators see its nature as the insurance scheme designed for low income sector based on insurance principles and funded by premiums. Commercial insurers consider its potential as a way of reaching large underserved markets. Development institutions, such as, the United Nations, the World Bank and Asian Development Bank, highlight its potential to secure poverty alleviation. Financial journalists and analyst focus the size of markets at the "bottom of the pyramid". General publics argue that the transfer of risks by low-income households to insurers.

There is no universally accepted definition of micro insurance. Academics and institutions have defined micro insurance in different ways. (Box 1)

Box 1 : Definition of Micro Insurance
International Association of Insurance Supervisors (IAIS) "Micro Insurance is insurance that is accessed by low-income population, provided by a variety of different entities, but run in accordance with generally accepted insurance practices. Importantly, this means that the risk insured under a micro insurance policy is managed based on insurance principles and funded by premiums" **The World Bank** "Micro Insurance is an insurance product to improve a low-income person's quality of life by allowing the person to better manage potential problems while empowering that person to be more proactive as to the future". **Asian Development Bank** "Micro Insurance refers to the insurance products that are designed to be beneficial and affordable to low-income individuals or groups." **ILO, Micro Insurance Innovation Facility (ILO-MIF)** "Micro insurance is a mechanism to protect poor people against risk (accident, illness, death in the family, natural disasters, etc.) in exchange for insurance premium payments tailored to their needs, income and level of risk." **Munich Re-Foundation** "Micro insurance is the provision of insurance to low-income households that otherwise would not have access to insurance."

Micro insurance is aimed towards low-income households that may not be covered by other insurance and social security schemes. Important features of micro insurance products include (Sharma, 2011):

- Designed to be appropriate to low-income household
- Comparatively low premium
- Coverage is simple and straight forward
- Distribution channels are different
- Simple methods of claim settlement
- Simple documentation process

Micro insurance draws on the same generally accepted practices as conventional insurance, viz., actuarial pricing, reinsurance and claim handling, there are fundamental differences between micro insurance and conventional insurance. (Box 2)

Box 2: Micro Insurance vs. Conventional Insurance	
Micro insurance	Conventional Insurance
▪ Simple policy document with few, if any, exclusions.	▪ Complex policy document with standard exclusions.
▪ Primarily group policies only	▪ Selling to individuals.
▪ Small sums insured	▪ Small and large sums insured
▪ Premium accommodate irregular cash flows, paid in cash or otherwise	▪ Regular premium payments as banking transaction.
▪ Primarily groups pricing and selling	▪ Priced based on age/specific risk
▪ Period of coverage can be as short as 4 months.	▪ Usually minimum of 12 months.
▪ Screening requirements world be limited to a declaration of good health.	▪ Screening requirements may include a medical examination.
▪ Distribution channels manage the entire customer relationship, premium collection, etc.	▪ Agents and brokers are primarily responsible for sales.
▪ Market is largely unfamiliar with insurance.	▪ Market is largely familiar with insurance.
▪ Claims process should be simple.	▪ Claims process may be quite difficult for policyholders

Micro insurance is not only beneficial to low-income households; it is equally useful to insurance companies and intermediaries too (Sharma, 2011). Micro insurance can generate profits by expanding activities of insurers in large rural markets. Micro insurance helps to get the company's brand name into the market. It helps to develop a good relationship with the regulator and government in new markets. Micro insurance can be presented as an act of corporate social responsibility.

The benefits of micro insurance for low-income households (policy holders), intermediaries, insurers and society at large are presented in Box 3.

Box 3: Benefits of Micro insurance.

A. Benefits for low-income households (Policyholders):
- Products adapted to client needs
- Products adapted to client capacity to pay
- Reduced focused on loss of life and livelihood.
- Insurance can improve ability to cope with loss.

B. Benefits for Intermediaries (Agents and Brokers)
- New line of business
- Large policyholders base
- Improve morale among employees
- Corporate social responsibility
- Enhance corporate image
- Increase commission earnings
- Training and capacity building

C. Benefits for Insurers (Insurance Companies)
- New line of business
- Large policyholder base
- Improve morale among employees
- Corporate social responsibility
- Enhance corporate image
- Increase profitability

D. Social Benefits
- Improved morale among rural communities
- Employment generation and women empowerment
- Increased ability to face problems
- Poverty alleviation tool

Box 4: Key Challenges of Micro Insurance :

From Policyholders (Clients) Perspective:
- Negative attitude towards insurance industry
- Lack of insurance knowledge as a risk management strategy
- Low and irregular income
- Information lacking
- High default/lapsetion rates (lack of cash)
- Lack of client friendly products.

From Delivery Channels Perspective:
- Lack of institutional infrastructure (delivery channels and training institutions)
- Lack of insurance competence
- Slow claims handling /complicated documentation process
- Conflict

From Insurers Perspective

- Lack of knowledge of the micro insurance market
- Very risky business (Catastrophe, high mortality rate)
- High transaction cost per client (remote areas, record-keeping, collection costs, communication costs, etc.)
- Large volume but low margins due to low premium
- Unknown potential market (No statistics, experience)
- Low risk retention capacity
- Very strict claims provision (may be 30 days)

From Regulators Perspective

- Lack of Awareness
- Micro insurance regulation
- Capacity building (Training for … … …)
- Issue of subsidies in micro insurance.
- Access to reinsurance capacity

2. Status of Insurance in Nepal

The history of insurance industry in Nepal is not long. It has its roots in the 20th century. The first insurance company, "Nepal Insurance and Transport Company Ltd" (now named Nepal Insurance Co. Ltd) was established in 1947 (2004 BS) . Prior to that most of the branches of the Indian insurers were doing business in Nepal which was not regulated.

The number of insurance companies by mid-March 2012 totalled 25 including 8 companies dealing with life insurance, 16 with non-life insurance and one with both life and nonlife insurance. From ownership structure perspective, 3 insurance companies are operating with full foreign capital investment, while 3 of them are operating as joint capital venture of foreign Insurance companies. Similarly, 18 companies are under private ownership and the government of Nepal owns one Insurance company. The total resource/ utilization of these insurance companies increased by 9.8 percent to Rs. 67.18 billion by mid-March 2012 from 61.28 billion in mid-July 2011. By mid-July, 2011, insurance companies have collected a total premium of Rs. 17.48 billion from both the life and non-life insurances while this premium figure was Rs. 15.26 billion in the same period of last year (Economic Survey, 2012/13) .

Table:1 Ownership Pattern of Insurance Companies.

Ownership	Nature of Company			Total
	Life	Non-life	Composite	
Government	-	-	1	1
Private	5	13	-	18
Foreign	1	2	-	3
Joint Venture	2	1	-	3
Total	8	16	1	25

Source : Economic survey, 2012/13

The total financial source and their utilization of life and non-life insurance companies operating in the country by mid-July of 2011 have reached Rs 61,213.4 million, which is 22.46 percent growth as compared to the previous fiscal year. By mid-January of 2012, such amount has reached to Rs. 67,183.4 million **(Economic Survey, 2012/13).**

Table : 2 Sources and Utilization of Life and Non-Life Insurance Companies*
(In million Rs.)

	FY 2008/09		**FY 2009/10**		**FY 2010/11**		**FY 2011/12****	
Resource	Life	Nonlife	Life	Nonlife	Life	Nonlife	Life	Nonlife
a) Paid up capital	1,647.3	1,270.4	1,890	1,560.0	2,451.4	1,642.0	2,451.4	1,642.0
b) Reserve Fund	26,425.4	2,383.7	33,250	4,060.0	44,040.0	6,830.0	48,020.0	7,850.0
c) Other Liabilities	1,565.0	3,722.5	2,980	3,720.0	2,750.0	3,500.0	3,200.0	4,020.0
Utilization	**29,637.7**	**7,376.6**	**38,120**	**9,340.0**	**49,241.4**	**11,972.0**	**53,671.4**	**13,512.0**
a) Cash in Bank and at Hand	1,079.9	657.5	920	700.0	750.0	900.0	820.0	980.0
b) Investment	26,062.9	4,966.9	33,500	6,700.0	44,491.4	8,202.0	48,491.4	8,942.0
c) Fixed Asset	566.2	522.3	1,540	870.0	2,100.0	1,070.0	2,290.0	1,270.0
d) Other Assets	1,928.7	1,229.9	2,160	1,070.0	1,900.0	1,800.0	2,070.0	2,320.0
Net Resource/Net Utilization	**29,637.7**	**7,376.6**	**38,120**	**9,340.0**	**49,241.4**	**11,972.0**	**53,671.4**	**13,512.0**

*Source: Insurance Committee *With inclusion of estimates of Rastriya Beema Samiti*
***Only till Mid-March 2012*

The table shows the contribution of insurance company in Nepal. In this domain if the regulatory would formulated a certain percentage compulsory fund in micro insurance sector, it will indirectly and directly contribute on the rural, women, poor and deprived group of Nepal.

Table :3 Mobilization of Insurance premium and status of Investment

Fiscal Year	Total Insurance Fees Income (in million Rs.)			Growth rate (percent)	Investment (in million Rs.)			Contribution of insurance fees income to GDP
2005/06	3,788.9	2,854.9	6,643.8	16.92	15,201.1	3,211.0	18,412.1	1.01
2006/07	4,623.3	3,288.9	7,912.2	19.09	18,397.6	3,447.5	21,845.1	1.08
2007/08	5,489.9	3,851.9	9,341.8	18.07	20,349.9	4,183.1	24,533.0	1.14
2008/09	6,635.7	4,420.4	11,056.1	18.35	26,516.2	5,007.9	31,524.1	1.11
2009/10	8,766.0	6,496.7	15,262.7	38.05	29,939.9	5,927.6	35,867.5	1.30
2010/11	10,422.2	7,063.9	17,486.1	14.56	42,751.1	7,472.7	50,223.8	1.31
2011/12*	11,600.0	8,100.0	19,700.0	12.66	47,600.0	870.0	56,300.0	1.41

Source: Economic survey, 2012/13

The table shows regular improvement in the contribution of insurance service fee income to GDP, which can be taken as positive signal in this field. In this context, the business of regulated Nepalese insurers is divided into two core categories: life and general insurance. Life insurance includes products like endowment policies, whole life policies, term policies and pension plans. General insurance covers all other types of insurance including motor policies, fire policies, marine polices, etc. Nepal's insurance penetration (premium as a percentage of gross domestic products) in 2011-12 is low at 1.50 percent only. It is estimated that less than 6% of the population has some forms of life insurance, provided either by group of individual policies. The Nepalese economy is primarily rural based. Most of the rural population is illiterate, poor and small holders. More than 25% of the population lives below the poverty line. The average per capita income of Nepalese people is around U.S. $700 only. In this context, micro insurance need to be mainstreamed to support the microfinance program effectively and efficiently.

3. Suggestion for the Improvement in the Field of Micro -insurance

- Linking micro finance with micro insurance which facilitate the various related risk.
- Awareness creation program should be introduced in the group and center of microfinance program.
- Insurance Board should take initiatives in widening outreach of micro insurance like IRDA is taking initiatives in widening outreach of micro insurance in India
- Appointment of agent to conduct micro insurance business among the institutional insurance agent, agent appointed can work only with an insurer in case of similar line of business.
- Appointment of motivator to assist the micro insurance business among the person qualified to be an insurance agent, motivator appointed can work only

with an insurer.
- Commission to be paid to the agent or motivator is mentioned clearly.
- Written agreement with agent must be concluded prior to appointment of such agent and the functions of the agent must be based on agreement.
- Functions and responsibilities of the agents should be mentioned.
- Obligation of insurer to provide basic training to the employees, agent and motivators in respect of micro insurance business administration, management, distribution and claim settlement
- Insurer must manage to pay the claim within 30 days after verification.
- 20 percent of the claim must be paid through insurance agent within 7 days if the claim is found to be genuine.
- Insurer can reimburse the amount paid for settlement of claim from micro insurance pool.
- Leveraging existing network for micro-insurance
- Human Resource is required to be trained to cover the huge untapped market.
- There is a need for developing adequate feedback mechanisms

Micro insurance is a relatively new concept that is still at a nascent stage in developing countries like Nepal. Generally, micro insurance is taken as a means of protecting low-income households from risks and poverty alleviation. Most of the general insurance companies have not gone in Micro-insurance sector as such. They are limited to the middle and high income people and for the business sector. However, few non-life insurance companies have started to introduce Micro-insurance policies. It is the time to regulate insurance companies to be part of micro insurance developing country like Nepal. They should make mandatory of investment of certain percentage of portfolio in the field of microfinance. The government of Nepal has initiated some positive signal regarding micro insurance by providing subsidies in micro insurance recently.

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A Study on Students' Attitude Towards BBA Program at Janapriya Multiple Campus

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Under the study on the students' attitude towards BBA program at JMC is to study of macro level perspective of BBA program. This research article is based on primary and secondary data including 153 sampling and purposive with descriptive research designs. This program is student centered so that students' participation is important to achieve the objective of the program. This study shows that political situation including environmental factors is major role to play for the effectiveness of BBA program. This is competitive program, immediately applicable, not use for every social group even though it is learn for being a good businessman, entrepreneur and development, being a middle level manager in the competitive world by using creative mind of the students. Need and use of different pedagogies, language efficiency and use and problems regarding to program and campus's perception are disclosed in here.

Key Words: active learning cooperative, BBA program, effectiveness, JMC, program, students learning center, team work

1. Introduction

The four years BBA program is tailored made to serve the needs of the bright young persons who have completed twelve years of education and are looking for a career education in entrepreneurship, management profession or towards higher education in business administration. This program is open to the students with diverse educational backgrounds including, humanities, science, arts and commerce. However, being a program with challenging curricula and contents, it is accessible mainly to those students who have excellent academic record and high potential for success.

The Bachelor of Business Administration (BBA) program aims to create a new generation of business leaders that would have an active role in their communities and contribute to the management of the technology driven economies world. The program focuses on developing knowledge and skills in core areas of management applicable to manufacturing and service industries. The curriculum is designed to equip the students with the competencies and attitudes needed for success in the local and global workplace. It also provides the students with a unique learning experience where they can acquire different skills that help them adapt to a continuously evolving business environment. It enables students to develop and demonstrate competencies in effective communication, application of qualitative and quantitative analysis, problem solving, decision-making, critical thinking, entrepreneurship, team work and leadership. Therefor the vision and mission is to be contributed to the sustainable economic and social developments of world by developing innovative, highly qualified, and socially responsible leaders. To accomplish this mission, program focus on critical thinking, innovation, and entrepreneurial spirit as a way of life among our students and faculty, create and promote a research-friendly environment for faculty and students in different business related areas, foster and nurture research and teaching collaborations with business schools and with the local, regional, and international business community, select students from among the best, that are motivated, committed and have high aspirations, and strong leadership potential and provide a state of the art learning environment equipped with the cutting-edge technologies and backed by up-to-date teaching methodologies. For the support of vision and mission, faculty should be committed to core values that promote; **excellence, ethics and integrity, diversity, freedom of thought and expression and respect for the individual (**http://www.hec.gov.pk).

Similarly, to achieve the objective of BBA program, teachers' effectiveness and effort, students' attitude, available environmental situation are important to judge and analyses the effectiveness of the BBA program. The role of teacher preparation is as a key to effectiveness. Effective teachers understand and apply knowledge of students to motivate and engage them and develop a positive climate in the classroom in order to make it a stimulating learning environment. Regarding the 'how to teach,' or pedagogical preparation, subject specific methods courses in education have a positive impact. The report concludes "the pedagogical aspects of teacher preparation matter, both for their effects on teaching practice and for their ultimate impact on student achievement (http.www.ncate.org).

Upon successful completion of the BBA program, each student will be able to articulate a foundation of knowledge and skills that supports and facilitates lifelong learning and professional development, communicate effectively and professionally and demonstrate the ability to identify and evaluate relevant information for decision-making and make usage of diagnostic thinking skills and analytical techniques to assess the information and solve problems in the environment, understand the importance of teamwork and group dynamics and to work effectively in teams, understand various leadership styles and exercising these styles according to the requirement of the situation, understand the dynamics of the organizational conflict and power and politics and make use of their analytical and interpersonal skills accordingly acquire awareness of global diverse perspectives and understand the theory, operations, and challenges of global business, demonstrate effectively practicing of overall functional business knowledge and ability to identify and interpret essential business concepts, principles and skills, identify core organizational values and understand the issues of ethical and social diversity based on ethic, gender, religion, and culture and demonstrate the ability to propose feasible solutions to these issues, understand computer-based information systems and able to use end-user computing tools and infrastructures to apply and interpret functional business knowledge, integrate business disciplines in order to develop competitive perspectives of local and global business dynamics, understand and analyze the legal and ethical implications of business decisions, demonstrate effective leadership, entrepreneurship skills and individual and group dynamics.

Janapriya Multiple Campus (JMC) was established in 2048 (1990) in participation of local community including social workers, teachers, educationists, academics and social organizations. Shreejana development Centre (SDC) and Janapriya Higher Secondary School (JHS) are the local organizations to establish the campus. Hundreds of meetings and interaction were held at SDC and JHS with the community people in activation of SDC and the academics. Continued meetings and interaction materialized to establish a community campus in this region. As a result, JMC came into existence. BBA program has been launched in JMC since 2003. The mission of BBA is to develop socially responsive, creative and result-oriented management professionals to fulfill the middle level managerial positioners in the rapidly growing business sectors in Nepal and abroad. So this study focuses on the attitude of students regarding the program, environment and infrastructure in the college as expected by the program. Therefore the main problems are – what is the attitude towards the BBA program? Where the program is only measured by teachers' effectiveness and effort used in teaching pedagogies? What sort of environment and infrastructures are required for effective learning of BBA program?

Therefore, this study analyze the attitude towards BBA program at JMC that helps to achieve the vision, mission and goal of the program and campus as well as study further analyze the micro level objectives including teacher's effort and effectiveness regarding to use of pedagogies, identify the behavior of the students regarding this program, and insure the requirement environment for effectiveness of BBA program.

2. Data and Method

To conduct the research, purposive with descriptive and analytical research methodology has been adopted in Janapriya Multiple Campus at Simalchour in Pokhara (JMC). Both the primary and secondary sources for data collection are used in this research. All total 153 samples were taken from the third, fifth and seven semester's students from the odd semester in JMC. This study has used closed-ended and scaling questionnaire as part of data collection procedure. Such type of questions are used to generate statistics in quantitative form from the qualitative dimensions. As these follow a fixed format, so most of the responses can be entered easily into a computer for ease of analysis, and frequencies can be easily tabulated. For the social ethic, respondents' consent is developed and editing, data processing and analysis procedure are used by statistical tool 'SPSS'.

3. Results and Discussion

Except the theoretical outcomes of the BBA program, table 1 show the research base outcomes of the BBA program whether the program is effective on the basis of students' attitude towards the program, infrastructure available in the college periphery and environmental situation. All the responses in total are particular important determinant or factor that affect in the effectiveness of BBA program and given the percentage in parenthesis as "Yes" and rest of the percentage is "No" responses.

Table 1

Response and Percentage of Important Determinants of effectiveness of learning center BBA Program

Determinants:	Yes Responses (Percent)	No Responses (Percent)
Requirement of Coordination and Communication	149 (97.4)	4(2.6)
Environment Influence in the Outcomes of Program	54 (35.3)	99(64.7)
Requirement of Political Involvement	15(9.8)	138 (90.2)
Active Learning Program	151 (98.7)	2(1.3)
Useful for All Social Classes Students	55(33.9)	98 (64.1)
Expensive in Terms of Time and Cost	102 (66.7)	51(33.3)
Makes Middle Level Manager	133 (86.9)	20(13.1)
Learn to Effective in the Present Competitive World	115 (75.2)	38(24.8)
Make More Competitive Through Internship Course of Management Field	148 (96.7)	5(3.3)
Requirement of Teacher's Motivation	148 (96.7)	5(3.3)
Available of Internet Facility	109(72.2)	44(28.8)

Sources: Field Survey

Table 1 explains the major determinants and factors related with the BBA programs. Coordination and communication between the administration, teachers' as well as students are important. Study of BBA program makes the students becoming a middle level manager and more competitive in present situation though internship activities but teachers' motivation is important, 96. 7 percent are agreed with the statement. On the other side environmental situation hinders the outcomes of this program. Students do not want to involve in the political activities because it is active or student centered program.

Table 2

Response and Percentage Regarding to becoming a BBA Students

Factors	Learn For	Factors	Effectiveness of BBA Program	Scope of BBA
Business	31(20.3)	A good Manager	42(27.5)	34(22.2)
Knowledge only	5(3.3)	Job	4(2.6)	8(5.2)
English	1(0.7)	Business/Entrepreneur	38(24.8)	44(28.8)
Practical Knowledge	12(7.8)	Creative Mind	47(30.7)	40(26.1)
All of Above	103(67.3)	Practical	12(7.8)	15(9.8)
None of Above	1(0.7)	Others	10(6.5)	12(7.9)
Total	153	Total	153	153

Sources: Field Survey

Table 2 explains that why students are studying BBA program? Because of this program has distinct nature that students drive in different situation so students are learnt BBA for getting the knowledge about business related matters and problems, subject matters involve in program and practical knowledge which are used by teachers during the teaching and lecturing period.

Table 3

Responses and Percentage Regarding to Different Pedagogies

Pedagogies	Highly	Moderate	Less	Total
Students' Focus on Pedagogies				
Discussion of Topic	59(38.5)	89(58.2)	5(3.3)	153
Presentation	58(37.9)	84(54.9)	10(7.2)	153
Class/Homework	43(28.1)	96(62.7)	14(9.2)	153
Case Study	58(39.9)	86(56.2)	9(5.9)	153
Focus on Practical/Workshop/Seminar	46(30.1)	72(47.0)	35(22.9)	153
Use of References	38(24.80	91(59.5)	24(15.7)	153
Internet Access	46(30.1	63(41.1)	44(28.8)	153
Practical Knowledge	52(34)	72(47)	29(19)	153
Use of Pedagogies from Teachers' Side				
Discussion of Topic	64(41.8)	82(53.6)	7(4.6)	153
Presentation	5334.4)	86(56.2)	14(9.2)	153
Class/Homework	31(20.3)	96(62.7)	26(17)	153

Case Study	54(35.3)	76(49.7)	23(15)	153
Focus on Practical/Workshop/Seminar	37(24.2)	45(29.4)	71(46.4)	153
Teachers Delivery on Subject Matter	41(26.8)	98(64.1)	14(9.2)	153
Essential of English Language	119(77.8)	34(22.2)	-	153
Discipline	76(49.7)	67(43.8)	10(6.5)	153

Sources: Field Survey

Table 3 shows the different pedagogies are used by teachers' during the teaching period and all the pedagogies are used conditionally in terms of subject and subject matters. These pedagogies are moderately used in the JMC for creation of effectiveness of BBA program but under the one pedagogy- workshop and seminar is not effectively used under the BBA program. It is shown by just 46. 4 percent negative response from the students.

Table 4

Responses and Percentage Regarding to Use of English Language for Effectiveness of BBA

Teachers' and Students' by	100%	80%	60%	40%	20%	Total
Use of English language	16(10.5)	47(30.7)	53(34.6)	26(17)	11(7.2)	153
Speak of English language	25(16.4)	48(31.4)	53(34.6)	19(12.4)	8(5.2)	153

Sources: Field Survey

English language is essential in the study of BBA program for the students because of it is compulsory to write all the matters and answers in English. So Students feel high degree of necessity of English language by giving moderate or highly essential response. In terms of use and speak of English language either teacher or students are just between 60 to 80 %. It covers almost 65 % response from students.

Table 5

Expression by Students on the administration and Program

Factors	Response	Percent
No Political Activities	5	3.3
Requirement of Guest Lecture	1	0.7
Use of English Language	1	0.7
Expensively Design of Program	2	1.3
No or Nothing to Say	84	54.9
No Extra Curriculum Activities	3	2.0
Requirement of Good Administrative Facilities	14	9.2

Satisfied with Program	4	2.6
Focus on Practical and Presentation	18	11.8
Communication and Coordination	10	6.5
Requirement of Inner Discipline	1	0.7
No Attention by Teacher towards the Students	1	0.7
No Effective Program in JMC	3	2.0
No properly used of Work shop and Seminar	6	3.9
Total	153	100.0

Sources: Field Survey

Among the 153 students, 54.9 percent students do not want to express anything regarding to campus activities.11.8 percent students from the purposive group are expressed to focus on the practical and presentation of subject matters. 9.2% is wanted to have good administration facilities, 2.6% students are satisfied with the program in JMC. Likewise, 2% student is expressed that there is no effective program in JMC.

4. Conclusion

The Bachelor of Business Administration programs is of 4-years duration, spread over 8 regular semesters, and consisting of 124-136 credit hours after completing twelve years of higher secondary school certificate or equivalent. This program needs immediate implementation of study matter in the real field. While teaching this program' subject matters, teachers should be up to date and able to use different pedagogy. Therefore teacher is effective or not effective depends upon the students' behavior. This program is design to study under active learning oriented or student centers where students are better prefer to teacher centers. Major pedagogical tools for the study of the BBA program are case study, seminar, discussion, presentation etc. which are moderately used. Students do not like to involve in political matters. Campus environment, coordination and communication are important for the effectiveness of BBA program in JMC. English language is essential to study of this program for both teachers and students. Both the teachers and students are just using 60 to 80 percent event though it is enough to teach and learn this program. This program is especially useful to make students becoming a businessman and entrepreneur than making of middle level manager even though the main objective is to make manager and capable for handling middle level managerial post. Study of this program could not be sure to make a good middle level manager but sure to make a creative mind student. 30.7 percent students believe the situation. Besides that students are not actively participate in the case, discussion, presentation but they are expressing that teachers are not responsible on those mater and interested in the internet facility which are not properly available in during the period. Seminar and workshop are not developed by the campus side even once or twice time in a semester so students view are not good regarding to this. 54.9 percent do not want to express nothing on the side of the campus. Just 2.6 percent are satisfied with the college. Even 9.2 percent wants to systematize the administration for delivery of facilities like game, information, extra activities etc. 11.8 students strongly focused on practicability and presentation of subject matter which they expected in joining JMC's BBA program.

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Micro Enterprises in Nepal: Prospect and Practices

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Abstract

The Government of Nepal (GoN), Ministry of Industry (MoI) is especially responsible for development of micro enterprises (MEs). With the support of United Nations Development Programme (UNDP), a new programme has been launching since 1998 i.e. micro enterprise development programme (MEDEP) with the aim of improve the socio economic condition of the low income families and socially excluded people in Nepal. The time between 1999 and 2011, 53345 micro enterprises are created by MEDEP in Nepal. A little more than two third i.e. 67.9 percentage micro enterprises are operated by women entrepreneurs and remaining enterprises i.e. 32.1 percentage enterprises are operated by male entrepreneurs. Out of five development region, central development region has got success to establish more MEs i.e. 15573 in number and 29.2 percentages. In the context of types of caste involved in MEs, higher number of Janajati (35.6%) are involved, then after Brahaman/Chhetri (35.3%), Dalit (22.0) and other caste (7.1%) in total. In different development region, higher numbers of Dalit (35.4 %) and other caste (15.7 %) are conducted MEs in eastern development region. Like it, higher number of Janajati (46.7%) and Brahaman/Chhetri (57.1 %) are conducted MEs in central development region and far-western development region respectively.

Key Words: development, micro enterprise, MEDEP, poverty alleviation, percentage

1. Introduction

According to industrial policy 2010, on the basis of investment and nature of industry, industries are classified into five group i.e. micro enterprises, traditional and other cottage industries, small scale industries, medium scale industries and large scale industries (Ministry of Industry (MoI), 2010). In Industrial policy 2010, a defined micro enterprise is:

a) Fixed investment up to NRs 200,000 except land and building.
b) Self managed (managed by entrepreneur her/himself).

c) Employment up to 9 person including entrepreneur.
d) Amount of annual transaction less than NRs 2,000,000 and
e) Use of power or energy less than 10 KW, if used.

Micro enterprise policy 2008 defined as " Micro enterprise" means any industry, enterprise or other service business, based particularly on agriculture, forest, tourism, mines and handicraft, which meet the following condition: i) In the case of manufacturing industry, enterprise involving the investment of fixed capital of not exceeding two hundred thousand rupees, except house and land, in the case of a service enterprise, an industry, enterprise involving the investment of fixed capital of not exceeding one hundred thousand ruppes. Ii) The entrepreneur himself or herself is involved in the management. iii) A maximum of nine workers including the entrepreneur are employed. iv) It has annual turnover of less than two million rupees. v) If it uses an engine or equipment is less than five kilowatt. Provided that notwithstanding anything contained above, any industry or enterprise which manufacturing liquors, cigarettes or other tobacco products or for the establishment of which approval has to be taken will not be considered as a micro enterprise (MoICS, 2008).

Ministry of Small and Medium Industry, Government of India (GoN), defined micro enterprise (manufacturing sector) as " does not exceed twenty five lakh (Rs 25,00,000) investment on plant and machinery" and micro enterprise (Service sector) defined as " does not exceed ten lakh (Rs. 10,00,000) investment in equipment"(Indian Gazette, 2006).

Government of Nepal (GoN) established micro, cottage and small industry development fund through budget speech of FY 2061/062 (MOI, 2068 B.S.).

According to National population census 2011, total population of Nepal is 264,94,504 till 22 June, 2011 and annual average population growth rate of about 1.35 percent. Most of the people i.e. 83 percent people are lived in rural area only 17 people are lived in urban area (CBS, 2012). According to report on the Nepal Labor Force Survey (NLFS) 2008, 15 years old or more than it currently employment are involved in agriculture sector by 73.9 percent and in non-agricultural sector by 26.1 percent which were 76 percent and 24 percent in agro-sector and non-agro-sector in last census respectively (CBS, 2008).

Micro-Enterprises Development programme (MEDEP) was initiated in 1998 with the technical and financial support of the United Nations Development Program (UNDP) during the government's ninth five year plan with its main objective of poverty alleviation through developing micro-enterprises and creating off-farm employment opportunities for rural poor and socially excluded (Pun, 2010).

The goal of MEDEP is to improve the socio-economic conditions of the low-income families and socially excluded people in Nepal. Similarly, the livelihoods and increase the income of low-income families through micro-enterprise development and employment generation.

The MEDEP is able to created 53,345 micro-entrepreneurs and is able to generated employment opportunities for 54,240 peoples. Out of total entrepreneurs, entrepreneurs are concerned under 68 percent women, 20 percent Dalit and 67 percent young people. Out of total employment generated, 33 percent i.e. 17,883 and 67 percent 36,342 people are concerned with men and women respectively (CCO, 2012). Now, the program operates in 38 districts and has helped create 56,698 micro entrepreneurs, 68 percent being women (Australian Embassy, 2013).

Local firms should be made strengthen with appropriate government policies like public private partnership (PPP), one village one product (OVOP) and regulation and through implementation of such policies and programme, they can able to achieve the goal of poverty alleviation and to solve unemployment problems (Karki, 2011).

Some Organization and Their Activities which works in the Field of Entrepreneurship Development Sector in Nepal

Industrial Enterprise Development Institute (IEDI):-The Industrial Enterprise Development Institute (IEDI), a national level organization committed to entrepreneurship development has been working in the field of entrepreneurship development since 1996. IEDI is a successor organization of former Small Business Promotion Project (SBPP), which was a joint project of GTZ and GoN (Thapa and Karki, 2012).

Micro Enterprise Development Programme (MEDEP):-MEDEP was started in 1998 covering only 10 districts and has reached to 38 districts up to 2012 and has already completed three project phases. Main theme of MEDEP is "Poverty reduction through micro enterprise development" (Pun, 2012).

Rural Enterprises Assistance Program (REAP):- REAP was launched from October 2002 to 2008 in seven hilly and mountains district of Nepal. The working districts were Taplejung, Panchthar, Illam, Humla, Jumla, Mugu and Dolpa. REAP aimed at developing local capacity with a view to increase access of rural entrepreneurs to business development services. REAP mainly focused on enterprise creation and development, capacity building of partners and subsector development of cardamom, hand tea and seabuckthrone (Thapa, 2012).

Elam plus Model (Helvetas Nepal):- Elam plus is an informal sector enterprise development generation program of HELVETAS. The main clients of Elam are: i) Socially and economically disadvantaged**;** ii) Earning less than NRs. 3000/months; and households member; iii) Food sufficiency less than 6 months; land less or land poor less than 8 Kattha ; iv) Micro entrepreneurs, entrepreneurial attitude; enterprise service providers from private sector**.** Up to now, 12,165 clients in off farm based enterprise have been benefited (Poudel, 2012).

Business Incubation Model:- It was introduced in 2006 by GoN. It is a platform to transform innovative ideas into dynamic enterprise for national and global competitiveness. It monitors the activities of management consultant and acts as a supervisory body (Karel, 2012).

One Village One Product (OVOP):- The OVOP concept was introduced in 2006 in a public private partnership based approach. The program implemented to achieve the following objectives: - qualitative and commercial production of local product, value addition, branding, internal and external market promotion, employment generation and socio-economic development of rural community. OVOP is selected on the basis of local comparative advantages, local skills and local leadership to own the products (Shakya, 2012).

Review of Literature

The Nepalese economic scenario reveals a predominance of the primary sector, slow growth and mass deprivation. With virtually no modern physical infrastructure in a highly congested and difficult terrain, limited exploitable natural resources, small number skilled labour forces, the option for rapid development have been limited and the choices uncertain and limit. The industrial sector is not developed and is only in the form of smaller scale industries (Bajracharya, 2007). It has been witnessed that micro enterprises have become increasingly popular in the new development agenda across the globe and more so in the developing world to address income and employment opportunities. As through the development of micro-enterprise the people in rural areas get income and employment (UNDP, 1998). Bajracharya (2003) had observed that the prevailing policy of the government is not very encouraging to the MSE Sector. The laws and regulations generally cover only industrial enterprises and do not cover enterprises in other sector. MEDEP was launched since 1998 with in 10 districts and now the programme is expanded into 36 districts at the end of 2010. Out of 36 districts, 18 districts are from hills, 12 districts from terai and 6 districts from mountain territory of Nepal. These 36 districts also covered five development regions. The rapid industrial development of a country mainly depends upon the role and abilities of entrepreneurs. The role of entrepreneurs is directly affected by the personal qualities of the entrepreneurs, their socio-economic background, business environment and government support etc. So far as the development of entrepreneurship in India is concerned, it is growing very fast but even today it has failed in promoting entrepreneurship in rural sector (Jha, 2010).

Main objective of the study is to explore numbers of micro enterprises operated/created in five development region of Nepal. Other objectives of the study are as follows:-

i) To analyze number of micro-enterprises operated by women and men.
ii) To compare of MEs in different development region on the basis of caste.

2. Data and Methods

The research is based on descriptive cum analytical research approach. The data are collected from secondary sources. Secondary data are collected, specially, through annual report of micro enterprise development programme (MEDEP) published by MEDEP. Collected data are edited and tabulated as per required of research. For analysis of data some statistical tools are used. Percentage is used for data analysis.

3. Result and Discussion

The scenario of number of micro enterprises in Nepal in different five development regions with gender and caste/tribes are presented in table number 1 and 2 respectively.

Department of Cottage and Small Industry (DCSI) under Ministry of Industry (MOI) also started and launched micro-enterprise development programme in 10 districts from F.Y. 2067/68 with the aim of poverty alleviation through micro-enterprise development. In these years, the department is able to create 1313 entrepreneurs (MOI, 2069). MEDEP has been also launched in 36 district & five development region of Nepal and is able to create more than 53,345 entrepreneurs. The table 1 shows that numbers of entrepreneurs are created in different development region with numbers of genders and their ratio in percentages.

Table 1: Number of Micro Entrepreneurs on the basis of Gender

(Between Time period of 1999 to 2011)

Gender→ Development Region ↓	Male	Percentage	Women	Percentage	Total	Percentage of micro enterprises
Eastern	3348	36.3	5877	63.7	9225	17.3
Central	4436	28.5	11137	71.5	15573	29.2
Western	2315	29	5675	71.0	7990	15.0
Mid-western	4025	30.9	9013	69.1	13038	24.4
Far-western	3013	40.1	4506	59.9	7519	14.1
Total	17137	32.1	36208	67.9	53345	100.0

Sources: Micro Enterprise Development Programme, 2012

Between time periods of 1999 to 2011, total number of micro enterprises established of about 53345. The highest number of micro enterprises is established in central development region, whereas, the lowest number of micro enterprises are established in far-western development region. The numbers of micro enterprises are in these regions 15573 and 7519 and in percentage 29.9 and 14.1 respectively. Mid-western development region, eastern development region and western development region have occupied second, third and fourth ranked in the terms of number of micro enterprises. In these regions, total numbers of micro enterprises are 13038, 9225, and 7990 respectively. In the case of owner of micro enterprises, more than two third i.e. 67.9 percentage enterprises are operated by women entrepreneurs and remaining enterprises i.e. 32.1 percentage enterprises are operated by male entrepreneurs.

The Scenario of Micro Enterprises in different development region with major caste/ tribes of Nepal is presented in table 2.

Table 2: Number of Micro Enterprises Developed by MEDEP

Caste / Development Region	Dalit	%	Janajati	%	Brahaman/ Chhetri	%	Others	%	Total	%
Eastern	3266	35.4	3114	33.8	1394	15.1	1451	15.7	9255	17.3
Central	2605	16.7	7280	46.7	3864	24.8	1824	11.7	15573	29.2
Western	2111	26.4	3100	38.8	2468	30.9	311	3.9	7990	15.0
Mid-western	2259	17.3	3769	28.9	6839	52.5	171	1.3	13038	24.4
Far-western	1506	20.0	1710	22.7	4290	57.1	13	0.2	7519	14.1
Total	11747	22.0	18973	35.6	18855	35.3	3770	7.1	53345	100

Sources: MEDEP, 2012 (Data based from 1999 to 2011)

As discuss in table no. 1, total number of micro enterprises in Nepal are 53345, which are created by micro enterprises development programme. The table no. 2 is presented number of micro enterprises which are created and operated by different tribes and caste in Nepal. In eastern development region, Dalits have been operated more micro enterprises i.e. 3266 (35.4 %) and Janajati created 3114 (33.8%); others caste created 1451 (15.7 %) and Brahaman/Chhetri (BC) created 1394 (15.1 %). It seemed that Dalit, Janajati, others caste and Brahaman/Chhetri caste created and operated highest number to lowest number of micro enterprise respectively. In central development region, out of total number of micro enterprises 15573 Janajati caste are able to create highest number of micro enterprise i.e. 7280 (46.7 %) then after Brahaman/Chhetri occupied by 24.8 %, Dalit by 16.7 % and others caste by 11.7 % of micro enterprises. In western development region, out of total number of micro enterprises i.e.7990 Janajati occupied highest number i.e. 3100 (38.8 %), then after Brahaman/Chhetri, Dalit, and others caste higher number to lower number of micro enterprises respectively. Brahaman/Chhetri (BC) castes dominated to others castes in mid-western and far-western development region in the case of number of micro enterprises created and operated by various castes. In these regions, Brahaman/Chhetri castes occupied 57.1 percentages and 52.5 percentages in mid-development region and far-development region respectively. Jha (2010) conducted a study on “problems and prospects of rural entrepreneurship in Bihar- a case study” and find out that entrepreneurship activity was very high in the general category of Hindus and Muslims both but it was almost marginal in case of SC category. Out of total respondents 800, 520 i.e. 65 percent people are belongs to general caste and 264 i.e. 33 percent people are concerned with BC and only 16 i.e. 2 percent people concerned with SC in the case of caste and religion wise profile of entrepreneurs in Bihar (India) (Jha, 2010).

4. Conclusion

For economy development of the nation, micro and small enterprise are more appropriate enterprise rather than medium and large scale enterprise in developing contries like in Nepal. Besides ministry of industry, other organization and programme like IEDI, MEDEP, and OVOP are also working for the development of MEs. The time between 1999 and 2011, 53,345 micro enterprises are created by MEDEP in Nepal. In the case of owner of micro enterprises, more than two third i.e. 67.9 percentage micro enterprises are operated by women entrepreneurs and remaining enterprises i.e. 32.1 percentage enterprises are operated by male entrepreneurs. Out of five development regions, central development has got success to establish more micro enterprises (15,573) and more women (71.5%) are involved in such enterprises rather than other region. In the context of Far-western development region, more men entrepreneurs (40.1%) are involved in micro enterprises comparing with other regions and less number of micro enterprises is established. In the context of types of caste involved in MEs, higher number of Janajati are involved (53.6%), then after Brahaman/Chhetri (53.3%), Dalit (22.0%) and other caste (7.1%) respectively. In different development region, higher numbers of Dalit (35.4 %) and other caste (15.7 %) are conducted MEs in eastern development region. Like it, higher number of Janajati (46.7%) and Brahaman/ Chhetri (57.1 %) are conducted MEs in central development region and far-western development region respectively.

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स्नातक प्रथम वर्ष अनिवार्य नेपाली विषयको पाठ्यांश विश्लेषण

विष्णुप्रसाद शर्मा
उपप्राध्यापक, नेपाली शिक्षा
जनप्रिय बहुमुखी क्याम्पस

सार

त्रिभुवन विश्वविद्यालयले मानविकी तथा सामाजिक शास्त्र सङ्काय तथा शिक्षाशास्त्र सङ्काय, स्नातक प्रथम वर्षका लागि अनिवार्य नेपालीको समायोजित नयाँ पाठ्यांश/पाठ्यक्रम (२०६९) पठनपाठनमा ल्याएको छ । यही पाठ्यांशलाई पाठ्यक्रम विश्लेषणका आधार (उद्देश्य, पाठ्यवस्तुको वितरण, शिक्षण प्रक्रिया, मूल्याङ्कन प्रक्रिया आदि) मा विश्लेषण गर्ने कार्य प्रस्तुत लेखमा गरिएको छ । अध्ययनबाट पाठ्यांशले विद्यार्थीको बोध अभिव्यक्ति क्षमतामा जोड दिएको, पाठ्यांश व्यावहारिक तथा सम्प्रेषणात्मक प्रकृतिको रहेको, पाठ्यांशले विद्यार्थी केन्द्रित सिकाइलाई जोड दिएको, भाषिक सिपमा आधारित भैकन पनि लेखन सिपमा बढी केन्द्रित भएको, ज्ञान, विज्ञान, दर्शन, शिक्षा लगायत विविध क्षेत्रबाट पाठ्यवस्तुको छनोट गरी विद्यार्थीहरूको भाषिक व्यावहारिक पक्षलाई सबल बनाउन खोजिएको तथा कक्षा एघारको अनिवार्य नेपाली विषयसँग स्तरण मिलाउन खोजिएको भए पनि शिक्षण प्रक्रियाका सम्बन्धमा पाठ्यांश स्पष्ट हुन नसकेको, आन्तरिक मूल्याङ्कनलाई पाठ्यांशले महत्त्व नदिएको जस्ता निष्कर्ष निकालिएको छ ।

मुख्य शब्दहरूः पाठ्यांश, उद्देश्य, पाठ्यवस्तु, शिक्षण प्रक्रिया, मूल्याङ्कन

१. विषय प्रवेश

भाषा बोध अभिव्यक्तिको माध्यम हो । जीवनयापनको साथी हो । भाषा सामाजिक वस्तु हो, सूचना सञ्चारको सम्बाहक हो । नेपालको सन्दर्भमा नेपाली भाषा साझा सम्पर्कको भाषा हो । सरकारी कामकाजको भाषा हो । पठनपाठन तथा प्रकाशनको माध्यम भाषा हो । कथ्य तथा लेख्य माध्यमको भाषा हो । नेपाली भाषा नै हामी सबैलाई राष्ट्रिय जीवनका बहुविध पक्ष र व्यक्तितत्वसँग परिचित गराउने सन्दर्भमा सहयोगी भाषा हो । राष्ट्रिय भाव धारासँग एकीकृत गराउनका लागि सहयोगी माध्यम भाषा हो ।

सम्बन्धित पाठ्यांश/पाठ्यक्रमको परिधिमा रहेका विद्यार्थीहरू कुनै पनि पेशागत तथा व्यावसायिक कार्यक्षेत्रमा जाँदा उसले आर्जन गरेका ज्ञान, सिप र दक्षताको प्रभावकारी उपयोगबाट नै उसको

कार्य कुशलताको पुष्टि हुन्छ । यसका लागि नेपाली भाषाको बहुबिध प्रयोग क्षेत्र, भाषिक कौशलका विभिन्न रूपहरू, अभिव्यक्तिका विभिन्न तहहरू र प्रकारहरू तथा व्यावहारिक लेखनका विविध रूपहरू आदिबारे आधारभूत सिप प्राप्त गर्नु आवश्यक छ । भाषाका संरचनागत विशिष्ट रूपहरू र शैलीगत विशिष्टता आदि बारे आधारभूत सिप र कौशलको विकासविना अभिव्यक्ति क्षमताको विकास सम्भव हुँदैन (गौतम र अन्य २०६९ः भूमिका)। विश्वविद्यालय तहका भाषा पाठ्यक्रमहरूले यस्ता मर्म वा भावनाहरूलाई अवश्य आत्मसात् गर्नु पर्दछ ।

भाषिक भूमिका वा प्रयोजनका आधारमा पाठ्यक्रम सामान्य र विशिष्ट गरी दुई प्रकारका हुन्छन् (पौडेल र खतिवडा, २०६७ः२३) । सामान्य किसिमको भाषिक व्यवहार पुरा गर्ने उद्देश्यले निर्माण गरिएका पाठ्यक्रम सामान्य पाठ्यक्रम र भाषिक व्यवहारको विशिष्ट प्रयोजनलाई हेरेर तयार गरिने पाठ्यक्रम विशिष्ट पाठ्यक्रम हुन्छन् । विद्यालय तथा महाविद्यालय तहका सबै जसो अनिवार्य विषयका भाषा पाठ्यक्रमहरू सामान्य पाठ्यक्रम अन्तर्गत पर्दछन् । जसमा ज्ञान, विज्ञान, शिक्षा, साहित्य, राजनीति, दर्शन आदि क्षेत्रका भाषिक पाठ्यवस्तुहरूलाई विभिन्न कथा, कविता, जीवनी, निबन्ध जस्ता विधागत संरचनामा प्रस्तुत गरिन्छ । यस्तो पाठ्यक्रममा पाठ्यवस्तुको छनोट र स्तरण विद्यार्थीको स्तर वा तह, रूचि, आवश्यकता अनुसार गरिएको हुन्छ । जसबाट विद्यार्थीमा सम्प्रेषणात्मक सामर्थ्य विकासको अपेक्षा राखिन्छ र भाषिक स्तर अभिबृद्धि गर्न र व्यावहारिक भाषिक कार्य गर्ने सिपको विकास हुने लक्ष्य रहन्छ । यसै सन्दर्भमा वर्तमान स्नातक तह प्रथम वर्ष अनिवार्य नेपाली विषयको पाठ्यांशलाई पाठ्यांश/पाठ्यक्रम विश्लेषणका आधार (शीर्षक, परिचय, उद्देश्य आदि) मा रही अध्ययन विश्लेषण गर्न सकिन्छ ।

२. अध्ययनको उद्देश्य

कारणविना कार्य नभए जस्तै उद्देश्यविनाको कार्य गरिँदैन । स्नातक तहको प्रथम वर्षमा अनिवार्य नेपाली विषयको नयाँ पाठ्यक्रम पठनपाठनमा आएको सन्दर्भमा यसका उद्देश्य, पाठ्यवस्तु, शिक्षण प्रक्रिया, मूल्याङ्कन प्रक्रिया तथा शिक्षण सामग्रीका विषयमा सरोकारवाला सबैको चासोको विषय बन्यो । यसै सन्दर्भमा उक्त पाठ्यक्रमलाई उद्देश्य, पाठयांश शीर्षक, पाठ्यांश परिचय, शिक्षण प्रक्रिया लगायतका आधारमा विश्लेषण गरी पाठ्यक्रमका सबल र दुर्बल पक्ष केलाउनु साथै यसका विशेषताहरूको पहिचान गरी यसलाई बढी प्रभावकारी, उपयोगी र उद्देश्यमूलक बनाउन आवश्यक सुझाव दिने प्रयत्नस्वरूप प्रस्तुत अध्ययन कार्य गरिएको हो ।

३. अध्ययन विधि/प्रक्रिया

प्रस्तुत शीर्षकसँग सम्बन्धित अध्ययन कार्य गर्नका लागि सर्व प्रथम सामग्री छनोट कार्य गरिएको छ । यसमा स्नातक प्रथम वर्ष अनिवार्य नेपाली विषयको पाठ्यक्रम/ पाठ्यांशलाई प्राथमिक स्रोतका रूपमा र विभिन्न पत्र पत्रिका, पुस्तक तथा सन्दर्भ पुस्तकबाट द्वितीय स्रोतका रूपमा सामग्री सङ्कलन गरिएको छ । सङ्कलित सामग्रीलाई वर्णनात्मक, विश्लेषणात्मक, तुलनात्मक,

अनुसन्धानात्मक जस्ता अध्ययन विधि, पद्धतिका सहायताबाट अध्ययन कार्यलाई पुरा गरिएको छ । प्रस्तुत अध्ययनका लागि पूर्णतः पुस्तकालीय अध्ययन पद्धति र त्यस अन्तर्गतका विभिन्न सहायक अध्ययन विधिहरूलाई अपनाएर अनुसन्धेय कार्य सम्पन्न गरिएको छ । पाठ्यांश विश्लेषण पाठ्यक्रम विश्लेषणका आधारमा गरिएको छ ।

४. पाठ्यांशको विश्लेषण

पाठ्यक्रम समग्र शैक्षिक योजनाको व्यवस्थित कार्यक्रम तथा मेरूदण्ड हो । समग्र वैयक्तिक, राष्ट्रिय, सामाजिक, सांस्कृतिक, भाषिक आवश्यकता परिपूर्ति गर्ने माध्यम पाठ्यक्रम हो । पाठ्यक्रमसँगै पाठ्यसूची र पाठ्यांश जोडिएर आएका हुन्छन् । जसको उपयुक्त र प्रभावकारी कार्यान्वयनबाटै शैक्षिक उद्देश्य हासिल हुन सक्छ । स्वरूपका आधारमा पाठ्यक्रम भाषा पाठ्यक्रम र अन्य विषयका पाठ्यक्रम गरी दुई प्रकारका हुन्छन् । भाषा विषयको पाठ्यक्रमले भाषिक सिप, शब्द भण्डार तथा भाषा तत्त्वको विकास गराउने उद्देश्य राख्दछ भने अन्य विषयका पाठ्यक्रमले सम्बन्धित विषयको ज्ञान सिकाउने ध्येय राख्छ (शर्मा र अर्याल;२०६९:११७) । अनिवार्य तथा ऐच्छिक विषयका नेपाली तथा अङ्ग्रेजी जस्ता भाषा विषयका पाठ्यक्रम यसै भाषा पाठ्यक्रम अन्तर्गत पर्दछन् ।

खास तह वा कक्षाका लागि निर्माण भएका भाषा पाठ्यक्रम के कस्ता छन् ? विद्यार्थीको तह, उमेर र स्तर अनुरूप छन् कि छैनन्, उद्देश्यहरू के कस्ता छन्, पाठ्यवस्तुको छनोट र वितरण के कसरी गरिएको छ, शिक्षण प्रक्रिया तथा मूल्याङ्कनका आधारहरू के कस्ता छन् लगायतका विषयमा लेखाजोखा गर्ने काम पाठ्यक्रम/पाठ्यांश विश्लेषणमा गरिन्छ । यसै सन्दर्भमा स्नातक प्रथम वर्ष अनिवार्य नेपाली विषयको वर्तमान पाठ्यक्रम/पाठ्यांशलाई निम्न लिखित स्तम्भगत ढाँचाभित्र रहेर विश्लेषण गर्न सकिन्छ ।

४.१ पाठ्यांश शीर्षक

पाठ्यक्रमको शीर्ष वा अग्र भागमा रही पाठ्यक्रमका विभिन्न सन्दर्भका बारेमा छोटकरीमा जानकारी दिने स्तम्भ पाठ्यांश शीर्षक अन्तर्गत राखिन्छ (लम्साल र अन्य, २०६२:४०) । यसका आधारमा पाठ्यांश शीर्षक अनिवार्य नेपाली (३०१), तह स्नातक तिन बर्से, वर्ष पहिलो, पूर्णाङ्क १००, उत्तीर्णाङ्क ३५, प्रतिहप्ता पाठ घण्टी ६ र जम्मा पाठ घण्टी १५० को व्यवस्था गरिएको छ । परम्परागत शैलीमा आएको अनिवार्य नेपाली विषयको पाठयांश शीर्षक अन्तर्गतका सन्दर्भहरू स्तर सुहाँउदो र सान्दर्भिक देखिन्छ ।

४.२ पाठ्यांश/पाठ्यक्रमको परिचय

पाठ्यक्रम विश्लेषणको ढाँचा अन्तर्गत पर्ने यस स्तम्भमा शीर्ष सूचनाभन्दा अलि विस्तृत सूचना दिइन्छ । आवश्यक ठानिएका एक दुई अनुच्छेदमा उक्त पाठ्यांश वा पाठ्यक्रमको प्रयोजन, तह, विशेषता, सीमा लगायतका सन्दर्भहरूबारे सूचना दिइन्छ (पौडेल, २०६९ :२३७) । यस आधारमा हेर्दा उक्त पाठ्यक्रम त्रिभुवन विश्वविद्यालय अन्तर्गत विभिन्न सङ्कायका स्नातक तहमा अध्ययन

गर्ने विद्‌यार्थीहरूलाई नेपाली भाषामा विशिष्ट बोध, अभिव्यक्ति र रचना कौशलको विकास गर्न २०६९ सालमा तयार पारिएको हो । यस पाठ्‌यक्रम/पाठ्‌यांशमा नेपाली भाषाको कथ्य र लेख्य स्वरूप, शब्द भण्डार, वाक्य तत्त्वपरक रचना, सङ्कथन संरचना, नेपाली वाङ्‌मयका विभिन्न क्षेत्रका गद्‌यांशको पठन बोध, व्यावहारिक लेखन तथा निबन्धात्मक अभिव्यक्तिका साथै निर्धारित साहित्यिक कृतिहरूको पठन, आस्वादन र अभिव्यक्ति क्षमताको विकास गर्ने पाठ्‌य सामग्रीहरू समावेश गरिएका छन् (गौतम र अन्य, २०६९ : परिशिष्ट) । यस स्तम्भका आधारमा हेर्दा पाठ्‌यक्रम/पाठ्‌यांशले बोध अभिव्यक्ति क्षमतामा जोड दिन खोजेको, वाक्यतत्त्वभन्दा माथि गएर सङ्कथनको क्षेत्रसम्मको धारणा दिन खोजिएकोले पाठ्‌यक्रम/पाठ्‌यांश समयसापेक्ष देखिन्छ ।

४.३ पाठ्‌यांशका उद्‌देश्यहरू

कुनै कक्षा वा तहका सिकारूमा विकसित हुने भाषिक सिप क्षमता तथा अभिवृद्‌धि नै उद्‌देश्य हो । यसलाई अर्को शब्दमा सिकाइ उपलब्धि पनि भनिन्छ (पौडेल र अन्य ; २०६९ : ३८) । **उद्‌देश्य पाठ्‌यक्रमको केन्द्रीय घटक हो । उद्‌देश्यकै आधारमा सम्पूर्ण पाठ्‌यक्रमको गुणात्मक स्तर निरूपण हुन्छ । साथै पाठ्‌यक्रमका विषय वस्तु, शिक्षण प्रक्रिया, मूल्याङ्‌कन प्रक्रिया आदि जस्ता खण्डलाई समेत उद्‌देश्यले नै निर्देशित गरेको हुन्छ । उद्‌देश्य पनि सधारण र विशिष्ट गरी दुई प्रकारका हुन्छन् ।**

साधारण उद्‌देश्यका रूपमा वर्तमान स्नातक अनिवार्य नेपाली विषयको पाठ्‌यांशमा कथ्य र लेख्य नेपालीको भिन्नता पहिल्याई मानक रूपको प्रयोग गर्न, नेपाली वाङ्‌मयका विविध क्षेत्रमा प्रयुक्त शब्दहरूको स्रोत, वर्ग र बनोट पहिचान गरी सन्दर्भपूर्ण वाक्यमा प्रयोग गर्न, तालिका, चित्राकृति, (डायग्राम), रेखाचित्र (ग्राफ) र आरेखको सूचनालाई अनुच्छेदमा रूपान्तरण गर्न तथा अनुच्छेदमा रहेका सूचनालाई तालिका, चित्राकृति, आलेख र आरेखमा रूपान्तरण गर्न, नेपाली वाक्यतत्वको स्वरूप पहिचान गरी वाक्य तत्त्वपरक रचना गर्न, पाठ वा पाठ्‌यांशको सङ्कथन संरचना पहिल्याउन, वाङ्‌मयका विविध क्षेत्रका पद्‌यांशहरू पढी तिनमा आधारित बोध प्रश्नहरूको उत्तर दिन, सम्वद्‌ध गद्‌द्‌यांशको बुँदा टिपोट र संक्षेपीकरण गर्न, पाठ वा पाठ्‌यांशका विषय वस्तुमा आधारित भई स्वतन्त्र अभिव्यक्ति प्रकट गर्न, निर्धारित ढाँचामा आधारित भई व्यावहारिक लेखन र प्रतिवेदन तयार गर्न, विभिन्न विषयमा आत्मपरक तथा वस्तुपरक निबन्ध लेखन, निर्धारित कविता, गीत, गजल, निबन्ध, कथा, उपन्यास र नाटकको सरसर्ती अध्ययन तथा तिनको आस्वादन गर्न र प्रतिक्रिया दिन गरी जम्मा ११ वटा बुँदामा साधारण उद्‌देश्य र एकाइ अनुसारका विभिन्न विशिष्ट उद्‌देश्यहरूको निर्धारण गरिएको छ । यस पाठ्‌यक्रममा निर्धारित साधारण तथा विशिष्ट उद्‌देश्य अनुरूप उद्‌देश्य प्राप्तिका लागि पाठ्‌य विषयहरूको समावेश र सोही बमोजिमको शिक्षण विधि र मूल्याङ्‌कन पद्‌धतिको उपयोग गरिएको साथै उद्‌देश्यहरू स्नातक तहका विद्‌यार्थीको आवश्यकता अनुकूल व्यावहारिक सिपपरक तथा सम्प्रेषणात्मक खालका भएका कारण उद्‌देश्यको निर्धारण उपयुक्त, सन्तुलित र सान्दर्भिक नै मान्नु पर्छ । उद्‌देश्यहरू भाषातत्त्वको ज्ञान, शब्द भण्डारको वृद्‌धि तथा सिर्जनात्मक क्षमताको विकास गराउनेतर्फ केन्द्रित रहेको देखिन्छ ।

४.४ पाठ्यवस्तु र त्यसको वितरण

खास शिक्षणीय विषय नै पाठ्यवस्तु हो । पाठ्यवस्तुलाई विषयवस्तु पनि भनिन्छ । पाठ्यक्रम/पाठ्यांशको उद्देश्य अनुसार उद्देश्य परिपूर्तिका लागि सिक्ने सिकाउने वस्तु वा विषय विद्यार्थीको तह वा स्तर अनुसार छनोट गरिन्छ र सोही अनुसार रेखीय वा चक्रीय आधारमा स्तरण गरिन्छ । स्नातक तह अनिवार्य नेपाली विषयको वर्तमान पाठ्यक्रममा उद्देश्यअनुसार विभिन्न पाठ्यवस्तुहरूको निर्धारण गरिएको छ र तिनीहरूलाई सुसिक्यताका आधारमा स्तरण गरिएको छ । जसमा एकाइ एकदेखि एकाइ बाह्रसम्म क्रमशः अक्षरीकरण र वर्ण विन्यास, नेपाली शब्द भण्डार, वाक्यतत्त्वपरक रचना, सङ्कथन र पाठको संरचना, पठनबोध, सन्दर्भपूर्ण सूचनाको रूपान्तरण, बुँदा टिपोट र संक्षेपीकरण, अनुच्छेद रचना, व्यावहारिक लेखन, निबन्ध लेखन, प्रतिवेदन लेखन र साहित्यिक कृतिको अध्ययनसँग सम्बन्धित पाठ्यवस्तुहरूको छनोट गरी स्तरण गरिएको छ । कक्षा एघारमा सिकि सकेका पाठयवस्तुलाई सामान्य पुनरावृत्ति गरी नयाँ पाठ्यवस्तुलाई स्तर अनुकूल छनोट गरिएको छ । स्नातक उत्तीर्ण विद्यार्थीहरूमा आवश्यक पर्ने ज्ञान, सिप र धारणा बसाउन सहयोग पुग्ने गरी पाठ्यवस्तु छनोट गरिएको पाइन्छ । पुरानो अनिवार्य नेपालीको पाठ्यांशभन्दा यो पाठ्यांशमा विद्यार्थीका लागि आवश्यक पर्ने समसामयिक पाठ्य सामग्रीका माध्यमबाट भाषिक सिप तथा कौशलको विकास गर्न खोजिएको र सम्प्रेषणात्मक सामर्थ्यको वृद्धि गर्न खोजिएको पाइन्छ । पाठ्यांशका पाठ्यवस्तु वा पाठ्य विषय व्याकरण केन्द्रित, बोध क्षमताको विकासमा आधारित, लेखन सिप एवम् व्यावहारिक लेखन सिप विकास तथा साहित्यिक आस्वादन र प्रतिक्रियासँग सम्बन्धित देखिन्छन् । यसर्थ यी विभिन्न आधारमा साथै विद्यार्थीलाई सैद्धान्तिक ज्ञानभन्दा व्यावहारिक भाषिक सिप विकासमा पाठ्यवस्तुले जोड दिएकाले पाठ्यवस्तुको छनोट र वितरणका दृष्टिले प्रस्तुत पाठ्यांशलाई सफल नै मान्नु पर्दछ ।

४.५ शिक्षण प्रक्रिया

शिक्षण विधि, प्रविधि, शिक्षण सामग्री र शिक्षण कार्यक्रलापहरूको समग्र नाम नै शिक्षण प्रक्रिया हो । उद्देश्यहरू जतिसुकै प्रभावकारी र आकर्षक भए पनि अनि भाषिक पाठ्यवस्तु र त्यसको प्रस्तुति जति सुकै उपयुक्त र व्यवस्थित भए पनि शिक्षण प्रक्रियाको उपयुक्त र प्रभावकारी निर्देशन हुन सकेन भने ती कुराहरू निरर्थक र निर्जीव जस्तै हुन्छन् (पौडेल, २०६९ :२३४) । शिक्षण सिकाइ प्रक्रिया सिकाइको मनोवैज्ञानिक प्रकृति र प्रवृत्ति अनुकूल, विविध वैयक्तिक भिन्नता भएका सिकारूका निम्ति उपयोगी तथा निर्धारित समयमा कार्य सम्पन्न गरी निर्धारित उपलब्धि स्तरसम्म पुऱ्याउन मद्दत पुग्ने किसिमको हुनु पर्छ ।

स्नातक तहको अनिवार्य नेपाली विषयको प्रस्तुत पाठ्यक्रम/पाठ्यांशले अपेक्षा गरेका उद्देश्य प्राप्तिका लागि निर्धारित पाठ्य विषयलाई कक्षागत व्याख्यान, प्रश्नोत्तर, छलफल, कक्षाकार्य, समूह कार्य, गृहकार्य, परियोजना कार्य आदि विधिद्वारा शिक्षण गर्ने उद्देश्य राखिएको छ । परम्परागत

पाठ्यांशका तुलनामा यो पाठ्यांश व्यावहारिक प्रकृतिको भएकाले यसमा बढीभन्दा बढी विद्यार्थी केन्द्रित शिक्षण विधिको प्रयोग गर्नु उपयुक्त हुने देखिन्छ । तर पाठ्यांशको शिक्षण विधि स्तम्भले शिक्षण प्रक्रियाका विषयमा स्पष्ट नपारी सामान्य सङ्केत मात्र गरेकाले शिक्षण विधिमा प्रभावकारिता र एकरूपता आउनमा समस्या देखिन्छ । आगमन, निगमन, संज्ञानात्मक, वर्णनात्मक जस्ता शिक्षण विधि तथा अभ्यास, खेल, पुस्तकालय कार्य, भ्रमण कक्षा प्रस्तुतीकरण जस्ता शिक्षण प्रक्रियालाई समेत अवलम्बन गरी अपेक्षित उद्देश्य हासिल गराउन सकिन्छ । विद्यार्थीको सहभागिता, शिक्षकको समर्पितता र सामग्रीको पर्याप्तता जस्ता पक्षले पनि शिक्षण प्रक्रियालाई सफल बनाउनमा महत्त्वपूर्ण भूमिका खेलेका हुन्छन् । यसर्थ शिक्षण प्रक्रियाका सवालमा प्रस्तुत पाठ्यांश कमजोर दे खिन्छ । पाठ्यवस्तुको प्रकृति अनुकूलका शिक्षण प्रक्रिया तोकेरै दिन सके शिक्षण सिकाइमा सर लता, एकरूपता र स्तरीयता ल्याउन सकिन्छ ।

४.६ मूल्याङ्कन प्रक्रिया

शिक्षणपश्चात् उद्देश्य प्राप्ति भए नभएको लेखाजोखा गर्ने काम मूल्याङ्कनमा गरिन्छ । मूल्याङ्कन पाठ्यक्रको प्रकृति र विद्यार्थीको स्तर वा तहअनुसार आन्तरिक र बाहय दुवै हुन सक्छ । प्रस्तुत पाठ्यक्रम/पाठ्यांशमा १०० पूर्णाङ्कको वार्षिक परीक्षा दिने व्यवस्था गरिएको छ । विशिष्टीकरण तालिका (ग्रिड) मा दिइएअनुसार विभिन्न एकाइगत सन्तुलन हुने गरी १०० पूर्णाङ्कका विभिन्न प्रश्नहरू लिखित रूपमा सोध्ने व्यवस्था गरिएको छ । पहिला २० पूर्णाङ्कको वस्तुगत प्रश्न सोधिने शिक्षाशास्त्र सङ्कायका लागि भने ९० अङ्कका विषयगत प्रश्नहरू र समग्र पाठ्यांशबाट १/१ अङ् कका बहुवैकल्पिक १० वटा प्रश्न गरी जम्मा १०० पूर्णाङ्कका प्रश्नहरू सोधिने व्यवस्था गरिएको छ । यस पाठ्यक्रममा लिखित परीक्षा वा लिखित सिपलाई पूर्णतः विकास गर्न खोजिएको छ । सुनाइ, बोलाइ र पढाइ सिपको परीक्षण कक्षा शिक्षणकै क्रममा गर्न खोजिएको छ । आन्तरिक मूल्याङ् कनलाई पनि महत्त्व दिएर त्यसलाई निर्णयात्मक मूल्याङ्कनमा समावेश गर्ने व्यवस्था भएमा विद् यार्थीको भाषिक सिपको स्तर थप बृद्धि हुन सक्ने देखिन्छ । सुनाइ, बोलाइ र पढाइ सिपको मूल्याङ् कनका लागि समेत व्यवस्था गर्ने हो भने विद्यार्थीका चार वटै भाषिक सिपको सन्तुलित विकास हुन सक्ने र एउटा भाषिक सिपको विकासले अर्को सिपलाई समेत सहयोग पुऱ्याउने निष्कर्षमा पुग्न सकिन्छ ।

४.७ पाठ्य पुस्तक र सन्दर्भ पुस्तक

पाठ्यक्रमले राखेका उद्देश्य र मर्मलाई पुरा गर्न सहयोग पुऱ्याउने पाठ्य सामग्री नै पाठ्य पुस्तक र सन्दर्भ सामग्री हुन् । पाठ्य सामग्रीलाई शिक्षण सामग्री पनि भनिन्छ । शिक्षण सामग्रीमा पनि पाठ्य पुस्तकलाई आधार सामग्री र सन्दर्भ सामग्रीलाई सहायक सामग्री मानिन्छ । पाठ्यक्रमका उद्देश्यलाई पुरा गर्न प्रत्यक्ष सहयोग पुऱ्याउने सामग्री पाठ्य पुस्तक हो भने सन्दर्भ सामग्रीले पाठ् यवस्तुलाई थप स्पष्टीकरण र विस्तृतीकरणमा सहयो पुऱ्याउँछन् ; पठनप्रति रूचि जगाउँछन् ।

स्नातक अनिवार्य नेपाली विषयको वर्तमान पाठ्यांश/पाठ्यक्रममा पाठ्य पुस्तक दुई वटा प्रस्तावित गरिएको छ । जसमा नपाली साहित्यिक रचना (२०६९) र अनिवार्य नेपाली व्याकरण र बोध र रचना पर्दछन् । यस्तै सहायक सामग्रीका रूपमा टङ्क न्यौपानेको मानक नेपाली व्याकरण र कार्यमूलक लेखन, मोहनराज शर्माको शब्द रचना र वर्ण विन्यास, लालानाथ सुवेदीको नेपाली बोध र रचना कौशल तथा हेमाङ्गराज अधिकारीको प्रयोगात्मक नेपाली व्याकरण गरी चार वटा पुस्तकलाई तो किएको छ । दुई वटा पाठ्य पुस्तक र चार वटा सन्दर्भ पुस्तकलाई मात्र आधार बनाउँदा उद्दे श्य अनुकूल सिकाइ उपलब्धि हासिल हुन सक्दैन । यसका साथै श्रव्य, दृश्य सामग्री र विभिन्न समसामयिक पत्र पत्रिका तथा सन्दर्भ सामग्रीलाई पनि आधार बनाउन लगाउने हो भने पाठ्यवस्तुको अपेक्षा सजिलै पुरा हुन सक्ने देखिन्छ । यस्ता सामग्रीहरूको यथेष्ट उपयोगमा शिक्षक विद्यार्थी दुवै पक्षको सक्रियता आवश्यक हुन्छ ।

## ५.	निष्कर्ष

भाषिक सिप तथा कौशलको विकास गराउने उद्देश्यद्वारा निर्मित पाठ्यक्रमलाई भाषा पाठ्यक्रम भनिन्छ । भाषा पाठ्यक्रम अन्तर्गतको सामान्य व्यावहारिक भाषिक सिप सिकाउने प्रयोजनका निम्ति तयार गरिएको वर्तमान स्नातक तहको अनिवार्य नेपाली विषयको पाठ्यांश/पाठ्यक्रम परम्पर ागत नेपाली पाठ्यांश/पाठ्यक्रमको तुलनामा नयाँ, व्यावहारिक र आधुनिक देखिन्छ । समसामयिक जीवनका आवश्यकीय पाठ्य विषयलाई समेटेर त्यसका माध्यमबाट विद्यार्थीहरूमा व्यावहारिक भाषिक सिप सिकाउन खोजिएको यो पाठ्यांश विद्यार्थी केन्द्रित सिकाइमा आधारित छ । पहिलो भाषी वा दोस्रो भाषी विद्यार्थीका लागि उसले स्नातक तह पुरा गरेपछि आइ पर्ने भाषिक चुनौतीलाई पुरा गर्न सक्षम हुने गरी पाठ्यांश/पाठ्यक्रमका उद्देश्य र पाठ्यवस्तु निर्धारण तथा चयन गरिएको पाइन्छ ।

भाषाका चार सिप मध्ये लेखाइ सिपलाई अत्यधिक महत्त्व पाठ्यांशले दिएको छ । शब्द भण्डार को विकास र बोध क्षमताको विकासमा पाठ्यांश केन्द्रित छ । बोध तथा अभिव्यक्ति क्षमता दुवै लाई महत्त्व दिएकाले पाठ्यांश सम्प्रेषणात्मक प्रकृतिको देखिन्छ । व्याकरण, बोध, लेखन तथा व्यावहारिक लेखन सिप साथै साहित्यिक आस्वादन तथा प्रतिक्रियासँग पाठ्यांश बढी सम्बन्धित दे खिन्छ । उद्देश्य, पाठ्यवस्तु, पाठ्यांश परिचय, पाठ्यांश शीर्षक जस्ता स्तम्भका कोणबाट पाठ्यांश सफल छ । मूल्याङ्कन, शिक्षण प्रक्रिया र सन्दर्भ सामग्रीका दृष्टिले पाठ्यांश दुर्बल वा कमजोर देखिन्छ । विद्यार्थीको स्तर वा तह, उमेर, क्षमता, रूचि, आवश्यकता, भाषिक पृष्ठभूमि, शिक्षण संस्थाको प्रकृति, समयावधि जस्ता आन्तरिक तथा वाह्य पक्षमा पाठ्यांश उपयुक्त देखिन्छ । तहगत स्तरणका दृष्टिले पाठ्यक्रम सन्तुलित र पाठ्यवस्तु छनोटका दृष्टिले पाठ्यांश समावेशी साथै स्तरीय देखिन्छ । समग्रमा केही कमजोरी बाहेक धेरै विषय वा पक्षहरूमा वर्तमान स्नातक तहको अनिवार्य नेपाली विषयको पाठ्यांश उपयुक्त सान्दर्भिक, व्यावहारिक र पाठ्यांशको ढाँचा अनुरूप देखिन्छ ।

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Declining Proportion of Foreign Exchange Earnings from Tourism to Gross Domestic Product in Nepal

Deo Narayan Sutihar

Abstract

This article attempts to estimate annual declining trend of proportion of foreign exchange earnings from tourism to Gross Domestic Product (GDP) in Nepal and test the significance of declining trend of this ratio using time series data of 20 years from FY 1991/92 to FY 2010/11l. It has been that the declining trend of foreign exchange earnings from tourism to GDP ratio is significant. The inequality in the distribution of foreign exchange earnings from tourism to GDP ratio is tolerable.

Keywords: (declining trend, foreign exchange earnings, Gini coefficient).

Introduction

Nepal is a country of full diversities regarding natural, cultural, ethnic community and social heritages, flora and fauna, pilgrimage, etc. So it has great potentialities to develop tourism. The promotion of tourism in Nepal in the true sense started more or less only from the beginning of the 1960's. Since the First Five Year Plan and onwards the government of Nepal has been adopted an integrated approach of increasing the number of tourists arrivals and length of stay, earning exchanges, creating employment opportunities, sustainable economic growth, alleviation of poverty and reduction of regional imbalances through tourism (Gurung: 2010, 106).

Tourism is an important industry and it is gaining a growing recognition in the world. It is smokeless industry. Developed countries have already benefited from tourism while developing countries are gradually benefiting. Tourism industry generates substantial benefits for both host countries and tourist's home country. It is the main source of foreign exchange earning and an important factor in the development of industries and international trade. It plays an important role in economic and technological development of nations. It also serves to stimulate the development of basic infrastructure, contributes to the growth of domestic industries, attracts foreign investment, facilities the transfer of technology and information (Srivastava and Baral: 2010, 1-2).

Most of the tourists arriving to Nepal are found to pursuing recreation, trekking and mountaineering. On the tourists visiting Nepal in calendar year 2011, 53.7 percent visited for tours/travels, 11.77 percent for trekking/ mountaineering, 8.7 percent for pilgrimage, 4.1 percent for recreation, 2.4 percent for trade, 3.3 percent for formal visit, 1.5 percent for meeting/seminar and 13.9 percent for other purposes (MOF:2069, 148).

The contribution of tourism industry to GDP was 3.6 percent in FY 1991/92 and 1.4 percent in FY 2006/07 (MOF: 2009, 112), which was reached to 1.8 percent in FY 2010/11 (MOF: 2069, 152).

Ministry of Tourism and Civil Aviation, in collaboration with concerned industry entrepreneurs, and Nepal Tourism Board, has issued Nepal Tourism Vision 2020. Under this, vision, target, objectives and strategies have been set to attract 2 million tourists in 2020 (MOF: 2009, 111).

Nepal is a small country but full of diversities regarding natural, cultural, ethnic communities and historical heritages, which attract religious, sports, endemic tourists to visit. It is a tourist destination with tremendous tourism potentialities. The relevant literature regarding the foreign exchange earnings from tourism to GDP ratio in Nepal is not available. However, some scattered studies have exhibited dim glimpse (Poudyal: 2012, Upadhyay: 2013, Gurung: 2010, Sharma: 2013, Shakya: 2008) about the very cotext.

Objective and Limitation

The main objective of this paper is to exhibit the declining ratio of foreign exchange earnings from tourism to GDP in Nepal. In addition, the specific objective is to estimate annual declining rate of this ratio and to test this declining rate is significant or not. However, the findings of this paper should be cautiously and carefully used because the analysis is made only for 20 years. The data before 1991/92 have not been considered to analyze due to time constraint.

Data and Methods

This paper is based on the secondary data annually published by the Government of Nepal. The Economic Survey Fiscal Year 2005/06, Fiscal Year 2008/09 and Fiscal Year 2068/69 of Nepal are the only sources of statistical data for this study (Table-1)

The data have been analyzed with the help of different statistical tools like ratio, percentage, linear equation for estimating the annual declining rate of foreign exchange earnings from tourism to GDP ratio, its standard error, to test significance of this ratio through t-statistic.

The estimating linear equation of the declining rate of proportion of foreign exchange earnings from tourism to GDP in Nepal of 20 years from 1991/92 to 2010/11 has been used in form of $Y_t = b_0 + b_1 X_t$, where, Y_t= foreign exchange earnings from tourism to GDP ratio, X_t= time variable, b_0 and b_1 = parameters, b_0 stands for Y-intercept and b_1 for declining rate of foreign exchange earnings from tourism to GDP ratio or slope of trend line (Singh, Parashar and Singh:1977, 66).

For these parameters, two normal equations of least squares method have been used: $\sum Y_t = nb_0 + b_1 \sum X_t$ and $\sum X_t Y_t = b_0 \sum X_t + b_1 \sum X_t^2$

$S_{yx}=\sqrt{\frac{\sum e_t^2}{n-k}}$ has been used to arrive standard error of estimate, where, n and k stand for number of years and number of parameters respectively. The statistical hypotheses for parameter b_1 has been set up and tested. The null hypothesis H_1: $b_1=0$ i.e., foreign exchange earnings from tourism to GDP ratio is not significant against alternative hypothesis H_1: $b_1 \neq 0$, i.e., foreign exchange earnings from tourism to GDP ratio is significant at 5% level if significance with n-k degrees of freedom. The t-test is used to test the significance b_1 as:

$$t=\frac{b_1}{\sqrt{\frac{\sum e_t^2}{n-2}\left(\frac{1}{\sum x_t^2}\right)}}$$, where, $\sum e_t^2=\sum(Y_t-\hat{Y}_t)^2$ and $\sum x_t^2=\sum X_t^2-n\overline{X}^2$

The Gini coefficient is used to measure the inequality in distribution of the proportion of foreign exchange earnings from tourism to GDP in 20 years and defined as:

$$Gc=\frac{1}{(100)^2}\left[\sum X_i Y_{i+1}-\sum X_{i+1} Y_i\right]$$

Where, X_i = % of cumulative years
Y_i = % of total proportion of foreign exchange earnings from tourism to GDP
i = 1, 2,…….,n (Sutihar: 2010, 171).

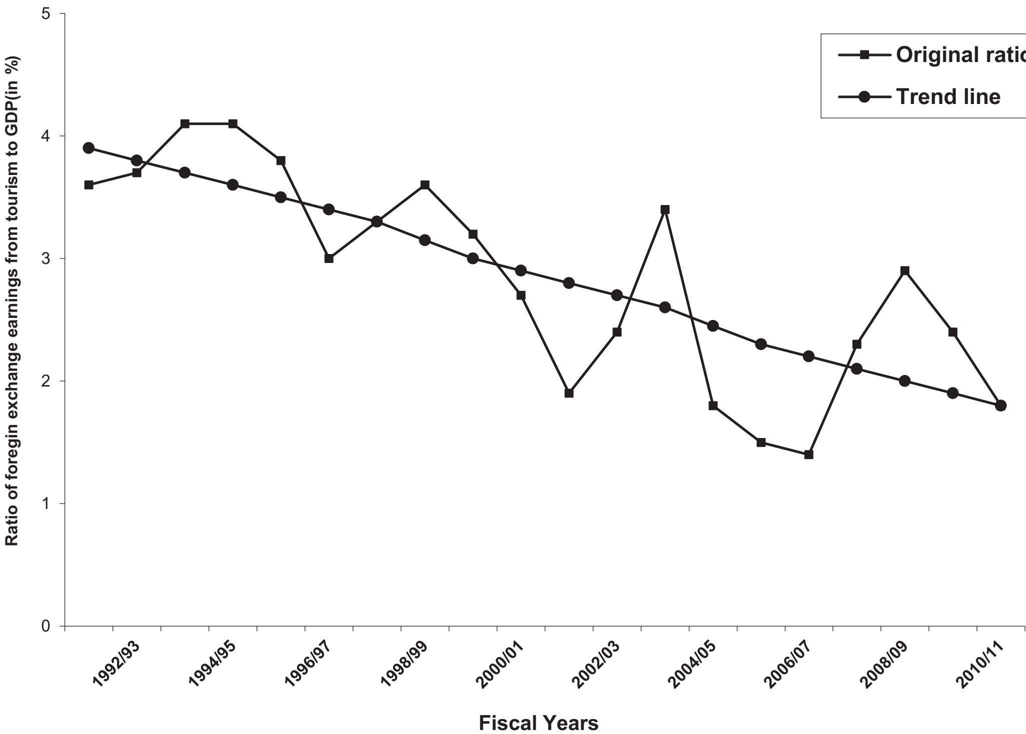
Results and Discussion

This paper evaluates the declining proportion of foreign exchange earnings from tourism to GDP in Nepal, which ranges from 1.4 percent in FY 206/07 to 4.1 percent in 1994/95. The ratio has been found oscillating in different years. The annual declining rate of foreign exchange earnings from tourism to GDP ratio has been also estimated through the analysis of time series data of 20 fiscal years from 1991/92 to 2010/11. The estimated equation of straight line is $\hat{Y}_t = 4.0473 - 0.1145X_t$, which shows that annual declining rate of proportion of foreign exchange earnings from tourism to GDP in Nepal is 0.4511 percent during study period (Table-1). The trend of foreign exchange earnings from tourism to GDP ratio in Nepal is declining continuously during study period (Fig.1).

The standard error of estimate is 0.4562 percent. The calculated value of $t_{(b1)}$ =15.401, which is greater than critical value of t = 2.101 (Two tailed test) at 5 percent level of significance with 18 degrees of freedom. This exhibits that null hypothesis is rejected and alternative hypothesis is accepted. Hence, it is concluded that the declining rate of foreign exchange earnings from tourism to GDP ratio is significant.

The Gini coefficient is 0.1702, which shows that there is 17.02 percent inequality in the distribution of proportion of foreign exchange earnings from tourism to GDP in Nepal.

Fig. 1: Trend Line & Actual Value of Foregin Exchange Earnings from Tourism to GDP ratio (in %)



Conlusion

From the analysis of data, it is obvious that proportion of foreign exchange earnings from tourism to GDP has been oscillated during study period. The annual declining rate of foreign exchange earnings from tourism to GDP ratio is significant. This declining is damping slowly. It is obvious that if this declining rate will continue, foreign exchange earnings from tourism to GDP ratio will be nil in FY 2025/26. After the fateful Indian Airlines hi-jack on 24 December 2000, the tourist industry started facing problems in sequence, which was followed by Hritik Roshan problem, Royal massacre, SARS, Bird flue along with ongoing political instability and Maoist insurgency, etc. are the main reason to decline the trend of tourist arrival in Nepal. Hence, it is recommended that more efforts should be made to improve swiftly the foreign exchange earnings from tourism by framing vision, target, objectives and strategies of proper policy and programmes in forthcoming time. Nepal is a country of full diversities regarding natural, cultural, ethnic communities and social heritages, flora and fauna, pilgrimage. So it has great potentialities to develop tourism. The inequality in the distribution of foreign exchange earnings from tourism to GDP ratio is low, which exhibits that inequality in the distribution foreign exchange earnings from tourism to GDP ratio is tolerable.

Table-1: Proportion of Foreign Exchange Earnings from Tourism to GDP (in %)

FiscalYear (X_t)	GDP (Rs.in million)	Foreign exchange earning from tourism (Rs. in million)	As % of GDP (Y_t)	$\hat{Y}_t$ = 4.0473 -0.1145X_t	e_t
1991/92(1)	149487	15016.9	3.6	3.9	-0.3
1992/93(2)	171492	5966.0	3.7	3.8	-0.1
1993/94(3)	199272	8251.7	4.1	3.7	0.4
1994/95(4)	219175	8973.2	4.1	3.6	0.5
1995/96(5)	248913	9521.2	3.8	3.5	0.3
1996/97(6)	280513	8523.0	3.0	3.4	-0.4
1997/98(7)	300845	9881.6	3.3	3.3	0
1998/99(8)	342036	12167.8	3.6	3.1	-0.5
1999/00(9)	379488	12073.9	3.2	3.0	0.2
2000/01(10)	441519	11717.0	2.7	2.9	-0.2
2001/02(11)	459443	8654.3	1.9	2.8	-0.9
2002/03(12)	492231	11747.7	2.4	2.7	-0.3
2003/04(13)	536749	18147.4	3.4	2.6	0.8
2004/05(14)	589412	10464.0	1.8	2.4	-0.6
2005/06(15)	654084	9556.0	1.5	2.3	-0.8
2006/07(16)	728178	10125.0	1.4	2.2	-0.8
2007/08(17)	815658	18653.0	2.3	2.1	0.2
2008/09(18)	988272	27960.0	2.9	2.0	0.9
2009/10(19)	1193679	28139.0	2.4	1.9	0.5
2010/11(20)	1369430	28633.0	1.8	1.8	0

Sources: Data have been adapted and calculated from Economic Survey Fiscal Year 2005/06, Table 1.2, 2, Economic Survey Fiscal Year 2008/09, Table 8.16, 78 and Economic Survey Fiscal Year 2068/69, Table 9.4, 89.

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ROLE OF TAX REVENUE TO STRENGTHEN OF POKHARA SUB-METROPOLITAN CORPORATION

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Abstracts

After the restoration of the democracy in Nepal, the demand for spending up decentralization process has been gained ground. As a result of increasingly assertive role of stakeholders, the enactment of local self-governance Act (LSGA), 1999 in line with 9th plan, objective had been achieved providing the base for further promotion of decentralization framework in the country. Municipal financing is new concept in Nepal. Municipal financing indicates the study of various sources of revenue (both internal and external) and their collection, allocation, mobilization and utilization of those resource in such a manner that ultimate municipal goal can be achieved through it. For sustainable development effort conducted by local government to realized revenue and evaluation such performance was done through field surveys and on the basis of existing available data and reports. Simple tabular presentation percentage tools is used to analyzed data and found PSMC is not success to collect sufficient tax revenue as its possibilities.

Key Words: Integrated Property Tax (IPT), Local Self Governance Act (LSGA), Revenue, Vehicle Tax, Business Tax, Rent Tax, Octori

1. Background of the study

Nepal is a small, least developed and land locked country situated between two large country China and India. It has a lot of challenges as well as prospectus too. PSMC, is situated on the southern foot of Annapurna Himalayan range, is the second largest urban center of Nepal (Brochure, 1998). Pokhara is known for its panoramic view of Annapurna Himalayan range, fresh water lakes, river gorges, natural caves and unique socio cultural heritage of Himalayan inhabitants. Total area of PSMC is covered 55.66sq.km. with valley floor of 123sq.km. This valley is situated at an elevation ranges from 627 meter to 980 meter above sea level (Brochure, 1998).

After the restoration of the democracy in Nepal, the demand for spending up decentralization process has been gained ground. As a result of increasingly assertive role of stakeholders, the enactment of local self-governance Act (LSGA), 1999 in line with 9th plan, objective had been achieved providing the base for further promotion of decentralization framework in the country. LSGA and its regulation have been set up the potential for an expanded set of service responsibilities for Nepal's local governments (LGS), which consists of 75 district development committees (DDCs), 58 municipalities and 3913 village development committed (VDCs)(Bhurtel,2001). A lot of fund is spend by the public authority for the protection a common people and for the creation a various socio-economic infrastructures. The government needs a lot of money to run it successfully. The money that is so much important to the government is called public revenue collected from external and internal sources.

External sources of fund are foreign grants and loans. This type of fund is received from government of foreign countries and international organizations. This type of fund is more important for undeveloped and underdeveloped countries. It is used for economic development, reconstruction and foreign exchange to recover from crisis conditions for productive uses. But external sources are not good for healthy development of nation. It is better to mobilize internal sources rather than the donors. But Nepal's past experience shows that had mobilized internal resources lower than expected.

Internal sources of the fund include both tax and non-tax revenue. The government receives tax revenue as a compulsory payment when non-tax revenue is a conditional source. Non-tax sources are uncertain and inconvenient because they are imposed according to the necessary to the government. So, taxes are the better sources of public revenue. The use of taxes is safer for financing public revenue is developing countries. So, tax revenue had been taken as the best effective tool for raising the public fund.

Tax is a compulsory contribution from the persons to the government without getting corresponding benefit of a good or serviced providing by the government persons, who pays tax, does not get any equivalent benefit from the government. It is a compulsory liability of the person who has to pay tax.

In other hands, The Local Self Governance Act (LSGA), promulgate in 1999, has given legal authority to municipalities to levy house and land tax, or Integrated Property Tax (IPT). IPT is a municipal land and property based tax, which bears greater revenue potential and higher buoyancy. It is being successfully implemented in many municipalities of Nepal. Municipalities have the right to levy (IPT) in lieu of House and Land Tax (HALT) and land revenue tax. IPT/ HALT has become the most important own source income for most municipalities. Still, IPT coverage is comparatively poor and needs to be improved in order to strengthen municipal own source revenues and reduce the dependency of the cities from the national transfer system.

As per LSGA, there is a choice for municipalities either to implement IPT or HALT with land revenue tax. As a result of Nepal's accession to the World Trade Organization (WTO) in 2004, Local Development Fee as the major income source for the country's 58 municipalities has to be abolished latest in 2011. The local Development Fee is including 74.19% of all direct taxes in the municipalities' local revenue structure. With this upcoming challenge the mobilization of resources and the improvement of the municipalities' Own Source Revenue (OSR) collection are major upcoming challenges. The full-fileged implementation of IPT/HALT as the most promising source of income is one of the core areas of the ongoing discussion on how to improve the OSR collection of the municipalities in Nepal. The Octori is a unique tax levied extensively is South Asia. It is an internal trade tax levied by municipalities on all goods entering into local jurisdiction. In Nepal the tax was assessed on the value, weight or number of items and was collected through collection agents at Octori stations. (Kelly,1998).

2. Research Problem

In the world most of the developing countries including Nepal should make heavy investment of infrastructure and social and economic activities n the development of the nation. It needs huge amount of capital for the economic development various measures adopted by the government to boost revenue collection. There is still a substantial resource gap between expenditure and revenue collection. The rate of government expenditure is exceeding the rate of growth revenue from the beginning of its development prose. So, the development of countries will be possible only when the government can collect its own internal revenue that consists tax and non-tax revenue. Tax and non-tax revenue amount for 79.059 percent and 20.94 percent respectively in fiscal year 2064/65 (Paudel, 2010). Thus, evident that the major portion of government revenue is covered by Tax revenue. In this regards it is based on Pokhara sub-metropolitan city (PSMPC). There are various problems to local tax collection in PSMPC. This study is focuses on the local tax contribution in local government and is the local tax administration is effective?

3. Objectives of the study

The main objectives of the study is to examine the role of tax to strengthen the local government and to give appropriate suggestions to improve it's system. In addition to that objective the study is focused to review the local tax structure of PSMPC and to analyze the contribution of local tax to local government.

4. Methodology used

Research design is a framework that keeps the researcher in a particular track. It is a logical and systematic plan prepared for directing a research study. In other word, a research design is the specification of methods and procedures for acquiring their formulation needed. Therefore, to achieve that desired end of this study descriptive and analytical research design is approved. The present local tax revenue of PSMC activities are the population of this study. Similarly this study will be covered as sample from fiscal year 2062/063 to 2066/067. In this study most of the data were collected from secondary source major source of data are PSMC office Pokhara, and other related books, journal, newspaper, reports etc. Secondary as well as primary source of data will be collected in order to achieve the real and actual result of this research.

5. Discussion and Analysis

Data and information as availed by PSMC regarding tax collection under various sources as well as sector wise analysis of that tax toward total tax revenue found as:

Table: 1

Land Revenue Tax Collection Trend and it's contribution on Total Revenue of Local government

(in Rs.'000)

Fiscal Year	Total Tax Revenue	Land Revenue Tax	Contribution %
2062/063	82,574.21	1035.81	1.25
2063/064	47070.11	1561.43	3.32
2064/065	89211.37	1741.10	1.95
2065/066	182010.00	2068.85	1.14
2066/067	194964.00	2490.118	1.85

Source: Revenue Section, PSMC.

From the above table it shows that the percentage contribution over total tax revenue of Land Revenue Tax yield. The scenario shows the fluctuating condition of revenue collection. In fiscal year 2063/064 was the highest contribution i.e. 3.32%. The minimum contribution was 1.14% in fiscal year 2065/066.

Table: 2

House and Land Tax Collection Trend and it's contribution on Local government (in Rs.'000)

Fiscal Year	Total Tax Revenue	House and Land Tax	Contribution %
2062/063	32574.21	12468.69	15.1
2063/064	47070.11	11635.37	24.72
2064/065	89211.37	12190.94	13.7
2065/066	182010.00	21826.035	12
2066/067	194964.00	18727.946	9.61

Source: Revenue Section, PSMC.

From the above table it shows that the contribution over total tax revenue of House and Land Tax. The scenario shows the fluctuating condition of revenue collection. In fiscal year 2063/064 was the highest contribution i.e. 24.72%. The minimum contribution was 9.61% in fiscal year 2066/067.

Table: 3

Rent Tax (House and Land) Tax and It's contribution on total revenue of local government / PSMC (in Rs.'000)

Fiscal Year	Total Tax Revenue	Rent Tax of House & Land	Contribution %
2062/063	32574.21	215.933	2.62
2063/064	47070.11	547.201	1.16

2064/065	89211.37	421.028	4.72
2065/066	182010.00	201.087	1.10
2066/067	194964.00	210.204	1.08

Source: Revenue Section, PSMC.

From the above table it shows that the percentage contribution over total tax revenue of Rent tax of House and Land. This kind of tax's contribution shows fluctuation also. In fiscal year 2064/065 was the highest contribution. The minimum contribution was 1.08 in fiscal year 2066/067.

Table: 4

Rent / Bitauri Tax and it's contribution on Total Revenue of Local government (in Rs.'000)

Fiscal Year	Total Tax Revenue	Rent Tax/Bitauri Tax	Contribution %
2062/063	82574.21	50.00	0.06
2063/064	47070.11	103.6	0.22
2064/065	89211.37	708.09	0.8
2065/066	182010.00	-	-
2066/067	194964.00	323.525	0.166

Source: Revenue Section, PSMC.

From the above table it shows that the percentage contribution over total tax revenue of Rent / Bitauri Tax yield. The scenario shows the fluctuating condition of revenue collection. In fiscal year 2064/065 was the highest contribution i.e. 0.8%. In fiscal year 2065/066 there was no any contribution of Rent / Bitauri tax to Local government.

Table: 5

Business Tax and It's contribution on Total Revenue of Local government (in Rs.'000)

Fiscal Year	Total Tax Revenue	Business Tax	Contribution %
2062/063	82,574.21	1859.014	2.25
2063/064	47070.11	2470.053	5.25
2064/065	89211.37	2888.37	3.24
2065/066	182010.00	5807.405	3.19
2066/067	194964.00	5015.9	2.6

Source: Revenue Section, PSMC.

From the above table it shows that the contribution over total tax revenue of Business Tax yield. The above scenario shows the fluctuating condition of revenue collection. Fiscal year 2063/064 was the highest contribution of Business tax and the lowest contribution percentage was 2.25% in fiscal year 2062/063.

Table: 6

Vehicle Tax and It's contribution on Total Revenue of Local government (in Rs.'000)

Fiscal Year	Total Tax Revenue	Vehicle Tax	Contribution %
2062/063	82574.21	1377.27	1.67
2063/064	47070.11	1235.36	2.62
2064/065	89211.37	1272.8	1.43
2065/066	182010.00	870.12	0.48
	194964.00	385.213	1.98

Source: Revenue Section, PSMC.

From the above table it shows that the contribution over total revenue of vehicle tax yield. The above scenario shows the fluctuating condition of revenue collection. Fiscal year 2063/064 was the highest contribution of vehicle tax and total revenue of PSMC i.e. 2.62% and the lowest contribution was 0.48% in fiscal year 2065/066.

Table: 7

Entertainment Tax and It's contribution on Total revenue of PSMC (in Rs.'000)

Fiscal Year	Total Tax Revenue	Entertainment Tax	Contribution %
2062/063	82,574.21	354.813	0.43
2063/064	47070.11	402.92	0.86
2064/065	89211.37	359.6	0.40
2065/066	182010.00	498.42	0.27
2066/067	194964.00	390.42	0.20

Source: Revenue Section, PSMC.

From the above table it shows that the contribution over total revenue of Entertainment Tax yield. The contribution of Entertainment Tax on Local government shows the fluctuating condition of revenue collection. Fiscal year 2063/064 was the highest contribution of this tax. The lowest contribution was 020% in fiscal year 2066/067.

Table: 8

Advertisement Tax and It's contribution on Total revenue of PSMC (in Rs.'000)

Fiscal Year	Total Tax Revenue	Advertisement Tax	Contribution %
2062/063	82,574.21	58.96	0.71
2063/064	47070.11	-	-
2064/065	89211.37	575.14	1.09

2065/066	182010.00	438.08	0.24
2066/067	194964.00	417.81	0.21

Source: Revenue Section, PSMC.

From the above table it clearly shows that the contribution over total revenue of Advertisement Tax on Local government. The data shows the fluctuation condition of revenue collection. Fiscal year 2064/065 was the highest contribution of this tax i.e. 1.09% and there are not any contribution in fiscal year 2063/064. Then after fiscal year 2066/067 was the lowest contribution i.e. 0.21%.

Table: 9

Due Octroi Tax / Chungi Tax and It's contribution on Total Tax revenue of PSMC

(in Rs.'000)

Fiscal Year	Total Tax Revenue	Octroi Tax	Contribution %
2062/063	82,574.21	-	-
2063/064	47070.11	-	-
2064/065	89211.37	-	-
2065/066	182010.00	-	-
2066/067	194964.00	300.00	0.15

Source: Revenue Section, PSMC.

From the above table it clearly shows that the contribution over total revenue of octroi tax yield. The contribution of Due octroi tax on Local government shows the poor condition. Only fiscal year 2066/067 have to be a success to obtain this kind of tax. This trend shows that it is necessary to focus to obtain this kind of tax.

6. Major Finding of the Study

- The LSGA mentions the two options of local property taxes levied by municipality referring to rule 136 land revenue/ House and land tax and IPT.
- Land revenue tax is levied upon land, HALT is levied upon the net taxable value of real estate and the plot on which the real estate is located and IPT is levied upon land and building combined, based on total net taxable valuation of the property.
- IPT/ HALT taxed by two district assessment methodologies i.e. area based and value based assessment.
- There is fluctuation is total internal revenue trend in study period. In fiscal year 2064/067 and 2065/066 has highest progress achievement that was 73.40% and 73.62% respectively. The lowest achievement was 37.25% in fiscal year 2063/064.
- Among all of local taxes only business or progression tax collection trend is increasingly position up to FY 2065/066. Then after it is decreased due to lack of effectiveness of PSMC.
- Advertisement tax collection progress is also zero in FY 2063/064 due to lack of

effectiveness of PSMC.

- PSMC is unable to collect due octroi tax except FY 2066/067.
- Contribution of local taxes in total tax revenue is PSMC is fluctuating condition.
- Major source of local taxes in contribution of total revenue of PSMC is house and land tax. Highest contribution of this kind of tax in fiscal year 2063/064 i.e. 24.72%.
- Among all local taxes, environment tax and advertisement taxes has lowest contribution to total revenue of PSMC. It is necessary to improve that kind of tax collection trend.

7. Conclusions

Collection efficiency of PSMC is not satisfactory. This is due to the ad-hoc budgeting inefficient tax administration and frequent internal disputes. PSMC is unable to collect revenues as budget. PSMC is not property mobilizing revenue from local taxes and other internal sources. Tax collection procedures of municipality are not effective. Therefore, tax payers are not paying their liabilities regularly. PSMC is unable to collect minimum level of potential tax. The total tax collection progress ranges was to 73.62% to 37.25%. This shows that, PSMC used to project the revenue unscientifically. The actual local tax is also fluctuating during the study period. The contribution of local tax to the revenue of local government ranges 24.72% to 0.15%. This scenario shows that, PSMC used to project the local tax unscientifically as well as faulty collection procedures.. PSMC has not established coordination with stakeholders. Pokhara Chamber of Commerce and Industry, business man, local intellectual, other government and non governmental organization and donor agencies etc. PSMC has neglected private sector in resource mobilization service delivery and infrastructure development. There is lack of political commitment and coordination with stakeholders in PSMC. Revenue administration of PSMC is very poor. There is lack of motivated qualified and trained staffs and clear cut job description. PSMC has neither updated tax roll nor dispatched tax liability to the tax payer. There is not effective collection procedure. Revenue of PSMC on local taxes is increasing but not sufficiently to meet the financial requirements. There is much scope for the better mobilization of local resources for the local development.

8. Recommendation

On the basis of the conclusions drawn through this research work, the following recommendations have been forwarded for the further improvement the local tax yield of PSMC.

PSMC should launch awareness program to all the local people or tax payers about the local taxes. Different programs should be applied for awareness comparing such as, notice in news papers, municipal notice/ letter, miking and effective mobilize the door step collection teams. Municipality should launch motivational activities for registration with PSMC and encourage paying tax. Advance and effective billing system should be better for informing taxpayers about their tax liability. PSMC should start to formulate and enactation revenue improvement action plan (RIAP) and the punishment standard for action against tax defaulters. PSMC should improve present tax assessment system. It should consult with clamber of commerce as well as other related parties for tax assessment procedures. PSMC should give the different motivational training and rewards into their tax collection employees as well as punishment should be taken for those who become tax defaulters. So, it is recommended that the PSMC should arrange the financial data as prescribed by LSG 1999 and make them up to date.

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Effect of corrosive pollutants on Gram Production

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Abstract:

Gram is important crop of Nepali and Indian farmers. Most of the people take gram as regular food. There are several edible food products prepared from gram. Gram is cultivated mostly in Birgunj (Parsa), Morang and Terai region. Recently in these states industrialization and infrastructure development work going very fast causing huge amounts of pollutants and particulate entering into the atmosphere. The purpose of this study is to explore the effect of corrosive pollutants on gram production and study tries to find the gaps of pH in the different areas. Growing urbanization and unplanned activities around the city area and River side have negatively affected the environment.

Keywords: acid rain, global warming, Micro electrochemical cell, ozone depletion, pollutants, particulates. etc.

Introduction

Gram is one of the important food of Indian and Nepali population. Our public have so many basic needs like food, clothe, house, education, hospital, electricity, transport, road, industry and telecommunication. For the completion and these basic needs we do not utilize our natural resources in proper manner. Man creates its own environments. Recently infrastructure development works are growing very fast in several sectors like industry, agriculture, power generation, construction, etc. These sectors have major role in pollution of environment.

Gram is cultivated in the basin of Kosi river and Parsa district. These areas are flooded with industries like chemical, coal, fertilizer, petroleum, refinery, food processing, transport industry, coal power, hydropower, drug industry, pulp and paper industry, paint and dyes, sugar industry, wine industry, water bottling plant, juice factory, milk processing. These industries release huge amount of pollutants (Williamson, 1973) like inorganic, organic and particulates material. Pollutants are oxide of carbon, oxide of nitrogen, oxide of sulphur, oxide of chlorine, chloride ions, ammonia, organic acids and aldehydes whereas particulars like dust, smoke, mist and fog. Particulars are deposited on the surface of gram. Some of these particulars are hygroscopic in nature. They absorb pollutants and form acids. These acids in turn develop micro electrochemical cell with flower of gram which destroy flowering of gram. Other factors are acid rain, global warming and depletion of ozone layer affecting the production of gram. They pollute air and that polluted air produces several problems for living and non living things. Inorganic pollutants are oxide of carbon (CO, CO_2), oxide of nitrogen (NO, N_2O, NO_2), oxide of sulphur (SO_2, SO_3), oxide of chlorine, chlorine ion, ammonia and oxide of metals. Organic pollutants are organic acid, aldeyhde, ketone, amine etc. particulates (Crwford, 1976) are dust, smoke, mist, pollen, bacteria and fog. Gram flowering period starts from December to February. particulates are scattered into the atmosphere which are deposited on the surface of gram. Some of these particulates are Hygroscopic (Asthana, 1998) in nature. They absorb moisture from the carbonic acid, nitric acid, sulphuric acid, and hydrochloric acid. These acids are highly corrosive in nature. They create bad environment for gram flowers. The corrosive acid produces micro electrochemical reaction occurs on the surface of gram flowers. In this way flowers of gram get destroyed and conversion of flowers into gram decreases.

Study Area

Gram production around Narayangadh, Hetaunda and Birjung area were selected. Due to the temperature, soil fertility and other climate factor the the parsa district is suitable place for the Gram production. The researcher feels to determine the parameter like pH of soil, water and Gram flower by adding in water containing beaker.

Experimental

Methodology

For this work certain gram growing areas were selected like Hetaunda, Narayanghadh area and Parsa. The study of the characteristic behaviours of inroganic, organic and particulates pollutants and their effect on gram flowers were done in detail. Monitoring works started during period of December to February. Corrosive gases and their acidic character were determined with the help of Pen types P^H meter.

Results and Discussion

The main features of gram depend upon temperature, humidity and nature of surrounding environment during its flowering period. The concentration of corrosive gases, particulate materials and humidity are high so they form H_2CO_3, HNO_3, H_2SO_4, $HClO$ and HCl. These acids produce H^+ ion that ion starts electrochemical reaction with gram flowers. Due to this reaction flowers connectivity become weaker and finally they are detached with main branch of gram plant. During the formation of acids exothermic reaction occurs and heat is evolved which increases the temperature of surrounding of gram flowers, thus flowers are easily separated from its main branch.

The chemical reactions occur among them are written as:

$CO_{2} + H_2O \rightarrow H_2CO_3$

$2NO + O_2 \rightarrow 2NO_2$

$4NO_2 + 2H_2O + O_2 \rightarrow 4HNO_3$

$SO_2 + O_2 \rightarrow SO_3$

$SO_3 + H_2O \rightarrow H_2SO_4$

$Cl^- + H_2O \rightarrow HCl + ClO^-$

The above mentioned acids are dissociated and release H^+ ion and that ion in the presence of electrolytes develop an electrochemical cell causing oxidation and reduction reactions to start on the surface of gram flowers.

This chemical reaction indicated that corrosive pollutants are corroding the gram flowers. The P^H value of above mentioned cities are recorded in table 1 and bar graph plots between the p^H value of corrosive pollutants and its concentrations in different cities. The results of table and fig. shows that the concentrations of H^+ ion in Birjung city is higher than that of Hetaunda. Likewise the concentration of H^+ ion in Hetaunda is greater than Narayangadh. Gram crops of these areas are badly affected by pollutants.

P^H values of corrosive pollutants different cities

Table–1

City	Narayangadh	Hetaunda	Birgunj
PH	6.5	6.0	5.5

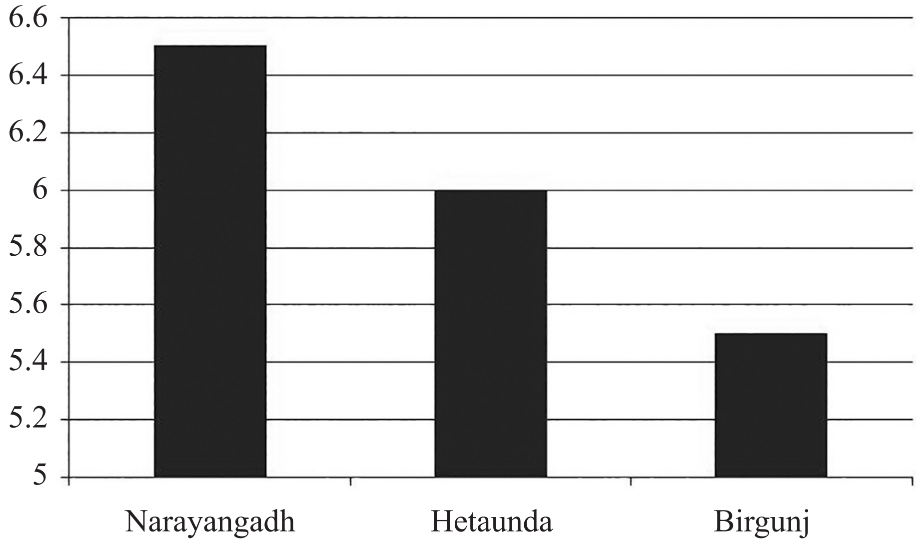

Fig. 1 : Plot between city and pH values of acids in different cities

The collection of carbon dioxide and methane gases increases in atmosphere due to deforestation, industrialization and human waste decomposition. These gases produce global warming effect thus temperature of atmosphere is increased which exhibits bad effect on the gram flowers. In lower level of atmosphere ozone is formed that ozone also disturbs gram flowers.

$O_2 + UV \rightarrow 2O$

$O_2 + O \rightarrow O_3$

Conclusion

The environment around the Birgunj city is equally contaminated by intolerable concentration of different pollutants which would be the major factor for attacking to the gram flowers.

Pollutants are very harmful for gram flowers. They decrease its production. If its evolvement is not controlled at proper times, our country will become major loser of gram. It is moral responsibility of the industrialists, scientists, intellectuals, social workers to provide good technology and public awareness against pollution.

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Structure and Utilization of Receivable of Listed Non- Government Manufacturing Companies in Nepal

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Abstract

When the firm sells goods on credit rather than requiring immediate cash payment such kind of credit sales generate accounts receivable. Especially in small firms, accounts receivable may be factor that decides success or failure. In large firms, efficient accounts receivable management affects the firm's risk return and share price. The volume of receivable, their composition and management affects the liquidity and profitability. They have, therefore to be managed in such a way that strikes a balance between risk and return. This paper attempts to analyse the structure and utilization of receivable of listed manufacturing companies in Nepal. The emphasis in this study is on manufacturing enterprises because they provide best laboratory for analyzing the structure and utilization of receivable. To analyze the structure and utilization of receivable, ratio analysis is used along with statistical tools such as mean and standard deviation. The analysis shows that there was wide variation in investment in receivable. The average ratio of receivable to current asset ranged between 0.35% to 58%. Similarly, utilization of receivable in terms of average collection period ranged between 1 to 195.8 days representing on average 58.62 days.

Key Words: *Receivable, Liquidity, Risk, Profitability and Bad debt.*

Introduction

The study of accounts receivable management occupies an important place in financial management. Firms typically sell merchandise on credit rather than requiring immediate cash payment. Such credit sales generate accounts receivable (Mian and Smith, 1992:169). Trade credit appears on both sides of the balance sheet. For the buyer, it is a source of financing through accounts payable, while for the seller, trade credit is an investment in accounts receivable. Although trade credit has long been an important source of financing for corporations, it is one of the least understood methods of doing business (Long et al. 1993: 117).

Business today is just difficult to run without credit sales. Earning a steady amount of profit requires successful sales activity (Pandey, 1999: 809). As credit transactions have grown, credit decision has become a major responsibility of financial management (Kuchhal, 1980: 205). As in the case of receivable, there involves a trade-off between risk and return. Increased in receivable would lead to increase in sales and thus higher returns are expected. But this would also lead to increase in risk and there is a possibility of increase in bad debts. Management of accounts receivable plays an important role in maximizing the value of an enterprises (Schiff and Schiff, 1998: 116). The volume of receivable, their composition and management affects the liquidity and profitability. They have, therefore to be managed in such a way that it promotes sales and profit until a point is reached where the return on investment in further funding the receivable is less than the cost of funds raised to finance additional credit and the risk remains within the acceptable limit (Ettinger and Golieb, 1989: 117). Proper management of the cash cycle through the effective use of inventory and accounts receivable management models should enhance the value of the corporation and shareholder wealth (Solomon and Pringle, 1987: 224).

Accounts receivables need to be managed effectively as it has much to do in achieving growth in sales, minimizing risks cost of collection and generating quick turnover. Moreover, credit standard maintained, credit terms offered, expected return on investment and monitoring payment patterns affect the level and size of credit policy. It is neither desirable for corporations to follow loosening credit policy nor tightening credit policy. But what is needed is optimum credit policy (Bradley, 1974: 208).

Some of the authors are of the opinions that optimal credit strategies and optimal pricing policy are independent functionally from a wealth maximization perspective. In view of this concept, the focus of receivable is neither toward profit maximization nor toward minimization but on value-cum wealth maximization through best trade-off between benefits and cost. What is needed for corporations is to match the credit policy in accordance with objectives of value cum wealth maximization through balancing risks and benefits. Moreover, the collection of accounts receivable should be properly watched to keep 'eye to eye' on minimization bad debt losses and default risk through the policy of appropriate and attractive discount rates.

Bad debt is the natural outcome of credit sales and credit policy. It arises when a firm is unable to collect its trade receivable. It can be expected to increase with liberal credit policy and decrease with stiff or restrictive credit policy. Changes in credit policy can also bring change in the volume of sales. The extenuation of trade credit has a major impact on sales, costs and profitability. Other thing being equal, a relatively liberal policy and, therefore, higher investment in receivable will produce larger sales. However, cost will be higher with liberal policies than with more stringent measures. Therefore, accounts receivable management should aim a trade-off between profit benefit and risk cost (Hossain, 1996: 6).

This study, therefore, attempts to examine the structure of investment in accounts receivable and its utilization of listed non-government manufacturing enterprises in Nepal. The emphasis in this study is on manufacturing enterprises because they provide the best laboratory for analyzing the receivable management.

Data and Method

Descriptive research design is used to examine the structure and utilization of receivable investment. There were 28 non-government manufacturing enterprises listed in the NEPSE by the end of FY 2001/02. These were regarded as the size of population for the study. Out of 28 enterprises, 9 enterprises were selected via judge mental non-random sampling method by considering the study period from 2053 to 2059. These enterprises selected for the study were representative of listed non-government manufacturing companies (NME) in Nepal. The study was basically based on secondary data. The necessary data and information were collected from different sources such as; annual report of related enterprises via security board, and Website of NEPSE limited, http://www.nepalstock.com. Ratio analysis, which relates balance sheet and income statement items to one another, permits the charting of a firm's history and the evaluation of its present position. In this study, three types of ratios are used in assessing structure and utilization of receivable. They are: Receivable to Current Assets Ratio (RCA), Receivable Turnover Ratio (RTR) and Average Collection Period (ACP). Similarly, statistical tool such as standard deviation is used to measure the absolute variability of a distribution. A small value of standard deviation indicates a high degree of uniformity of the observation as well as homogeneity of a series. The opposite is true in case of large value of standard deviation.

Results and Discussion

Ratio of Receivable to Current Assets

The analysis of ratio of receivable to current assets provides a meaningful picture of the current funds invested in the component of current assets. An enterprise is said to be successful if it can operate with the lowest value of receivable to current assets without affecting its sales volume. Thus, the percentage of receivable to current assets can act as a measure of the efficiency of receivable management. The computed values of the ratio of receivable to current assets are presented in Table 1.

Table 1

Ratio of Receivable to Current Assets of Selected Listed (Percent)

Year / Es	2055	2056	2057	2058	2059	$\overline{X}$	σ
BNTL	1.95	1.83	1.54	1.14	NA	1.62	0.36
BNL	0.44	0.26	0.19	0.51	NA	0.35	0.15
JSML	4.04	4.32	3.31	3.38	3.41	3.69	0.46

NLL	8	10	11	6	8	8.6	1.95
NLOL	46	56	63	52	73	58	10.42`
HTIL	17	4	24	8	5	11.6	8.62
AVUL	13	23	27	14	8	17	7.78
SRSML	27	22	18	16	15	19.6	4.93
NBBUL	57	52	46	56	59	54	5.15
$\overline{X}$	19.38	19.27	21.56	17.45	24.49	20.05	
σ	20.17	21.36	21.40	21.40	28.87		

Source: Annual Report of Listed NME

Form the Table 1; this reveals that the proportion of receivable to current assets varies widely across the enterprises. Taking industry wise, NLOL has the highest proportion (58 percent), followed by NBBUL (54 percent), SRSML (19.6 percent), AVUL (17 percent), HTIL (11.6 percent) and NLL (8.6 percent), JSML3.69 (percent) BNTL (1.62 percent) and BNL (0.35 percent). On an average the accounts receivable represents approximately 20.05 percent of current assets. The year wise average ratio reveals that the average investment in receivable is 19.38 percent in 2055, decreased up to 17.45 percent in 2058 and then increased up to 24.49 percent in 2059.

Table 1 show that the size of receivable varies widely not only across the enterprises but also within individual enterprises. It varies from 1.14 to 1.95 percent for BNTL, 0.19 to 0.51 percent for BNL, 3.31 to 4.32 percent for JSML, 6 to 11 percent for NLL, 46 to 73 percent for NLOL, 4 to 24 percent for HTIL, 8 to 27 percent for AVUL, 15 to 27 percent for SRSML and 46 to 59 percent for NBBUL. When the ratio of receivable to current assets is compared over a period of time for individual enterprises it is noticed that the size of receivable is largest for NLOL (73 percent) and lowest for BNL (0.19 percent).

When the variability (standard deviation) of the receivable to current assets ratio of is observed, it is found that the variability as measured by standard deviation ranging between 20.17 in 2055 to 28.87 in 2059. NLOL has the highest variability and BNL has the lowest variability.

Receivable Turnover Ratio

The accounts receivable turnover is a ratio of sales to average accounts receivable. The receivable turnover gives a general measure of the productivity of the receivable investment. Higher the turnover rate, the more effective and rewarding the use of receivable.

The turnover ratios are presented in Table 2. These values across the enterprises in the table indicate that receivable turnover varies widely from one enterprise to another. Taking industry wise, the average receivable turnover is highest for BNL (338.91 times), followed by BNTL (76.78 times), JSML (61.94times), NLL (46.39 times), HTIL (20.97 times), SRSML (15.86 times), AVUL (14.91 times), NLOL (1.93 times) and NBBUL (1.93 times).The average ratios across the year indicate that the average receivable turnover has increased first two years up to 78.64 times and then decreased up to 28.87 times in 2059.

Table 2

Receivable Turnover Ratios of Selected Listed Enterprises (Times)

Es/ Year	2055	2056	2057	2058	2059	$\overline{X}$	σ
BNTL	74.04	66.76	70.52	95.78	NA	76.78	13.01
BNL	233	406.4	510.6	205.64	NA	338.91	144.9
JSML	53.69	45.22	68.89	65.22	76.67	61.94	12.41
NLL	66.16	44.43	35.06	47.89	38.43	46.39	12.13
NLOL	2.39	2.22	1.61	1.44	2	1.93	0.40
HTIL	6.27	32.71	4.11	29.09	32.67	20.97	14.50
AVUL	13.15	11.21	5.26	11.36	33	14.91	10.47
SRSML	11.78	17.11	10.02	22.81	17.58	15.86	5.09
NBBUL	2.04	2.36	1.65	1.83	1.76	1.93	0.28
$\overline{X}$	51.39	69.82	78.64	53.45	28.87	56.43	
σ	73.84	128.09	164.38	65.00	25.79		

Source: Annual Report of Listed NME

The receivable turnover varies widely not only from one enterprise to another but it also varies widely within the selected individual enterprises. It varies from 66.76 to 95.78 times for BNTL, 205.64 to 510.6 times for BNL, 45.22 to 76.67 times for JSML, 35.06 to 66.16 times for NLL, 1.44 to 2.39 times for NLOL, 4.11 to 32.67 times for HTIL, 5.86 to 33 times for SRSML and 1.65 to 2.04 times for NBBUL.

The variability as measured by the standard deviation of the receivable turnover ratios indicates that BNL has the highest variability and the NBBUL has the lowest variability.

Average Collection Period (ACP)

Average collection period (ACP) expresses in terms of number of days the credit sales remains tied up in accounts receivable. It is a measure of efficiency of collection activity of receivable. A higher collection period indicates slower collection and lower quality of trade credit. While shorter collection periods represents better quality of customers and lower cost of collections. The average collection period thus reflects the credit and collection policies of the firm.

The average collection period of the selected enterprises under study are shown in table 3. The average value for BNL (1.5days) is the lowest average collection period followed by BNTL (4.75days), JSML (6.2 days), NLL (8.2 days), SRSML (25 days), AVUL (33.2 days), HTIL (36.4 days), NBBUL (192.2 days) and NLOL (195.8days). The year wise average collection period indicates that the average collection period varies from lowest 45.11 in 2056 to highest 72.78 days in 2057. The increasing trend of the average collection period indicates recurrence of liquidity problem.

Table 3

Average Collection Period of Selected Enterprises (Days)

Es/ Year	2055	2056	2057	2058	2059	$\bar{X}$	σ
BNTL	5	5	5	4	NA	4.75	0.5
BNL	2	1	1	2	NA	1.5	0.58
JSML	7	8	5	6	5	6.2	1.30
NLL	6	8	10	8	9	8.2	1.48
NLOL	153	164	226	253	183	195.8	42.40
HTIL	58	11	89	13	11	36.4	35.61
AVUL	28	33	62	32	11	33.2	18.38
SRSML	31	21	36	16	21	25	8.22
NBBUL	179	155	221	199	207	192.5	25.75
$\bar{X}$	52.11	45.11	72.78	59.22	63.86	58.62	
σ	67.30	65.58	90.46	95.93	89.98		

Source: Annual Report of Listed NME

Average collection period varies not only across the enterprises but also within the individual enterprises. It varies from 4 days to 5 days for BNTL, 1 days to 2 days for BNL, 5 days to 8 days for JSML, 6 to 10 days for NLL, 153 days to 253 days for NLOL, 11 days to 89 days for HTIL, 11 days to 62 days for AVUL, 16 days to 36 days for SRSML and 155 days to 221 days for NBBUL .When the variability of the average collection period observed it is found that it varies from lowest 0.58 for BNL to the highest 42.40 for NLOL.

Conclusion

The proportion of receivable in relation to current assets shows that there was wide variation in investment in receivable among the different enterprises. The average ratio of receivable to current asset ranged between 0.35% to 58%. On an average manufacturing enterprise hold 20.05% of current assets in the form of receivable. It was highest for NLOL (58 percent) and lowest for BNL (0.35 percent) among non-government manufacturing enterprises. The year wise average ratio of receivable to current assets shows the increasing trend. The utilization of receivable as measured by receivable turnover ratio ranged between 1.93 times to 338.91 times. On average manufacturing enterprises have 56.43 times receivable turnover ratio. It was largest for BNL (338.91 times) and lowest for NLOL and NBBUL (1.93times) among non-government enterprises. The year wise receivable turnover indicates that it started to increase for first three years and then to decline. Similarly, utilization of receivable in terms of average collection period ranged between 1 to 195.8 days representing on average 58.62 days. The largest and lowest average collection period among non government enterprises are 195.8 days for NLOL and 1.5 days for BNL respectively.

In the modern competitive world, the decision about receivable and its impact is now a matter of life or death in uncertain economic times. Therefore, Nepalese listed manufacturing sector should pay special attention to the management of accounts receivable as the accounts receivable holds around one fourth of the current assets. It is better to provide cash discount to encourage early payment to control receivables for those enterprises that have got larger share of receivable and longer average collection period.

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Appendix:

Name of the enterprises (Es) Selected for the Study

S.N	Name of the Enterprises
1.	Bottlers Nepal Terai Ltd. (BNTL)
2.	Bottlers Nepal Ltd. (BNL)
3.	Jyoti Spinning Mills Ltd. (JSML)
4.	Nepal Lever Ltd. (NLL)
5.	Nepal Lube Oil Ltd. (NLOL)
6.	Himgiri Textile Industries Ltd. (HTIL)
7.	Arun Vanaspati Udyog Ltd. (AVUL)
8.	Sri Ram Sugar Mills Ltd. (SRSML)
9.	Nepal Bitumin and Barrel Udyog (NBBUL)

अनुसन्धानको भाषा

– डा. लक्ष्मीशरण अधिकारी

सार

प्रस्तुत लेख साहित्यको अनुसन्धान लेखनमा प्रयोग गरिने भाषा के कस्तो हुनु पर्छ भन्ने विषयमा केन्द्रित छ । यसमा स्पष्ट, वस्तुगत, तार्किक र पूर्वाग्रहरहित भाषाको प्रयोगले अनुसन्धान गहन हुन्छ भन्ने विचार व्यक्त छ । कर्तृवाच्यको प्रयोगले स्पष्ट निर्णय दिन सघाउने हुँदा कर्तृवाच्यको प्रयोगमा जोड दिनु पर्छ । आलङ्कारिक, व्यञ्जनात्मक भाषाले ठोस विचार प्रकट नगर्ने हुँदा अभिधामूलक भाषाको प्रयोग गर्नु उपयुक्त हुन्छ । शोध औपचारिक प्रक्रिया भएकाले मानक भाषाको प्रयोग उपयुक्त मानिन्छ । सुरूदेखि अन्त्यसम्म वर्णविन्यासगत एकरूपता कायम गर्नु पर्छ । अरूका विचारलाई स्रोत दिएर मात्र उपयोग गर्नुपर्छ । लामा वाक्यहरू काँटछाँट गर्ने, अति छोटा वाक्यहरू जोड्ने, लामा अनुच्छेद नबनाउने, अनुच्छेदमा नजोडिएका वाक्यहरू हटाउने, एकता र व्यवस्थापनमा जोड दिने कुरामा सचेत रहनु पर्छ । प्रत्येक शब्द, वाक्य र अनुच्छेद लेख्दा कहाँनेर त्रुटि भएको छ भन्ने कुरामा सचेतता अपनाई पुनर्लेखन गरिरहनु पर्छ ।

मुख्य शब्द – प्रभावशाली वाक्य, वस्तुपरक र मानक भाषा , कर्तृवाच्य, अभिधा, पूर्वाग्रहरहित भाषा , लैङ्गिक तटस्थटता, पुनर्लेखन, एकरूपता ।

१. विषय प्रवेश

भाषाको मूल प्रयोजन सम्प्रेषण हो । भाषाको एउटा प्रयोक्ताले सन्देश दिन्छ भने अर्को प्रयोक्ताले सन्देश ग्रहण गर्छ । सन्देशमा केही तथ्य हुन्छ जुन व्यक्त वा अव्यक्त रूपमा रहन्छ (कुमार, २००१ : २८) । साहित्यको सन्देश व्यञ्जनापरक, निजात्मक, भावात्मक र अव्यक्त हुन्छ भने अनुसन्धानको सन्देश सोझो, वस्तुपरक र व्यक्त हुन्छ । साहित्यको प्रकृति भावप्रधान छ भने अनुसन्धानको प्रकृति ज्ञानप्रधान छ । अनुसन्धान औपचारिक, व्यवस्थित र बौद्धिक ढङ्गले गरिने खोजी हो । भाषाको सही किसिमको प्रयोगले कथनलाई प्रभावकारी र विश्वासनीय तुल्याउँछ । साहित्यिक अनुसन्धानमा प्रयोग गरिने भाषाको स्वरूप निम्न लिखित विशेषताले युक्त हुनु उपयुक्त हुन्छ ।

२. प्रभावशाली वाक्यको प्रयोग

जुन वाक्यहरूले सरल रूपमा खरो विचार प्रवाह गर्छन् त्यस्ता वाक्यहरू प्रभावशाली हुन्छन् (अरोरा, २०१२ : ३) । विषयलाई ग्राहय, प्रिय तथा स्पष्ट बनाउनमा वाक्यहरूको पनि भूमिका हुन्छ । लेखाइ विषयका कारणले जति प्रभावकारी हुन्छ, स्पष्टताका कारणले पनि त्यति नै प्रभावकारी र पठनीय हुन्छ । विचारको क्रमिक विकास र व्यवस्थापन, भाषिक संरचनामाथिको हकधक र सही ठाउँमा सही शब्दको छनोट जस्ता पक्षलाई ध्यान दिँदा लेखाइ बलियो हुन्छ । बुझिने खालका तत्सम शब्दको प्रयोग गर्दा भन्न खोजेको कुरा सही रूपमा व्यक्त हुन्छ । त्यस्तै पारिभाषिक शब्द

(रस, अलङ्कार, वक्रोक्ति, ध्वनि जस्ता साहित्य निकट, चेतन, अचेतन, स्वपीडन, परपीडन, मातृरति ग्रन्थी, पितृरति ग्रन्थी जस्ता मनोविश्लेषण निकट), साहित्य निकट विशिष्ट शब्द(रूप, कथ्य, वस्तु, शैली), आफ्ना क्षेत्रका प्राविधिक शब्द (अभियन्ता) , एकल शब्द (बिस्कुन), समस्त शब्द (चन्द्रमुखी), रूढ शब्द (दृष्टिगोचर), प्रयोग गरेर भन्न खोजेका कुरालाई चुस्त, दुरूस्त र आकर्षक तुल्याउन सकिन्छ । लेखाइमा सबै भन्दा ठुलो चुनौती भनेको विचार गरेका कुरालाई ठ्याक्कै सोचेका शब्द, वाक्यंश, वाक्य र अनुच्छेदमा उतार्नु हो र सँगसँगै त्यसलाई चाखलाग्दो बनाउनु हो (जिबल्दी, २००३ : ६०) । राम्रो विचारले वस्तुगतता खोज्ने हुनाले अनुसन्धानमूलक लेखमा बिम्ब, प्रतीक, उखान, टुक्काको प्रयोग गर्नु हुँदैन ।

सरल वाक्यमा सहजबोध्यता, श्रुतिमधुरता र श्रुतिलाघवता जस्ता गुण हुने हुँदा अनुसन्धानमूलक लेखमा सरल वाक्यको प्रयोगमा जोड दिनु उपयुक्त हुन्छ । निर्णय दिँदा वाक्यहरू केही लामा हुन्छन् तर वाक्यहरू जति लामा हुँदै जान्छन् त्यति नै दुर्बोध्य हुँदै जान्छन् (गौतम, २०६९ : ४५) । त्यसैले वाक्यलाई जबर्जस्ती लम्ब्याउनु राम्रो होइन । वाक्यहरूमा स्पष्टता, एकरूपता र मितव्ययिता जस्ता विशेषता हुनु आवश्यक छ । प्रत्येक वाक्यहरू पदक्रम मिलेका र शोधार्थीको विचार प्रवाह गर्ने खालका हुन आवश्यक छ । व्याकरणिक एकरूपता नभएको वाक्य फितलो हुने हुँदा यसमा ध्यान दिनु आवश्यक छ । त्यस्तै असल लेखनमा शोधार्थीले के भन्न खोजेको हो भन्ने क्षमता पनि देखिनु पर्छ ।

वाक्यलाई छरितो बनाउन छोट्याउनु आवश्यक पर्छ । यसका लागि विशेषण उपवाक्यका ठाउँमा कृदन्त रूपको प्रयोग गर्न सकिन्छ, जस्तै_ 'ती कविहरू सफल हुन्छन् जसका कवितामा भाव, ध्वनि र समयजनीन चेतनाको अत्यन्त बलियो संयोग हुन्छ' वाक्यलाई 'कवितामा भाव, ध्वनि र समयजनीन चेतनाको अत्यन्त बलियो संयोग भएका कवि सफल हुन्छन्' बनाउँदा भनाइ सहज र छरितो बनेको छ । छोटा वाक्य भनेर अति छोटा बनाउँदा त्यस्ता वाक्यले विचार प्रवाह गर्न नसक्ने र वाक्यहरू द्वयर्थक हुने खतरा पनि रहन्छ, जस्तै_ 'ऊ तौलेर काम गर्छ ' वाक्यलाई 'ऊ तौलन्छ । ऊ काम गर्छ ।' बनाउँदा अर्थ अस्पष्ट हुन्छ । कतिपय अभिव्यक्तिका निम्ति संयुक्त र मिश्र वाक्यको आवश्यकता पनि पर्छ । एकरसता तोड्नाका निम्ति पनि वाक्यका विविध रूपको प्रयोग गरिन्छ । 'यसमा प्रयोग गरिने भाषा लामो, फितलो र पुनरूक्तिपूर्ण नभई शृङ्खलित र कसिलो हुनु पर्छ' (पौडेल, २०६८ : ९_१०) ।

वाक्यहरू लामा छोटाभन्दा पनि अनुसन्धानमा कुनै समस्याका बारेमा शृङ्खलित विचार व्यक्त गरिन्छ । त्यसैले वाक्यहरू परस्परमा मिलेका हुनु पर्छ । कसिलो संशक्तिका कारण एउटा वाक्यभित्रका एकाइहरू एक अर्कासँग र एउटा वाक्य अर्को वाक्यसँग मिलेर रहेका हुन्छन् र भनाइ छरिँदैन । प्रत्येक अनुच्छेदको पहिलो वाक्यले कुनै न कुनै विचार प्रवाह गरेको हुन्छ र त्यसपछि आउने हरेक वाक्यले त्यही विचार र सन्दर्भलाई पुष्टि गरे मात्र वाक्यहरू बलिया हुन्छन् । कुनै वाक्यले गहन विचार बोकेको छ तर अरू वाक्यसँग मिलेर रहेको छैन भने त्यो वाक्य जुन अनुच्छेदमा मिल्छ त्यहीँ मिलाएर राख्नु पर्छ । मिलेन भने पुनर्लेखन गर्नु पर्छ वा कठोर सम्पादक बनेर हटाउनु पर्छ ।

अनुसन्धानका क्षेत्रमा खुला र फितलो अर्थ दिने वाक्यको प्रयोग उपयुक्त हुँदैन, जस्तै_'कस्केली कविहरूले राम्रा मुक्तक लेख्छन्' नभनेर 'कतिपय कस्केली कविहरूले राम्रा मुक्तक लेख्छन्' भन्दा वाक्य वस्तुगत बन्छ । त्यस्तै 'प्रेम विवाह असफल हुन्छ' जस्ता विवादस्पद भनाइले वाक्य कमजोर

बन्छ । यस्ता ठाउँमा प्रेम विवाह गर्ने अधिकांश व्यक्तिहरूको सम्बन्ध बिच्छेद बढ्दो छ' भन्नु उपयुक्त हुन्छ । वर्णन, विवरण मात्रै केन्द्रित नरही शोधमा विषयको व्याख्या, विश्लेषण र मूल्याङ्कन गर्नु पर्ने हुँदा भाषा सोही अनुकूलको वर्णनात्मक, विवरणात्मक, व्याख्यात्मक, विश्लेषणात्मक र मूल्याकङ्नात्मक प्रयोग गरिन्छ (पौडेल, २०६८ : ११) ।

समग्रमा वाक्यहरूका विविध रूपको प्रयोग गर्नु उपयुक्त भए पनि सरल वाक्य बोधगम्य हुने हुँदा यसमा जोड दिनु पर्छ । कथन फितलो र अर्थहीन भए शोधको महत्त्व खस्किन्छ ।

३. वस्तुपरक भाषा

शोध औपचारिक खोजी कार्य हो र यसको भाषा वस्तुपरक हुन्छ । अनुसन्धान प्रतिवेदन प्राविधिक लेखन भन्दा पनि बढी नै औपचारिक हुन्छ (जर्सन र जर्सन, २०१२ : ४४८) । यसमा मनोगत, भावात्मक, अस्पष्ट र काल्पनिक भाषाको प्रयोग हुनु हुँदैन । 'मानिस खाए मानिस होइन्छ,' 'अक्षर माथि निदाएको छु' जस्ता भावात्मक वाक्यको प्रयोग गर्नु हुँदैन । देवकोटाको प्रतिभा सबै विधामा समान देखिएको छ जस्ता वाक्य किन मनोगत हुन्छन् भने व्यक्तिको क्षमता सबै विधामा समान हुँदैन । सबै विधाको तुलनात्मक अध्ययन नगरी यस्ता विषयमा निष्कर्षमा पुग्न पनि सकिँदैन ।

'उसलाई समयले पछाऱ्यो' कथन भावनात्मक छ । अनुसन्धानमा यस्ता वाक्यको प्रयोग उपयुक्त हुँदैन । उसले समय अनुसार प्रगति गर्न सकेन' लेख्दा भनाइ सोझो र स्पष्ट हुन्छ । त्यस्तै 'उसका आँखाका बाँधहरू भत्के' नभनेर 'उसले आँसु चुहायो' भन्दा कथन छोटो र मूर्त हुन्छ । यस्तो लाग्छ, अनुभूति हुन्छ, प्रतीत हुन्छ जस्ता मनोगत क्रियाको प्रयोग नगरी पुष्टि हुन्छ, गरेको छ, बनेको छ जस्ता निश्चयात्मक क्रियाको प्रयोगले भाषा वस्तुपरक बन्छ । त्यस्तै परिष्कारवादीहरू ठान्छन्, सोच्छन् जस्ता कथन मनोगत बन्ने हुँदा यस्तो भाषाको प्रयोग उपयुक्त हुँदैन ।

निगमनात्मक विधिले अंशको विस्तृत व्याख्या गर्न नसक्ने तर आगमनात्मक विधिले तथ्यको विश्लेषण गर्न सक्ने (शर्मा र लुइटेल, २०५२ : १२_१३) हुँदा आगमनात्मक विधिमा जोड दिनु उपयुक्त हुन्छ । पाठका पङ्क्तिहरू उद्धृत गर्दै र तिनलाई आधार बनाएर तथ्यलाई पुष्टि गर्ने काम आगमनात्मक विधिमा हुने हुँदा सारवस्तु वस्तुगत बन्छ ।

४. तार्किक भाषा

शोधकार्यको सामान्य भाषा भन्नु प्रायः तर्क भाषा हुन्छ (त्रिपाठी, २०६६ : ७८_७९) । शोधले खोज्ने प्रमाण हो । प्रमाणले शङ्का निवारण गर्ने आधार दिन्छ । अनुसन्धान प्रायः बौद्धिक व्यक्तिले बौद्धिक पाठकका निम्ति गरिने खोज भएकाले यसको भाषाले समस्यालाई तर्कपूर्ण रूपमा प्रस्तुत गर्छ । अनुसन्धान आफैंलाई पात्र बनाएर पनि हुन सक्छ । एउटा लेखकले आफ्नो वर्तमानको लेखन कला र दस वर्ष अगाडिको लेखन कलामा देखिएको समानता र विभेदको तुलना प्रतितुलना गर्छ भने त्यो कार्य बौद्धिक तार्किक कार्य बन्छ ।

तर्क हलुका भयो अथवा तथ्यमा टेकेर आएन भने स्वीकार्य हुँदैन । प्रेमपिण्ड नाटकको नायक को हो भनिएको प्रश्नमा 'नकुललाई नायक मान्नेहरू धेरै भएकाले नकुल नै नायक हो' भनी दिइएको तर्क शोधका पाठकका निम्ति स्वीकार्य छैन । 'नकुल र सविताको दुःखान्त प्रेम कथा नै प्रेमपिण्डको आधिकारिक कथानक हो अनि नकुल र सविताका पवित्र प्रेममा बाधा खडा गरी दुःखान्त घटित एडविलको कथा यस महानाटकको प्रासङ्गिक कथानक हो भन्ने देखिन्छ र यसबाट नकुल नायक

हुन् र एडविल खलनायक हुन्' (उपाध्याय, २०४५ : २३३) भनिएको वाक्य तार्किक बनेको छ । अनुसन्धानमा भनाइलाई पुष्टि गर्दै लैजानु पर्ने हुँदा यसको भाषा तार्किक र विश्लेषणात्मक बन्छ ।

अनुसन्धानमा तथ्य, विवरण र सूचना आवश्यक पर्छ तर तथ्य, विवरण र सूचना प्रस्तुत गर्दैमा अनुसन्धान बन्दैन । कृतिको सन्देश स्वीकार्य छ वा छैन, सन्देशलाई कृतिको संरचनाले सघाएको छ वा छैन, शैलीले विषयवस्तुलाई जाँदा लेखाइ आलोचनात्मक बन्छ । काव्यात्मक भाषालाई शब्दकोशमा लेखिएका अर्थहरूमा सीमित गर्न नसकिने हुँदा काव्यात्मक तत्त्वहरूको संयोजनमार्फत विभिन्न किसिमका अर्थहरू खोज्नु पर्ने हुन्छ र यसरी खोज्दा भाषा तार्किक बन्छ । विवादित विषय भए शोधार्थीले जे कुरा भन्न खोजेको हो, त्यसलाई सघाउने मत, उद्धरण खोज्छ र आफ्नो विचार को रक्षा गर्छ । यसो गर्दा पनि अभिव्यक्ति तार्किक बन्छ ।

५.सामान्यतः कर्तृवाच्यको भाषा

अनुसन्धानको भाषा स्पष्ट, सोझो, मूल्याङ्कनात्मक र निर्णयात्मक हुने हुँदा कर्तृवाच्यको भाषा प्रयो ग गर्नु उचित हुन्छ । कर्म र भाववाच्यले भनाइलाई स्पष्ट र निर्णयात्मक तुल्याउँदैनन् अनि निष्कर्ष कमजोर हुन्छ । कर्म वा भाव वाच्यमा लेख्दा पाठकले कर्ताबारे गलत अनुमान गर्छ,अनावश्वयक खतरा लिनु पर्छ, समय बरबाद हुन्छ (ग्राहम र ग्राहम,२००९ : १२३) । 'अन्तर विषयक ज्ञान, गहन अध्ययन र मौलिक दृष्टिकोण सौरभका लेखको शक्ति हो' भन्नु र 'शक्ति पाइन्छ/ठानिन्छ/मानिन्छ/दे खिन्छ' भन्नु एउटै होइन । 'पुलिसले गहना चोर्‍यो' भन्नु र 'गहना चोरियो' भन्नु एउटै होइन । 'गहना चोरियो'मा कर्ताको सक्रियता कमजोर छ र गहना हरायो भन्ने कुरामा बल परेको छ । 'पुलिसले गहना चोर्‍यो'मा पुलिस अपराध कर्ममा सक्रिय रूपमा संलग्न छ र ऊ दण्डको भागी छ भन्ने निष्कर्षमा पुग्न सहज भएको छ । प्रस्तुत वाक्यलाई कर्मवाच्यमा लेख्दा कर्ताका बारेमा गरिएको अनुमान गलत हुने खतरा हुन्छ । लक्ष्मीप्रसाद देवकोटाको शाकुन्तल महाकाव्यमा शार्दूलविक्रीडित छन्दका २२९ श्लोक छन् भन्नु र २२९ श्लोक भेटिन्छन् भन्नु एउटै होइन । खोज गर्नेले यस्ता ठाउँमा तोकेर भन्दा भनाइ वस्तुगत बन्छ । आफैंले श्लोक नगनी अरूका सामग्रीलाई आधार बनाउनेले तथ्यबाट जोगिन भेटिन्छन् जस्ता क्रियाको प्रयोग गर्छन् ।

केही वाक्यहरू यस्ता हुन्छन्, जसलाई कर्म वा भाववाच्यमा लेख्दा निष्कर्ष कमजोर बन्छ, जस्तै_

(क) समाचार कक्षमा न्यून सङ्ख्यामा उपस्थित महिला, जनजाति , दलित र मदेशी पत्रकार हरूलाई यो पेसामा टिकाउन उनीहरूले भोगिरहेका समस्या समाधान हुनु आवश्यक छ ।

(ख) राज्य पुनसंरचनाको प्रक्रियामा सामेल भए यता दलहरूले पुराना अधिकांश संयन्यत्रहरू भङ्ग गरे, नयाँ निर्माण गर्न सकेनन् ।

(ग) पारिजातका कविता नारी समस्यामा केन्द्रित छन् ।

(घ) लक्ष्मीप्रसाद देवकोटा कविका रूपमा सफल छन् ।

माथिको (क)मा समस्या समाधान हुन आवश्यक देखिन्छ लेख्दा कथन हास्यस्पद नै बन्छ । (ख)मा संयन्त्रहरू भङ्ग गरिए भन्दा दलहरूको दोष अन्य ठाउँमा सर्छ । (ग) र (घ)मा देखिएका छन् भन्दा निष्कर्ष कमजोर बन्छ । देखिन्छ/पाइन्छ/भेटिन्छ/ठानिन्छ /बुझिन्छ /मानिन्छ जस्ता क्रियापद किटेर भन्न नसक्दा अपनाइने मध्यममार्गी बाटो हो ।

शोध प्रक्रियाको अन्तिम सोपान निष्कर्ष हो । शोधकार्यको अन्त्यमा शोधार्थी कुनै न कुनै निष्कर्षमा पुग्नै पर्छ (जैन, १९८४ : ८२) । नेपाली भाषामा लेखिने अनुसन्धान प्रतिवेदनहरूमा कर्तृवाच्य हो इन, यथासम्भव कर्म र भाववाच्यको प्रयोग गर्न' पर्छ भन्ने परम्परा बसेको छ । सञ्जीव उप्रेतीको सिद्धान्तका कुरा शीर्षकको कृतिमा भने कर्तृवाच्यकै प्रयोग बढी छ । कतिपय कृतिमा वाच्यका सबै रूपको प्रयोग भएको छ र अन्तिम वाक्यमा कर्तृवाच्यको प्रयोग भएको छ, जस्तै–'सम दुःखान्त नाट्यकलाका एक नवीन विश्व प्रतिभा हुन पुगेका छन्' (उपाध्याय, २०४५ : ३९३) । देवकोटा... अहिलेसम्मका सर्वोपरि प्रतिभा ठहर्छन् (अवस्थी, २०६१ : ४५६) । ...कोइरालाको अस्तित्ववादी उपन्यासकारिताको विशिष्टता पुष्टि हुन्छ (पाण्डे, २०६२ : ३३७) । ...उनको ऐतिहासिक विशिष्टता रहेको पुष्टि हुन्छ (शिवाकोटी, २०६२ : ३९८) ।

प्रस्ताव र विषयवस्तुको उपस्थापन गर्दा ('जसलाई पछाडि पारिएको छ 'जस्ता केही सन्दर्भहरू), एकरसता तोड्न कर्म वा भाववाच्यको प्रयोग पनि सान्दर्भिक हुन्छ तर निर्णय दिँदा कर्तृवाच्यकै प्रयोग उपयुक्त हुन्छ । प्राज्ञिक लेखन गर्दा कसैले दोस्रो सामग्री प्रयोग गरे भने कर्तृवाच्यको प्रयो ग गर्दैनन् ।

त्यस्तै गर्न' पर्छ, हुनु पर्छ जस्ता आदेश जनाउने खालका क्रियापद पाठकमैत्री क्रियापद नहुनाले महत्त्व दिएर प्रयोग गर्नु हुँदैन ।

६.मानक भाषा

यो सरकार स्वीकृत भाषा हो (युल, २०१२ : १९४) । यो छापा, पाठ्यपुस्तक, अध्यापनमा प्रयोग हुने भाषा हो । कविता र नाटकमा भाषाका मानक नियम तोड्न अपेक्षाकृत सुगम हुन्छ (चतुर्वेदी, १९७५ : ५७) किनकि यी विधाको भाषिक प्रयोग बढी साङ्केतिक हुन्छ । आख्यान प्रयोगशील विधा भएकाले यसमा भाषाको तोडमोड हुन्छ । समीक्षामा भाषाको नियम तोड्नु उपयुक्त हुँदैन । शोधमा प्रयुक्त भाषा स्वीकृत व्याकरणसँग मेल खाने किसिमको हुन्छ । त्यसैले यसमा व्यक्ति बोली, भाषिका आदिको प्रयोग गरिँदैन । त्यस्तै वर्णविन्यासमा एकरूपता आवश्यक छ । एउटै शब्दकोशलाई आधार बनाउँदा एकरूपता कायम गर्न सहयोग पुग्छ । भाषाको मानक रूपको निर्धारण हुँदै गरेको अवस्था अथवा आधिकारिक संस्थाहरूले फरक फरक रूपलाई मान्यता दिँदा अन्योलको स्थिति पै दा भएको भए सम्बन्धित विषयका शोधविशेषज्ञ, विभाग, लेख प्रकाशित गर्नु पर्ने भए सम्पादकसँग राय लिई शोध प्रतिवेदनभरि एउटै रूपको प्रयोग गर्नु उपयुक्त हुन्छ ।

अति भावुकतापूर्ण शब्द र उद्गार चिहनहरू दिएर लेखिएका तथा अन्त्यमा क्रियापद नभएका वाक्यहरू पनि शोधप्रबन्धका निम्ति उपयुक्त हुँदैनन् (बन्धु, २०६५ : १२३) । तथ्य वा सूची तयार पार्दा, बुँदा बनाउँदा, अनुसन्धानबाट प्राप्त तथ्यलाई तालिकीकरण गर्दा क्रियापदहीन वाक्यको प्रयो ग हुन्छ । समग्र शोधसारलाई नै एकै गणितीय तालिका वा सांख्यिकीय चित्रमा संश्लेषण गरेर गर्न सकिन्छ (पौडेल, २०६८ : ११) ।

त्यस्तै अनुसन्धानमा तथ्य सङ्कलन गर्ने क्रममा प्रश्नावली निर्माण गर्दा र शोध समस्याको कथनमा प्रश्नार्थक वाक्य आवश्यक हुन्छ तर विश्लेषण गर्दा र निष्कर्ष प्रस्तुत गर्दा प्रश्नार्थक र इच्छार्थक वाक्यको प्रयोग गरिँदैन । काल र पक्षमा पनि एकरूपता आवश्यक छ अंशतः सामान्य वर्तमान काल र मूलतः पूर्ण वर्तमान कालको प्रंयोग गर्नु पर्छ ।

७.अभिधामूलक भाषा

अनुसन्धानमा प्रयोग गरिने भाषा लाक्षणिक, व्यञ्जनात्मक वा ध्वन्यात्मक नभएर अभिधामूलक हुन्छ । ध्रुवचन्द्र गौतमकृत अलिखित उपन्यासको विश्वनाथ बिच्छी हो नभनेर खतरनाक पात्र हो भन्दा अभिव्यक्ति अभिधामूलक हुन्छ । यसमा विचलनयुक्त (हिमाल मौन थियो, रात निदाउँछ), आलङ्कारिक (वगैंचाभरी रत्न फल्छ, सुनको विहान), बिम्ब (मिठो मुस्कान, फक्कड हावा, झिनामसिना हारहरू), अनुकरणात्मक शब्द (पुरूषत्व सरक्क उठ्न थालिसकेको थियो)को प्रयोग सामान्यतः गरिँदैन ।

८. सामान्य आदरार्थी भाषा

अनुसन्धानमा पात्रका बारेमा चर्चा गर्दा आदारार्थीको प्रयोग हुँदैन, जस्तै_ बसाइँ उपन्यासको धने आवेगी पात्र हो तर स्रष्टाको चर्चा गर्दा सामान्य आदारार्थीको प्रयोग हुन्छ, जस्तै_ लीलवहादुर क्षेत्रीले बसाइँ उपन्यास लेखेका हुन् ।

स्रष्टालाई उच्च आदरको प्रयोग गर्दा शोधार्थी भावुक हुन्छ भनेर यस्तो परम्परा बसेको हो । पात्रलाई आदर गर्दा शोधार्थीले पात्रको कठोर आलोचना गर्न सक्तैन भन्ने हो । शोधनायकलाई प्रोज्ज्वल, अभियन्ता, सशक्त प्रतिभशाली भनेर चाकडी गर्न थालियो भने भाषा पाठकमैत्री हुँदैन । विशेषणका भारले कृति र कृतिकार थिचिए भने निष्कर्ष भावुक बन्छ ।

९.एकै भाषा

अनुसन्धानको मूल पाठ एकै भाषामा हुन्छ । यसमा सैद्धान्तिक विमर्श गर्दा वा मत निर्माण गर्दै गर्दा अङ्ग्रेजी, हिन्दी, संस्कृत जस्ता अन्य भाषाका कुराहरू उद्धृत गर्नु पर्ने पनि हुन्छ । त्यस्तो अवस्था भए मूल पाठमा उद्धृत अंश नराखी त्यसको अनुवाद वा मूल भावलाई जुन भाषामा शोध प्रबन्ध लेखिएको छ त्यसैमा दिएर अन्य भाषाको मूल स्वरूपलाई पादटिप्पणीमा उल्लेख गरिन्छ । अन्य भाषाका वाक्यलाई नेपालीमा अनुवाद गरेपछि त्यसमा उद्धरण चिहन दिने वा नदिने भन्ने विषयमा एकरूपता देखिएको छैन । दिए सबै ठाउँमा दिनु पर्छ र नदिए कतै पनि दिनु हुँदैन । उही र उस्तै खालका कथनमा कतै एकसरो उद्धरण र कतै दोहोरो उद्धरण पनि दिनु हुँदैन ।

१०. पूर्वाग्रहरहित भाषा

शोधार्थीले शोधकार्य गर्दा जाति, लिङ्ग, वर्ग, वर्ण, सम्प्रदाय, क्षेत्र, शारीरिक अशक्तता जस्ता कुरालाई अरूको भावनामा चोट नपुग्ने गरी प्रस्तुत गर्नुपर्छ, जस्तै– गाइने, दमाईं, कामी, भोटे जस्ता जातिलाई गन्धर्व, दर्जी (परियार/नगर्ची), विश्वकर्मा, हिमाली (तिब्बती ?) भन्न थालिएको छ । पहाडे, मदिसे नभनेर पहाडिया / पहाडी, मदेशी/मदेशिया भन्नु पर्छ । त्यस्तै स्वास्नीमान्छेलाई महिला, वेश्यालाई यौनकर्मी, लोग्नेमान्छेलाई पुरूष, नपुंसकलाई तेस्रो लिङ्गी, बुढाबुढीलाई ज्येष्ठ नागरिक, म्यान पावरलाई जनशक्ति, सभापति (च्यरपसन)लाई सभाध्यक्ष, हेडमास्टरलाई हेडटिचर, पिछडा वर्गलाई सिमान्तकृत, गरिबलाई अवसरविहीन, लाटालाई बहिरो वा फरक क्षमताको धनी, अन्धालाई दृष्टिविहीन, खातेलाई सडक बालबालिका, निमकलाई पारिश्रमिक वा ज्याला भन्नु उपयुक्त हुन्छ । पुरेत्याइँवाद र ब्राहमणवाद भन्दा हिन्दू धर्माबलम्बीलाई हेपेको हुने हुँदा कर्मकाण्डवाद भन्नु उपयुक्त हुन्छ किनकि सबै धर्मका पुरोहित कर्मकाण्डी नै हुन्छन् ।

११. सही शब्दको छनोट

शोधार्थीको एउटा महत्त्वपूर्ण विशेषता भनेको शब्दको चयन गर्दा सचेतता अपनाउनु हो । शीर्षक चयनदेखि निष्कर्ष खण्डसम्म नै शब्द छनोट गर्दा शोधार्थी सचेत बन्नु पर्छ , जस्तै_ मायावी यथार्थवाद र सेतो बाघको कृतिपरक अध्ययन भनियो भने कुरा मिल्दैन । मायावी यथार्थवाद भने को पनि कृतिपरक अध्ययन नै हो । त्यस्तै कथाकार विजय मल्लका कथाको अध्ययन भन्नु भन्दा विजय मल्लका कथाको अध्ययन भन्दा शीर्षक छरितो हुन्छ ।

असङ्ख्य, अनगिन्ती, अवर्णनीय जस्ता शब्द लेख्दा ख्याल गर्नु पर्छ । 'नेपालमा अनगिन्ती हिन्दू छन्' भन्नु किन उपयुक्त हुँदैन भने दस दस वर्षमा जनगणना हुन्छ र हिन्दूको संख्या कति छ भन्ने कुरा किटान हुँदै आएको विषय हो ।

त्यस्तै स्रष्टा वा कृतिलाई अद्वितीय, अद्भूत, अतुलनीय जस्ता विशेषण दिँदा त्यस्तै आधार जुटाउनु पर्छ । शोधार्थीले आवेगमा आएर लेख्नु हुँदैन (पन्त, २०१० : ४२४) ।

१२.पर्यायवाची शब्दको कम प्रयोग

उही र उस्तै खालका शब्द थुपारेर लेखलाई लम्ब्याउनु हुँदैन, जस्तै_ 'मदनका कामना पूरा भएनन्' भने पुग्नेमा 'मदनका कामना, चाहना, इच्छा, आकाङ्क्षा पूरा भएनन्' भन्नुको अर्थ छैन । त्यस्तै 'ऊ गनिएको र मानिएको प्रतिष्ठित व्यक्ति हो' नभनेर 'ऊ प्रतिष्ठित व्यक्ति हो' भनेपछि कुरा स्पष्ट हुने हुँदा भनाइ लामो तुल्याउनुको कुनै अर्थ छैन । सिर्जनात्मक लेख लेख्दा भने गीत कवितामा मात्र नभएर गद्यमा पनि शब्द, पङ्क्ति र व्याकरणिक एकाइहरू शब्दशः पुनरावृत्त हुन्छ । कृतिमा प्रयुक्त पात्र कर्ता हो वा कर्म भनी किटान गर्दा थोरैमा धेरै कुरा भन्न सकिन्छ ।

१३. अन्य

अनुसन्धान लेखन नियमित रूपमा र लगातार गरिने प्रक्रिया हो । भाषामाथि अधिकार जमाउन, भन्न खोजेको कुरा लेख्न र आलोचनात्मक दृष्टि निमार्ण गर्न नियमित रूपमा लाग्नु आवश्यक छ । पहिलो खेस्रा तयार भएपछि शोधार्थीले पुनर्लेखनका लागि केही समय कुरेर अन्तिम रूप दिनु पर्छ (अधिकारी, २००७ : ६०) । उद्धृत वाक्य, वाक्यांश र शब्द मूलसँग मिल्दो छ वा छैन तुलना गरी हेर्नु आवश्यक छ । वर्णविन्यासमा दुविधा भए शब्दकोश हेर्ने, अल्पविराम, अर्द्धविराम आवश्यक पर्ने कतिपय वाक्य हुन्छन् , त्यस्ता वाक्य छानेर हेर्ने गर्नु पर्छ । वाक्यहरू काँटछाँट गर्ने, लामा वाक्यहरू टुक्र्याउने, अति छोटा लागे जोड्ने, अनुच्छेदमा नजोडिएका वाक्यहरू हटाउने कुरामा शोधार्थी सचेत हुनु आवश्यक छ । एकता, व्यवस्थापन, स्पष्टता र चमक अनुसन्धानका विशेषता हुन् (बार्नेट र केन, २००६ : २९) । अनुसन्धान पूरा हुँदै गर्दा यस्ता कुरामा ध्यान दिनु आवश्यक छ । त्यस्तै अरूका विचार र वाक्यलाई स्रोत नदिई सार्दा ठगीको आरोप लाग्छ भन्ने कुरामा सचे त हुनु जरूरी छ ।

१३. निष्कर्ष

समग्रमा भन्दा सिर्जनात्मक लेखन वा सामान्य अखबारी लेखनको भन्दा अनुसन्धानको भाषा केही पृथक् हुन्छ भन्ने कुरा निम्न लिखित बुँदाबाट पुष्टि हुन्छ :

(क) अनुसन्धानलाई गहन बनाउन तार्किक, वस्तुपरक र मानक भाषाको प्रयोग उपयुक्त हुन्छ ।

वाक्य छोटा छरिता, आकर्षक र प्रभावशाली भएका खण्डमा विचार स्पष्टसँग व्यक्त हुन्छ ।

(ख) क्रमबद्ध र व्यवस्थित रूपमा विचार प्रकट गर्दा वाक्यहरू बलिया हुन्छन् किनकि एउटा वाक्यको सम्बन्ध अर्को वाक्यसँग भयो भने विचार द्वयर्थक बन्दैन र प्रस्तुति पाठक मैत्री बन्छ ।

(ग) कर्तृवाच्यको प्रयोगले स्पष्ट निर्णय दिन सघाउने हुँदा कर्तृवाच्यको प्रयोगमा जोड दिनु उपयुक्त हुन्छ ।

(घ) आलङ्कारिक, व्यञ्जनात्मक भाषाले ठोस विचार प्रकट नगरी साङ्केतिक तथा प्रतीकात्मक विचार प्रकट गर्ने हुनाले शोधार्थीले स्थापित गर्न खोजेको कुरा मूर्त रूपमा आउँदैन ।

(ङ) शोधार्थीले सुरूदेखि अन्त्यसम्म वर्णविन्यासगत एकरूपता कायम गर्नु पर्छ ।

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Study of Traditional Uses of Medicinal Plants (Herbs) of Hilly Areas of Lekhnath Municipality

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Abstract

The present work is based on the exploration of traditional use medicinal plants ethonobotanically, of Lekhnath Municipliaty, Kaski. A general survey and study of medicinal plants, particularly wild and cultivated herbs was conducted from 1st Oct. 2012 to 30th Apr. 2013.

This paper deals about 24 species of medicinal herbs belong to 21 families. Included families are Amaranthaceae, Asteraceae (4), Cannabinaceae, Caryophyllaceae, Chenopodiaceae, Commelinaceae, Crassulaceae, Cyperaceae, Dioscoreaceae, Euphorbiaceae, Labiatae, Leguminosae, liliaceae, Malvaceae, Nyctaginaceae, Oxalidaceae, Primulaceae, Scrophulariaceae, Trapaceae, Urticaceae and Zingiberaceae.

This result was based on survey carried out consulting participatory techniques to collect detailed information about collection and utilization of traditional medicinal plants at that area. Important information and other details about the respective plants were collected by discussion with native inhaler, traditional medicine practitioners and villagers. Showing them the sample of the plants.

Keywords: Medicinal plants, herbs, ethnobotanically, native inhaler, traditional medicine practitioner.

Introduction

From the beginning of civilization, plants have served in several ways for the mankind and has been continuously using them for various purposes. Plants have been the sources of food, medicine and other essential materials for the existence of mankind. The medicinal plants are the most important aspects of the creation that cures the various diseases. Plant materials were the basis of Ayurvedic therapeutics since time immemorial and now it's contribution to human health care is deep rooted mostly in villages of Nepal. Every one uses herbs and medicinal plants in the treatment of diseases and normal illness (Anonymous).

Medicinal herbs are important component of flora of Nepal and confined mostly in mid hills and Himalaya regions. The plant material is harvested and collected in young stage without proper management. In this way, most of important medicinal palnt species are unable to propagate and their number reduced year after year, and reached to threatened position. At the same time, it has been observed that proper knowledge of healing also not properly documented and ultimately loss with death of native inhealer and practitioners. Medicinal plants are getting diminished at due to lack of serious attempt to conserved them. Therefore, this work is an attempt to focus on importance of such medicinal herbs.

Objectives of Study

A survey of medicinal plants of Hilly Areas of Lekhnath Municipality was conducted for followings achievements.

To determine the distribution of medicinal plants in Hilly area of Leknath Municipality.

To find out the present awareness of people about medicinal herbs grown around their fields.

To study parts of the plant, that are locally used for medicine.

Methodology Used

This final paper is prepared on the basis of our fourteen field trips. We have done two trips per month from 1st October 2012 to 30 Apr. 2013. The main aims of these fields' trips were to collect the herb plants. Similarly, field trips were done to collect information, suggestion, and method of use, result of treatment of traditional herbal inhaling in that area.

In majority two methods are taken into considering at time of paper preparation.

a. Primary data collection

Primary data collection includes many aspects of traditional method of treatment enlisting following steps were taken into consideration during primary data collection.

i. Number of field trips on study area,

ii. Inquires with local people,

iii. Inquires with traditional health workers, Baihdya's and native inhalers of wild plants.

iv. Specimen collections.

v. Morphological and floral description herb plants by cross examination with field notes, study notes and books.

b. Secondary data collection

The secondary data collection includes different related journals, documents, unpublished records available in VDCs, traditional workers and library. Different authorized books and articles have ratified information's about medicinal uses of many herb plants.

Results and Discussion

In the studied area a total of 24 species of medicinal plants (herb) were found. They belonged to 21 families. The recorded plants are enumerated in following table.

Description and use of selected herb plants

S. N.	Scientific Name	Vernacular name	Family	Description of plant	parts used	Uses of In medicine
	Aloe barbadensis Mill.	Ghiu Kumari	Liliaceae	A perennial herb with short stem and rosulate leaves, rounded on the reverse, gray green. Inflorescence raceme	leaves	The leaves are alterative, stomachic, aphrodisiac, cathartic, emmenagogic, astringent, antidotal, anthelmintic and hepatic stimulant; after removing their skin they are given in fevers, enlargement of the liver, spleen, and other glands, skin diseases, gonorrhea, constipation, menstrual suppression, piles, jaundice and rheumatic affections.
	Amaranthus spinosus Linn.	Lunde	Amaranthaceae	A glabrous procumbent annual cultivated herb, leaves small long petiolated, oblong ovate or rounded, usually two loved at the apex, flowers in axillary clusters.	Whole plant	The plant is considered as cooling emollient and mildly astringent. In hilly region of Nepal, it is used as the substitute of wheat. Decoction of leaf and root is taken for intestinal diseases. Root juice is taken with cold water in the morning to treat painful urination; and is also taken with warm water before going to bed. Crushed leaves and roots are applied in skin infection, juice from leaves is used for dyscentery.

S. N.	Scientific Name	Vernacular name	Family	Description of plant	parts used	Uses of In medicine
	Anagalis arvensis Linn.	Nilkrishna	Primulaceae	An annual herb, erect or procumbent. Leaves long, sessile, opposite, ovate, glabrous, entire, gland dotted. Flweors blue, axillary, solitary, peduncles with slender erect in flower and decurved in fruit. Fruit a capsule	Whole plant	It is used as expectorant in case of lung abscess.
	Anaphalis contorta (D.Don) Hook.F.	Bukiphool	Asteraceae	A herb, leaves crowded, sessile, linear or oblong, acute, obtuse, margin strongly recurved. Flowers in heads, yellowish or white.	Whole plant	Plant paste is taken to treat cough. Root paste is applied on wounds and boils.
	Chenopodium album Linn.	Bethe	Chenopodiaceae	An annual herb to, usually grown as a weed, with often purple tinged stem and leaves. Flowers small green, in rounded clusters, borne in slender spikes	Whole plant	Whole plant used as mild laxative. Leaves and shoots are used to drink as tea which relieve pain in stomach. It contains important biochemical like carotene, linolenic acid, vitamin C and iron.
	Curcuma Longa Linn.	Kalohaledo	Zingiberaceae	Root stock is ovoid and cylindrical. Leaves very large, oblong lanceolate. Flowers in spikes.	Rhizome	The rhizome is a household remedy as aromatic, stimulant, tonic and carminative, for relief of cough. Tumeric is given in diarrhea, intermittent fevers, dropsy, jaundice, liver disorder and urinary diseases.
	Cyperus rotundus Linn.	Mothe	Cy-pera-ceae	A perennial, stoloniferous herb with erect stem. Inforescence simple or compound umbel.	Whole plant	The plant is diuretic, emmena gogue, anthelmintic and stimulant. It is also sued in stomach disorder, irritation of bowels, leprosy, dysentery, cough and cold.

S. N.	Scientific Name	Vernacular name	Family	Description of plant	parts used	Uses of In medicine
	Dioscorea bulbifera Linn.	Gittha	Dioscoreaceae	A climbing herb, growing near the buses. Leaves stalked, alternate, palmately compound. Flowers, sessile, greenish in dropping, unisexual	Tuber	Powdered tuber is applied to sores, and is taken internally for dysentery. Boiled tubers are taken to treat fever, loss of appetite, general debility and immediate after taking food.
	Drymeria cordata (L.) Willd. ex Roemer and Schultes.	Abhijalo	Caryophyllaceae	Prostrate herb, occurring in bare lands with broadly ovate leaves, white flowers in cymes.	whole plant	Plant paste is applied on forehead to treat headache. Extraction of plant is given in cold, throat trouble, diarrhea and dysentery. Plant juice is applied on cuts and wounds. Root juice is given to treat stomach disorder.
	Eclipta prostrate Roxb.	Bhringraj	Asteraceae	A msall, coarsely hairy, erect or prostrate herb. Leaves hairy, variable in shape. Flower heads in white color.	whole plant	It is a valuable pectoral and anti-asthmatic; as an alterative it is given in liver disorders. The leaves are tonic and given in cough, headache and enlargement of the liver.
	Oscimum basilacum Linn.	Babari	Labiatae	A herbaceous, erect, strongly aromatic plant, leaves large, variable, ovate to lanceolate. Flower in branched or unbranched racemes.	Whole plant	The herb is aromatic, stimulant, carminative and expectorant. The leaves are expectorant, stomachic and they are given with ginger and white pepper in intermittent fevers.
	Oxalis corniculata Linn.	Chariamilo	Oxalidaceae	A small creeping herb. Leaves trifoliate on long and erect petiole. Inflorescence subumbellate	whole plant	The plant is used against scurvy. It is a good appetizer. Roots and leaves are used to treat dysentery and diarrhea.

S. N.	Scientific Name	Vernacular name	Family	Description of plant	parts used	Uses of In medicine
	Phyllanthus niruri Avct.	Bhuin amala	Euphorbiaceae	A mslal glabrous pale green herb. Leaves variable, sub sessile. Flower numerous, shortly pedicelled.	whole plant	The plant is acrid, cooling and useful in thirst, bronchitis, asthma. It is most useful in jaundice.
	Tagetus Petula Linn.	Sayapatri	Asteraceae	An annual herb, erect and much branched. Leaves pinnately compound with strong scented. Flowers yellow head	whole plant	An extract of the roots is used as laxative. The leaves are given in kidney troubles and muscular pains. The florets are used in eye diseases and ulcers.
	Trapa bispinosa Roxb.	Simalkande	Trapaceae	Floating herb. flowers axillary, solitary and peduncled.	fruit	Nuts are cooling, useful in diarrhea and bilious affections. Plant cures urinary discharges, bronchitis and bad teeth.
	Urtica dioica Linn.	Sisnu	Urticaceae	A robust dioecious herb, with grooved stem. Leaves ovate or lanceolate. Steam and leaves contain epidermal hairs.	whole plant	The plant is haemostatic in vomiting of blood and bleeding from the nose. The plant is diurectic and antiperiodic. It is a household remedy for kidney diseases.
	Vicia sativa Linn.	Kutil Kosha	Leguminoseae	A slender wiry herb. Leaves paripinnate ending in to a leaf tendril. Flowers pinkish.	Fruit	The green fruits are alterative and make the user fall to asleep.
	Antirrhinum majus Linn.	-	Scrophuylariacae	A herb, cultivated as ornamental plant. Leaves are simple exstipulate often alternate. It shows racemose inflorescence with bisexual flower.	whole plant	The powdered dry plant is given for bleeding at the nose.

S. N.	Scientific Name	Vernacular name	Family	Description of plant	parts used	Uses of In medicine
	Bryophyllum pinnatum (Lam) oekn.	Ajambbari	Crassulaceae	A perennial herb, mostly adapted to dry habitat. Stem and leaves are fleshy. It shows cymose inflorescence, usually dichasial cyme.	leaf	It is anthelmintic, blood purifier, cooling and stomachic.
	Cannabis sativa Linn.	Bhang	Cannabinaceae	An annual aromatic herb growing on waste land. Male and female flowers borne on different plants.	leaf and flowers	It is anesthetic, appetizer, digestive, an expectorant. It serves as a remedy for malaria, black fever and blood poisoning.
	Hibiscus rosa sinensis Linn.	Barmase phul	Malvaceae	A medium sized cultivated herb. Leaves short petiolated. In florescence cymose with solitary axillary flowers.	leaf and flower	Leaves are considered as laxative. Young Buds remove burning of the body, urinary discharges, and seminal weakness.
	Innual cappa DC.	Laxhmi Phool	Asteraceae	A stout, strongly armed herb. Steam woody, hairy with creamy white colour. Inflorescence head with bright yellow flowers.	leaf	Leaves are safe and effective to care arthritis.
	Mirabilis jalpa Linn.	Malati	Nyctaginaceae	It is a perennial herbs with herbaceous, erect, branched stem. Leaves are simple, and opposite. Flwoers show biparous cyme.	Root	The juice extracted from root is cooling and often used to patient suffered from excretion of blood from urine.
	Tradescantia paniculata Roxb.	Rate Pate	Commelinaceae	It is erect perennial herb. Stem is rhizome and mostly branch. Leaves are simple with sheathing base. Flowers are in axillary monochasial cyme	Root	The root is bitter, refrigerant, laxative and beneficial in skin diseases.

Result shows that entire herbs are effective for traditional medicinal care as whole plant, because about 54.16% of studied plants are used a whole, followed by leaves

12.50%, fruit 8.35%, flower 8.35%, root 8.35%, Rhizome 4.16% and Tuber 4.16% respectively.

There were different types of medicinal plant grown elsewhere in Hilly area of Lekhnath Municipality. Some of them are very important and widely used as domestic medicine. The problem is that, most of us never tried to know or even think about our medicinal herbs which contained useful drugs. The majority of the people still have faith and confidence in their traditional medicines. These have been playing an important part in the health care of the people for a long time, especially the people in the rural areas.

Conclusion

There are various types of plant species in hilly areas of Lekhnath municipality including medicinal, timber and fodder, and wild fruits. Single plant can be used for different purposes. Unfortunately, most of us never tried to know or even think about such plants. Not all people, fortunate to get facility of modern treatment, particular for under previlage group of Nepal. Traditional method of in healing medicinal plant could be better option for them. Similarly, although this work is a small step to overcome such gap of inhealing medicine, it could be a good option in days to come.

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STUDY OF PHYSICO-CHEMICAL PARAMETER OF DEEPANG LAKE IN POKHARA VALLEY, NEPAL

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ABSTRACT

The present study on Physico-chemical Parameter of Deepang lake in Pokhara valley, Nepal was performed for six months from August 2009 to January 2010. The study included various physico-chemistry parameter like transparency, temperature, PH, free carbondioxide, dissolve oxygen and total alkalinity. The maximum transparency 2.5 m was recorded in January and minimum 1.4 m in August. In other months the transparency were slightly changeable. The maximum temperature 25.6°C was recorded in August and minimum 17.7°C in January. The temperature gradually decreased. The PH values were found mostly alkaline and were generally between 6.7 and 7.5 during the investigation period. The highest PH 7.5 was recorded in January and lowest 6.7 in August. Dissolved oxygen value gradually increased from 6.4 mg/l in August to 8.7 mg/l in January. The concentration of free CO2 ranged between 1.8 mg/l and 5.6 mg/l during the investigation period. The maximum value was 5.6 mg/l in August and 1.8 mg/l in January. The maximum alkaline value 114 mg/l was recorded in January and minimum value 105 mg/l in August. All these Physico-chemical parameter meet WHO Standard of Water Quality.

Keywords : Parameter, Phytoplankton, Macrozoobenthos, Limnology, Metrology.

Introduction

Water is one of the most significant natural resources. It is a single worldwide natural resources distributed in all land, sea and atmosphere and unified by the hydrological cycle. It is the most important factor in the life on an organism as it is the major constituent of the protoplasm, plant, animals, microorganisms and aquatic life, all need water for their existence. In plants all physiological process like respiration, photosynthesis, absorption of nutrients and other metabolic processes are influenced by the amount of water available. There is about 1.36 billion cubic km water in which 37.5 million cubic km is fresh water (Subramnyam 1986). Water covers about three fourth of the Earth's surface of the total water about 70% is in the sea and oceans which is unfit for human consumption and remaining 3 percent of water occurs as fresh water out of 3% about 2 percent existing as ice in polar caps and permanent glaciers and only 1% is available as fresh water in rivers, lakes, stream, reservoir and underground water. The determination of depth, transparency, temperature, pH, free carbondixode dissolve oxygen and total alkalinity were taken into account following the standard method APHA (1989), Boyd (1979) Trivedy and Goel (1986), Polythene bottles were used to collect the water sample. The objectives of this investigation is to analyze the physic-chemical nature of the lake water.

Materials and Methods

In an aquatic environment the water quality and living organisms directly depend on physico-chemical parameter. The determination of depth, transparency, temperature, pH, free carbondioxide, dissolved oxygen and total alkalinity were taken into account following the standard methods APHA (1989), Boyd (1979) Trivedy and Goel (1986), Polythene bottles were used to collect the water sample. The physico-chemical parameter were identified by using the methods mentioned below.

Transparency

The transparency of water was measured in the field by immersing a Secchi Disc of 20 cm diameter in water and observing it visuality. The mean of "Just disappearance and reappearance" of the disc under the water was calculated with the help of equation given below.

$$\text{Secchi Disc light penetration} = \frac{A+B}{2}$$

Where,

A = Depth of which Disc disappeared

B = Depth of which Secchi Disc reappeared

The extinction co-efficient was calculated by using the following formula

$$K = 1.7\,D$$

Where,

K = Extinction co-efficient

D = Secchi-Disc reading and

1.7 = constant factor

Temperature

The water temperature was recorded with the help of standard mercury thermometer (graduated) with a precision of ± 0.1°C). The measurement was simply carried out by dipping the thermometer bulb directly upto water surface and the reading was taken down.

Hydrogen ion concentration (PH)

Hydrogen ion concentration (PH) of water determines the acidity, alkalinity and neutrality of water. The PH of water sample was determined by using an electronic pocket PH meter (Hanna-Instrument)

Dissolved oxygen (DO)

For the determination of dissolved oxygen, winkler's method was used. For this, BOD bottle (300 ml) was filled with water sample. During the placing of stopper on the bottle care was taken to avoid trapping air in the bottle. In BOD bottle, 2 ml of maganous sulphate ($MnSO_4$) solution and 2 ml of alkaline potassium iodide (KI) solution were added at the interval of few seconds, with the help of separate pipette after removing stopper. The stopper was placed carefully to exclude air bubbles and the solution was mixed thoroughly by inverting the bottle for a few minutes. After the precipitate had settled sufficiently than 2 ml of conc. H_2SO_4 was added to it. The stopper was replaced back carefully and the bottle was inverted for several time until the dissolution of precipitate was completed. 100 ml of this sample was taken in a conical flask and titrated against sodium thiosulphate solution $Na_2S_2O_3$ (0.025 N) using starch as indicator until a light coffee brown colour was appeared. Three readings were noted and their mean was taken out to dissolved oxygen (DO) in mg/l by using the formula.

$$\text{Dissolved oxygen (mg/l)} = \frac{\text{ml}\times\text{N of titrant} \times 8 \times 1000}{\frac{V_2 V_1 - V}{V_1}}$$

Where,

N = Normality

V = Volume of $MnSO_4$ and Potassium iodide used

V_1 = Volume of bottle after placing the stopper

V_2 = Volume of the part of the contents titrated

Free Carbon Dioxide (CO_2)

Free carbondioxide was determined by the simple titrimetric method. 50 ml of sample was taken in a conical flask and 2-3 drops of Phenolphthalein was added as indicator. If the sample does not become pink and remain colourless it indicates the presence of CO_2 in the water sample. Immediately the sample was titrated against sodium hydroxide (NaOH) solution (0.05 N) until a faint pink colour appeared at the end point. The amount of free CO_2 is the volume of NaOH consumed. Three readings of burette were noted and mean was taken which later on calculated by using the following equation as mg/l.

$$\text{Free carbondioxide } (CO_2) = \frac{\text{ml}\times\text{N of NaOH} \times 1000 \;\; 44}{\text{ml of sample}}$$

Where, N = Normality

Total Alkalinity

For total alkalinity, 100 ml of water sample was taken in a conical flask and added two drops of phenolphthalein indicator. The resulting sample remained pink indicating the presence Phenolphthalein alkalinity. Then it was titrated with hydrochloric acid (0.1 N) until the pink colour just disappeared. Then 2 or 3 drops methyl orange indicator was added to the same sample and titrated with hydrochloric acid of same normality (0.1 N) until the yellow colour changed to pink. The volume of total hydrochloric acid was noted. Three reading were taken to determine the mean. The following formula was used to convert total alkalinity later in mg/liter.

$$\text{PA as } CaCO_3\text{, mg/l} = \frac{\text{A}\times\text{N of titrant} \times 1000 \;\; 50}{\text{ml of sample}}$$

$$\text{TA as } CaCO_3\text{, mg/l} = \frac{B \times N \text{ of titrant} \times 1000\ \ 50}{\text{ml of sample}}$$

Where,

A = ml of HCl used with only phenolphthalein indicator

B = ml of HCl used with phenolphthalein and methyl orange

PA = phenolphthalein alkalinity

TA = total alkalinity

Results and Discussion

The results of physico-chemical analysis of water samples collected from Deepang lake during the study period.

Table 1: Physico-chemical parameter of Deepang lake during the study period

S.N.	Parameters	Aug	Sep	Oct	Nov	Dec	Jan	Average
1.	Transparency (m)	1.4	1.6	1.9	2.0	2.3	2.5	1.9
2.	Temperature (°C)	25	24.8	22	21.5	18	17.2	21.4
3.	PH	6.7	6.9	7.1	7.1	7.2	7.5	7.0
4.	Dissolve oxygen (mg/l)	6.4	6.8	7.1	7.3	7.5	8.7	7.3
5.	Carbondioxide (mg/l)	5.6	4.1	2.8	3.9	2.7	1.8	3.4
6.	Alkalinity (mg/l)	105	107	113	113	113	114	110.8

Transparency

The transparency was found comparatively lower in August, September and October and higher in November, December and January. The transparency was highest in January (2-5m) and lowest in August (1-2m). The increase values in November, December and January may be due to the growth of planktons during that period.

Temperature

The highest temperature recorded was 25°C which gradually declined to the lowest 17.2°C in January. The water temperature of the lake seems to be related with the atmospheric temperature. The water temperature largely influence the physical, chemical and biological factors of an aquatic ecosystem. An increase in temperature may lead to the increase in photosynthesis thereby changing the total biomass of aquatic macrophytes, periphytic algae and phytoplankton. The solubility of gases in water is also affected by temperature. The oxygen retaining capacity of water diminishes and biological oxygen demand increases with the rise in water temperature (Holden and Armstrong, 1980).

Dissolved oxygen

The concentration of dissolve oxygen (DO) was found lowest (6.5 mg/l) in August which gradually increased to reach the highest value 8.7 mg/l in January. The concentration of Do below single is considered to be insufficient for the survivability of many aquatic organism (WHO 1996) and DO volume below 2.5 mg/l is lethal to the fish community (Oli, 1990). A low concentration of Do in an aquatic ecosystem indicates the organic pollution of water quality (Verma and Agrawal, 1989).

Hydrogen-ion Concentration

The hydrogen ion concentration (PH) recorded were in the normal range. The lowest PH recorded 6.7 in August and gradually increased to reach 7.5 in January. The PH of water below 5 and above 11 has been described as toxic and unsuitable for various groups of aquatic fauna.

Carbondioxide

The free carbondioxide concentration was variable. The highest concentration 5.6 mg/l in August and lowest 1.8mg/l in January. CO_2 is very soluble in water. The photosynthetic activity of planktons in an aquatic environment is considered as an important critical factor for the fluctuation of CO_2 and PH level. Free CO_2 of water from carbonic acid (H_2CO_3) which dissociates into H^+ and HCO_3 ions. This brings change in PH of water (Rutter, 1953). The highest concentration of CO_2 may be produced by the decomposition of organic matter and respiratory activity of aquatic plant and animals which are the principal governing factors of CO_2 fluctuations.

Total alkalinity

The total alkalinity of Deepang lake water were 105 mg/l and 114 mg/l in August and January. The maximum value (114 mg/l) was recorded in January and minimum value presence of total Alkalinity was mainly due to carbonate and bicarbonate ions. Although the carbonate alkalinity occurs only in the absence of cabondioxide and the PH greater than 8.3 mg/l. In Deepang lake total alkalinity was mainly due to the presence of bicarbonates.

The physic chemical parameter in an aquatic medium exhibit as influencing limnoogical factors of the quality and quantity of the total biota and their life processor. The existing metrological condition and chemical properties largely regulated the physical properties largely regulated the physical properties of water in an aquatic system. The interaction of these creates favourable, or unfavourable circumstance or the growth and development of biotic component. Abundance, composition, diversity and distribution of macrozoobenthos are related to various physicochemical and biotic characteristic (Dutta and Molhotra, 1986)

The presence of suspended and dissolved organic and inorganic materials, phytoplanktons and turbidity of water diminishes the secchi disc transparency status is essentially a function of the reflection of ligh and restriction of the penetration of light in an aquatic environment (stepanek, 1959). The values of secchi disc transparency showed much fluctuation during the present study period.

All above physico-chemical parameter meet WHO standard of water quality. Dissolve oxygen which is the most important parameter in lake ecosystem was found above the permitted level of 5 mg/l throughout the study period.

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ISOLATION OF COLIPHAGE FROM FEWA LAKE

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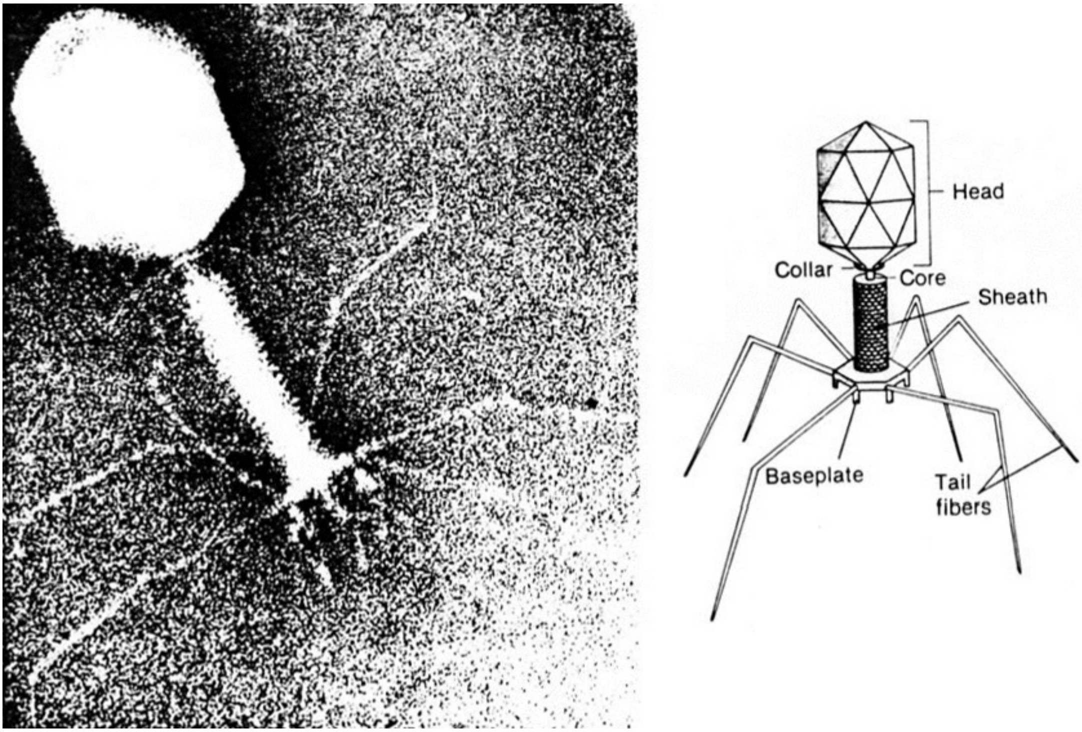
Abstract

Bacteriophages are host specific viruses targeting only certain types of bacteria. Bacteriophages infecting E-coli are called coliphages. The suspension was prepared from water and tested for the presence of phage. Isolation of bacteriophage by infecting host and experiment isolate coliphage from 45ml water from Fewa Lake by introducing them to 24hrs old culture of E-coli followed with centrifugation and filtration. This study was conducted to study virus-bacteria relationship and if phage could be used to remove fecal coliform from Fewa lake.

Key words: Bacteriophage, Coliphage, Cytopathic effect, Isolation and Plaque

Introduction

Viruses are obligate intracellular parasites that require specific host cell for its replication (Carlton 1999). Bacteriophages are viruses that target and reproduce with in bacteria. Phage multiply inside the host (bacteria) by making use of some or all of the host biosynthetic machinery (Elizabeth and Alexandar 2005). They were discovered by British pathologist in London in 1915 by transmissible agent of *Micrococcus* colonies (Michael *et al* 2003). Two types of bacteriophages are monovalent and polyvalent. Monovalent phages are specific to one type of bacterial species but polyvalent phages are able to attack two or more bacterial species (Kalmansom and Bronfenbrenner 1942). The phages are commonely named by reference to their host. The phage which attack bacteria *Staphylococcus* is called staphylophage and those attack *Escherichia coli* is called coliphage. Generally phages attach to the surface of host by tail fibers. Once attached, the bacteriophage injects its nucleic acid into the bacterium. The phages completes its life cycle in bacterium(host) and escape of matured virus from the host cell places stress on the plasma membrane resulting in the death of bacterium(Prescott *et al* 2008).



Structure of Bacteriophage

Bacteriophages are present in soil and even in gut of mammals but isolation from this source is difficult. The simple and easy way to isolate is from sewage and water sample due to their high concentration. Most of phages infects *E-coli* and these are designated by letter T indicating the types. Seven types have been identified and named as T-even phages (T2,T4 and T6) and T- odd phages(T1,T3,T5 and T7) which have own life cycle in host (Dubey and Maheswori 2012). The phages that penetrate the cells destroy cells producing single plaque in the bacterial lawn. Each plaque can be designated as a plaque forming unit (Pfu) and used to quantitate the number of infective phage particle in the culture (Cappuccino and Sherman 2009).

Materials and Method

This study was carried from January to March 2013 at Department of Microbiology in Janapriya Multiple campus, Pokhara, Nepal. The study consists of water sample from Fewa lake and following protocol.

Enrichment of water sample

Lake water was collected from the Fewa Lake in screw capped bottle. 5ml of bacteriophage nutrient broth, 5 ml of the *E-coli* broth culture and 45ml of water sample were aseptically added to an appropriately labeled sterile 250 ml Erlenmeyer flask and incubated at 37^{o}C for 24 hrs (Dubey and Maheswori 2012).

Filtration of sample

Following incubation, phage infected culture was poured into several centrifuge tubes and centrifuged at 2500 rpm for 20 mi to remove residue. Supernatant was decanted into a 125ml flask and filtered through membrane filter (0.45mm) connected with vacuum pump to remove bacterial cells (Dubey and Maheswori 2012).

Isolation of coliphage

Soft tryptone agar was melted by placing the six tubes in boiling water bath and cooled to 45^{o}C. Six tryptone agar plates and Six tryptone agar tubes were labeled 1-6 respectively. Using sterile 1ml pipette, 0.1ml of the *E-coli* culture was aseptically added to all the soft molten agar tube and one, two, three, four and five drops of the filtrates were added aseptically to respectively labeled molten soft agar tubes except sixth tubes. Each tube of soft agar were poured and mixed into appropriately labeled agar plates and allowed to harden. Sixth tryptone agar tubes was not inoculated with sample which was considered as control. All the plates were incubated in an inverted position for 24 hrs at 37^{o}C and were observed for plaque formation which were indicative of the presence of coliphages in the culture (cappuccino and sherman 2009).

Result and discussion

Phage was isolated from lake water plated with bacteria (*E-coli*) which served as host for coliphage. The presence of clear zone or plaques in all plates except sixth plate after suitable inoculation over lawn culture of bacteria indicate the presence of bacteriophage (Table – 1). The plaques caused by phages varies in size and are characterized by the circular cone. After incubating for 24hrs clearing or plaque formation was seen in agar plates. These plaque formations indicate bacterial lyses or presence of bacteriophage in the Nutrient Agar plates (Ananthanarayan and Panikers 2011). Plaques were seen in all the tubes except sixth tube which was considered as control for the experiment. The plaques were maximum in fourth and fifth plates. The sample contained virus which was grown on lawn of *E-coli*. The morphology of plaque may be different with bacteriophage, host and environmental condition. This bacteriophage carry its life cycle in host (E-coli) and show cytopathic effect in host .The result indicate presence of coliphage in fewa lake. Water in fewa lake indicate presence of coliphage which may be from different sources and this may be influenced by season and environment in lake. This coliphage may also spread throughout lake during movement of water which destroy fecal coliform present in Fewa lake that arises from different sources preventing spread of coliform.

Table-1. Formation of Plaques in plates

SN	No of Plates	Formation of Plaque
1	1	+
2	2	+
3	3	+
4	4	+

5	5	+
6	6	-

Abbreviations:

+ = Presence of Plaque, **-** = Absence of Plaque

Conclusion

The host specificity of virus offer an enticing technology for fighting infection caused by bacteria or for the treatment of environment contaminated with pathogenic bacteria. This research concludes that phage can be used to treat against bacterial infection or contamination in environment. Moreover this research is informative regarding virus – bacteria relations and phage can be used to remove fecal coliform from fewa lake. This study also became get way for use of viral therapy to treat infection in plants, aqua culture, fish and humans (Sulakvelidze and Burrow 2005) because this virus cause lyses of host cells and cause cytopathic effect. So phage can be used in treatment of bacterial infection unlike broad spectrum antibiotics. The plaque formation unit can also be calculated relating this research. Moreover sample may be taken from different areas of lake for further confirmation comparing the plaque formation unit from different areas.

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Correlates of Knowledge about Sexually Transmitted Diseases (STDs) among Youths in Nepal

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Abstract

Cross sectional and nationally representative sample drawn from Nepal Adolescent and Youth Survey 2011, this paper attempts to examine the correlates associated with knowledge about sexually transmitted diseases (STDs) among young population in Nepal. Univariate, bivariate and multivariate analyses have been used to examine the correlates associated with the knowledge about sexually transmitted diseases among youths. Bivariate analysis reveals that education, mass media exposure, mother's education, marital status, ecological belts and regions are significantly associated (p<0.001). However, multivariate analysis shows that education and mass media exposure are the strong factors (p<0.001) associated with knowledge of at least one STD among youths after controlling others variables in the model. A special attention should be given to girls' education particularly for the rural, remote and interior parts of the country. In addition, IEC through mass media may be an immediate action to improve the level of knowledge and awareness about STDs among youths in Nepal.

Key words: correlates, knowledge, Nepal, sexually transmitted diseases, youths

Introduction

Sexually transmitted diseases (STDs) (also known as sexually transmitted infections) are the diseases, which are transferred from one person to another through sexual contacts. STDs not only transmit through intercourse, but also through kissing, oral-genital contact and use of sex toys. In the beginning of twentieth century, least attention was paid about the incidence of STDs (Gonorrhea and Syphilis) although an incidence was common in Europe, Africa, and Asia and Pacific regions, however, the study on STDs geared up especially after the emergence of HIV/AIDS during 1980 (Cates, 2001). This is because of the reason that the chance of acquiring HIV infection is manifold (between two to five times) higher among the persons living with any STDs (WHO, 2008). Annually it is estimated 448 millions of infections occur worldwide in adult aged 15-49 years and this does not include HIV and other STDs which severely affect the lives of people and communities (Workowski, 2010 & Hopwood, 2001).

Youth is the transitional stage of life cycle in which various changes such as, physiological, physical, psychological and social occur (Brown, Sadler, Tomkins, McGarrigle, LaMontagne, Goldberg, et al. 2004). Youths are more susceptible to STDs than adults because of poor knowledge about the outcomes of risky behavior, peer pressure and their biological vulnerability. The recent trend reveals that almost half of the new cases of STDs occur among youths annually and the infection is one of the leading causes of morbidity and mortality at the global level. (Weinstock, Berman, Cates, 2004; Fageeh, 2008; Stone, Ingham, Simkhada, 2003). These evidences reveal that youths are at the center of acquiring STDs. A study made by Wasserheit (1992) has claimed that individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contacts. Knowledge is the first step of protecting people from the diseases and an adequate and proper knowledge about STDs may be an appropriate preventive measure. Several studies at the global level show that age, sex, ethnicity, place of residence and parental education are significantly related to the knowledge of STDs among youths (Stone, Ingham & Simkhada, 2003, MOPH; New ERA and IFC International, 2012; Upreti, Regmi, Pant & Simkhada, 2009; Samkange-Zeeb, Spallek & Zeeb, 2011). Although a large number of cross sectional KAP studies on STDs including HIV/AIDS has been conducted in the context of Nepal by taking sample for the specific areas, none of the studies are based on the nationally representative sample. Thus this study may be new one in terms of its coverage. This paper aims to examine the correlates associated with knowledge of STDs among young population of Nepal.

Data and Methods

Nepal is a predominantly agricultural country in which about 70.0 percent of total population (76.0 percent of household) rely on agriculture for their livelihood (CBS, 2011a). Topographically, the country is divided into three distinct belts: Mountain, Hill and Tarai and is further divided in five development regions (Eastern, Central, Western, mid Western and far Western), 14 zones and 75 districts administratively. The latest population census 2011 records 26.42 million population comprising 48.5 percent male and 51.5 percent female. More than 16.0 percent of the total population is between the age of 15 and 24 years. The census also records 83.0 percent (as compared with 17.0 percent urban) rural population. This figure is based on the government classification of 58 municipalities as urban areas and 3913 village development committees (VDCs) as rural (CBS, 2011b).

This paper uses the cross sectional data drawn from a nationally representative sample of Nepal Adolescent and Youth Survey (NAYS) 2010/11 conducted by Ministry of Population and Health (MOPH) Nepal. The study was initiated in early 2010 and the data collection was carried out between September and December 2010. The main purpose of the survey was to generate specific data for formulating the policies and programs on various issues of adolescent and youth. For sampling design, this survey uses two stages stratified sampling techniques in which 300 EAs (enumeration areas or clusters) were selected using probability proportion to size comprising rural and urban samples (237 rural and remaining 63 urban clusters) at the first stage. In the second stage, 30 households from each clusters were selected using systematic random sampling. Finally, a total of 8155 adolescent and youth (3663 boys and 4492 girls) aged 15-24 year from 9000 households were chosen.

The survey had administered household and individual questionnaires. Household questionnaire collected information on basic household and individual characteristics and individual questionnaire collected information on various issues (attitudes, perception and practices towards marriage, fertility, health behavior, sexuality and etc.) associated with adolescent and youth . The individual questionnaires were administered to all young people of age 10-24 years through direct interviewed by the trained interviewer.

Data analyses have been performed in three stages. First, univariate analysis (percentages) has been used. Secondly, bivariate (Chi square test for independence) and finally multivariate analyses (binary logistic regression) have been used to explore the joint effect of explanatory variables on knowledge and perception about STDs. The binary logistic regression model has been used as a multivariate technique due to dichotomous (yes or no) nature of response variable. Those associations having p-values less or equal to 5.0 percent are regarded as statistically significant. SPSS version 16.0 has been used to analyze the data.

Measurement of variables

Dependent variable

The main response variable for the present study is the knowledge of at least one STD. To measure this variable, the respondents were asked whether they heard about any type of STDs. The outcome of this variables is dichotomous: yes or no.

Explanatory variable

The main explanatory variables are age, education, sex, marital status, mass media exposure, household economic status, parental (father's and mother's) education, development regions, ecological belts and place of residence. Although the country comprises five development regions, this study assumes Kathmandu valley as an additional development region. Therefore, the analysis is based on six development regions. The rationale of selecting these variables as explanatory is explained previously.

Results

Table 1 shows the percent of youths classified according to selected background characteristics. About six in ten respondents are under the age of 20 years. In terms of educational status, 45.0 percent followed by 41.6 percent and 13.3 percent have acquired secondary, SLC and above and primary level education respectively. Majority of respondents are girls (55.1 percent against 44.9 percent) and unmarried (71.8 percent). More than 13.0 percent of youths have low exposure to mass media. About 40.0 percent of youths are from the household with poor economic condition. An overwhelming proportion of parents (77.0 percent mothers and 42.0 percent fathers) are illiterate. About one in every two youths are from hill region as compared with 44.0 percent from Tarai and 8.3 percent from Mountain.

Table 1: Percent of respondents classified according to selected background characteristics, Nepal, 2011

Characteristic	Percent n (%)	Characteristic	Percent n (%)
Age		Primary	642 (9.3)
15-19	4882 (59.9)	Secondary	629 (9.1)
20-24	3273 (40.1)	SLC and above	320 (4.6)
Education †		Father's education #	
Primary	964 (13.3)	Illiterate	2879 (42.0)
Secondary	3274 (45.1)	Primary	1306 (19.0)
SLC and above	3014 (41.6)	Secondary	1594 (23.2)
Sex		SLC and above	1077 (15.7)
Boy	3663 (44.9)	Regions	
Girl	4490 (55.1)	Eastern	1802 (22.1)
Marital status		Central	2019 (24.8)
Never married	5853 (71.8)	Western	1656 (20.3)
Married	2302 (28.2)	Mid-western	1000 (12.2)
Mass media exposure*		Far-western	795 (9.7)
Low	1032 (13.4)	Kathmandu	883 (10.8)
Moderate	4798 (62.2)	Ecological belts	
High	1885 (24.4)	Mountain	673 (8.3)
HH economic condition		Hill	3892 (47.7)
Poor	3232 (39.6)	Tarai	3590 (44.0)
Medium	3400 (41.7)	Place of residence	
Rich	1532 (18.7)	Rural	6497 (79.7)
Mother's education !		Urban	1658 (20.3)
Illiterate	5324 (77.0)	N	8155

† 903 cases are missing due to non response
* 440 cases are missing due to non response
# 1299 cases are missing due to the exclusion of literate category
! 1240 cases are missing due to the exclusion of literate category

Bivariate Analysis

For bivariate analysis, Chi Square test for independence has been used and only the associations that have p values less or equal to 0.05 have been explained. Table 2 reveals that percent distribution of youths who have heard at least one STD by selected background characteristics. Education, marital status, mass media exposure, mother's education, regions, and ecological belts have a strong association with knowledge of STDs. For example, a higher proportion of youths with better education, high exposure to mass media know about any STDs. Youths whose mothers acquire SLC and above are more likely to know about any STDs as compared with illiterate mothers. Among the development regions, a higher percent of youths from Kathmandu and eastern development region know about any STDs than youths from other regions.

Table 2: Percent of respondents who have heard of at least one STD (Gonorrhea, Syphilis, HIV/AIDS and Others) by selected characteristics, Nepal, 2011

Characteristic	Percent n (%)	Characteristic	Percent n (%)
Age		Primary	521 (81.9)
15-19	3737 (77.2)	Secondary	542 (86.3)
20-24	2501 (76.9)	SLC and above	274 (86.4)
Education ***		Father's education**	
Primary	689 (71.8)	Illiterate	1985 (69.5)
Secondary	2537 (78.1)	Primary	1030 (79.6)
SLC and above	2495 (83.5)	Secondary	1279 (80.9)
Sex		SLC and above	898 (83.9)
Boy	2802 (77.1)	Regions***	
Girl	3434 (77.0)	Eastern	1457 (81.0)
Marital status***		Central	1441 (72.0)
Never married	4593 (79.0)	Western	1318 (80.3)
Married	1645 (72.0)	Mid-western	648 (65.0)
Mass media exposure***		Far-western	599 (77.4)
Low	682 (66.3)	Kathmandu	775 (87.8)
Moderate	3669 (77.1)	Ecological belts***	
High	1587 (84.5)	Mountain	479 (72.8)
HH economic condition		Hill	3101 (80.0)
Poor	2491 (77.6)	Tarai	2658 (74.7)
Medium	2592 (76.9)	Place of residence	
Rich	1155 (76.3)	Rural	4965 (77.0)
Mother's education***		Urban	1273 (77.4)
Illiterate	3889 (73.6)	N	6238

*p<0.05, **p<0.01 and ***p<0.001 (based on Chi Square test)
Notes: Data in table excludes missing responses
Although Chi Square test uses both responses (yes or no), the table only provides positive response (yes).

Multivariate Analysis

Table 3 shows the odds ratio from logistic regression model of knowledge of STDs among youths by selected background characteristics. Table 3 includes three models: model 1, model 2 and model 3. In model 1, only the demographic factors have been included for binary logistic analysis. The analysis reveals that education, sex, and marital status of young people are strongly related to knowledge of at least one STD. For example, education is positively related to knowledge of at least one STD (the odds of knowing about is more than 5.0 times (CI, 4.98, 5.76) among youths having SLC and above education as compared with youths acquiring primary education). Married youths are more likely to know about STD than their unmarried counterparts.

Model 2 comprises two factors: demographic and household factors in which education, sex, marital status, mass media exposure are significantly associated with knowledge of STDs. Youths having SLC and above education are 2.8 (CI, 2.61, 3.45) times more likely to know about STDs than youths having primary level education after controlling remaining variables in the model. Girls are less likely to know (odds ratio 0.81 (CI, 0.70, 0.93) for girls) about any STDs than boys. Mass media exposure also appears as a strong predictor of knowledge of STDs among youths. The odds of knowing STDs is 4.56 (CI, 4.19, 5.21) times among youths having high exposure to media as compared to low exposure after controlling the remaining variables in the model.

Model 3 contains all the explanatory variables (demographic, household and spatial). Education, mass media exposure, and regions (central and mid western) are strongly related with knowledge of STDs among youths after controlling other variables in the model and these factors have more of less similar association as in model 2.

Table3: Adjusted odds ratio from logistic regression models of knowledge of at least one STD (Gonorrhea, Syphilis, HIV/AIDS and Others) among youths by selected background characteristics, Nepal, 2011

Characteristic	Model 1		Model 2		Model 3	
	Coef.	Adjusted Odds Ratio (95.0 % CI)	Coeff.	Odds ratio (95.0 % CI)	Coef.	Adjusted Odds Ratio (95.0 % CI)
Demographic factor						
Age						
15-19 (r)		1		1		1
20-24	-0.18	0.83 (0.72, 0.96)	-0.19	0.82 (0.71, 0.98)	-0.15	0.86 (0.73, 1.02)
Education						
Primary (r)		1		1		1
Secondary	0.32	1.72 (1.61, 2.13)***	0.10	1.9 2 (1.74,2.10)**	0.12	1.89 (1.72, 2.98)***
SLC and above	0.44	5.24 (4.98, 5.76)***	0.25	2.81 (2.61,3.45)***	0.22	2.80 (2.63, 3.11)***
Sex						
Boy (r)		1		1		1
Girl	-0.21	0.81 (0.73, 0.91)***	-0.21	0.81 (0.70,0.93)***	-0.18	0.83 (0.73, 0.97)*
Marital status						

Never married (r)		1		1		1
Married	0.27	1.31 (1.12, 1.54)***	0.27	1.45 (1.28,1.88)***	0.20	1.22 (1.02,1.08)***
Household factor						
MME						
Low (r)				1		1
Moderate			0.46	2.56 (2.41,2.84)***	0.47	2.63 (2.51, 2.71)***
High			0.68	4.56 (4.19,5.21)***	0.70	3.50 (3.39,3.65)***
HH eco. condition						
Poor (r)				1		1
Medium			0.03	1.03 (0.97,1.20)	0.06	1.06 (0.91, 1.24)
Rich			0.14	1.42 (1.25,1.89)	0.14	1.15 (0.92, 1.44)
Mother's education						
Illiterate (r)				1		1
Primary			-0.11	0.89 (0.70,1.18)	-0.07	0.93 (0.73, 1.19)
Secondary			-0.43	0.65 (0.49,0.86)**	-0.36	0.70 (0.53, 0.94)
SLC and above			-0.48	0.68 (0.43,1.12)*	-0.26	0.77 (0.53, 1.14)
Father's education						
Illiterate (r)				1		1
Primary			-0.25	0.78 (0.65,0.95)	-0.25	0.77 (0.64, 0.94)
Secondary			-0.16	0.86 (0.71,1.13)	-0.13	0.87 (0.71, 1.07)
SLC and above			-0.18	0.85 (0.70,1.12)	-0.18	0.84 (0.64, 1.09)
Spatial factor						
Regions						
Eastern (r)						1
Central					0.56	1.73 (1.40, 2.13)***
Western					0.23	1.25 (0.99, 1.58)
Mid-western					0.89	2.45 (1.94, 3.09)***
Far-western					0.15	1.17 (0.88. 1.56)
Kathmandu					0.02	1.01 (0.72, 1.39)
Ecological belts						
Mountain (r)						1
Hill					-0.17	0.85 (0.65, 1.11)
Tarai					0.03	1.03 (0.79 (1.39)
Place of residence						
Rural (r)						1
Urban					-0.09	0.91 (0.74, 1.11)
Constant	-0.86	0.43***	-0.41	0.66***	-0.73	0.48***
Chi Square		28.61**		24.13**		21.43**

*p<0.05, **p<0.01 and ***p<0.001 (based on logistic regression analysis)
Notes: MME= mass media exposure, CI = Confidence Interval, r = Reference category

Discussion

In bivariate analysis without controlling the influence of other variables, education, mass media exposure, marital status, mother's education, regions and ecological belts appear as significant factors. However, in the final model of multivariate analysis after controlling the effect of other variables, education and mass media exposure are strong factors associated with knowledge of at least one STD among youths. As expected, education is one of the important factors that enables adolescents and youths to know more about any STDs and their preventive measures. The finding of this study is also supported by a large number of studies at the global level (Sekirime, Tamale, Lule & Wabwire-Mangen, 2001; Svenson, Varnhagen, Godin & Salmon, 1992; Tyden, 1991; Fageeh, 2008).

This study also shows that mass media exposure is also a strong positive predictor of knowledge of STDs among youths. It is obvious that mass media (especially radio, TV and newspaper) facilitates to learn more about diseases. Various studies at global level also confirm this finding (Li, Wu, Lin, Guan, Rotheram-Borus &Lu, 2009; Gruber & Grube, 2009).

There is a significant regional variation in knowledge of STDs indicating that youths in central development region are more likely to know about any STDs than the youths from eastern development region after controlling remaining variables in the model. This result is as anticipated because of the reason that youths from central development region are more empowered in terms of mass media and other intervention programs related to HIV/AIDS awareness. Although youths in mid western development region are less empowered in terms of education and intervention programs related to mass media, the odds of STDs knowledge is higher than eastern development region. Therefore, further research may be the better option for drawing a firm conclusion.

Conclusion

The finding of this study is conclusive that educational attainment and mass media exposure are the strong factors associated with the knowledge of STDs among youths in Nepal. First, a priority is to be given for youths' education (particularly for the girls from interior, rural and remote parts of the country). Education not only provides knowledge about STDs but also teaches several dimensions of living health life among young population. Secondly, mass media (especially FM radio and TV) are one of the important sources of generating awareness toward the diseases and their prevention. Therefore, information, education and communication through radio and TV may an immediate actions for improving current level of knowledge among youths and general population as well.

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अनेक रस र एक मूल रस सम्बन्धी मान्यताको अनुशीलन

विष्णु प्रसाद पौडेल

सार

संस्कृत काव्यशास्त्रमा रस सिद्धान्त प्राचीन, अपेक्षाकृत व्यापक वा संश्लेषणकारी र बहुमान्य सिद्धान्त मानिन्छ । यसलाई सुरुमा नाटक केन्द्री बनाई भावमूलक कलात्मक स्थिति वा वस्तुपरक दृष्टिकोणका रूपमा र पछि समग्र साहित्य केन्द्री बनाई आत्मस्थ आस्वाद वा आत्मपरक दृष्टिकोणका रूपमा व्याख्या गर्ने काम भएको छ । वस्तुपरक व्याख्याले यसका भेद वा सङ्ख्यालाई पनि सङ्केत गर्ने भए पनि आत्मपरक व्याख्याले सामान्यतः त्यसको अखण्ड स्वरूपलाई सङ्केत गर्दछ । तर आत्मास्वाद बनेको रस पनि भावमा आधारित हुने र भावहरूको अनेकताका कारण बाह्य रूपमा त्यो अनेक पनि हुने ठानिन्छ । त्यसैले संस्कृत काव्यशास्त्रमा सुरूमा अनेक रसको चर्चा र केही समयपछि अनेक तथा एक मूल रसको कल्पना गरिएको छ । एउटै व्यक्ति (भोज) ले रसका अत्यधिक सङ्ख्या र एकै मूल रसको कल्पना पनि गरेको भेटिन्छ । यस्ता अनेक रसवादीमध्ये अधिकांशले मूलतः नवरसलाई नै महत्त्व दिएका छन् भने एक मूल रसवादीहरूले नवरसमध्येकै (कण, शान्त, शृङ्गार र अद्भुतमध्ये) कुनै एउटालाई मूल र अरूलाई त्यसैबाट उत्पन्न रस मानेका छन् । यही सन्दर्भलाई यहाँ क्रमशः चर्चा गर्दै तिनको समकालीन साहित्यप्रतिको प्रासङ्गिकता पनि आकलन गर्न खोजिएको छ ।

१. अनेक रस

रससङ्ख्याका बारेमा भरतपूर्व नै चर्चा रहेको कुरा स्वयं भरतले आफ्नो **नाट्यशास्त्र**मा उल्लेख गरेको पाइन्छ । भरतका अनुसार द्रुहिण नाम गरेका महात्माले आठ रसको उल्लेख गरेका र त्यसमा उनको पनि सम्मति रहेको देखिन्छ । भरतले ती आठ रसमध्ये पनि शृङ्गार, रौद्र, वीर र वीभत्स रसलाई प्रधान र तिनैबाट उत्पन्न भएका क्रमशः हास्य, करुण, अद्भुत र भयानक रसलाई गौण मानेका छन् (शृङ्गाराद्धि भवेद्धास्यो रौद्राच्च करुणो रसः । वीराच्चैवाद्भुतोत्पत्तिर्वीभत्साच्च भयानकः ।। **नाट्यशास्त्र** ६/३९) । यिनले शान्त रसको चर्चा गरेका छैनन् तर **नाट्यशास्त्र**को कुनै पाठमा शान्त रसको पनि उल्लेख छ भनी अभिनव गुप्तले चर्चा गरेको पाइन्छ तर त्यो पछि थपिएको अंश हो, भरतको दृष्टिकोण होइन भन्ने प्रमाणित भइ सकेको छ (नगेन्द्र, १९८७ : २३७) । यसरी हेर्दा नवरसमध्ये भरतले शान्त रसको चर्चा किन गरेनन् भन्ने जिज्ञासा जन्मन्छ । यसका बारेमा फरक फरक धारणा पाइन्छन् । भरतको नाट्यकेन्द्री रसको व्याख्या दर्शकलाई ध्यानमा राखी गरिएको छ र यो लोक जीवनसँग बढी सम्बद्ध छ । शान्त रस लोक व्यवहार उपयोगी नदेखिएको हुँदा पनि उनले यसलाई चर्चा नगरेको पनि ठानिन्छ (सहाय, २०२४ : २०३) । यस्तै **दश रूपक**कार धनञ्जयका अनुसार विषय भोग आदि वासनाबाट वा सुखदुखादि द्वन्द्वबाट मुक्त शुद्ध मानसिक स्वआनन्दका

रूपमा रहने शान्त रसलाई अभिनय गरेर राम्ररी देखाउन त्यति नसकिने वा नाट्यानुकूल नहुने ठानी भरतले यसको उल्लेख नगरेका हुन् (चौधरी, १९९० : २६४ मा उधृत पाद टिप्पणी ३) भन्दै उनी पनि भरत जस्तै आठ रसकै पक्षमा देखिए तर भरतपछिका दण्डीले काव्य वा साहित्यको चर्चा गर्दा पनि आफ्नो **काव्यादर्श**मा भरतले चर्चा गरेका आठ रसको मात्रै चर्चा गरेका छन् । दण्डीपछिका उद्भटले भने आफ्नो **काव्यालङ्कार सार सङ्ग्रह**मा शान्त रस समेत गरी नवरसको चर्चा गरेको पाइन्छ । त्यसैले उपलब्ध सामग्रीका आधारमा शान्त रसको उद्भावना प्रथमतः उद्भटले नै गरेको देखिन्छ । उनले "नव नाट्ये रसा स्मृताः" (**काव्यालङ्कार सार सङ्ग्रह** ४/४) भनी शान्त रस समेत नाटकमा नवरसको चर्चा गरेका छन् । तर पछि शान्त रसलाई धनञ्जयहरूले नाटक इतर साहित्यमा रहे पनि नाटकमा अभिनय जटिलताका कारण नहुने जनाएका थिए तापनि आनन्द वर्द्धन, अभिनव गुप्तहरूले त्यसको खण्डन गरी शान्त रस सबै साहित्यमा रहने भनी दरोसँग स्थापित गरेको पाइन्छ । त्यतिमात्रै होइन गुप्तले त शान्त रसलाई सबै रसहरूको मूल रसका रूपमा समेत स्थापित गरेका छन् (हेर्नु होस् यसपछिको शीर्षक २.१.२) । यही क्रममा गुप्तले उनीपूर्व चर्चामा आएका आर्द्रता स्थायी भाव भएको स्नेह रस, गर्ध स्थायी भाव भएको लौल्य रस र भगवद् भक्ति स्थायी भाव भएको भक्ति रसको पनि खण्डन गरि दिएका छन् । उनले स्नेह रसलाई रति वा उत्साह स्थायी भावमा, लौल्य रसलाई हास वा रति स्थायी भावमा र भक्ति रसलाई पनि रति स्थायी भाव वा अन्य भावमा अन्तर्भाव हुने भनी तिनको स्वतन्त्र अस्तित्व नकारेका छन् । यस्तै उनीपूर्वका मृगया तथा अक्ष (द्यूत) आदि रसहरूलाई पनि नकारेका छन् ।

उद्भट्पछि रुद्रट्ले स्नेह वा साहचर्य स्थायी भावको प्रेयान् नामक दसौँ रसको चर्चासँगै निर्वेद आदि सबै सञ्चारी भाव पनि रसको स्तरमा उठ्न सक्ने सङ्केत गरे (निर्वेदादिष्वपि तन्निकाममस्तीति ते पि रसाः । काव्यालङ्कार १२/४) । यसले गर्दा रसको सङ्ख्या अरू धेरै हुन सक्ने सम्भावना सङ्केत भयो । फलस्वरूप परवर्ती कतिपय आचार्यहरूले रस सङ्ख्या विस्तार गर्ने काम गर्न थाले । यस्ता आचार्यहरूमा भोज नै प्रमुख रहेका छन् । उनले **शृङ्गार प्रकाश**मा सबै स्थायी, सञ्चारी र सात्विक भाव गरी ४९ (८+३३+८) वटा भाव नै रसका रूपमा परिणत हुन सक्ने जनाएका छन् । त्यस्तै प्रेयान्, शान्त, उदात्त र उद्धत रसलाई क्रमशः धीर ललित, धीर प्रशान्त, धीरोदात्त र धीरोद्धत नायकसँग सम्बन्धित तुल्याएर प्रस्तुत गरेको देखिन्छ । यी बाहेक स्वातन्त्र्य, आनन्द, प्रशम र पारवश्यका साथ क्रमशः साध्वस, विलास, अनुराग र सङ्गम रसको पनि उल्लेख गरेका छन् । छोटोमा भन्दा सबैभन्दा बढी रस सङ्ख्याको चर्चा भोजले नै गरेको पाइन्छ । यसपछि रामचन्द्र गुणचन्द्रले तृष्णा स्थायी भाव भएको व्यसन रस, अरति स्थायी भाव भएको दुख रस र सन्तोष स्थायी भाव भएको सुख रसको चर्चा गरेका छन् तापनि यिनीहरू स्वयंले ती रस पूर्व आचार्यहरूले चर्चा गर्दै आएका नवरसमध्ये कुनै न कुनैमा अन्तर्भाव हुन सक्ने पनि जनाएका छन् ।

यसपछि विश्वनाथले वात्सल्य स्थायी भाव भएको वत्सल नामको दसौँ रसको स्थापना गरेका छन् । विश्वनाथपछि भानुदत्तले नवरस बाहेक वात्सल्य, लौल्य, भक्ति, कार्पण्य र माया रसको चर्चा गरेका छन् । वात्सल्य, लौल्य र भक्ति रसको अधिल्ला आचार्यहरूले चर्चा गरि सकेका थिए भने यिनले स्पृहा स्थायी भाव भएको कार्पण्य रस र मिथ्या ज्ञान स्थायी भाव भएको माया रसको थप

कल्पना गरेका छन् । वैष्णव आचार्य **भक्तिरसामृत सिन्धु**का रचयिता रूप गोस्वामीले भक्तिलाई पूर्व आचार्यले झैँ रतिकै एक स्वरूप नठानी भगवद् भक्ति स्थायी भाव भएको स्वतन्त्र मूल रसका रूपमा व्याख्या गरेको देखिन्छ । पन्ध्रौँ सोह्रौँ शताब्दीतिरका वैष्णव भक्त कविहरूले संस्कृत र आधुनिक भारतीय भाषाहरूमा प्रचुर भक्ति काव्यहरू (जस्तै- नारद भक्तिसूत्र, भक्ति रसायन आदि) लेखेको पनि पाइन्छ । पर्याप्त सिर्जनात्मक पृष्ठभूमि समेत रहेको हुँदा पण्डित राज जगन्नाथले आफ्नो **रस गङ्गाधर** कृतिमा भगवत् अनुराग रूप भक्तिलाई प्रशस्त महत्त्व दिएर वा स्वतन्त्र रसकै स्तरमा चर्चा पनि गरे का छन् तर पनि अन्ततः भरत, अभिनव, मम्मट आदि पूर्वाचार्यहरूले स्थिर गरेको नवरसको परम्पर ालाई सम्मान गर्दै भक्तिरसलाई भावमै समेट्ने काम पनि गरेका छन् ।

यसपछि नव्य भारतीय आर्य भाषाका आधुनिक समीक्षकहरूले पनि रस सङ्ख्याका बारेमा थप चर्चा गरेको पाइन्छ । यस क्रममा राघवनले व्रीडानक (लज्जा स्थायी भाव) रस, भरतेन्दु हरि श्चन्द्रले भक्ति, वात्सल्य र सख्यका अतिरिक्त प्रमोद वा आनन्द रस, रामचन्द्र शुक्लले प्रकृति रस, गुलाब राय, शिवराम पन्त आदिले देशभक्ति रस, मराठी विद्वान्हरू जावडेकरले क्रान्ति रस, विद्याधर वामन, भिडेहरूले उद्वेग रस र आत्माराम रावजी, देश पाण्डेहरूले प्रक्षोभ रसको चर्चा गरेको पाइन्छ (नगेन्द्र, १९८७ : २४४-४५) । यस्तै हिन्दीमा सेठ कन्हैया लाल पोद्दार र मराठीमा चाफेकर तथा वाटनेहरूले भक्ति रसलाई, हिन्दीमा हरिऔध र मराठीमा वाटवेले वात्सल्य रसलाई विशेष महत्त्व दिएर चर्चा गरेका छन् । यस्तै नगेन्द्रले पनि समसामयिक साहित्यका आधारमा प्रकृति, दे शभक्ति, क्रान्ति, उद्वेग र प्रक्षोभ जस्ता रसहरू चर्चा हुन थालेको जनाएका छन् (नगेन्द्र, १९८७ : २४४-४६) । सत्यदेव चौधरीले पनि नवरस बाहेक वत्सल र प्रेयान् रसलाई पनि स्वतन्त्र रस मान्नु पर्ने धारणा प्रस्तुत गरेका छन् (चौधरी, १९९० : २८८) ।

१.१ अनेक रसको विश्लेषण

यसरी संस्कृत काव्यशास्त्रमा सुरुमा आठ रस र उद्भटबाट नवरसको प्रचलन भए पनि रुद्रट्ले रसको सङ् ख्या विस्तार हुन सक्ने सङ्केत दिएका हुँदा त्यसलाई भोजले चार दर्जनभन्दा बढी सङ्ख्यामा विस्तार गरि दिएको देखिन्छ तापनि तिनको सुदृढ शास्त्रीय स्थापना नहुँदा ती परम्परामा स्वीकृत भने हुन सके का देखिन्नन् । तर तिनले परवर्ती आधुनिक समीक्षकहरूलाई रसको सङ्ख्या विस्तारका लागि भने प्रे रित गरेको देख्न सकिन्छ । फलतः आधुनिक साहित्यको सन्दर्भ समेट्नका लागि भनी कतिपय नव्य आर्यभाषाका साहित्य समीक्षकहरूले नयाँ नयाँ रसको चर्चा बेलाबेलामा गरेको पनि पाइन्छ तर यसरी रसको सङ्ख्या विस्तार गर्नेहरूले संस्कृत काव्यशास्त्रमा स्थापना गरिएको रसको स्वरूप, त्यसका आधार सामग्री, त्यसले अङ्गीकार गरेको दार्शनिक भित्ति र त्यसको अभीष्ट लक्ष्य के थियो भन्ने कुरामा राम्रोसँग हेक्का राख्नै पर्ने भए पनि कतिपयले राखेको देखिन्न ।

कुरा के भने भरतले नै स्थायी भाव रसका रूपमा निष्पत्ति हुनका लागि विभाव, अनुभाव र व्यभिचारी भावको संयोग हुनु पर्ने जनाएका थिए । उनले स्थायीभाव कसमा हुन्छ भन्ने स्पष्ट किटान नगरेकाले भट्ट लोल्लट, शङ् कुक, भट्टनायक र अभिनव गुप्तहरूले रस निष्पत्तिको व्याख्याका क्रममा क्रमशः स्थायीभाव मूलपात्र, अनुकर्ता/लेखक, भावक र सहृदयी भावकमा रहने कुरा देखाए तर अभिनव गुप्तको पछिल्लो धारणा नै

स्वीकृत बनेर रह्यो । त्यस अनुसार यो स्थायीभाव भनेको सुकेको माटोमा गन्ध अव्यक्त भएर रहे झैँ सहृदयीको अन्तस्करणमा वासनाका रूपमा सदा रहने स्थिर मनोवृत्ति (सेन्टिमेन्ट) नै हो । यो नै रसको वीजका रूपमा रहन्छ । विभावादिको सहयोगले स्थायी भाव नै रसका रूपमा अङ्कुरित र पल्लवित बनि रहेको हुन्छ । स्थायी भावलाई विरोधी तथा अविरोधी भावहरूले तिरोहित गर्न सक्तैनन् बरु यसले अन्य भावहरूलाई आफूमा समाहित समेत गरी पल्लवित हुन्छ । अर्को कुरा विभाव, अनुभाव र व्यभिचारी भावहरूबाट यो प्रस्फुटित वा उद्‌बुद्ध, उद्‌दीप्त र परिपुष्ट भएमा मात्रै रस रूपमा परिणत हुन्छ नत्र यो सञ्चारी भावको तहमै झर्छ । स्थायी भाव पूर्वसिद्ध हो तर रस पूर्वसिद्ध होइन । व्यावहारिक उदाहरणमा जस्तै- जलेबी बनाउन ठिकसँग मुछेर ढडाएको पिठो स्थायी भाव हो भने राम्ररी तताएको तेल, त्यसमा पकाएको स्थिति, अनि चास्नी र त्यसमा डुबाएर राखेको अवस्था विभाव, अनुभाव र व्यभिचारी भाव हुन् । त्यसरी तयार पारेर झिकिएको तात्तातो जलेबी नै रस हो । यसमा पिठो, तेल, चिनी र पानीको मात्रा भए पनि खाँदा तीभन्दा छुट्टै प्रकारको स्वाद प्राप्त हुन्छ । रसात्मक अनुभूति पनि साहित्यगत विभाव, अनुभाव र व्यभिचारी भाव संश्लिष्ट स्थायी भावभन्दा विशिष्ट अनुभूति हो । जलेबीको आधार पिठो, तेल, चिनी र पानी भए झैँ रसका आधार स्थायी भाव, विभाव, अनुभाव र व्यभिचारी भाव हुन् । यीमध्ये पनि स्थायी भाव (स्थिर मनोदशा / मनोवृत्ति / सेन्टिमेन्ट) को महत्त्व अझ बढी हुन्छ किनभने यो नै रसावस्थामा परिणत हुने तत्त्व हो । सञ्चारी भाव (अस्थिर मनोदशा / मनोविकार / इमोसन) होइन । स्थायी भावको मात्रै साधारणीकरण सम्भव हुन्छ । त्यसैले यसलाई रञ्जन सामर्थ्य बढी रहेको भाव पनि भनिन्छ ।

मानव हृदयमा उठ्ने विभिन्न मनोविकारका तरङ्गहरू यति नै भनेर किटान गर्न नसकिने भए पनि सामान्यतः त्यो सङ्ख्या ४२ वटा मान्ने चलन पनि छ (नगेद्र, १९८७ : २२१) र तीमध्ये रति, हास, शोक, क्रोध, उत्साह, भय, जुगुप्सा / घृणा, विस्मय र शम / निर्वेद गरी ९ वटा अरूभन्दा बढी प्रभावशाली वा स्थिर प्रकृतिका हुने हुँदा तिनलाई स्थायी भाव र अरूलाई अस्थिर / व्यभिचारी / सञ्चारी भाव भनिएको हो । साहित्यमा यस्ता प्रभावशाली र पुष्ट स्थायी भाव मात्रै रसका रूपमा परिणत हुन सक्छन् । अझ भनौँ स्थायी भाव निर्धारणका मुख्य कसी स्थायित्व, प्रबलता, पुरुषार्थ (धर्म, अर्थ, काम र मोक्ष) का प्रति उपयोगिता, साधारणीकृत हुन सक्ने क्षमता, मौलिकता र औदात्य वा परिष्कृति हुन् । यिनै आधारमा रसका निर्णायक तत्त्व क. अपेक्षाकृत स्थायी प्रभाव, ख. सार्वभौम स्वीकृति, ग. रञ्जनाधिक्य वा उत्कट आस्वाद्यमानता, घ. मनुष्यको कुनै न कुनै मूल प्रवृत्तिसँग प्रत्यक्ष सम्बन्ध, ङ. जीवनको परम पुरुषार्थहरूका प्रति उपयोगिता र च. परिष्कृत अनुभूति मानिन्छन् (नगेद्र, १९८७ : २६५) । त्यसैले यी स्तरमा प्रकट हुन नसक्ने अन्य भावहरू तिनै स्थायी भावमा कुनै न कुनै रूपमा अन्तर्भूत हुन्छन् । जस्तै- आफ्नो राष्ट्र, जाति, धर्म, संस्कृति र सभ्यताप्रति प्रेम वा दानशीलता जस्ता कुरा रति वा उत्साह स्थायी भावमा अन्तर्भूत हुन्छन् । त्यस्तै मान्यजनहरूप्रतिको रति भक्ति हो भने सन्तान वा तत् समान सानाहरूप्रतिको रति वात्सल्य हो । शास्त्रीय दृष्टिले हेर्दा यी स्थायी भाव नभई भाव मात्रै हुन् (नगेद्र, १९८७ : २२१) भन्ने धारणा नै परम्पराद्वारा अनुमोदित रहे पनि वात्सल्य र भक्तिको तीव्र संवेगात्मकतालाई ध्यानमा राखी रस नै मान्नु पर्दछ भन्ने विश्वनाथ, रूप गोस्वामी, जगन्नाथ आदिको तर्क पनि उत्तिकै बलशाली रहेका छन् । यी सानाठुलाप्रतिको अनुराग (वात्सल्य र भक्ति) आर्जित

नै भए पनि शान्त रसको निर्वेद वा शम जस्तो अप्राकृत वा आरोपी पनि मानिन्नन् र पनि परम्परित नवरसको परम्परा नै बहुस्वीकृत बन्दै आएको पाइन्छ ।

यही भएर शृङ्गार रसलाई प्रेम रस मानी नायक नायिका प्रेम, देशप्रेम, प्रकृति प्रेम, मान्यजन (देवी देवता, मातापिता, गुरु आदि) प्रेम, सन्तान वा तत् समानप्रतिको प्रेम जस्ता भेदमा विभाजित गरी हेर्नु पर्ने तर्क पनि देखिएको छ (नगेद्र, १९८७ : २६६) । त्यस्तै आवेग, जडता, उग्रता, अपस्मार, आलस्य, व्याधि, चपलता, ग्लानि आदि सबै सञ्चारी वा अस्थिर भावलाई पनि रसका रूपमा देखाउन खोज्ने प्रयत्न आफैमा त्रुटिपूर्ण रहे को स्पष्ट हुन्छ ।

१.२ अनेक रसको निष्कर्ष

समग्रमा भन्दा संस्कृत काव्यशास्त्रमा रसको सङ्ख्या नौबाट बढाउने काम रुद्रट्बाटै सुरु भएको र भोजले त्यसको अति विस्तार गरेको देखिन्छ । तर यस्ता धेरै रसमध्ये कतिपयको नाम मात्रै उल्लेख गरिएको छ (जस्तै- साध्वस, पारवश्य र विलास) भने कतिपय खण्डनका लागि प्रसङ्गवश नाममात्रै आएका छन् (जस्तै- लौल्य, कार्पण्य, सुख, दुख, मृगया, द्यूत र व्यसन) । त्यस्तै कतिपय रस नाटकका नायकको भेदसँग सङ्गति कायम गर्न मात्रै कल्पना गरिएका छन् (जस्तै- उदात्त र उद्धत- यी चारित्रिक विशेषता हुन् चित्तवृत्तिहरू होइनन्) भने कतिपय भाव (व्रीडा / लज्जा) लाई नै रस (व्रीडानक रस) भनिएको छ तर रस बन्ने आधार सहित त्यसको पुष्टि गर्न सकिएको छैन । त्यस्तै कतिपयले रति / प्रेम स्थायी भावका आलम्बनका भेदलाई लिएर प्रेयान् / सख्य (मित्र प्रेम), वात्सल्य (सन्तान वा तत् तुल्य प्रेम), भक्ति (देवता वा इष्टप्रेम), देशभक्ति (देशप्रेम), प्रकृति (प्रकृति प्रेम) रसहरूको कल्पना गरेका छन् भने कतिपयले पृथक् आस्वाद्य रूप नभएका कान्ति, उद्वेग, प्रक्षोभ, माया जस्ता रसको कल्पना गरेका छन् किनभने ती उत्साह, क्रोध, शोक, जुगुप्सा / घृणा आदि स्थायी वा अन्य सञ्चारी भावमा अन्तर्भाव हुन सक्छन् (नगेन्द्र, १९८७ : २६६) । तर नायक नायिकाको प्रेम र मित्र, सन्तान, देवता आदि प्रेम एकै ठानिनु हुन्न भन्ने तर्क पनि रहेका छन् । रस समीक्षक नगेन्द्र पनि उत्साह, शोक वा अन्य भावमा अन्तर्भुक्त हुने हुँदा प्रेयान् वा सख्यलाई स्वतन्त्र रसको संज्ञा दिन नसकिने तर वात्सल्यलाई भने रस होइन भनी नकार्न नसकिने ठान्दछन् । त्यस्तै उनी भक्तलाई मात्रै साधारणीकरण हुने अरूलाई नहुने भक्ति रस, अनेक स्वरूप (मधुर, विराट् र भयानक) मा प्रकट हुने वा रति, ओज र भयानक भावका रूपमा देखिने प्रकृति रस अनि रति, उत्साह आदि भावमा अन्तर्भाव हुने देशप्रेम जस्ता अरूले चर्चा गरे का रसलाई स्वतन्त्र रस मान्न नसकिने ठान्दछन् । सारतः उनी विश्वनाथले झैँ वत्सल समेत गरी दश रस मान्ने पक्षमा देखिन्छन् । यसरी नवरसको सङ्ख्या वृद्धिको प्रयत्न संस्कृत काव्यशास्त्रमै वरिष्ठ आचार्यहरूले गरेका र त्यसलाई कतिपय आधुनिक रस समीक्षकहरूले पनि अङ्गीकार गर्दै आएको पाइन्छ । यसबाट प्राचीन नवरसमात्रै समग्र साहित्यको व्याख्या गर्न समर्थ नभएको तथ्य त एकातिर प्रकट हुन्छ तर अर्कातिर अधुनातन साहित्य लेखनसँग सम्बद्ध सबल नयाँ भावको अन्वेषण गरी थप अर्को रसको सुदृढ ढङ्गमा निर्माण गर्न नसकिएको तथ्य पनि छर्लङ्ग देखिन्छ । नव्य भारतीय आर्य भाषाहरूमा यस्ता कतिपय चेष्टा बेला बेलामा देखिए पनि ती सिर्जना र रसशास्त्रहरूको

गहन अनुशीलनमा आधारित बनेर आउन नसक्दा परम्पराद्वारा अनुमोदित हुन सकेका देखिँदैनन् ।

२. एक मूल रस

भरतले रसलाई भावमूलक कलात्मक स्थितिका रूपमा अर्थ्याई वस्तुपरक दृष्टिकोण प्रस्तुत गरे पनि आनन्द वर्द्धन अभिनव गुप्त, मम्मट, विश्वनाथ, जगन्नाथ आदि परवर्ती महत्त्वपूर्ण आचार्यहरूले रसलाई सत्व गुणको सञ्चार भएको अवस्थामा आत्मस्थ अनुभूतिको आस्वाद मानेर आत्मपरक दृष्टिकोण प्रस्तुत गरे । पछिल्लो आत्मपरक व्याख्या नै बढी तार्किक र विश्वसनीय बन्दै गयो । यस अनुसार रसात्मक अनुभूति अखण्ड र आनन्दमय देखियो । यहीँबाट एक मूल रसको धारणा जन्मन थाल्यो । त्यस बाहेक अनेकतामा एकत्व खोज्ने अद्वैतवादी दर्शनको प्रेरणाले पनि यसमा काम गरेको छ । यस्तो धारणाको क्रमशः तल चर्चा गरिएको छ ।

२.१ एक मूल रसका रूपमा कल्पना गरिएका रसहरू

२.१.१ करुण रस

एक मूल रसको कल्पना गर्ने काम प्रथमतः भवभूतिले आफ्नो नाटक **उत्तर राम चरित**मा तमसा पात्रका माध्यमबाट गरेका छन् । त्यहाँ भनिएको पनि छ- नदीको पानीमा भुमरी, तरङ्ग र पानीका फोकाहरू देखिए पनि ती पानीकै अनेक रूप भए जस्तै साहित्यमा अनेक रस देखिए पनि ती एउटै करुण रसका निमित्त भेद मात्रै हुन् (एको रसः करुण एव निमित्त भेदात्, भिन्नः पृथक् पृथगिवाश्रयते विवर्तान् । आवर्त बुद्बुदतरङ्गमयान्विकारानम्भो यथा सलिलमेव तु तत्समग्रम् । उत्तर राम चरित ३/४७) । तर सिङ्गो नाटकमा भने विप्रलम्भ शृङ्गारलाई अङ्गी र करुण रसलाई अङ्ग रसका रूपमा प्रस्तुत गरिएको छ । करुण रस यहाँ विप्रलम्भ शृङ्गारको पोषक मात्रै बनेको छ । समग्र कृतिगत स्थिति त्यो भए पनि करुण प्रसङ्गमा तमसाको भनाइले करुण रसलाई मूल रसका रूपमा देखाएको छ ।

भवभूतिको यो कुनै शास्त्रीय स्थापना नभए पनि आधुनिक कालीन रस समीक्षकहरू (उत्तम र ाम चरित्रका टीकाकार वीरराघव आदि) ले यसलाई केही व्यापकता साथ अर्थ्याउने प्रयत्न गरे को पनि पाइन्छ । तिनका अनुसार जीवनमा शृङ्गारभन्दा करुणाको मात्रा बढी हुने हुँदा यसलाई रागी र विरागी दुबैले समान रूपमा अनुभव गर्छन् र यस रसमा शृङ्गार रसका अपे क्षा आर्द्रता वा द्रुतिको मात्रा पनि बढी हुन्छ । साथै यो चित्तद्रुति नै मूल चेतनाको रूपमा सबै मनोवेग / संवेदनाहरूमा रहने हुँदा करुण रस मूल रसका रूपमा रहन सक्ने तर्क आधुनिक कतिपय समीक्षकहरूको रहेको छ । तर शोक स्थायी भाव भएको करुण रसमा शृङ्गार, हास्य र अद्भुत जस्ता रसलाई अन्तर्भूत गर्न त्यति सहज देखिन्न । त्यसैले भवभूतिको नाटकको पात्रले बाहेक यस रसलाई मूल रसका रूपमा कुनै पनि संस्कृतका आचार्यहरूले चर्चा गरेको पाइन्न । भरतले त यसलाई रौद्र रसबाट उद्भुत गौण रस नै ठानेका छन् । तर अन्य आचार्य (विश्वनाथ) ले काव्यमा अङ्गी (मुख्य) र अङ्ग (सहायक) रसको चर्चा गर्दा भने यसलाई अङ्गी रसको स्थान दिएको देखिन्छ । रामायण नै यसको दरो दृष्टान्त पनि छ । त्यसैले यो एक मूल रस नभए पनि नवरसमध्येको अङ्गी रस हुन सक्ने एउटा महत्त्वपूर्ण रस हो ।

२.१.२ शान्त रस

भवभूतिपछि अभिनव गुप्तले शान्त रसलाई एक मूल (प्रकृति) रस मानेका छन् । उनले आप्नो धारणा राख्नु अघि भरतको **नाट्यशास्त्र**मा सम्भवतः पछि कसैले प्रक्षिप्त गरेको अंशकै सहयोग लिएका छन् जसमा भनिएको छ- रति आदि अन्य भाव त विकार मात्र हुन्, शान्त रस नै प्रकृति वा मूल हो । विकारहरू प्रकृतिबाट उत्पन्न हुन्छन् र त्यसैमा लीन हुन्छन् (भाव विकारा रत्याद्याः शान्तस्तु प्रकृतिर्मतः । विकारः प्रकृतेर्जातः पुनस्तत्रैव लीयते ।। **नाट्यशास्त्र** ६/६१ चौधरी, १९९० : २६९ मा उधृत) ।

यसको शम वा शान्ति स्थायी भावले चित्त सुखदुखादि द्वन्द्वबाट वा लौकिक बन्धनहरूबाट मुक्त तथा निर्विकार तुल्याउने हुँदा रसानन्दको एकदमै शुद्ध अवस्था प्रदान गर्ने ठानिन्छ । रसलाई ब्रह्मस्वाद सहोदर मान्ने हो भने शान्त रस नै त्यस स्थितिको धेरै निकट हुन्छ किनभने यस रसको स्थायी भाव शम वा आत्मज्ञान परिकल्पित विषय भोग आदि वासनाबाट मुक्त र शुद्ध आनन्दमय हुन्छ । यो आत्मचैतन्यको स्वाद भनेकै रसास्वादनको मूल स्थिति हो । यसमा हुने तत्व ज्ञान वा आत्मज्ञान अन्य स्थायी भावहरूको पनि आधार हुने हुँदा यो नै मूल रस हो र अन्य स्थायी भावहरू यसका रूपान्तर वा व्यभिचारी भाव मात्र हुन् भन्ने अभिप्राय अभिनव गुप्तको रहेको छ (नगेन्द्र, १९८७ : २५५-५६) ।

गुप्तले यसलाई एउटै मूल रस माने पनि अरूले त्यस रूपमा मानेको पाइन्न । भरतले त अभिनय जटिलताका कारण यसको उल्लेख नै नगरेको मानिन्छ । धनञ्जय र धनिकले यसलाई स्पष्ट गर्ने क्रममा शान्त रस अभिनयद्वारा प्रकट गर्न सजिलो नहुने हुँदा त्यो नाट्यानुकूल नरहेको जनाए । तर अभिनव गुप्त र अरू परवर्ती आचार्यहरूले विभावादिद्वारा शम स्थायीभावको अभिनयद्वारा व्यञ्जित गर्न सकिने जनाएका छन् अर्थात् मायाजालमा आवेष्टित संसारको असारता, क्षण भङ्गुरता वा सांसारिक मिथ्याको स्वरूपलाई विभावादिको अभिनयले व्यक्त गर्न सकिने हुँदा यसको प्रासङ्गिकता काव्यमा जस्तै नाटकमा पनि हुन्छ । यद्यपि यस रसका सुखदुखादि द्वन्द्वबाट निर्लिप्त कतिपय स्थितिलाई अभिनय गर्न सकिन्न तर त्यस्ता कुरा पूर्वापर प्रसङ्गबाट अभिव्यञ्जित हुन्छन् । यस्ता कतिपय स्थितिको अभिनय निषेध त अन्य रसमा (जस्तै- नग्न यौनक्रीडा, हत्या, शव दहन आदि) पनि गरिन्छ । यस्ता केही स्थिति शान्त रसमा पनि रहन सक्छन् । अर्को कुरा शम वा निर्वेदको प्रकर्षता भनेको सुखदुखादि द्वन्द्वबाट मुक्त मोक्षावस्था वा ब्रम्हस्वादको निकटतम अवस्था हो । त्यो स्थिति त काव्य र नाट्य दुबैका लागि अनिर्वचनीय वा अअभिनेय नै हुन्छ तर सबै स्थायी भाव रसावस्थामा पुग्दा त्यो स्थितिमा पुग्छन् नै । त्यसैले शान्त रस सबै साहित्य (काव्य र नाटक) मा स्वीकार्य बन्छन् ।

शान्त रसको स्थायी भाव धेरैले शम वा शान्ति भने पनि मम्मटले निर्वेद मानेका छन् । अनि उनले निर्वेदलाई सञ्चारी भावमा पनि राखेका छन् । यसले पनि शान्त रसका बारेमा केही भ्रम सिर्जना भएको छ । विषय संलग्नताबाट उत्पन्न वास्तविक विरक्ति शम हो । यो स्थायी भावका रूपमा रहन्छ । तर दरिद्रता, पुत्र स्मरण आदि व्याधिहरूबाट उत्पन्न वैराग्य निर्वेद हो । यो सञ्चारी भावका रूपमा रहन्छ (चौधरी, १९९० : २६२) । मम्मटले शान्त रसको स्थायी भाव निर्वेद भने पनि उनले दिएको उदाहरणले त्यो निर्वेद विषय संलग्नताबाट उत्पन्न विरक्ति भाव नै बुझिन्छ ।

सञ्चारी भावका रूपमा रहने क्लेशहरूका कारण उत्पन्न विरक्ति भाव भन्ने बुझिन्न । जहाँसम्म शान्त रस नै मूल रस हो भन्ने धारणा पूर्वीय अध्यात्मवादी दृष्टिले भने एकदमै तार्किक छ र शान्त रस प्रधान कृति **महाभारत**का कारण पनि यसको व्यावहारिक पक्ष पनि सबल नै देखिन्छ । तर आधुनिक भौतिकतावादी चिन्तनका सापेक्षतामा भने यसको व्यावहारिक पक्ष क्रमशः दुर्बल बन्दै गएको छ । आज तत्त्व ज्ञानबाट उत्पन्न वैराग्य भाव भएका साहित्य कति नै लेखिन्छन् र ? त्यसैले हामी जस्ता सांसारिकहरूले शान्त रसलाई एक मूल रस नमानी प्राचीन तथ्यका आधारमा नवरसमध्येको एउटा महत्त्वपूर्ण रस भने आवश्य मान्न सक्छौँ ।

२.१.३ शृङ्गार रस

अभिनव गुप्तपछि भोजराजले शृङ्गार रसलाई एक मूल रस मानेको पाइन्छ । उनले अहंकार वा अभिमानलाई आत्माको विशिष्ट गुण ठान्दै त्यसैलाई शृङ्गार रस मानेका छन् । यो अहंकार एक किसिमको आत्मानुराग हो । त्यसैको जागरण र सुतृप्ति नै काव्यको चरम लक्ष्य हो । यही अहंकार वा शृङ्गार रसबाट अन्य सबै भावहरू जन्मन्छन् । त्यसैले यो सबै मानसिक भावहरूको मूल हो; अग्निका फिलिङ्गाहरू अग्निको ज्वालाको पोषक भए झैँ अन्य सबै भावहरू यसका पोषक र यो पोष्य हो; साथै यो नै चतुर्वर्ग फलको कारण पनि बन्दछ भन्ने मान्यता उनको रहेको छ । भोजको यही दृष्टिकोणलाई प्रकारान्तरले **अग्नि पुराण**ले पनि कथन गरेको छ । यस अनुसार आनन्द परम ब्रम्ह समकक्षी छ । आनन्दको अभिव्यक्तिमा हुने चैतन्य चमत्कार नै रस हो । त्यो रसको अभिव्यक्ति अहंकारले गर्दछ । अहंकारबाटै अभिमान र अभिमानबाटै रतिको उत्पत्ति हुन्छ । यही रतिमा व्यभिचारी आदि भावको संयोगले शृङ्गार रस बन्दछ । यही शृङ्गारका हास्य आदि भेद हुन्छन् । यसरी हेर्दा भोजले शृङ्गारलाई रसकै पर्याय मानेका थिए भने **अग्नि पुराण**ले रसहरूको त्यस्तो मुख्य भेद जस्ले अन्य रसहरू जन्माउन सक्छ भन्ने मानेको छ । त्यसैले अन्ततः अभिप्रायः दुबैको एकै देखिन्छ । भोज र **अग्नि पुराण**को धारणालाई रामचन्द्र गुणचन्द्रहरूले आफ्नो **नाट्य दर्पण**मा पनि सम्मति जनाएका छन् ।

शृङ्गार रसलाई एक मूल रस नमाने पनि रसहरूमा उत्तम हो भन्ने राय भने भरत, रुद्रट्, आनन्द वर्द्धन, अभिनव गुप्त, विश्वनाथ आदि आचार्यहरूले राखेको पाइन्छ । यसमा उनीहरूको तर्क के छ भने यो रति (काम) सबै जनहरूको काम्य विषय हो र यसका सम्भोग र विप्रलम्भ भेदमा अत्यधिक भाव (स्थायी, सञ्चारी र सात्विक) हरूको उपस्थिति देख्न सकिन्छ । त्यसैले यो व्यापक छ । यसमा नवरस बाहेक पछि कल्पना गरिएका धेरै जसो रसहरू अन्तर्भाव गर्ने पनि गरिन्छ । साथै यसका विषय र आश्रय दुबै आलम्बनहरूका चेष्टाहरूले दुबैलाई उद्दीप्त गर्न सक्छन् । यी आलम्बनमा अरूमा जस्तो परस्पर शत्रुता वा उदासीनता नभई दुबैमा घनिष्ठता रहेको हुन्छ ।

समग्रमा भन्दा शृङ्गार रसमा अनेक भावहरू संश्लिष्ट हुन सक्ने, व्यापक, सर्वजन ग्राह्य, सर्वाधिक आल्हादक र कमनीय आस्वादन पनि भएको हुँदा यसमा आधारित भएर साहित्यको सिर्जना पनि अत्यधिक गरिएको छ । यसको लोकप्रियता हिजो जस्तै आज पनि छ । त्यसैले यसलाई रसहरूमा उत्तम वा रसराज भन्न त सकिन्छ तर भोज र **अग्नि पुराण**ले झैँ सबै रसको स्रोत वा एक मूल रस भने भन्न सकिन्न किनभने शृङ्गार विरोधी करुण, वीभत्स,

रौद्र, शान्त, भयानक जस्ता प्रशस्त रसहरूको पनि स्वतन्त्र अस्तित्व साहित्यमा रहेको छ ।

२.१.४ अद्‌भुत रस

विश्वनाथका प्रपितामह नारायण पण्डितले अद्‌भुत रसलाई नै एक मूल रस मानेको कुरा विश्वनाथले नै आफ्नो **साहित्य दर्पण**मा छोटोमा उल्लेख गरेका छन् । तर यसको स्थापना गरिएको विस्तृत सामग्री उपलब्ध छैन । सीमित सामग्रीमा नारायण पण्डितको तर्क के रहेको छ भने सबै रसको सार भनेको चमत्कार हो । त्यसको अधिकतम अभिव्यक्ति विस्मय स्थायी भाव र अलौकिक वस्तु आलम्बन विभाव भएको अद्‌भुत रसमा हुने हुँदा यो नै सबै रसको मूल हो (रसे सारः चमत्कारः सर्वत्राप्यनुभूयते । तच्चमत्कार सारत्वे सर्वत्राप्यद्‌भुतो रसः ।। **साहित्य दर्पण** ३/३ वृत्ति ।) तर यस्तो चमत्कार विषयजन्य सामान्य कुतुहल हो वा विषयीजन्य निर्विध्न आत्म प्रतीति वा आत्मस्वाद हो सुस्पष्ट व्याख्या पाइँदैन । रसको सार भनेको स्थूल विस्मय नभई सूक्ष्म आनन्द हो । अद्‌भुत रस प्रतीतिका लागि पनि विस्मय स्थायी भावले त्यो स्तर प्राप्त गर्नु पर्छ । अर्को कुरा साहित्य लोकोत्तर चमत्कार भावको मात्रै विषय नभई स्वभावोक्तिको पनि विषय हो । त्यसैले यो रसको एक प्रकार भए पनि सबै रसको मूल स्रोत हुन सक्दैन ।

२.१.५ भक्ति रस

एक मूल रसको कल्पना गर्ने पछिल्ला आचार्यहरूमा वैष्णव आचार्य (मधुसूदन सरस्वती, रूप गोस्वामी आदि) हरू रहेका छन् । उनीहरूले भक्तिलाई अलग्गै रसका रूपमा मात्रै नठह्र्याई त्यसलाई एउटा मूल रसका रूपमा नै उठाएका छन् । पूर्णानन्दको अनुभूति भगवद् रति स्थायी भाव भएको भक्ति रसमा नै हुने उनीहरूको तर्क पाइन्छ । उनीहरू अन्य रसको आनन्दभन्दा भक्ति रसको आनन्दको स्तर एकदमै उच्च ठान्छन् । भक्ति मूल रसका निम्ति अरू नवरसहरू सञ्चारी भावका रूपमा रहने उनीहरूको राय छ । तर अन्य आचार्य (धनञ्जय, अभिनव गुप्त, मम्मट, विश्वनाथ, जगन्नाथ) हरूले यसलाई हर्ष, स्मृति, धृति, मति जस्ता सञ्चारी र रति, उत्साह आदि स्थायी भावमा अन्तर्भूत हुने ठानेका छन् (चौधरी, १९९० : २७१) । यसो भए पनि साहित्य लेखनमा यसको प्रचुर प्रयोग रहेको हुँदा अनि रस स्वादको स्वरूप बयान गर्ने क्रममा वेद्यान्तर स्पर्श शून्य, ब्रह्मास्वाद सहोदर जस्ता विशेषणका कारण त्यस्तो अनुभूति भक्ति रसमा नै बढी हुने जिकिर पनि गरिएको छ । तर कतिपय रस समीक्षकहरूले भक्ति मानव हृदयमा वासना रूपमा रहने मौलिक भाव नभई सत् सङ्गत र साधनाद्वारा आर्जित भाव हो र यसको अनुभूति पनि साहित्यानुरागी सहृदयले भन्दा भक्तले गर्ने हुँदा यसलाई रस मान्नु उचित ठानेका छैनन् (चौधरी, १९९० : २७४)। रसको एक प्रकार मान्न नै तयार नभएको स्थितिमा एक मूल रसको स्वीकृति त हुने कुरै भएन । तर पनि यस भावमा सिर्जित प्राचीन साहित्यको पर्याप्त स्थितिलाई समेत ख्याल गरी हेर्दा भने यसलाई रसको एक प्रकार मान्न सकिने आधर रहेको कुरा अनेक रसको चर्चा प्रसङ्गमा उल्लेख गरि सकिएको छ ।

२.२ एक मूल रसको विश्लेषण र निष्कर्ष

यसरी हेर्दा संस्कृत काव्यशास्त्रमा विभिन्न आचार्यहरूले करुण, शान्त, शृङ्गार, अद्‌भुत र भक्तिमध्ये कुनै एकलाई मूल रस र अरू रस त्यसैभित्र अन्तर्भाव गर्ने प्रयत्न गरेको देखिन्छ तर यस्तो कुनै

पनि धारणा परम्परामा स्वीकृत बनेर आउन सकेको भने देखिन्न । करुणलाई एउटा मूल रस मान्ने सन्दर्भ भवभूतिको नाटकको भावमूलक अवस्थामा पात्र विशेषले भनेको मात्रै देखिन्छ । त्यो कुरा सोही नाटकमा लागू भएको पाइन्न । यसका विपरीत पूर्वीय अध्यात्म दर्शनको निकट रहेको रसस्वादको स्वरूपका सन्दर्भमा शान्त रसलाई एउटै मूल रस मान्ने अभिनव गुप्तको व्याख्या निकै दरिलो छ तापनि उनको आत्म चैतन्यको स्वाद भनेकै रसस्वाद हो भन्ने धारणा बढी अध्यात्म दर्शन आश्रित छ र वर्तमान भौतिक युगका सापेक्षतामा त्यो अलि बढी नै अप्रासङ्गिक जस्तो पनि बन्दै गएको छ ।

भोजले प्रस्तुत गरेको शृङ्गार मूल रसमा पनि अभिनव गुप्तकै जस्तो रसलाई आत्म प्रतीति ठानिएको छ । उनका अनुसार शुद्ध चैतन्ययुक्त आत्माको प्रथम प्रतीति वा विकार नै अहंकार हो । यो अहंकार आत्मरमणका रूपमा प्रतीति हुँदा त्यो नै रस बन्छ । रति आदि सबै भाव अहंकारबाटै उत्पन्न हुन्छन् । अहंकारकै अर्को नाम शृङ्गार हो । त्यसैले शृङ्गार सबै भावहरूको स्रोत वा एक मूल रस हो भन्ने तर्क भोजको रहेको छ । त्यस्तै अद्भुतलाई एक मूल रस मान्ने कथनले भने रसलाई आनन्दभन्दा पनि विस्मय वा कुतूहलका रूपमा लिएको छ । भक्ति रस काव्यशास्त्रको विषयभन्दा बढी आध्यात्मिक विषय बनेको छ । हुन त एक मूल रसको कल्पना नै अद्वैतवादी अध्यात्म चिन्तनमा आश्रित छ । अभिनव गुप्तले त रसलाई नै आनन्दमय ज्ञान स्वरूप आत्माको आस्वादन ठानेर यसलाई एक वा अखण्ड माने । आफू वीतरागी भएका हुँदा उनले आत्मज्ञानलाई महत्त्व दिएर शान्त रसलाई मूल रस ठाने तर रागी भोजले पनि आत्मरतिलाई नै महत्त्व दिँदै मूल रस शृङ्गार माने । त्यस्तै आनन्दवादी अद्वैत सिद्धान्तका अनुयायी वैष्णव आचार्यहरूले भक्ति रस नै मूल रस मान्ने जिकिर गरे । यिनीहरूको धारणामा बढी आध्यात्मिक दार्शनिक पक्ष रहेको छ भने भवभूति र नारायण पण्डितहरूको धारणामा दार्शनिकता भन्दा काव्यशास्त्रीय दृष्टि बढी देखिन्छ । भवभूतिको दृष्टिकोण रागात्मक संवेदनासँग सम्बद्ध छ भने नारायण पण्डितको दृष्टिकोण आलङ्कारिक चमत्कारसँग सम्बद्ध छ । एकले रागलाई र अर्काले कल्पनालाई साहित्यको प्राण ठानेका छन् । यी अधुनातन साहित्यमा बढी सान्दर्भिक देखिन्छन् तर विडम्वना के छ भने यिनको त्यति विस्तृत शास्त्रीय व्याख्या उपलब्ध छैन । अर्को कुरा एउटा कृति विशेषमा अङ्गी र अङ्ग रसको धारणा स्वाभाविक ठाने पनि समग्र साहित्यमै एउटा मात्रै मूल रस भन्ने कुरा त्यति सहज नभएर नै परम्पराद्वारा त्यो स्वीकृत नभएको हो ।

यसरी रसको बाह्य प्रकृतिभन्दा पनि त्यसको आन्तरिक अन्तिम परिणति र त्यस परिणतिमा सर्वाधिक भूमिका खेल्ने तत्त्वका आधारमा एक मूल रसको कल्पना गरे पनि त्यो तत्त्व कुन हो भन्ने बारेमा मतभेद भएर नै फरक फरक मूल रसको धारणा विकास भएको हो । यसले रसका फरक फरक आयामलाई अझ घनत्वका साथ हेर्ने शास्त्रीय दृष्टिकोण दिए पनि अनेक भावपूर्ण सिर्जनात्मक यथार्थलाई भने पूरै समेट्न सकेको छैन । यो स्वाभाविक यथार्थ नै हो किनभने नवरसले त समेट्न नसकेको सिर्जनात्मक परिप्रेक्षलाई एक रसले समेटेर व्याख्या गर्न खोज्नु एक किसिमको सूक्ष्म वैचारिक बहको सन्दर्भ मात्रै हो ।

३. उपसंहार

संस्कृत काव्यशास्त्रमा रस सङ्ख्याका बारेमा सुरुबाटै केही मतभेद रहेको थियो । नाटक प्रवृत्ति प्रधान रचना हुँदा निवृत्ति प्रधान शान्त रसको चर्चा भरतको **नाट्यशास्त्र**मा भएन तर त्यतिखेरको जीवन शैली बढी निवृत्ति प्रधान रहेको हुँदा परवर्ती आचार्यहरूले शान्त रसलाई सहजै स्थापित गरे । रसको व्याख्या पनि भरतको भन्दा बढी अध्यात्म चिन्तन निकट तुल्याउँदै (रसो वैः स) लगियो । त्यस क्रममा वत्सल, भक्ति जस्ता अन्य रसको उद्भावना पनि निकै सशक्त ढङ्गमा हुन थाल्यो । तिनका सिर्जनात्मक आधारहरू पनि राम्रै देखिन थाले । त्यसबाट एकातिर रस सङ्ख्या यत्तिमै सीमित हुनु पर्छ भन्ने नदेखिई त्यो तत्कालीन सिर्जनात्मक अवस्था अनुसार थपिँदै जान सक्ने देखियो भने अर्कातिर रस रूपमा परिणत हुन सक्ने स्थायी भावको किटान गरी ती स्थायी भाव रस रूपमा परिणत हुनका लागि आवश्यक अन्य प्रक्रियाको उल्लेख गरिदिँदा जथाभावी रस सङ्ख्या विस्तार गर्न नमिल्ने पनि भयो । अझ विभाव, अनुभाव र व्यभिचारी भावद्वारा परिपुष्ट स्थायी भाव मात्रै रस रूपमा परिणत हुन सक्ने शास्त्रीय मान्यताले त प्रबन्धात्मक रचनामा मात्रै रसको पूर्ण अभिव्यक्ति सम्भव देखियो । तर ध्वनिवादीहरूले रसको प्रतीति ध्वन्यात्मक वा व्यङ्ग्यका रूपमा हुन्छ र त्यो मुक्तकीय संरचनामा पनि अभिव्यक्त हुन सक्छ भन्ने कुरा जनाएपछि यसको क्षेत्र फेरि विस्तार भयो । रस बन्नका लागि स्थायी भावको जुन सर्त छ त्यसले त रस सङ्ख्या आधारभूत रूपमा नौमै स्थिर गरि दिएको छ । अहिले साहित्यिक रस भन्नाले नवरस भन्ने रुढ जस्तै बनेको छ । तर आधुनिक तथा समकालीन साहित्यको विश्लेषणमा नवरसको सान्दर्भिकता एकदमै थोरै देखिँदै आएको छ । कविता विश्लेषणमै यो अवस्था देख्न सकिन्छ । भावकेन्द्री रस सिद्धान्तको पहुँच आजको साहित्यमा त्यति नहुनुको अर्थ आजको साहित्य भावहीन बन्दै गएको हो वा रस सिद्धान्तलाई आजको साहित्यको भाव संश्लेषण हुने किसिमले पुनराख्यान गर्न नसकिएको हो ? यी प्रश्न बढी विचारणीय बनेका छन् । निश्चय नै बौद्धिक गुजुल्टोको प्रयोग हुन थालेको आजको साहित्यमा भावभन्दा विशृङ्खल विचारको प्रबलता पनि देख्न सकिने हुँदा पहिलो प्रश्नमा आंशिक सत्यता छ तर बढी महत्त्वको प्रश्न त दोस्रो नै हो । यो आजको समीक्षकहरूका लागि राम्रै चुनौतीको विषय बनेको छ किनभने रस सिद्धान्तको मूल मर्म बोध गरेर आजको साहित्यको केन्द्रीय भाव राम्रैसँग पैल्याउन सकेमा मात्रै यस क्षेत्रमा प्रवेश गर्न सकिन्छ । प्रवेश गरेर मात्रै हुँदैन त्यसलाई उचित शास्त्रीय आधार दिएर पुनराख्यान गर्नु पर्दछ । ध्वनिवादीले स्फुट रचनामा पनि रसको प्रसार हुन सक्ने भनेर रसको क्षेत्र विस्तार गरे झैँ आधुनिक साहित्यको बौद्धिक चमत्कृतिमा पनि रसको सान्दर्भिकता सिद्ध गर्ने किसिमले पुनराख्यान गर्नु पर्ने स्थिति विकास भएको छ । रस भाव प्रधान विषय भए पनि त्यो चेतना वा बुद्धि सामर्थ्यले बोध हुने विषय हो । वीर, रौद्र, शान्त जस्ता रसमा बुद्धिको भूमिका अझ बढी देख्न सकिन्छ । अर्को कुरा साहित्यमा आउने बौद्धिकता अन्य विषयमा जस्तो शुष्क बनेर आउँदैन । कथनको वक्रता र भावात्मक स्पर्श सहितको बौद्धिकतामा ध्वनिको सहजै प्रवेश हुन्छ भने रसको सीमा बाहिर त्यो पनि पर्दैन ।

हृदय र मस्तिष्कीय बोध फरक फरक हुन् भनी रस र आधुनिक बौद्धिक साहित्यको दुरी बढाउने काम धेरैबाट भएको छ तर मस्तिष्कशून्य हृदय बोध र हृदयशून्य मस्तिष्क बोध न त हिजो सम्भव थियो न त आज नै सम्भव छ । **महाभारत**को उत्कृष्ट कवित्व हामी 'गीता'लाई मान्छौँ भने त्यसको बोध के

ले गर्छौं ? भारविका रचनाको अर्थ घनत्व बोधमा हृदय सक्रिय हुन्छ वा मस्तिष्क ? दार्शनिक गुदी नभएका साहित्यिक रचनाको आयु कति लामो होला ? के 'तरुण तपसी', 'बुद्धि विनोद' जस्ता र चनाको पठनमा वा कालिदास र हाम्रै माधव घिमिरेका रचनाको भाव घनत्वको बोधका लागि हृदयभन्दा मस्तिष्कको बढी क्रियाशीलता अपेक्षित छैन ? के ती रसहीन रचना हुन् ? निश्चय नै होइनन् । रसमा बौद्धिकता हिजो पनि थियो र आज पनि छ । हिजो त्यो छिपेर आउँथ्यो भने आज त्यो बढी खुलेर आउन थालेको छ । त्यसैले आजका सन्दर्भमा रसको पुनराख्यान गर्ने भनेको रस हृदय र मस्तिष्कगम्य विषय हो; यो मस्तिष्क वा बुद्धि निषिद्ध विषय होइन भन्दै बुद्धि रसको निरुपण गर्नु हो । रसमा यो सामर्थ्य देखाउन नसक्दा नै यतातर्फ भएका नव्य भारतीय आर्यभाषाका केही प्रयत्नहरू पनि अन्ततः परम्पराद्वारा अनुमोदन हुन नसकी अर्थहीन देखिन पुगेका छन् । यो सीमालाई बुझी यतातर्फ प्रयत्न गर्नु पर्ने देखिएको छ । जहाँसम्म एउटा मात्रै मूल रस मान्ने कुरा छ त्यो त यस अवधारणाका पक्षपातीले नै प्रस्तुत गरेका करुण, शान्त, शृङ्गार, अद्भुत, भक्ति नामक पाँच किसिमका फरक फरक अभिमतले पनि त्यो धारणा त्यति बलियो नरहेको पुष्टि गरेको छ । यसमा व्यावहारिक पक्षभन्दा पनि रसको अखण्डात्मक प्रतीति हुन्छ भन्ने अद्वैतवादी दार्शनिक दृष्टिकोणको प्रभाव बढी देखिएको छ ।

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Guidelines to the Contributors

I. Title page

Title should be brief clear, concise an informative. The maximum length is 120 characters. Don not include the authority for taxonomic names in the title. The first letter of the first word in the title is capitalized. All the other words, except for proper nouns, are lower case. The author/s' name should appear just below the title.

II. Abstract

Body of manuscripts should be preceded by an abstract with the maximum length of 200-250 words for a full-length article. It should be clear, concise and complete in its own limits providing a brief summary of the research including the objective, method, results and major conclusions. Do not include literature, citations in the abstract. Five to eight key words should be provided at the bottom of the abstract.

III. Main text

Main text should be organized under the following headings:

Introduction should describe significance of the paper beginning with a paragraph of explanation that describes the problem under investigation (e.g. existing knowledge and gap) leading to the main research objective and questions.

Data and method section should provide sufficient information so that the research can be repeated in future. Therefore, a clear description of technical procedures should include: study area and time, study unit and study plots/transects, study (experimental) design with treatments, replications and method of randomization and data analysis procedure.

Results and Discussion generally should be stated concisely and clearly in descriptive, tabular and graphical forms as needed. This section should address the objective or specific objectives systematically. Discussion should provide: interpretation of the results without recapitulation them, comparison of the results and impact of the results on existing knowledge of the subject.

Conclusion should clearly point out the main finding, which must be justified by the analysis of data. Preconceived ideas should not override the results and conclusions.

IV. Acknowledgement:

Should be short and specific providing information about various supports (e.g. funding, supervision, field assistance) received for research.

V. References:

The authors are advised to follows the APA model for in text citation and references. Some of the references such as reports, journals articles, books chapters, books/proceedings and thesis or dissertations are given below.

Examples

Journal article - Poos, M.S., Warker, S.C., and Jackon, D.A (2009). Functional diversity indices can be driven by methodological choices and species richness.

Ecology 90:341-347.

Report - Basnet, K.(2001). Tarai Arc Landscape Assessment: Biodiversity Component. Report submitted to WWF Nepal Program, Kathmandu pp 93.

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Thesis and dissertation - Subedi, P. K.006. Fertility Behavior among Duras: Multidisciplinary Approaches. Ph.D. Dissertation. University of Exeter, Exeter, UK. E-Ref http://www.mrs.org/publication/jmr/jmra/2009/sep/020.html (accessed on Jan 2010)

VI. Other details

Space margins, fonts and length: the manuscript should be in English language, typed in double space on a one sided A4 paper. Title and subtitles should be written respectively in 12 and 10 points bold and text in 10 points in Times new Roman front with 2" margins in all sides. The length of the manuscript should not exceed 10 pages including figures and tables. Technical terms, Mathematical symbol, Abbreviations and Acronyms used should be defined where they first appear in the text, equations, figures and tables.

VII. Citation in the text

Citation in the text should be arranged chronologically without coma on anything else between the author/s and the year of publications but different citations are separated by coma (see this example- Richard et al. 2009, Pokhrel, 2009). If there are up to six authors, list all of them and then year of publication. In case of more than six authors, list all of them and then year of publication. In case of more than six authors, list the first six authors and as et al before the year of publication.

VIII. Illustration and Figure

Illustrations and figures should be appropriately adjusted on the A4 paper. Photographs and drawings should be large enough for clear reproduction. Drawings should be in dark in. Figure Caption should appear below the figure.

IX. Tables

Tables with title on the top should appear on suitable place on the text, numbered consecutively. Each table should have an explanation and its contents must appear in the text.