ISSN 2277-1425
e-ISSN 2277-1433

A Bi-annual Peer Reviewed Multi-Disciplinary Research Journal

Himachal Pradesh University Journal

Vol.07, No.1, July 2019

A Bi-annual Multi-disciplinary Research Journal of Himachal Pradesh University

EDITORIAL BOARD

EDITOR IN CHIEF
Prof. Sikander Kumar
Vice Chancellor
Himachal Pradesh University

EDITOR
Prof. Harish K. Thakur
Department of Political Science
Himachal Pradesh University
Shimla - 171005

ASSOCIATE EDITORS

Prof. Saraswati Bhalla
Department of Hindi
Himachal Pradesh University
Shimla - 171 005

Prof. R.P. Sharma
Department of Mathematics & Statistics
Himachal Pradesh University
Shimla - 171 005

Prof. A. J. Singh
Department of Computer Science
Himachal Pradesh University
Shimla - 171 005

Prof. Mamta Mokta
Department of Public Administration
Himachal Pradesh University
Shimla - 171 005

Prof. Arvind Kumar Bhatt
Department of Biotechnology
Himachal Pradesh University
Shimla - 171 005

Prof. Vikas Dogra
Department of Journalism
& Mass Communication
Himachal Pradesh University
Shimla - 171 005

Contents

Pathomorphological changes in kidney of *Tor putitora* after Dichlorvos treatment

- Sushma Sharma and Inder Singh Rana

ABSTRACT

Organophosphates are extensively used due to their less persistence and low biomagnifications. Dichlorvos one of them is used in crop fields to control ectoparasite infection in tropical aquaculture and to kill various mosquito larvae. Dichlorvos harm fish directly or indirectly. Direct effects include behavioural changes, enzymatic changes, anatomical changes, hematological changes, changes in antioxidant defense system and histological changes. Present study was aimed to detect biochemical and histomorphological changes induced by dichlorvos on kidney of *Tor putitora*. Fish was kept in fish farm at different concentrations of dichlorvos (1ppm, 1.4ppm, 1.7ppm and 2ppm). Major histopathological changes were reported in kidney of *Tor putitora* which include pathological changes in renal tubules, tubular necrosis, nephritis, hemorrhage in the Bowman's space due to glomerular damage and shrunken glomerulus.

Keywords: Dichlorvos, Kidney, Histological effects, Biochemical changes.

Introduction

Nowadays pesticidal use has transformed into a necessarily evil in the developed and chiefly in the developing countries like India, Pakistan, Bangladesh, Sri Lanka etc. (Das, 2013). In the present era pesticides are consumed habitually in integrated farming practices to safeguard the crops, animals and other aquatic and land

Sushma Sharma and Inder Singh Rana, *Department of Biosciences, H.P. University, Summer Hill, Shimla-05, India*
Email id: Sushma_bio_sci@rediffmail.com

survivors from the harmful insect pests and weeds (Ayoola, 2011). Due to disastrous effects of pesticides, they cause changes in the water quality of aquatic systems which in turn causes physio-chemical alterations in the fish and other aquatic life (Olufayo, 2009). Dichlorvos (2,2-dichlorovinyl dimethyl phosphate) was firstly innovated in 1961 having molecular formula $C_4H_7Cl_2O_4P$ and molecular weight 220.98 (Mennear,1998). Dichlorvos is unremarkably used in crop fields as an agricultural insecticide but is also used as anti-helminthic (worming agent) for dogs, swine, horses and also for fly larvae as a botacide (USEPA, 1994). Dichlorvos is used for food and non food crop pests because it acts as a contact and stomach poison but due to this property it adversely effects fish and other aquatic animals like zooplanktons (Toledo and Johnson, 1992). Dichlorvos in many fishes leads to various metabolic as well as histological disorders. It effects gastrointestinal tract, liver, excretory system, respiratory system, reproductive system, nervous system and developmental processes. Dichlorvos toxicity in reproductive system leads to testicular and ovarian damage (Dutta and Meijer, 2003). Dichlorvos toxicity is responsible for irregular feeding habits, metabolic processes disruption and slow movements due to stress caused by insecticides (Tripathi *et al*., 2003). Dichlorvos acts by inhibiting acetylcholinestrase enzyme (AChE) and butyrylcholinestrase enzyme (BChE) and neurotransmitter GABA receptors in nervous system. It interferes with ion channels by interrupting calcium ion concentration intracellularly and thus altering neuronal normal functioning (Banaee and Ahmadi, 2011). It leads to oxidative stress and cellular damage by interrupting or dysfunctioning antioxidant enzymes which serves as first line of cellular defense to reactive oxygen species (ROS), including superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx) and glutathione reductase (GR) (Uneret *et al*., 2006). It causes behavioural changes in fishes and leads to aberrant and variable movements and disturbed swimming (Nagaraju *et al*., 2011). Dichlorvos leads to high pathogen and parasite susceptibleness such as fungal, bacterial and microorganism diseases due to stress induced by insecticide in fishes (Satyavardhan, 2013). Swimming behavior of fish also alters, loss of equilibrium and rapid movements due to hyper excitibility (Marigoudar *et al*., 2009). Dichlorovos toxicity leads to various anatomical, histological and enzymatic changes in kidneys.

Materials and Methods

The present study was carried on the kidney of *Tor putitora* (Himalayan Mahseer) brought from Seed and breeding fish farm Deoli, District Bilaspur, Himachal

Pradesh. All the fishes were kept in the water tank under the natural conditions. The experimental procedures were conducted after the approval of Fishries Department of Himachal Pradesh.

Experimental Procedure

Normal healthy fishes were divided into 5 groups . Fishes of first group served as control. Fishes of second group received dichorvos concentration of 1ppm. Fishes of group third administered dichlorvos concentration of 1.4ppm. Fishes of group fourth got dichlorvos concentration of 1.7ppm. Fishes of group fifth received dichlorvos concentration of 2ppm.

Histological study

Kidney of *Tor putitora* was excised immediately after sacrificing the fishes. Tissues were fixed in Bouin's fixative for 24 hours. After that tissues were washed in running tap water until the entire yellow colour disappeared. Tissues were dehydrated serially in different grades of alcohol (30%, 50%, 70%, 90%, 100%) and cleared in xylene. Tissues were then embedded in paraffin wax (58-60˚C). Sections of about 5-6µm thickness were cut on the rotary microtome and subjected to hematoxylin - eosin staining.

Biochemical study

Determination of antioxidant system

Superoxide dismutase (SOD) activity was determined by the method of Mishra and Fridovich (1972). SOD activity was calculated in units/mg proteins/min. Catalase assay was done as per method of Aebi, (1984). Enzyme specific activity was finally measured and calculated in units/mg protein/min. Level of malondialdehyde index of lipid peroxidation was estimated according to the method of Dhindsa *et al.,* (1981) using thiobarbituric acid (TBA). The MDA contents were calculated in µ moles/mg of fresh tissue weight.

Protein estimation

Protein content was estimated as per the method of Lowry *et al*., (1951) using Folin-ciocalteu's reagent and optical density was recorded.

Statistical analysis

Data was presented as statistical mean ± SEM. Comparison amongst group was performed using one way Anova test. Statistical significance was set at $P^{**}<0.01$.

Results

Biochemical Studies

Protein estimation

The level of protein in normal kidney of *Tor putitora* was 94.22 ± 0.75mg/g of tissue. At 1ppm concentration of dichlorvos the protein content was 91.26 ± 0.68. Protein content in *Tor putitora* was 87.33±0.28mg/g of tissue after 1.4ppm of dichlorvos administration. Protein level was 84.20±0.56 and 80.16±0.76mg/g of tissue at concentration of 1.7ppm and 2ppm of dichlorvos. The protein level resulted in decrease of 3.14%, 7.31%, 10.63%, and 14.92% as compared to control with varying concentration of (1-2ppm) of dichlorovos (Table I).

Superoxide dismutase (SOD)

Superoxide dismutase enzyme activity in normal *Tor putitora* was 7.23±0.03 units/mg protein/min, 8.32±0.03units/mg protein/min at 1ppm concentration, 9.56±0.04 units/mg protein/min at 1.4ppm concentration, 10.14± 0.04 units/mg protein/min at 1.7ppm concentration and at 11.23±0.02 units/mg protein/min at 2ppm concentration. The percentage increase in SOD was observed as 15.07%, 32.22%, 40.24%, 55.32% respectively (Table II).

Catalase (CAT) activity

The control kidney of *Tor putitora* showed specific activity of catalase 3.56±0.04 units/ mg protein/min. After treatment with 1ppm, 1.4ppm, 1.7ppm, and 2ppm of dichlorvos the specific activity of catalase was observed 3.66±0.04, 3.78±0.05, 3.88±0.04 and 4.00±0.03 units/ mg protein/min. respectively. The percentage increase in enzyme activity was calculated as 2.8%, 6.17%, 8.98%, and 12.60% with varying concentration (1-2ppm) of dichlorvos (Table III).

MDA Content

Lipid peroxidation in control kidney of *Tor putitora* was 2.23±0.04 n moles of TBARS formed/g of fresh tissue weight. MDA values were 3.12±0.04, 4.11±0.04, 5.05±0.05, 6.12±0.03 n moles of TBARS formed/g of fresh tissue weight after administration of 1ppm, 1.4ppm, 1.7ppm, and 2ppm of dichlorvos. The recorded percentage increase in MDA value was found to be 39.91%, 84.30 %, 126 %, and 174% in comparison to control.

Histopathological Studies

The basic unit of kidney in fish consists of a renal corpuscles, Bowman's capsule, glomerulus and various segments of the renal tubules, namely proximal tubule,

intermediate segment, distal tubule and collecting duct. Distal tubules and collecting ducts, both devoid of brush borders and sparsely distributed. Proximal tubules have prominent brush borders (microvilli) bathed in the vascular bundle in the interstitial tissues. Pigments and leucocytes were very common in the interstitial tissue. The renal corpuscles were also located in the close vicinity of renal tubules and blood vessels in the interstitial tissue (Fig.1). Kidney exhibited damaged glomeruli. Hemorrhage was also observed in some areas due to tissue damage. Aggregation of blood cells i.e. leucocytes was also observed. Blood vessels were widened as compared to normal tissue. Inflammation of interstitial tissue was also noticed in some areas. Degeneration of distal tubules, proximal tubules and widened interstitial tissue was also observed after dichlorvos treatment at 1ppm concentration (Fig.2).

Kidney of dichlorvos treated fish also demonstrated internal hemorrhages. Proximal tubules were enlarged in size. Blood vessels become damaged and accumulation of blood platelets and leucocytes were also seen. Interstitial tissue was damaged and wider in kidney treated with dichlorvos as compared to normal. Distal tubules were shrunken after dichlorvos exposure at 1.4ppm concentrations (Fig. 3). Kidney of dichlorvos treated fish showed shrunken glomeruli and proliferation of interstitial tissue as compared to control. Vacuolization was also seen in the places due to tissue damage. Internal hemorrhage was also observed due to tissue inflammation and damage. Proximal tubules were disrupted and become wider in size. Renal tubule was also degenerated and become hypertrophic after dichlorvos (1.7ppm) treatment as compared to normal fish kidney (Fig. 4). Kidney of dichlorvos treated fish depicted excessive degeneration of glomeruli with shrinkage. Proximal tubules were hypertrophied. Internal hemorrhage was also seen in some areas of kidney as compared to normal kidney. Widening of interstitial tissue was also witnessed due to cellular proliferation. Distal tubules were degenerated or damaged in some areas of kidney section. Internal vacuolization was also seen due to tissue degeneration after dichlorvos treatment at 2ppm concentration as compared to control kidney (Fig. 5).

Discussion

Organophosphates finally mix with water streams, rivers, water sources, watersheds, sea and ultimately oceans. This mixing is mainly due to surface runoffs after their administration to the agricultural practices (Banee*et al.*, 2011). These organophosphates by combining with waterbodies affect water life including fishes, planktons and alter fish metabolism. Different pesticides effected different

fishes in different ways and differently in different tissues of same fish. Sublethal dose of malathion in *Cirrhinus mrigala* showed epithelial inflammation and hyperplasia (Roy, 1992). The present investigation was carried out on the kidney of *Tor putitora.* Normal kidney of fish showed normal proximal tubules, distal tubules, interstitial spaces, glomeruli, blood vessels and collecting ducts. The dichlorvos treatment at different concentration for 10 days was given to each fish. With the increase in the concentration of dichlorvos to *Tor putitora* cloudy swelling and focal necrosis of renal tubule, variation in size and cellularity in glomeruli of normal kidney was noticed. With further increase in dichlorvos kidney exhibited hypercellular glomeruli, tubular cell degeneration and irregularity in position of nucleus in renal cell. Interstitial tissue showed degeneration of cells, nuclear hypertrophy, glomerular hypertrophy, blood vessel enlargement and areas of hemorrhage. With further increase in dichlorvos concentration degeneration of nuclei was noticed. Similar changes were observed in *Channa punctatus* after nuvan treatment. Kidney showed necrosis of nuclei, destruction of proximal tubules, damage to distal tubules, glomerular degeneration, interstitial tissue proliferation, variations in size of glomeruli and ischemic brinkling of glomeruli (Rao *et al.,* 1985).

Superoxide dismutase (SOD) activity in kidney of *Tor putitora* showed gradual increase. Increase in superoxide dismutase activity is an indicator of the oxidative stress in tissues of dichlorvos treated fish. This antioxidant enzyme acted directly or indirectly to remove reactive oxygen species and thus help in elevation of superoxide dismutase levels. In kidney dichlorvos toxicity lead to nephrotoxicity by production of reactive oxygen species (ROS) leading to oxidative stress and these free radical mediated events ultimately give rise to apoptotic cell death of kidney cells (Curcelli *et al.,* 2008). SOD and catalase activities increased gradually with increasing concentration of dichlorvos. Similar results were observed in brown bullhead (*Ictaleurus nebulosus)* after 1-5 mg/L concentration of dichlorvos treatment. Similar increase in the SOD and catalase activity in fish muscles, kidney and heart was also reported (Hai *et al*., 1997). Malonialdehyde (MDA) is a breakdown product of unsaturated fatty acids and significant increase in levels of lipid peroxides in irradiated animals indicate enhanced lipid peroxidation (LPO). Lipid peroxidation refers to the oxidative degradation of lipids. Mosquito fish (*Gambusia affinis*) exhibited increased LPO and MDA levels after the exposure to chlorpyriphos for 96h (Kavitha and Venkateswara, 2008). Present results demonstrated increased activity of SOD, catalase and MDA content with the increase in the concentration of dichlorvos. Our studies revealed that dichlorvos

presence in the environment causes disastrous effects on the animals and aquatic life and its use as insecticide should be banned. It causes harmful effects to human beings also. Instead of these chemical organophosphates other eco friendly substitutes must be preferred.

References

Ayoola, J. B. (2011). Socio economic factors influencing rice production among male and female farmers in northern guinea savanna nigeria, *Agric. & Biology J. North Am. Res*. **2(6):** 1010-1014.

Banaee, M., and Ahmadi, K. (2011). Sublethal toxicity impacts of endosulfan on some biochemical parameters of the freshwater crayfish (*Astacus leptodactylus*). *Res. J. Env. Sci.* **5(11)**: 827-835.

Banaee, M., Sureda, A., Mirvaghefi, A. R. and Ahmadi, K. (2011). Effects of diazinon on biochemical parameters of blood in rainbow trout (*Oncorhynchus mykiss*). *Pest.Biochem.& Physiol*. **99:** 1-6.

Curcelli, E. C., Mullar, S. S., and NovelliFilho, J. L. V. B. (2008). Benificial effects of diclofenac therapy on serum lipids, oxidized low density lipoprotein and antioxidant defenses in rats. *Life sci.* **82(15-16)**: 892-898.

Das, S. (2013). A review of dichlorvos toxicity in fish. *Current World Env.* Vol. **8(1)**:143-149.

Dutta, H. M. and Meijer, H. J. M. (2003). Sublethal effects of diazinon on the structure of the testis of bluegill, *Lepomis macrochirus*: a microscopic analysis. *Env. Pollution* **125**: 355-360.

Hai, D. Q., Varga, S. I. and Matkovics, B. (1997). Organophosphate effects of antioxidant system of carp (*Cyprinus carpio*) and catfish (*Ictalurus nebulosus*). *Comp. Biochem. Physiol.***117**: 83-88.

Kavitha, P. and Venkateswara, R. J. (2007). Oxidative stress and locomotor behaviour response as biomarkers for assessing recovery status of mosquito fish (*Gambusia affinis*) after lethal effect of an organophosphate pesticide, monocrotophos. *Pestic.Biochem. Physiol.* **87**: 182-188.

Marigoudar, S. R., Ahmed, R. N. and David, M. (2009). Cypermethrin induced respiratory and behavioural responses in *Labeo rohita*. Vet. Arhiv. **79(6):** 583-590.

Mennear, J. H. (1998). Dichlorvos: A regulatory Conundrum. *Regulatory Toxicology & Pathology* **27**: 256-272.

Nagaraju, B., Sudhakar, P., Anitha, A., Haribabu, G. and Rathnamma, V. V. (2011). Toxicity evaluation and behavioural studies of fresh water fish *Labeo rohita* exposed to Rimon. *International J. Res. Pharma.Biomed. Sci.* **2(2)**: 722-727.

Olufayo, M.O. (2009). Haematological characteristics of *Clarias gariepinus* juveniles exposed to *Derris elliptica* root powder. *Afr. J. of Food Agric. nutr. Sci.* **9(3)**: 920-932.

Rao, K. R. S., Babu, S. K. and Rao, K. V. R. (1985). Toxicity of elsan to the Indian snake head *Channa punctatus. Int. J. Fish* **32(2)**: 153-158.

Roy, P. K., Dutta, H. M., Dogra, J. V. V. and Singh, N. K. (1992). Malathion induced changes in the serum proteins and hematological parameters of an Indian catfish *Heteropneustes fossilis* (Bloch). *Bulletin Env. contamination & Toxicol.* **49(1)**: 91-97.

Satyavardhan, K. (2013). A comparative toxicity evaluation and behavioural observations of fresh water fishes to fenvalerate. *Middle-East J. Sci. Res.***13(2)**: 133-136.

Toledo, M. C. F. and Jonsson, C. M. (1992). Bioaccumulation and elimination of endosulfan in zebra fish (*Brachydanio rerio*). Pest. sci. **36**: 207-211.

Tripathi, G. and Verma, P. (2004). Endosulfan mediated biochemical changes in the fresh water fish *Clarias batrachus. Biomed. Env.Sci.***17(1)**: 47-56.

Uneret, N., Oruc, E. O., Sevgiler, Y., Sachin, N., Durmaz, H., and Usta, D. (2006). Effects of diazinon on acetylcholinestrase activity and lipid peroxidation in the brain of *Oreochromis niloticus*. *Env.Toxicol. & Pharmacol.*, **21**: 241-245.

USEPA (1994). United States Environmental Protection Agency., Integrated Risk Information System (IRIS) on dichlorvos. Environmental Criteria and Assessment Office, Office of Research and Development, Cincinnati, OH.

Protein content

CONCENTRATION → / FISHES ↓	Protein content (mg/g tissue weight)				
	Control	1ppm	1.4ppm	1.7ppm	2ppm
Tor putitora	94.22±0.75	91.26±0.68**	87.33±0.28**	84.20±0.56**	80.16±0.76**
% Decrease		-3.14%	-7.31%	-10.63%	-14.92%

Table I: Changes in protein content (mg/g fresh tissue weight) of normal and dichlorvos treated kidney of *Tor putitora* for the period of 10 days at different concentrations of dichlorvos.Values are mean ± SEM; n=3 ($p^{**} < 0.01$).

SOD Activity

CONCENTRATION → / FISHES ↓	SOD Activity (Units/mg protein/minute)				
	Control	1ppm	1.4ppm	1.7ppm	2ppm
Tor putitora	7.23±0.03	8.32±0.03**	9.56±0.04**	10.14±0.04**	11.23±0.02**
% Increase		15.07%	32.22%	40.24%	55.32%

Table II: Changes in SOD specific activity (units/mg protein/min) of normal and dichlorvos treated kidney of *Tor putitora* for the period of 10 days at different concentrations of dichlorvos. Values are mean ± SEM; n=3 ($p^{**} < 0.01$)

Catalase Activity

CONCENTRATION → / FISHES ↓	Catalase Activity (units/mg protein/minute)				
	Control	1ppm	1.4ppm	1.7ppm	2ppm
Tor putitora	3.56±0.04	3.66±.04	3.78±0.05	3.88±0.04	4.00±0.03
% Increase		2.8%	6.17%	8.98%	12.60%

Table III: Changes in catalase activity (units/mg protein/minute) of normal and dichlorvos treated kidney of *Tor putitora* for the period of 10 days at different concentrations of dichlorvos. Values are mean ± SEM; n=3 ($p^{**} < 0.01$).

Lipid Peroxidation

CONCENTRATION → / **FISHES** ↓	**Lipid peroxidation level (n moles of TBARS formed/g of fresh tissue weight)**				
	CONTROL	1ppm	1.4ppm	1.7ppm	2ppm
Tor putitora	2.23±0.02	3.12±0.04**	4.11±0.04**	5.05±0.05**	6.12±0.03**
% Increase		39.91%	84.30%	126%	174%

TABLE IV: Changes in lipid peroxidation level (n moles of TBARS formed/g fresh tissue weight) of normal and dichlorvos treated kidney of *Tor putitora* for the period of 10 days at different concentrations of dichlorvos. Values are mean ± SEM; n=3 ($p^{**} < 0.01$).

Histology Slides

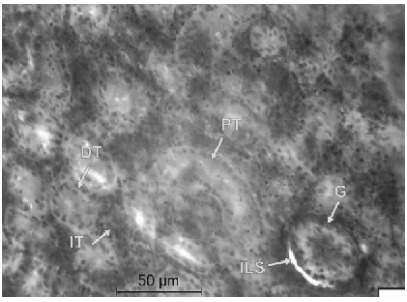


Fig.1

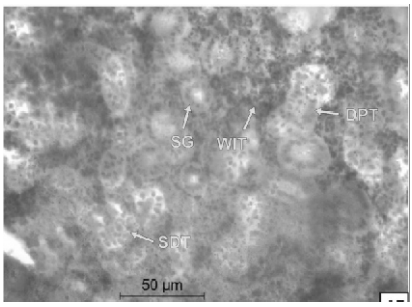


Fig.2

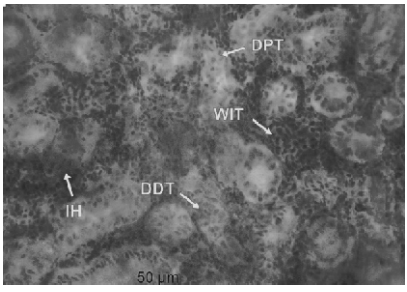


Fig.3

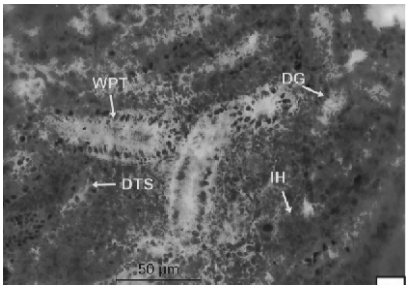


Fig.4

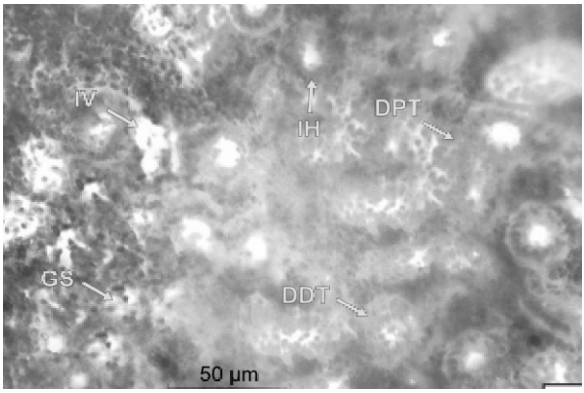


Fig. 5

FIG 1: T.S. of normal kidney of *Tor putitora* showing normal glomeruli (G), distal tubule (DT), interstitial tissue (IT), proximal tubule (PT) and intraluminal space (ILS) X400

FIG 2: T.S. of 1ppm dichlorvos treated Himalayan mahaseer kidney depicting widened little damaged proximal tubule (DPT) and shrunken distal tubules (SDT), shrunken glomeruli (SG) and widening of interstitial tissue (WIT) X400

FIG 3: T.S. of 1.4ppm dichlorvos treated Himalayan mahaseer kidney demonstrating more damaged proximal tubule (DPT) and distal tubule (DDT), areas of internal hemorrhage (IH) and widening of interstitial tissue (WIT) X400

FIG 4: T.S. of 1.7ppm dichlorvos treated Himalayan mahaseer kidney depicting widened proximal tubule (WPT) and distal tubule shrinking (DTS), degenerated glomeruli (DG) and internal hemorrhage (IH) X400

FIG 5: T.S. of 2ppm dichlorvos treated Himalayan mahsheer kidney revealing damaged proximal tubule (DPT) and distal tubule (DDT), glomerular shrinkage (GS), internal vacuolization (IV) and internal hemorrhage (IH) at various places X400.

Leaf characters in few species of Indian Rhododendron

- Jyoti Gupta

ABSTRACT

Leaf anatomy, epidermal characters and venation patterns of ten species of Rhododendrons *Linn.Viz R.triflorum, R.anthopogon, R. wightii, R.barbatum, R. campblliae, R. lepidotum, R fulgens, R. glaucophyllum, R. laedifolium and R. medenii* have been studied. Stomata are typically anomocytic and hypostomatic. Stomatal frequency differed markedly in different species with the highest in *R. fulgens* and lowest in*R.anthopogon* . All the species have brochidodromous type of venation where the secondries are curved at the end and they joined with each other.The largest areoles are of *R. laedifolium* and smallest in R. *fulgens.* Veinlets vary in numbers from 0-3. They may be branched, un-branched, curved or straight. Unicellular or multicellular hair on leaves are the characteristic of the species. Leaf anatomy show variation in number of epidermal layers, thickness of cuticle, mesophyll as well as in the vascular bundle, where it is "c' shaped, horse shoe shaped, ring shaped, completely or incompletely surrounded by schlerenchymatous bundle sheath. Leaf characters are used to prepare a key for taxonomic purpose.

Jyoti Gupta, *Associate Professor, RGGDC, Chaura Maidan, Shimla*
E-mail : drjyotij6@gmail.com

INTRODUCTION

Rhododendron is a large genus of the Ericaceae, distributed mainly in Northern temprate, colder region and high mountains of tropics.The genus is polymorphic and complex with doubtful taxonomic assemblage of various species. The importance of vegetative characters in Ericales has been emphasised by earlier workers.Cowan[1950] identified hair characters of different species of *Rhododendron* taxonomically important. Hayes et al [1951] considered leaf anatomical characters for deriving relationship between different such genera.Philipson and Philipson [1968] and Philipson[1980] worked out the nodal anatomy of stem and seedling for the identification of different species of *Rhododendron.* Although, much work has been done in the various species of *Rhododendron* from U.S.A., Australia and Europe,it is observed that the Indian *Rhododendron* have not attracted the attention of the morphologists.The present work has been undertaken to investigate the details of the leaf anatomy of some of the species collected from Sikkim and N.E. hills of Himalayas, and an attempt is made to use these characters for the identification of different species

MATERIALS AND METHODS.

For leaf venation studies portion of leaf lamina from base , middle region and apex were first soften in 10% KOH for 30 minutes or more, they were then washed in water and passed to 90% alcohol and then transferred to lactic acid, kept at 60° c for 24-48 hrs. these were then washed in 90% alcohol, stained in basic fuschin and dehydrated in alcohol- xylene series.

For epidermal studies fixed leaves were kept in a mixture of acetic acid, H_2O_2 and water(1:1:1) at 50°-60° c for 12 - 24 hrs Seperated peels were washed, dehydrated and stained in 1% basic fuschin in 90% alcohol Drawings were made using camera lucida.Photomicrographs were also taken for epidermal peels.

For leaf anatomy and trichome studies hand sections of leaves were cut, stained in safranine and mounted in glycerine.

OBSERVATIONS

Leaf Architecture

(a) Major venation pattern :- Primary, secondary and tertiary veins constitute the major venation pattern and subsequent classes form the minor venation pattern. Primary vein width varies at base, middle, and apex from species to species(Table 1). The major venation pattern was brochidodromous in all the species of *Rhododendron* studied. Course of primary vein was straight in all species except in*R. medenii* , where it is curved at apex. The secondary veins are sinous in *R. triflorum* and *R.medenii*, they are curved at the end and joined with each other.*In R. barbatum*, it is straight and *in R. fulgens* it is branched at the end. The angle of divergens is found to be different in different regions (Table 1). In all but one species *(R. fulgens*) angle of divergence is observed to be acute, whereas *in R.fulgens*. it is right angle or approximately so. Angle of divergence is narrow moderate and wide in different regions of different species.

Table I-Giving Leaf Venation Characters of different Species of Rhododendron

Sr. No.	Name of Species	Major Venition Type	Primary Vein Course	Breadth of Primary Vein	Angle of Divergence			Secondary Vein Course
					Base	Middle	Apex	
1	*Rhododendron anthopogon Var. Hypenanthum*	Brochidodromous	Straight	4135	53	52	63.6	Straight & Curved at margins
2	*R. barbatum*	--Do--	--Do--	465	29	25	33	Straight
3	*R. campbeliae*	--Do--	--Do--	627.6	63.7	62.7	79.9	Sinuous & curved margin
4	*R. fulgens*	--Do--	--Do--	706.6	42	38.9	98	Branched
5	*R. glaucophyllum*	--Do--	--Do--	590.6	37	57.5	55.5	Straight
6	*R. laedifolium*	--Do--	--Do--	472.5	40	79	70	--Do--
7	*R. lepidotam*	--Do--	--Do--	55.6	86.6	72	86.2	--Do--
8	*R. medenii*	--Do--	Straight & curved at the end	512.8	37	55	65	--Do--
9	*R. triflorum*	--Do--	Straight	687.5	49	59	74.5	--Do--
10	*R. wightii*	--Do--	--Do--	860.8	30.5	27.7	73.8	--Do--

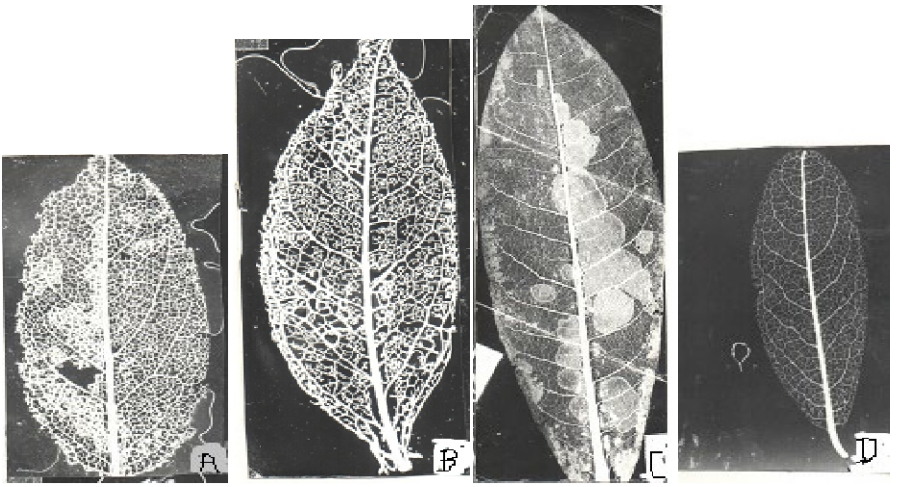
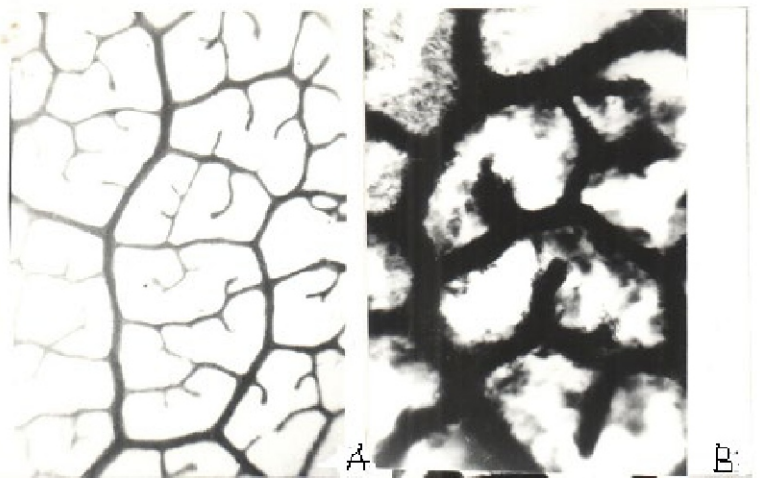


Fig-1 Showing types of major venation, course of primary and secondary veins. (A*) R. anthopogon,* (B*) R. medenii,* (C) *R. fulgens,* (D) *R. lepidotum*

(b) Minor Venation pattern:- The minor veins of 4 or 5 order constitute the areoles which vary in shape from triangular, tetrangular and pentangular to polygonal. Size of areole is variable in all the soecies (Table II). Frequency of areole also varies in different species. Number of veinlets in an areole varies from 0-3. Veinlets are branched once or twice or may be unbranched. They may be curved *(R.triflorum*) and bifurcated *(R. wightii*).



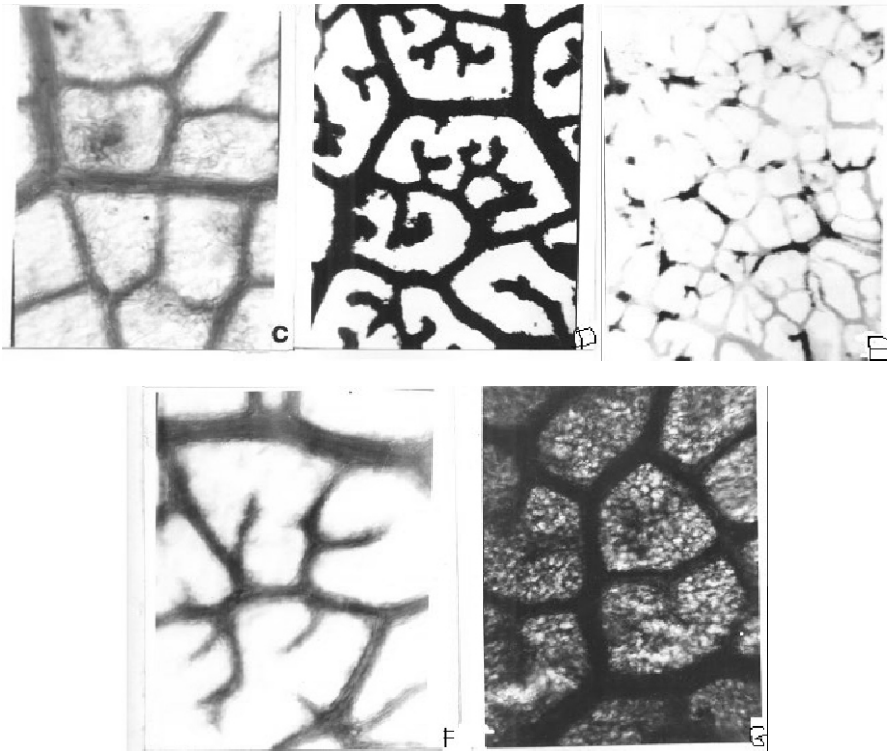


Fig-2 (A) Aereoles with curved vein ending: number of veinlets vary from 1 to 2, (B) Aereoles with single veinlets, (C&G) Aereoles without vein ending, (D) Aereoles with branched vein ending, (E) Aereoles with 0 to 1 vein lets, (F) Aereoles with straight vein ending: number of vein lets vary from 1 to 3

Table II- Showing Leaf Venation Characters of Areoles in different Species of Rhododendron

Sr No	Name of Species	Size of Areole (μ)			Frequency of Areol			Areol Shape	No. of Veinlets per Areol	Nature of Vein Ending	Shape of Vein Ending
		Base	Middle	Apex	Base	Mid dle	Apex				
1	*Rhododendron anthopogon Var. Hypenanthum*	73 x 60	56 x 62	68 x 50	17	17	17	Tetra - Pentag onal	1 or rarely 2	Branched once or twice	Straight, pointed
2	*R. barbatum*	55 x 49	83 x 48	62 x 44	49	44	46	Tri, tetra, pentag onal	0 - 1, rarely 2	Branched	Straight
3	*R. campbeliae*	46 x 36	40 x 35	42 x 30	30	5	23	Tetra - Polygo nal	1 - 2	Branched 0 - 1	Linear

4	*R. fulgens*	40 x 33	37 x 29	37 x 31	35	43	60	Penta - Polygo nal	1 - 3	Unbranched or branched 1 - 2	Linear or curved
5	*R. glaucophyllum*	76 x 70	73 x 63	54 x 41	41	14	29	Tetra - Pentag onal	1 - 2, rarely 4	Branched or unbranched	Curved
6	*R. laedifolium*	172 x 89	129 x 79	123 x 64	17	19	17	Penta - Polygo nal	1 - 3, rarely 5	Unbranched or branched twice	Curved
7	*R. lepidotam*	35 x 35	36 x 35	36 x 35	9	8	9	Tetra - Polygo nal	1 - 2	Branched & unbranched	Curved
8	*R. medenii*	106 x 52	70 x 43	88 x 59	15	18	19	Tetra - Pentag onal	1 - 3	Branched or unbranched	Linear or curved
9	*R. triflorum*	44 x 41	42 x 39	38 x 27	42	43	44	Tetra - Pentag onal	1 - 3	Branched 1 or 2, or unbranched	Straight or curved
10	*R. wightii*	69 x 45	70 x 59	74 x 51	16	19	21	Penta - Polygo nal	0 - 1, rarely 2	Branched 1 or 2, or unbranched	Rarely bifurcate

Stomata and Epidermal cells: (Fig.2) - Epidermal cells mostly polygonal, irregular or elongated. Cell walls are sinous on upper epidermis of *R. triflorum* (fig.5.A,F); arched *in R. barbatum, R. campbellae, R. medenii* ; walls are straightin *R. anthopogon var. hypenanthum, R. fulgen and R. glaucophyllum*. Walls are straight in lower epidermis in all except one i.e. *R. campbellae* where they are arched. Frequency of epidermal cells vary in different species (Table II).

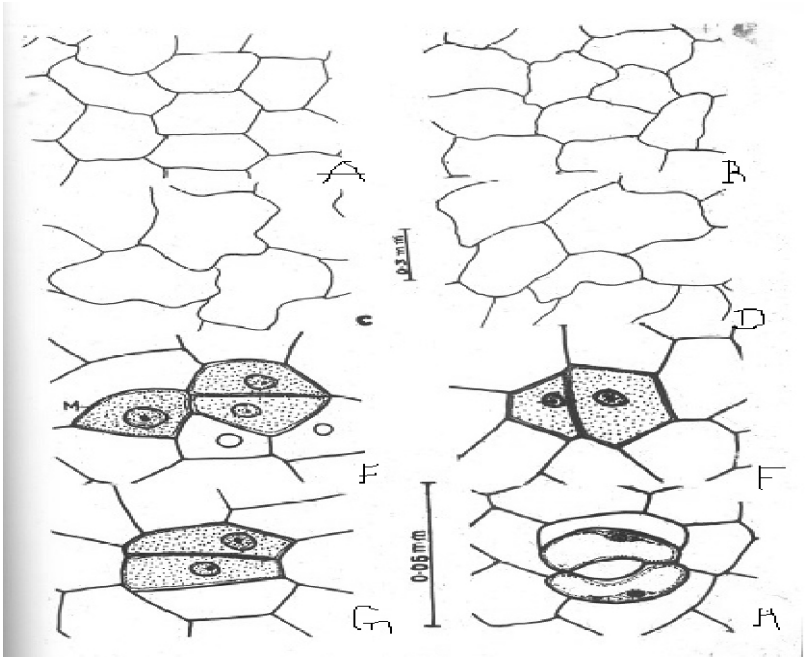


Fig-3 Showing epidermal cells and stages stomatal development. (A&D) Epidermal cells with straight walls, (B) Epidermal cells with sinous walls, (C) Epidermal cells with arched walls, (E to H) Development of anomocytic type of stomata

Stomata are observed on upper surface. Anomocytic stomata are observed in all the 10 species studied. Size, frequency, length width ratio of stomata are also calculated(Table III). On the basis of length width ratio , shaper of stomata can be observed. Stomata are longer than broader in case *of R. triflorum* (0.95), R. *anthopogon* var. *hypenanthum*(0.93*), R. fulgens (0.78*); they are nearly round in *R. medenii* (0.1); broadly elliptical in *R. wightii* (1.1*), R. barbatum* (1.2*), R. campbelliae* (1.5), *R. glaucophyllum*(1.1), *R. laedifolium* (1.4).

Table III- Showing Stomatal Variations in various Species of Rhododendron

Sr. No.	Name of Species	Size of Stomata		L/W Ratio	No. of Stomata/ unit area	No. of Epidermal Cells/ unit area	Stomatal Index
		Length (μ)	Width (μ)				
1	*Rhododendron anthopogon Var. Hypenanthum*	25.20 x 27.00		0.93	11	207	54.03
2	*R. barbatum*	30.16 x 27.00		1.20	34	85	28.70
3	*R. campbeliae*	40.80 x 26.70		1.53	33	161	12.70
4	*R. fulgens*	21.60 x 27.60		0.70	39	72	35.40
5	*R. glaucophyllum*	26.70 x 24.00		1.11	22	128	14.10
6	*R. laedifolium*	22.50 x 15.60		1.44	14	130	10.04
7	*R. lepidotam*	27.31 x 22.64		1.21	19	85	18.27
8	*R. medenii*	30.00 x 30.00		1.00		57	
9	*R. triflorum*	27.00 x 28.00		0.96	19	158	10.95
10	*R. wightii*	30.00 x 27.00		1.11	24	151	13.58

Trichomes:- (Fig 4) Trichomes are present on lower surface and also on upper surface in some species .

Unicellular, pepilliate hairs are present *in R.campbelliae*, Unicellular hook shaped hairs are present in R. triflorum.

Multicellular multiserriate;:- Such types of hairs are present in case *of R.anthopogon var.*

hypenanthum in which stalk is biserriate Many celled stalk with branches, called stellate type of *trichomes are found in case of R. wightii* .

Broom shaped hair are present in *R. laedifolium*

Peltate hair are found in R. lepidotum, cup shaped peltate hair *in R. anthopogon*, Fan shaped hair in *R. glaucophyllum, Bud shaped are present in R. anthopogon* , peltate hair with hyaline cells are present in *R. lepidotum var. elegnoides.*

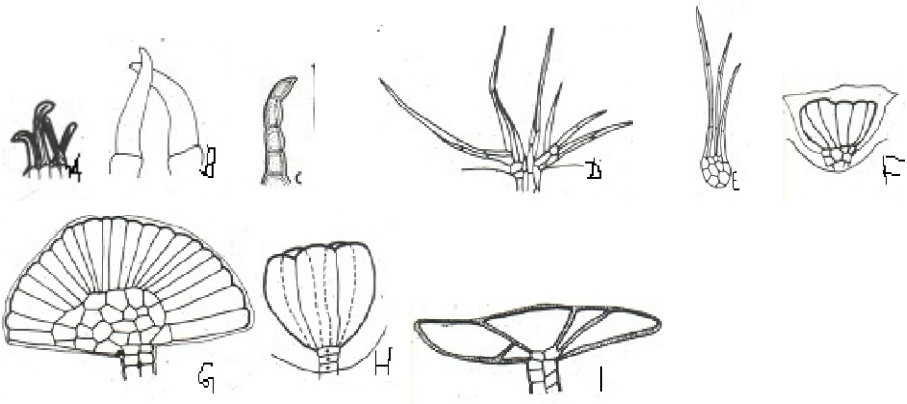
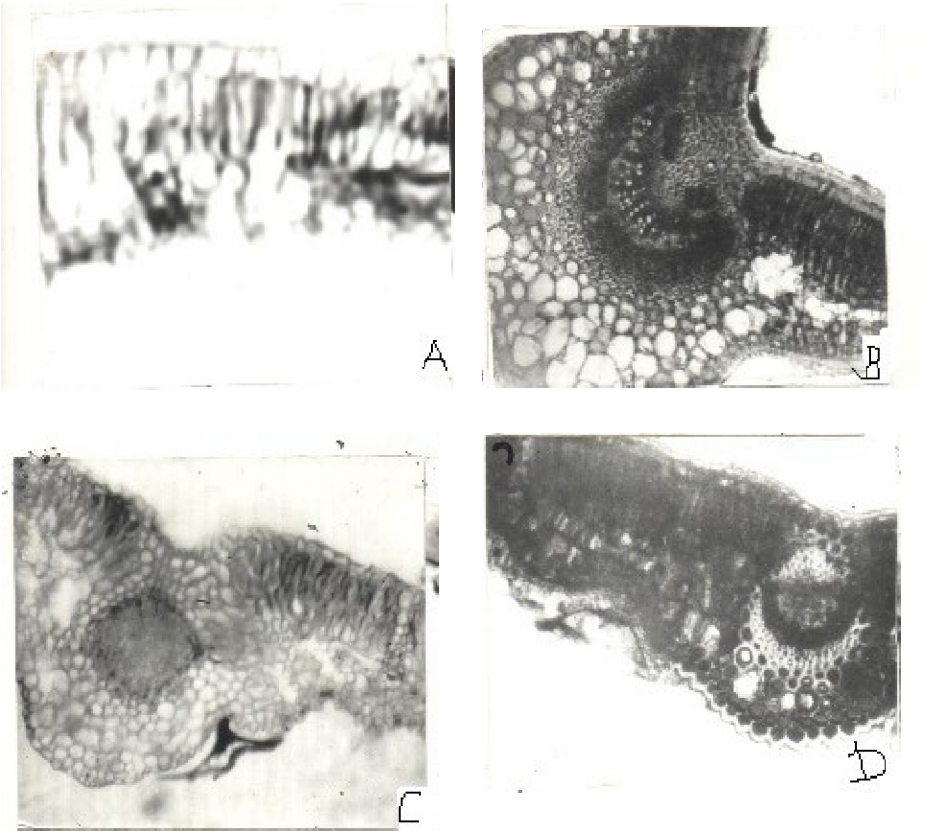


Fig-4 Types of trichomes (A) Papillate Unicellular *(R.campbelliae*), (B) hook shaped unicellular *(R.triflorum' R.anthopogon var. hypenanthum*), (C) Uniseriate unbranched, (D) Stellate *(R. wightii),* (E) Broom shaped (*R.laedifolium*), (F) Peltate hair *(R. lepidotum*), (G) Fan shaped *(R. glaucophyllum*), (H) Bud shaped (*R.Anthopogon*), (I) Peltate head with hyaline cells *(R. lepidotum var. elegnoides*)

Leaf lamina:- (Fig.5) Leaf lamina is either dorsiventral or isobilateral as there is no distinction of mesophyll in to palisade and spongy parenchyma. The epidermal layer is covered on either side by a cutical varies in thickness. It is thick in *R. anthopogon, R. campbelliae, R. laedifolium, R. triflorum R. medenii* and comparatively less thick *in R. barbatum, R. glaucophyllum, R. wightii, R. campanulatum, R. lepidotum*. Number of epidermal layers varies from 1-4. It is single layered *in R. anthopogon var. hypenanthum, R. laedifolium*, *R.medenii, R. lepidotum*; two layered *in R. glaucophyllum, R. wightii, R. triflorum; 2*-3 layered in *R. barbatum* and other cases *R. campbellae* and 4 layered in *R. campanulatum*. Epidermal cells are thick walled in *R. anthopogon, R. glaucophyllum, R wightii, R. campbellae,* but in all other cases they are thin walled. Cells are tangentially elongated in all except in *R. laedifolium* where they are radially elongated. Margins are wavy *in R. wightii, R. triflorum, R. campanulatum*; slightly wavy in *R. anthopogon, R. barbatum, R. laedifolium, R. lepidotum*; while it is straight *in R. glaucophyllum, R. medenii and R. campbellae*. Single layered thick walled hypodermal layer has been found in case of *R. anthopogon* and *R. lepidotum.*

Mesophyll is well differentiated into palisade and spongy parenchyma in *R. barbatum, R. wightii, R. laedifolium, R. medanii, R. campbelliae, R. companulatum* and *R.lepidotum* while it is not differentiated in other cases. Pallisade is present in patches *in R. triflorum and R. campbelliae*. Schlerenchyma is extended in R. *anthopogon, R. barbatum, R. campbelliae, R. triflorum, R. campanulatum* and extended at one or two places only in case *of R. glaucophyllum*. In rest of the species schlerenchyma is not extended. Vascular bundle is 'C' shaped in all except in *R. wightii* and *R. laedifolium* in which it is almost ring shaped. Two phloem patches have been observed on ventral side of the bundle besides the normal phloem *in R. campanulatum, R. anthopogon var. hypenanthum and R. triflorum.*



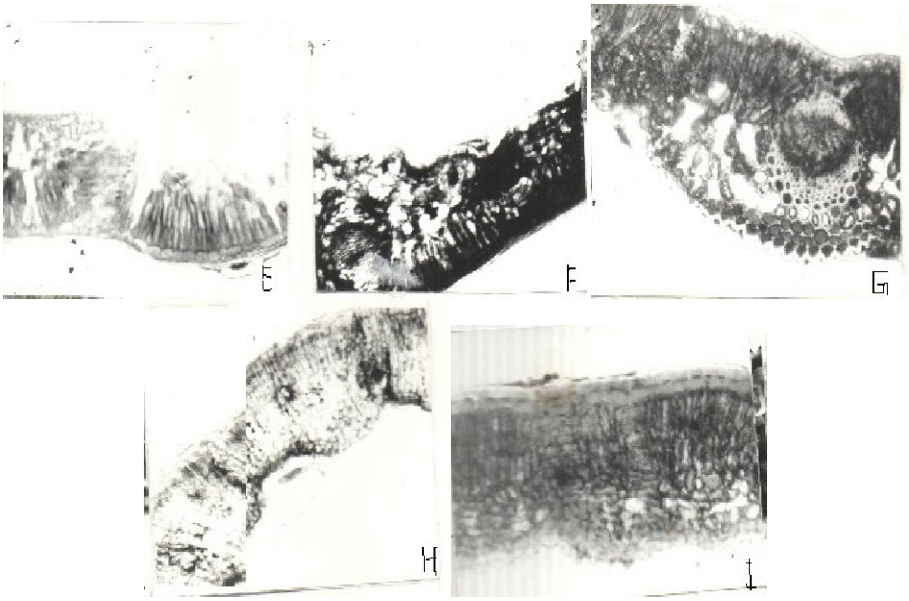


Fig-5 (A) Single layered epidermis (*R. medenii*), (B, D & G) 'C' shaped vascular bundle with phloem patches, (C) Mesophyll differentiated into palisade and spongy parenchyma (*R. wightii*), (E & F) Mesophyll not differentiated into palisade and spongy parenchyma (*R. ciliatum and R. triflorum*), (H) Bundle sheath extended dorsiventrally (*R. lepidotum*),

Petiole:- In transverse section of petiole single, open and crescent shaped vascular bundles is observed in all the species studied. However, *in R. triflorum* and *R. laedifolium* it is approximately circular and *in R. campbelliae and R.wightii* horse shoe shaped bundle is found. The cortical region of petiole is parenchymatous and form a spongy tissue which may be well developed and giving spongy appearance in transverse section *in R. medenii* and *in R. lepidotum*, *R. laedifolium* and *R. anthopogon var. hypenanthum* it is less spongy. Secretory cells with deeply staining, probably tenniniferous contents are common in ground tissue of the petiole (Fig. 9).

DISCUSSION

A study of 10 species of Rhododendron in leaf architecture, leaf stomata, trichomes and leaf anatomy reveals that, there are interesting features which can be used for taxonomic identification of genus.

The major venation pattern in terms of Hickey (1979) is reticulated and brochidodromous in all the species. However, number of veinlets per aerole and their nature very in different species. Epidermal cells are having arched, sinous or straight walls. Somata are uniformaly anomocytic and hypostomatic, Hickey(1973,1979)and Dilcher(1974) have emphasized the importance of leaf architecture in taxonomic solutions. They have considered that leaf architectural elements are constant for a species and are more reliable.Many other workers aiso considered these characters as important one but there are others who feel that there is no consistency in these characters and there is lot of overlapping in the leaf element characters within the same species. In different species of Rhododendron, therefore, it is concluded that leaf vanations and leaf stomatal characters are of little help in the identification of different species. There is a lot of variation in leaf anatomy such as the number of epidermal layers and shape of its cells, differentiation of mesophyll into palisade and spongy parenchyma, and types of trichomes etc. On the basis of these characters following artificial key has been prepared for taxonomic purpose.

A1 Mesophyll differentiated :

R. barbatum, R.wightii, R. laedifolium, R. medenii, R. campbelliae, R. campanulatum, R. lepidotum.

B1 bI Epidermal cells with papillae:-

R.barbatum, R.medenii. R. campbelliae.

b2 Epidermal cells without papillae

R.wightii, R. laedifolium, R. campanulatum and R. lepidotum.

C1 Number of epidermal layers :

c 1 Single layered

a. with broom shaped hair…… *R. laedifolium.*

b. with peltate and Fan shaped hair…… *R. lepidotum.*

c. with multicellular glands on surface…… *R. medenii.*

c 2 Two layered ..... *R. wightii.*

c 3 Two to three layered ..... *R. barbatum*

with multicellular, uniseriate, branched hai…..... *R. campbelliae*

c 4 Four layered..... *R. campanulatum*

A2 Mesophyll not differentiated

R. triflorum, R. anthopogon.var. hypenanthum, R. glaucophyllum.

B2 b1 Epidermal cells with papillae.

b 2 Epidermal cells without papillae……*R. glaucophyllum.*

C2 Number of epidermal layers.

c 1 Single layered

Bud shaped peltate hair……*R. anthopogon var. hyponanthum*

Cup shaped peltate hair……*R. triflorum.*

References

Cowan, J.M. 1950. The Rhododendron leaf, a study of epidermal structure. Oliver and Boyd. Edinb.

Dilcher, D.L.. Approaches to the identification of angiospermic leaf remains. The Bot. Rev. 40:2-145.

Hays, S.E., J. Keenan and Cowan, J .M. 1951. Survey of anatomy of the *Rhododendron* leaf in relation to the taxonomy of genus. Notes Roy Bot. Gard. Edinb. 21: 2-34

Hickey, L.J. 1973. Classification of the architecture of dicotyledonous leaves. Am. J. Bot. 60: 17-33

Hickey, L.J. 1979. A revised classification of architecture of dicotyledonous leaves.

Anatomy of dicotyledons. Vol. I. (Eds. Metacalfe, C.R. and Chalk, L.) clerendon press, Oxford.

Philipson, M.N.1980 DICOTYLEDONS AND *Rhododendron* Classification Contributions towards a classification of *Rhododendron*. New York Bot. Gard. 75-88.

Philipson, W.R. and Philipson,M.N. 1968. Diverse nodal type in *Rhododendron.* Journ. Arn. ARb. 49(1): 193-224.

Synthesis, characterization and antibacterial potential of mixed ligand oxidovanadium(IV) complexes containing quinoline-8-olato and hydroxamate ligands

- Jitender Thakur and Neeraj Sharma

ABSTRACT

The new complexes of composition $[VO(Q)(HL^{1,2})]$ (I and II) (where HL^{1}; 2-Cl-PhAcH = 2-Cl-$C_6H_4CH_2CONHO^-$, HL^{2}; PhOAcOH = $C_6H_5OCH_2CONHO^-$, Q = 8-hydroxyquinolate ion = $C_9H_6NO^-$) have been synthesized by the reactions of $VO(Q)_2$ i.e. bis(quinoline-8-olato) oxidovanadium (IV) with potassium 2-chloridophenlyacetohydroxamate and phenoxyacetohydroxamate $KHL^{1,2}$ in THF+MeOH. The complexes have been characterized by elemental analyses, molar conductivity, magnetic moment measurements, mass spectrometry, IR, electronic and ESR spectral techniques. From the spectroscopic studies, O,O coordination of hydroxamate ligands and a square-pyramidal geometry for the complexes has tentatively been proposed The antibacterial activity of the complexes has been evaluated against some g**ram-positive bacteria *Staphylococcus aureus, Bacillus cereus* and gram negative bacteria *Escherichia coli, Salmonella typhi*** by minimum inhibitory concentration (MIC) method.

Keywords: Oxidovanadium (IV) complexes, Quinoline-8-oalto, 2-chloridophenylacetohydroxamate, Phenoxyacetohydroxamate, Spectral studies, Antibacterial activity.

Jitender Thakur & Neeraj Sharma, *Department of Chemistry, HPU, Shimla - 171 005, INDIA*
Tel.: +919418453504 Fax: +911772830775 E-mail: neerajsharma_univ@yahoo.co.in

Introduction

An enormous research interest in vanadium chemistry has been owing to its exhibiting variable oxidation states as well as of the fascinating oxo-ions. The interchange between vanadium (IV) and vanadium (V) oxidation states in biological media has offered a broad spectrum of medicinal applications (Maurya, *2006)*viz. *t*he antitumor (Molineuvo*et al.,* 2004), antimicrobial and insulin enhancing effects (Karmaker*et al.,* 2010). Vanadium complexes also display significance as models in haloperoxidation, phosphorylation (Kawabe*et. al.,* 2006) and nitrogen fixation (Abakumova*et al.,* 2012; Pawar*et al.,* 2011; Domingues*et al.,* 2014).

There has been a considerable research interest in hydroxamic acids (-$RCON(R^{'})OH$), an important class of organic bio-ligands which are of considerable chemical and biological importance (Crans*et al.,* 2004*;* Etcheverry*et al.,* 2013). The pronounced biological activities of hydroxamic acids such as antibiotics, anti-tumor agents (Pal and Saha 2012) and antifungal agents, microbial iron transportation (**Kehl, 1982) have furthered their reserarch relevance. The hydroxamic acids generally** coordinate to metal by (O, O) bonding mode wherein aminohydroxamic acid may bind as a single deprotonated hydroxamate, by (N, N) by amino and deprotonated hydroxamic nitrogen or as (N, N), (O, O) connecting the bis-chelated ligands (Farkas*et al.,*1993). The complexes derived from hydroxamate ligands with electron withdrawing groups (-NO_2, -Cl) show higher biological activity than those having electron releasing groups (-NH_2). The inhibition of mammalian ribonucleotide reductase exhibitingactineoplastic activity by benzohydroxamic substituted acids with -OH and -NH_2 substituents is well known (Ugwu*et al.,* 2014).

Much interest has been devoted in the synthesis of oxidovanadium (IV) hydroxamate complexes (Sharma *et al.,* 2011; Sharma *et al.,* 2012; Sharma *et al.,* 2012; Sharma and Sharma, 2012; Sharma *et al.,* 2013).The present paper describes the synthesis of new mixed ligand oxidovanadium (IV) complexes derived from $[VO(Q)_2]$ as precursor wherein one 8-hydroxyquinolate group has been substituted with $HL^{1,2}$. The antibacterial potential of hydroxamate ligands and complexes has been assayed against pathogenic bacteria.

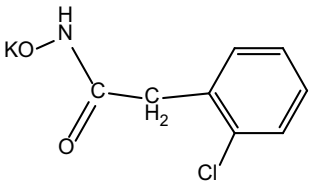


Figure 1.Structure of potassium-2-chloridophenylacetohydroxamate (KHL^{1})(2-Cl-PhAcH)

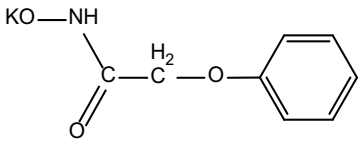


Figure 2. Structure of potassiumphenoxyacetohydroxamate (KHL^2)(PhOAcH)

Experimental

Materials and physical measurements

All the solvents and chemicals were of reagent grade. The vanadium content in complexes was determined as V_2O_5. The carbon, hydrogen and nitrogen analyses were obtained on Eager 300 NCH System Elemental Analyzer. The molar conductance (10^{-3} M solutions in CH_3OH) was obtained at 25 ± 0.1°C on an Elico Conductivity Bridge Type CM-82T. The room temperature magnetic susceptibilities were recorded by Guoy's method using $Hg[Co(NCS)_4]$ as calibrant. IR spectra were recorded as KBr pellets on Nicolet-5700 FTIR spectrophotometer. The pellets were prepared in a dry box to avoid the action of moisture. Electronic spectra of complexes were recorded on Varian Cary-100 Bio UV-VIS spectrophotometer using CH_3OH as solvent. The mass spectra were recorded on TSQ 8000 Evo Triple Quadrupole Mass Spectrometer having mass range of 4000 amu in quadrupole.

Synthesis

$[VO(Q)_2]$ as yellowish brown solid was prepared from $[VO(acac)_2]$ by reported method [Pasquali et al., 1979]. The potassium-2-chloridophenylacetohydroxamate (KHL^1) and potassiumphenoxyacetohydroxamate (KHL^2) were synthesised as reported earlier [Hauser and Renfrow., 1953]. To a solution of $[VO(Q)_2]$ (1g, .0028mol) in THF+MeOH (20ml) were added equimolar amount of potassium hydroxamate ligands (2-Cl-PhAcOHK) (0.65g, 0.0029mol) and (PhOAcOHK) (0.60g, 0.0029mol) in the same solvent in separate experiments. The reaction mixture was initially stirred for half an hour and was then refluxed for 16h whereupon a change in color of reaction mixture from blue to green/black was observed.

For **[VO(Q)(2-Cl-PhAcOHK)]**, **$VC_{17}H_{13}N_2ClO_4$,(I) (395)**

Anal.Calcd. (%): V, 12.87 C, 51.60 H, 3.31 N, 7.08 Cl, 8.96 O, 16.17

Found, (%): V, 12.90 C, 51.66 H, 3.38 N, 7.10 Cl, 9.01 O, 16.21

Λ_m (Methanol): 4.13 $Scm^2mol^{-1;}$ μ_{eff}(293K): 1.68 B.M. (Yield: 0.86g, 75.8%).

For **$[VO(Q)_2(PhOAcOHK)]$**, **$VC_{17}H_{14}N_4O_4$,(II) (377)**

Anal.Calcd. (%): V, 13.50 C, 54.12 H, 3.74 N, 7.43 O, 21.21

Found (%): V, 13.54 C, 54.15 H, 3.79 N, 7.47 O, 21.28

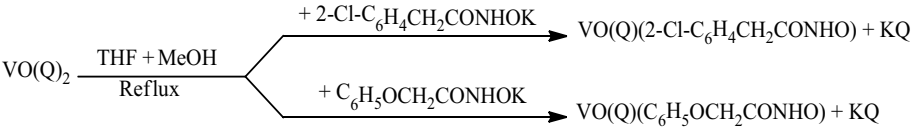
Λ_m (Methanol): 4.18 Scm^2mol^{-1}; μ_{eff} (293K): 1.70 B.M. (Yield: 0.84g,78.9%)

Antibacterial activity study

MIC assay was performed in a 96-well micro-titre plate. A row of twelve wells was used, with the last two wells taken as control (no drug added). Each of the ten wells received 100µL of the Muller-Hinton broth except the first well that received 200µL of broth containing 500 µg / mL concentration of the test drug. From the first well (containing test drug), 100µL broth was withdrawn with a sterile tip and same was added to the 100µL of the broth in the 2nd well; contents were mixed four times. Then 100µL was withdrawn from 2nd well and was added to the 3rd well. This way a range of two-fold serial dilution were prepared (500 0.98 µg / mL) by performing two-fold serial dilution. The broth in each of the wells was inoculated with 2µL of the bacterial culture and the contents were mixed by ten clockwise and ten anticlockwise rotations on a flat surface. The plate was incubated at 35°C thereafter. Data were recorded after 24 hours of bacterial growth. To evaluate the role of the solvent in the bioassay, if possible, several experiments were performed with DMSO. The solvent had no action against the bacterial strain.

Results and discussion

The reactions of $[VO(Q)_2]$ with $KHL^{1,2}$ in THF+MeOH afforded the quantitative formation of green and black complexes of composition **$[VO(Q)HL^{1,2}]$ respectively** established by elemental analyses. The scheme of the reaction is as



Scheme1. Reaction scheme of the preparation of Oxidovanadium(IV) complexes

The complexes are soluble in common organic solvents such as CH_3OH, $CHCl_3$, CH_2Cl_2, DMSO and CH_3CN. The molar conductance values of I and II in MeOH of magnitude 4.13 and 4.18 S cm^2 $mole^{-1}$ respectively indicated their non-electrolytic nature (Geary, 1971). The room temperaturemagnetic momentvalues of 1.68 and 1.70 BM are in accordance with those reported for the oxidovanadium (IV) complexes with an unpaired electron indicating their paramagnetic nature and +4 oxidation state for the vanadium (Marmion *et al.,* 2004).

Infrared spectra

A comparison of the infrared spectra of $KHL^{1,2}$ and the newly synthesized oxidovanadium (IV) complexes (Figs. 3, 4) scanned in 4000-250 cm^{-1} region gave supporting evidences of their formation. The potassium-2-chloridophenylacetohydroxamate (KHL^{1}) exhibited characteristic bands at 3222, 1640, 1344 and 975 cm^{-1} due to ν(N-H), ν(C=O), ν(C-N) and ν(N-O) modes respectively. Complex I displayed the bands at 3429, 1572, 1375 due to ν(N-H), ν(C=O), and ν(C-N) modes respectively. The absorption band at 983 cm^{-1} may be ascribed as overlap band due to ν(N-O) and ν(V=O) modes. The IR spectrum of free potassiumphenoxyacetohydroxamate (KHL^{2}) showed absorption bands at 3217, 1643, 1365 and 985 cm^{-1} due to ν(N-H), ν(C=O), ν(C-N) and ν(N-O) modes respectively. Complex II showed the bands at 3422, 1562, 1340 cm^{-1} due to ν(N-H), ν(C=O), and ν(C-N) modes respectively.

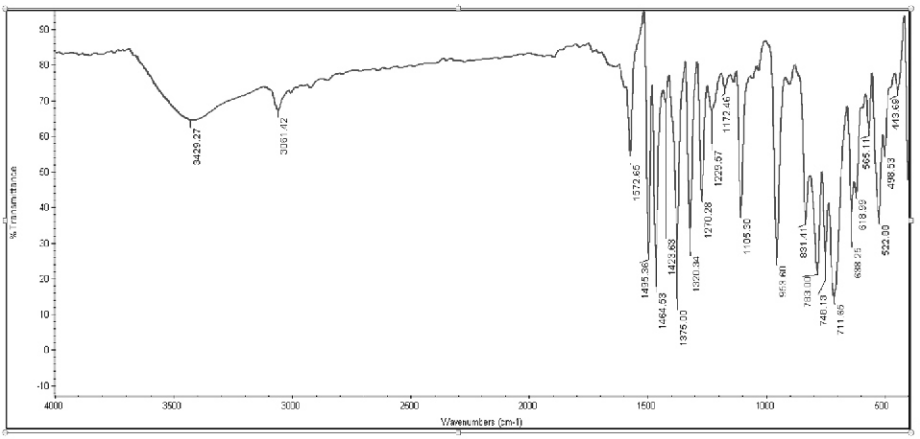


Figure3. IR spectrum of [VO(Q)(HL^{1})]

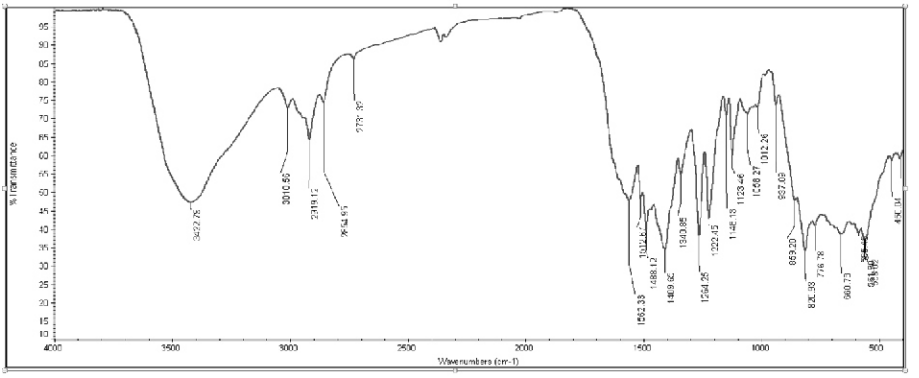


Figure4. IR spectrum of [VO(Q)(HL^{2})]

Figure4. IR spectrum of [VO (Q)(HL^2)]

Table1. FT-IR spectral data

Ligand/Complex	IR spectral data peaks
KHL^1	3222, 1640, 1611, 1473, 1439, 1423, 1344, 1122, 1049, 975, 944, 833, 744, 685
KHL^2	3217, 1643, 1599, 1530, 1488, 1414, 1393, 1365, 1283, 1228, 1175, 1075, 1051, 1031, 985, 883, 851, 819, 743, 687
[VO(Q)(HL^1)] I	3429.27, 3061.42, 1572.65, 1495.36, 1464.53, 1423.63, 1375.0, 1320.34, 1270.28, 1229.57, 1172.46, 1105.30, 953.60, 831.41, 783.00, 748.13, 711.65, 638.25, 618.99, 565.11, 522.88, 498.53
[VO(Q)(HL^2)] II	3422.79, 3010.56, 2919.12, 2854.95, 2731.32, 1562.33, 1512.67, 1488.12, 1409.65, 1340.85, 1264.25, 1222.45, 1148.13, 1123.46, 1058.27, 1012.26, 937.07, 859.20, 820.33, 776.78, 660.78, 586.46, 558.02, 561.90, 450.04

Electronic Spectra

The UV-Vis spectra of [$VO(Q)_2$], $KHL^{1,2}$ and newly synthesized complexes I and II have been recorded in CH_3OH. The complexes [VO(Q)($HL^{1,2}$)] displayed bands at 800-750 and 550-450 nm range ascribed to LMCT and d-d transitions respectively. These spectral observations are in agreement with those reported for square-pyramidal oxidovanadium (IV) complexes (Rowe and Jones, 1957).

Electron Spin Resonance Spectra

The X-band ESR spectra of [VO(Q)($HL^{1,2}$)] I and II recorded at room temperature showed typical hyperfine separation and anisotropic lines of vanadium (IV) chelates due to the interaction of vanadium (IV) with its core I = 7/2.The nuclear magnetic quantum numbers corresponding to these lines are -7/2, -5/2, -3/2, -1/2, +1/2, +3/2, +5/2, +7/2 from low to highfield. The average valuesof g determined from the spectra are of magnitude0.91 and 0.88 close to the value of the free electron 2.00, suggesting a small spin-orbit coupling.

Mass spectra

The ESI (electrospray ionisation) mass spectrum of complex I (Figure 5) exhibited molecular ion peak at *m/z (*%) 393.3 (100), corresponding to **[VO(Q)(HL^1)-2H]$^+$**. The other fragment ions at *m/z (*%) **378.27 (**5.88**), 230.9 (**13.68**), 210.18 (**2.31**), 184.82 (**82.6**), 146.44 (**40.35**) corresponded to [VO(Q)(HL^1)-2H]$^+$, [V(L)]$^+$, [VO(Q)]$^+$,** [HL^1] **and** [$Q+H^+$]$^+$ **respectively.**

Complex II (Figure 6) displayed a molecular ion peak at *m/z (*%) 377.12 (86.47)establishing its composition. The other fragment ions at *m/z(*%)230.75 (30.40), 187.146 (3.81), 161.18 (35.63), 146.12 (100) and 128.23 (34.17)

corresponded to **$[VO(HL^2)]^+$,$[(HL^2)+Na^+]^+$,$[Q+O]^+$,** $[Q+H^+]^+$ **and** $[Q-O]^+$respectively

Table 2. Mass Spectral data of Oxidovanadium (IV) complexes

$[VO(Q)(HL^1)]$ (I)	m/z	(%)	$[VO(Q)(HL^2)]$ (II)	m/z	(%)
$[VO(Q)(HL^1)-2H]^+$	393.3	100	$[VO(Q)(HL^2)]$	377.12	86.47
$[VO(Q)(HL^1)-O]^+$	378.27	5.88	$[VO(HL^2)]^+$	230.75	30.40
$[V(L)]^+$	230.90	13.68	$[(HL^2)+Na^+]^+$	187.14	63.81
$[VO(Q)]^+$	210.18	2.31	$[Q+O]^+$	161.18	35.63
HL^1	184.82	82.60	$[Q+H^+]^+$	146.12	100
$[Q+H^+]^+$	146.44	40.35	$[Q-O]^+$	128.23	34.17

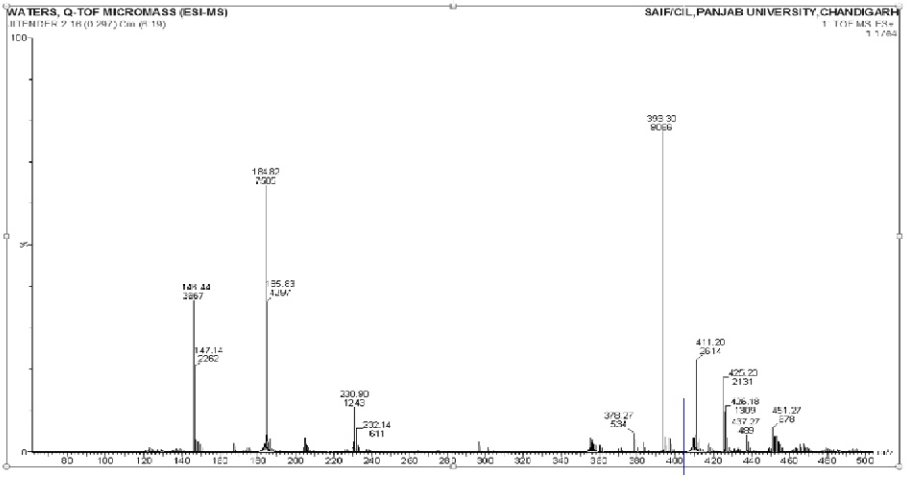


Figure5. Mass spectrum of $[VO(Q)(HL^1)]$ (I)

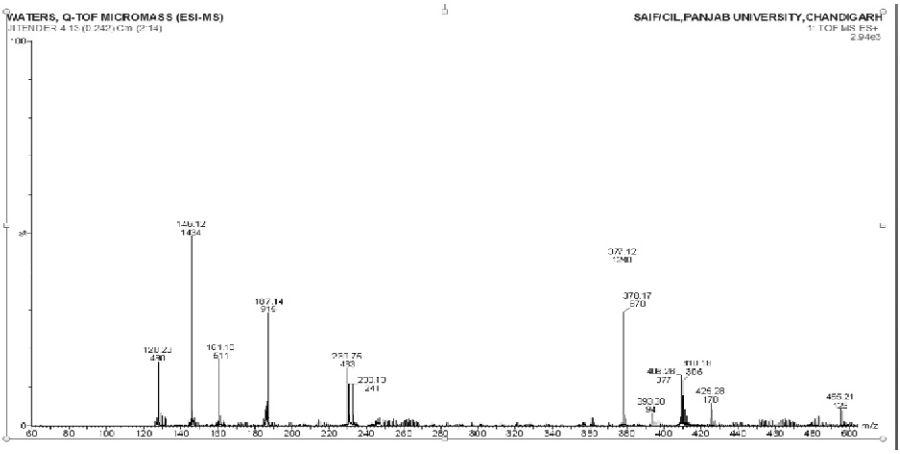
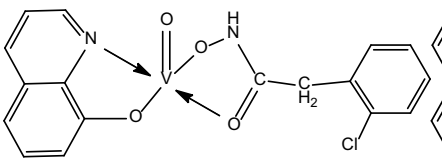


Figure6. Mass spectrum of $[VO(Q)(HL^2)]$ (II)

Based on physico-chemical and FT-IR, UV-Vis, ESR and mass spectral data coupled with magnetic moment measurements, distorted square-pyramidal geometry around vanadium may tentatively be proposed as (Figures 7 and 8).



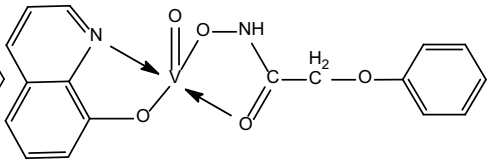


Figure7. Structure of [VO(Q)(2-Cl-PhAcH)](I) Figure8. Structure of [VO(Q)(PhOAcH)] (II)

Antibacterial activity

The ligands $KHL^{1,2}$ and oxidvanadium (IV) complexes $[VO(Q)(HL^{1,2})]$, were screened in vitro for their antibacterial activity on selected Gram-positive bacteria Staphylococcus aureus, Bacillus cereus and Gram-negative bacteria Escherichia coli, Salmonella typhi at different concentrations in DMSO employing the standard Minimum Inhibitory Concentration (MIC) method as recommended by National Committee for Clinical Laboratory Standard (NCCLS). The ligands $KHL^{1,2}$ inhibited all test bacteria at MIC 62.5-125µg/mL range. The $[VO(Q)(HL^{1})]$ (I) showed inhibitory effect at MIC 31.25µg/mL against Bacillus cereus, Staphylococcus aureus and Escherichia coli quite improved than ligands. Complex of composition $[VO(Q)(HL^{2})]$ (II) inhibited Staphylococcus aureus, Bacillus cereus at MIC 31.25 µg/mL while Escherichia coli, Salmonella typhi were inhibited at 62.5 µg/mL. An appreciable antibacterial activity compared to reference drug streptomycin has been shown by complexes.

Table3. Antibacterial activity data by MIC method (*µg/ml)*

Ligands/Complex	*S. aureus* (µg/ml)	*B.cereus* *(µg/ml)*	*E. coli* *(µg/ml)*	*S. typhi* *(µg/ml)*
KHL^{1}	125	62.5	125	125
KHL^{2}	125	125	125	125
$[VO(Q)HL^{1}]$ (I)	62.5	31.25	62.5	125
$[VO(Q)HL^{2}]$ (II)	31.25	31.25	62.5	62.5
Streptomycin	3.92	15.63	15.63	15.63

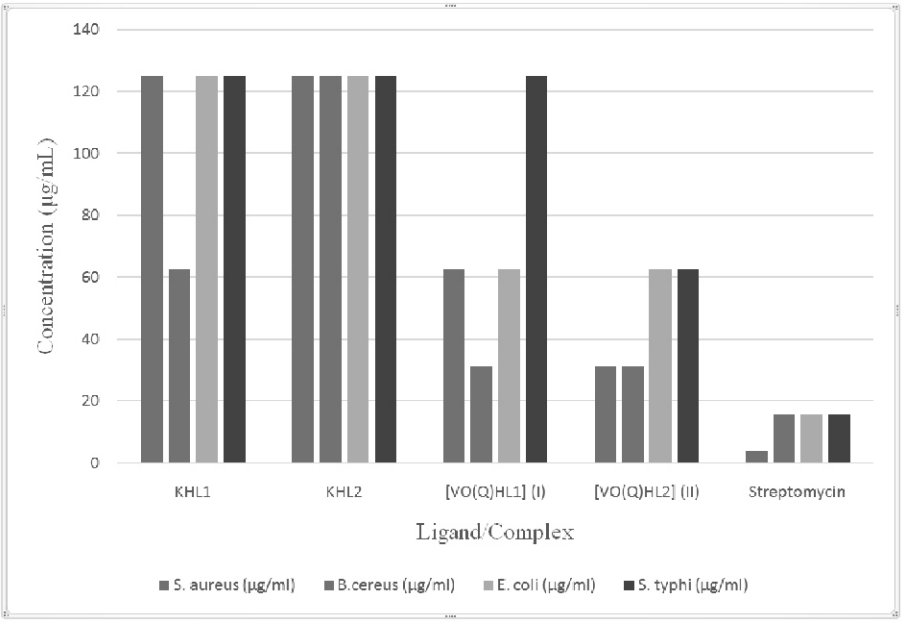


Figure9. In vitro antibacterial activity of ligands and oxidovanadium(IV) complexes

Conclusion

The results underline usefulness of $[VO(Q)_2]$ as a starting material for the synthesis of new mixed ligand oxidovanadium (IV) complexes containing quinoline-8-olato and hydroxamate ligands. The characterization of complexes by physico-chemical, IR, UV-vis, ESR spectral techniques and mass spectrometry have shown bidentate (O,O) coordination. Complexes of composition $[VO(Q)HL^{1,2}]$ I and IIhave shown promising antimicrobial activity than the free ligands.

Acknowledgements

The authors wish to thank Department Of Science and Technology (DST) New Delhi, Govt. of India for providing financial assistance for FTIR and UV-Vis spectrophotometer facility to the department under its FIST program, IIT Roorkee for magnetic susceptibility measurements, IIT Bombay for ESR spectra, Panjab University Chandigarh for ESI-MS, and Department of Biotechnology, Himachal Pradesh University Shimla for carrying out antibacterial activity study.

References

Abakumova, O. Y., Podobed, O. V., Belayeba, N. F., Tochilkin, A. I., 2012. Anticancer activity of oxovanadium compounds. Biomed. Chem., 6(2), 164-170.

Crans, D.C., Smee, J.J., Gaidamauskas, E., Yang, L., 2004. The chemistry and biochemistry of vanadium and the biological activities exerted by vanadium compounds. Chem. Rev. 104, 849-902.

Demuth, H.U., Stockel, A., Schierhorn, A., Fittkau, S., Kirschke, H., Bromme, D., 1993. Inhibition of aminopeptidases by **N**-aminoacyl-**O**-4-nitrobenzoyl hydroxamates. **Biochem ,Biophys. Acta.** 1202, 265-270.

Domingues, N., Pelletier, J., Ostenson, C.G., Castro, M.M., 2014. Therapeutic properties of $VO(dmpp)_2$ as assessed by in vitro and in vivo studies in type 2 diabetic GK rats. J. Inorg. Biochem. 131, 115122.

Etcheverry, S.B., Leon, I.E., Di Virgilio, A.L., Muglia, C.I., Naso, L.G., Williams, M., Fogolin-Bollati. 2013. Antitumor properties of a vanadyl(IV) complex with the flavonoid chrysin [VO(chrysin)2EtOH]2 in a human osteosarcoma model: The role of oxidative stress and apoptosis. Dalton Trans. 42, 11868-11880.

Farkas, E., Brown, D.A., Cittaro, R., Glass, W.K., 1993. Metal complexes of glutamic acid-γ-hydroxamic acid (Glu-γ-ha)(N-Hydroxyglutamine) in aqueous solution. J.Chem. Soc. Dalton Trans. 2803-2807.

Geary, W.L., 1971. The use of conductivity measurements in organic solvents for the characterisation of coordination compounds. Coord. Chem. Rev., 7, 81-122.

Hauser, C.R., Renfrow, W.B., 1967. Benzohydroxamic acid. Organic Synthesis.Coll.Vol. II, Edi. A.H. Blatt and John Wiley and Sons, New York. p. 67.

Karmaker, S., Saha, T.K., Yoshikawa, Y., Sakurai, H., 2010. Vanadyl-poly(glutamic acid) complexes as oral therapeutic agents for the treatment of type 1 like diabetic mice. Afri. J. Pharm. Pharmacology. 4, 235-243.

Kawabe, K., Yoshikawa, Y., Adachi, Y., Sakurai, H., 2006. Possible mode of action for insuliunomimetic activity of vanadyl(IV) compounds in adipocytes. Life. Sci. 78, 2860-2866.

Kehl (ed.), H., 1982. Chemistry And Biology of Hydroxamic Acids, Karger, New York.

Marmion, C. J., Griffith, D., Nolan, K. B., 2004. Hydroxamic acids − an intriguing family of enzyme inhibitors and biomedical ligands. Eur. J. Inorg. Chem. 15, 3003-3016.

Maurya, M. R., 2006. Structural models of vanadate-dependent haloperoxidases and their reactivity. J. Chem. Sci. 118(6), 503-511.

Molineuvo, M.S., Bario, D.A., Cortizo, A.M., Etcheverry, S.B., 2004. Antitumoral properties of two new vanadyl(IV) complexes in osteoblasts in culture: role of apoptosis and oxidative stress. Cancer. Chemother. Pharmacol. 53, 163-172.

Pal D, and Saha S., 2012.Hydroxamic acid - A novel molecule for anticancer therapy., J. Adv. Pharm. Technol. Res., vol. 3, p.92-99.

Pasquali M, Landi A, Floriani C,1979.(Pyridine)bis(8-quinolinato) oxovanadium(IV): a free- radical- like metal center in reactions with dioxygen, p-benzoquinone, and aromatic nitroso compounds. I Inorg Chem.;18:2397400.

Pawar, V., Joshi, S., Uma, V., 2011. Antibacterial and antioxidant properties of macrocyclic Schiff bases with vanadium (V) complexes. Biokemistri, 23(1), 21.

Rowe, R.A., Jones, M.M., 1957.Vanadium (IV) oxy(acetylacetonate)., Inorg. Synth., vol. 5, p. 114.

Sharma, N., Kanwar, S.S., Gupta, R., Kumari, L., Sharma, R., 2012. Reactions of oxidobis(quinolin-8-olato)vanadium(IV) with hydroxamate ligands: a route providing mixed ligand and quinolin-8-olato-free vanadium(IV) complexes. Bull. Chem. Soc. Japan. 85, 1310-1317.

Sharma, N., Kumar, V., Sharma, R., Kumari, M., Kanwar, S.S., 2011. Coordination compounds of hydroxamatooxovanadium(iv) complexes with nitrogenous bases and their antimicrobial activities. Bull Chem. Soc. Japan. 84, 855-861.

Sharma, N., Kumari, M., Sharma, R., 2012. Thermoanalytical studies of oxovanadium(IV)hydroxamate complexes. J. Therm. Anal. Calorim. 107, 225-229.

Sharma, R., Sharma, N., 2013.A thermal behaviour and structural study of bis(hydroxamato)oxovanadium(IV) complexes., J. Therm. Anal. Calorim., vol. 112, p. 25-30.

Sharma, R., Sharma, N., 2012. Thermal studies of some biologically active oxovanadium(IV) complexes containing 8-hydroxyquinolinate and hydroxamate ligands. J. Therm. Anal Calorim. 110, 539-543.

Ugwu, D. I., Ezema, B. E., Eze, F. U., Ayogu, J. I., Ezema, C. G., Ugwuja, D. I., 2014. Synthesis and biological applications of hydroxamates. Amer. J. Org. Chem. 4(2), 26-51.

Oxidovanadium (IV) complexes of 4-Aminobenzohydroxamic acid: Synthesis, characterization and antibacterial activity

- Jitender Thakur, Abhishek Kumar and Neeraj Sharma

ABSTRACT

The oxidovanadium (IV) complexes of composition $[VO(acac)_{2-n}(ABH)_n]$(I and II)(where n=1 and 2; ABH=4-$NH_2C_6H_4CONHO^-$, 4-aminobenzohydroxamate ion; acac= $(CH_3COCHCOCH_3)^-$, acetylacetonate ion) have been synthesized by the reactions of $VO(acac)_2$ with equi- and bimolar amounts of potassium-4-aminobenzohydroxamate (KABH) in methanol. The characterization of complexes has been accomplished by elemental analyses, molar conductivity, magnetic moment measurements, IR, electronic and ESR spectral studies. The IR spectra have suggested bonding through hydroxamic and carbonyl oxygens (O, O coordination). The thermal behaviour of complexes studied by TG-DTA techniques has shown these to undergo two step decomposition yielding VO(ABH) as an intermediate and VO_2 as the ultimate product of decomposition. The cyclic voltammetric measurements of complexes have shown a quasi-reversible VO^{3+}/VO^{2+} redox couple. The antibacterial activity of the newly synthesized complexes has been evaluated against some pathogenic gram +vebacteria ,S.aureus, and S.epidermidisand gram veE.coli and S.typhiby minimum inhibitory concentration (MIC) method. The complexes have been found to exhibit promising antibacterial activity relative to free ligand.

Keywords: Oxidovanadium (IV) complexes, 4-aminobenzohydroxamate, Spectral studies, Antibacterial activity.

Jitender Thakur, Abhishek Kumar and Neeraj Sharma
Department of Chemistry, Himachal Pradesh University, Shimla - 171 005, India
Tel.: +919418453504 Fax: +911772830775 E-mail: neerajsharma_univ@yahoo.co.in

Introduction

The coordination and biochemistry of vanadium, an important bioelement because of its pharmacological properties (Thompson and Orvig., 2001; Maurya, 2003) has been a subject of increasing research interest. The anionic form vanadate resembling phosphate and of the cationic forms, VO^{2+} in particular, have been of biological relevance (Maurya, 2006; Crans et al., 2003; Kawabe et al., 2006; Sanna et al., 2010; Ugwu et al., 2014). The ability of vanadium to exhibit variable oxidation states especially the interconversion between vanadium(IV) and vanadium(V) in biological media has led to the synthesis of numerous complexes derived from organic ligands with varying donor atoms exhibiting broad coordination potentialities(Maurya., 2003). The antitumor (Molineuvo et al., 2004), antimicrobial and insulin enhancing effects (Karmaker et al., 2006) of vanadium complexes are well-documented. There has also been a growing interest in the synthesis of vanadium complexes as models in haloperoxidation, phosphorylation, insulinmimicking (Kawabe et al., 2006; Sanna et al., 2010) and nitrogen fixation(Abakumova et al., 2012; Pawar et al., 2011; Domingues et al., 2014).

Hydroxamic acids (-CONHOH) an important class of organic bioligands have been of considerable chemical and biological importance (Crans et al., 2014; Etcheverry et al., 2013) because of exhibiting a wide spectrum of biological activities as antibiotics, antitumor (Pal and Saha., 2012) and antifungal agents and their involvement in processes such as microbial iron transport (Kehl, 1983), inhibition of nickel-dependent urease enzymes (Kobashi et al., 1971; Odake et al., 1992), the zinc-dependent matrix metalloproteinase (Botos et al., 1996; Grams et al., 1995), the haem-dependent prostaglandin-H synthaseand histone deacetylase inhibitors (Demuth et al., 1993). The versatility of bonding because of tautomerism exhibiting hydroxamic and hydroximic forms in their metal complexes is highly fascinating (Ugwu et al., 2014; Codd, 2008; Marmion et al., 2004). Scattered reports describe the synthesis and biological activity of vanadium (IV, V) hydroxamic acid complexes (Haratake et al., 2005; Pasayat et al 2016).The substituents at hydroxamate ligand have been found to exhibit a range of coordination possibilities depending on the metal ion involved and pH of the reaction. The aminohydroxamic acids have been reported to coordinate to metal through (O, O) as a singly deprotonated hydroxamate; through (N, N) of the amino and the deprotonated hydroxamic nitrogen or as a (N, N), (O, O) bridging bis chelating ligands(Farkas et al., 1993).The complexes with electron withdrawing groups ($-NO_2$, -Cl) are known to exhibit higher biological activity than those with an electron releasing group ($-NH_2$). The -OH and NH_2 substituted benzohydroxamic acids have been reported to inhibit mammalian ribonucleotide reductase and exhibit actineoplastic activity (Ugwu et al., 2014).

As a part of our continued interest on the synthesis of vanadium hydroxamates(Sharma et al., 2011., Sharma et al., 2012; Sharma and Sharma., 2012; Sharma and Sharma, 2013) we report in this article the synthesis of new oxidovanadium(IV)-4-aminobenzohydroxamate complexes using $VO(acac)_2$ as precursor which has been reported to undergo ligand exchange reactions where one or both acetylacetonate groups can be replaced with organic ligands. It is also aimed to study the coordination mode of the ligand and evaluate potential antibacterial activity of newly synthesized complexes.

Experimental

Materials and physical measurements

All the solvents and chemicals were of reagent grade. The vanadium content in complexes was determined as V_2O_5. The carbon, hydrogen and nitrogen analyses were obtained on Eager 300 NCH System Elemental Analyzer. The molar conductance (10^{-3} M solutions in methanol) was obtained at 25 ± 0.1^{o}C on an Elico Conductivity Bridge Type CM-82T. The room temperature magnetic susceptibilities were recorded by Guoy's method using $Hg[Co(NCS)_4]$ as calibrant. IR spectra were recorded as KBr pellets on Nicolet-5700 FTIR spectrophotometer. The pellets were prepared in a dry box to avoid the action of moisture. Electronic spectra of complexes were recorded on Varian Cary-100 Bio UV-VIS spectrophotometer using methanol as solvent. Thermograms of complexes were recorded on Perkin Elmer Diamond TG/DTA thermogravimetric analyzer in N_2 atmosphere at a heating rate of 20^0C min^{-1}using platinum crucible. The cyclic voltammetric experiment was performed on AutolabPotentiostat 128N electrochemical analyzer in single compartmental cell of volume 10-15mL containing a three-electrode system comprising of a Pt-disk working electrode, Pt-wire as auxiliary electrode and an Ag/AgCl electrode as reference electrode. The supporting electrolyte was 0.4 M KNO_3 in milli-Q water and methanol-H_2O (5:95) electrolyte system.

Synthesis of ligand and [VO(acac)(ABH)] (I) and $[VO(ABH)_2]$ (II)

The potassium-4-aminobenxohydroxamate was synthesized by reported method (Messershmidt and Wever 1996). $[VO(acac)_2]$ was prepared by reported method (Arber et al., 1989) and characterized by C, H, and V microanalyses and IR spectral data.

To a solution of vanadylacetylacetonate (1g 3.77 mmol) in methanol (20ml) were added equi- and bimolar amounts of KABH (0.71g 3.77 mmol and 1.4g 7.54 mmol) in the same solvent in separate experiments. The reaction mixture was initially stirred for half an hour and then refluxed for 16 h whereupon a change in color of reaction mixture from blue to brown was observed. The excess solvent was

removed by distillation. The addition of petroleum ether to the concentrate and drying under vacuum gave brown solids.

Anal. Calcd. For [VO(acac)(ABH)] $C_{12}H_{14}N_2O_5V$ (I) (325) (%): C, 45.46; H, 4.44; N, 8.83; V, 16.06. Found (%) C, 45.51; H, 4.49; N, 8.81; V, 16.10. Λ_m (Methanol) : 4.10 Scm^2mol^{-1}; μ_{eff} (293K): 1.72 B.M. (Yield: 77%).

Anal. Calcd. For [$VO(ABH)_2$] $C_{14}H_{14}N_4O_5V$ (II) (378) (%): C, 45.56; H, 3.82; N, 15.18; V, 13.80. Found (%) C, 45.54; H, 3.80; N, 15.17; V, 13.79. Λ_m (Methanol) : 4.21 Scm^2mol^{-1}; μ_{eff} (293K): 1.70 B.M. (Yield: 79%).

Antibacterial activity study

MIC assay was performed in a 96-well micro-titre plate. A row of twelve wells was used out of which last two wells were taken as control (no drug added). Each of the ten wells received 100µL of the Muller-Hinton broth except the first well that received 200µL of broth containing 500 µg / mL concentration of the test drug. From the first well (containing test drug), 100µL broth was withdrawn with a sterile tip and same was added to the 100µL of the broth in the 2nd well; and the contents were mixed four times. Then 100µL was withdrawn from 2nd well and was added to the third well. This way a range of two-fold serial dilutions were prepared (500 0.98 µg / mL) by performing two-fold serial dilution. The broth in each of the wells was inoculated with 2µL of the bacterial culture and the contents were mixed by ten clockwise and ten anticlockwise rotations on a flat surface. The plate was incubated at 35°C thereafter. The observations for growth of bacteria were recorded after 24 h. To evaluate the role of solvent in biological screening if any, separate studies were carried out with DMSO. The solvent did not show any activity against bacteria.

Results and discussion

The reactions of [$VO(acac)_2$] with equi-and bi-molar amounts of potassium-4-aminobenzohydroxamate in methanol afforded the quantitative formation of brown [$VO(acac)_{2-n}ABH_n$] (where n=1 and 2) according to the equation (Scheme 1):

$$VO(acac)_2 \xrightarrow[CH_3OH]{n\ C_6H_4(4\text{-}NH_2)C(O)NHOK} [VO(acac)_{2-n}(C_6H_4(4\text{-}NH_2)C(O)NHO)_n] + nKacac$$

Scheme1. Synthesis of complexes

The stoichiometric composition of complexes has been established by elemental analyses. The complexes are soluble in common organic solvents such as methanol, chloroform, dichloromethane, dimethylsulphoxide and acetonitrile. The molar conductance values of complexes in methanol have been found to be 4.10 and 4.21 S cm2 mole-1 suggesting their non-electrolytic nature (Geary, 1971). The room

temperature magnetic moment values of1.70 and 1.72 B.M in agreement with those reported for oxidovanadium(IV) complexes with one unpaired electron have suggested their paramagnetic nature and +4 oxidation state for vanadium (Marmion et al., 2004).

Characterization

Infrared spectra

A comparison of the IR spectra of newly synthesized oxidovanadium(IV) complexes with that of free ligand potassium-4-aminobenzohydroxamate scanned in 4000-250 cm -1 region gave supporting evidences on their formation.The free ligand exhibited two distinct sharp absorption bands at 3417 and 3341 cm-1which may be assigned to asymmetric and symmetric N-H vibrations of amino substituent and at 1635cm-1 due to δN-H mode. The sharp band at 3225cm-1 appeared as characteristic of ν(N-H) mode of hydroxamic group. The bands due to νC=O, νC-N and νN-O modes occurred at 1685, 1368 and 897 cm-1 respectively.Complex of composition [VO(acac)(ABH)] displayed a broad band in 3600-3200 cm-1 region centered at 3428 cm-1 due to overlapping of ν(NH2) and ν(N-H) modes. The characteristic bands of acetylacetonate ion due to νasyC=O and νsyC=O modes appeared in 1585-1500 cm-1and 1400-1375 cm-1 regions respectively.In complex [VO(ABH)2], three distinct bands occurred at 3421, 3344, and 3244 cm-1due to NH2and N-H modes. The bands due to νC=O mode were observed to shift to lower wave numbers while ν(C-N) and ν(N-O) modes appeared at 1384 and 937 cm-1 respectively shifted to higher wave numbers compared to those in free ligand upon complexation. The observed shifts in νC=O, νC-N and νN-O modes suggested bonding of 4-aminobenzohydroxamate ion through carbonyl and hydroxamic oxygen atoms. The diagnostic bands due to ν(V=O) and ν(V-O) modes appeared at 980 cm-1 and 504 cm-1 respectively.

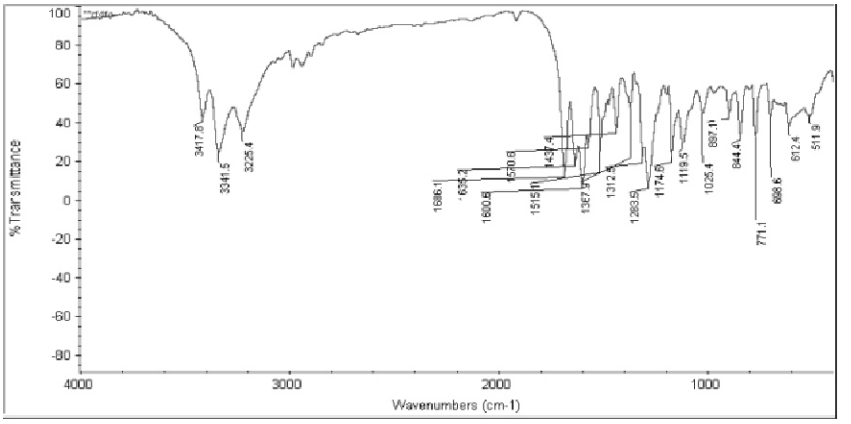


Figure 1. IR Spectrum of [C_6H_4(4-NH_2)(CO)NHOK] (KABH)

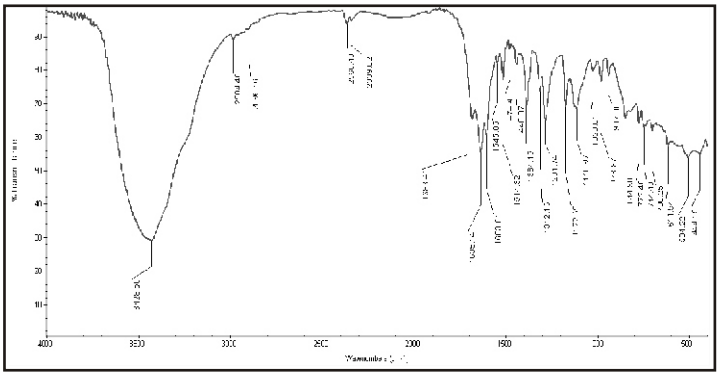


Figure2. IR Spectrum of [VO(acac)(ABH)]

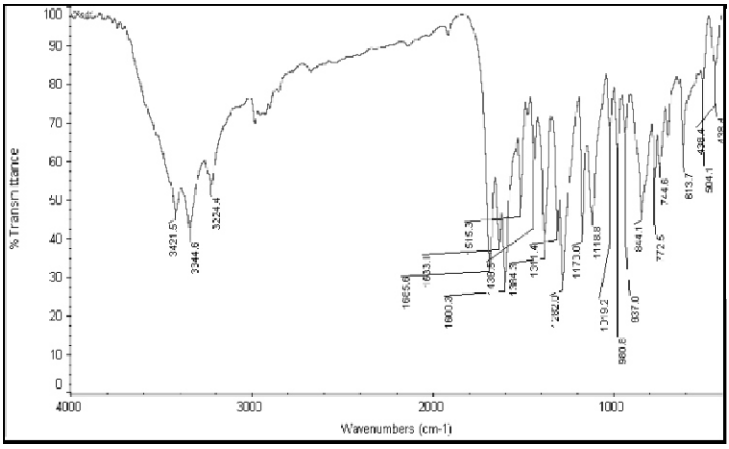


Figure3. IR spectrum of [VO(ABH)$_2$]

Electronic Spectra

The UV-Vis spectra of VO(acac)$_2$, KABH and newly synthesized complexes (**I)** and **(II)** have been recorded in methanol. The electronic spectra of VO(acac)$_2$ is known to exhibit bands at 390 573 and 769 nm a peculiar feature of vanadyl complexes (Stankiewicz et al., 1995; Ballhausan and Grey., 1962). The ligand KABH showed bands at 225,257 nm attributed to intraligand π-π^* transitions. The complexes [VO(acac)(ABH)] and [VO(ABH)$_2$] displayed bands at800-750 and 550-450 nm range ascribed to LMCT and d-d transitions respectively. These spectral observations are in agreement with those reported for square-pyramidal oxidovanadium(IV) complexes (Arber et al., 1989).

Electronic Spin Resonance Spectra

The X-band ESR spectra of [VO(acac)(ABH)] (**I)** and [VO(ABH)$_2$] (**II)** recorded at

room temperature displayed the typical hyperfine splitting and anisotropic line shapes of vanadium(IV) chelates. The characteristic eight line ESR pattern is due to interaction between vanadium(IV) with its own nucleus I = 7/2 indicative of the presence of vanadium(IV). The nuclear magnetic quantum numbers corresponding to these lines are -7/2, -5/2, -3/2, -1/2, +1/2, +3/2, +5/2, +7/2 from low to high field. The g average values determined from the spectra are ≈1.98 close to the spin only value (free electron value of 2.00) suggesting a little spin-orbit coupling.

It therefore, follows that changes in characteristic infrared spectral bands from ligand to complexes, electronic spectral bands in the visible region, ESR and magnetic studies are consistent with the description of the metal center as vanadium(IV) and square-pyramidal geometry for complexes may tentatively be proposed as:

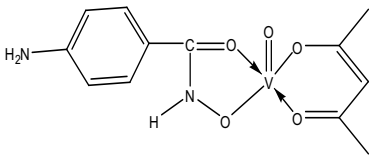


Figure4. [VO(acac)(ABH)]

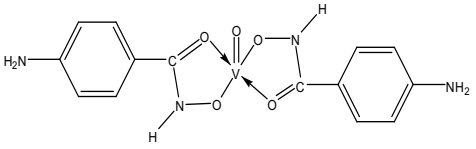


Figure5. [VO(ABH)$_2$]

Cyclic voltammetry:

The useful information on thermodynamics of redox processes and kinetics of heterogeneous electron transfer reactions and coupled chemical reactions can be obtained from electrochemical studies. The redox chemistry of vanadium is of interest because of its exhibiting variable oxidation states hence, the electrochemical properties of newly synthesized oxidovanadium(IV)-4-aminobenzohydroxamate complexes have been studied. The ligand potassium-4-aminobenzohydroxamate exhibited feeble reductive peak at -0.87 V without anodic counterpart. Complexes of composition [VO(acac)(ABH)] (I) and [VO(ABH)2] (II) displayed cathodic and anodic peaks at -0.346 -0.302 V; and +0.168V, -0.65V respectively. The separations between cathodic and anodic peaks are indicative of quasi-reversible metal-centered VO3+/VO2+ redox couple as (scheme 2).

$$[VO^{IV}(acac)(ABH)] \rightleftharpoons [VO^{V}(acac)(ABH)] + e^{-1}$$

$$[VO^{IV}(ABH)_2] \rightleftharpoons [VO^{V}(ABH)_2] + e^{-1}$$

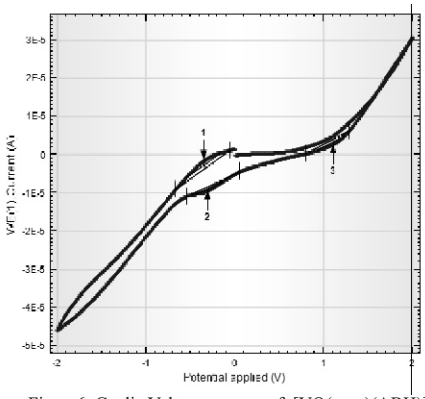


Figure6. Cyclic Voltammogram of [VO(acac)(ABH)]

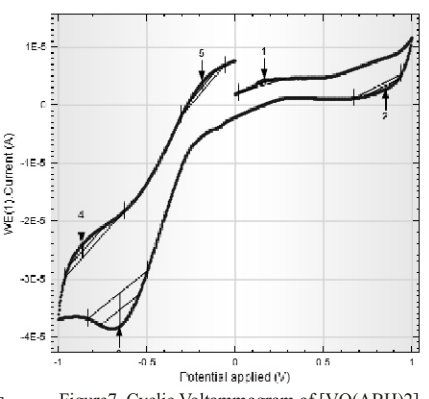


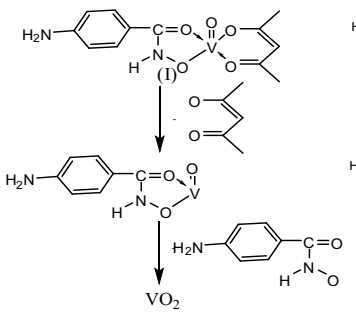
Figure7. Cyclic Voltammogram of [VO(ABH)2]

The negative potentials of VO^{3+}/VO^{2+} couple in complexes suggested their oxidation at distinctly lower potential establishing their stability.

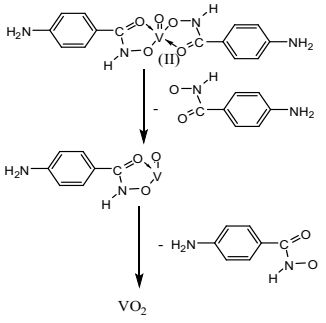
Thermal studies

The thermal behaviour of I and II has been studied by TG and DTA techniques in N_2 atmosphere. The TG curves of complexes (**Figures 8, 9**) have shown these to be thermally stable upto 78.57 and 99.78 ^{0}C respectively after which temperature two step decompotion has been depicted. The mass loss of 45.82% and 40.85% for (I) and (II) respectively in first step accounted for the formation of VO(ABH) as the probable intermediate by removal of acetylacetonate4-aminobenzohydroxamae ion in respective compleses. The mass loss of 27.18% and 35.98% in second step in (I) and (II) corresponded to the formation of VO_2 as the decomposition product. The general scheme of decomposition may be represented as (schemes 3a,b):

Scheme3a.



Scheme3b.



The formation of VO2 rather than the formation of V2O5 as the final product of decomposition as reported in many vanadium complexes is in agreement with earlier observations (Botto et al., 1997; Mlyuka et al, 2009). The IR spectra of residue showed a sharp absorption band at 995 cm-1 due to v(V=O) mode and other bands at 670,658, 625 and 322 cm-1 characteristic of VO2(Peter et al, 1995). The

two step decomposition in TG was accompanied by exo- and endothermic peaks at 261.1, 550.35 oC in I and at 266.5 and 494.5 oC in II in DTA curves.

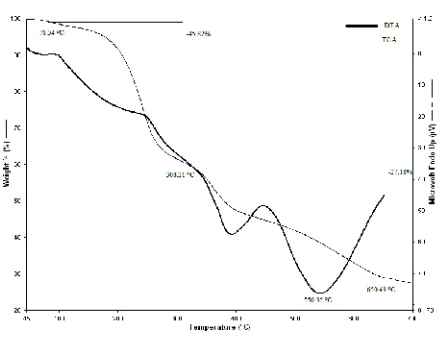


Figure8. TGA and DTA curves of [VO(acac)(ABH)]

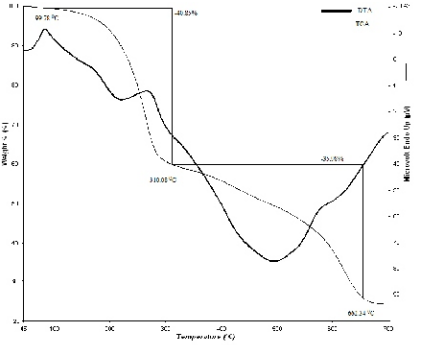


Figure9. TGA and DTA curves of [VO(ABH)$_2$]

Antibacterial activity

The ligand KABH and oxidvanadium (IV) complexes [VO(acac)$_{2-n}$(ABH)$_n$], (where n = 1 and 2) were screened in vitro for their antibacterial activity on selected Gram-positive bacteria Staphylococcus aureus, Staphylococcus epidermidis and Gram-negative bacteria Escherichia coli, Salmonella typhi at different concentrations in DMSO employing the standard Minimum Inhibitory Concentration (MIC) method as recommended by National Committee for Clinical Laboratory Standard (NCCLS). The ligand KABH inhibited all test bacteria at MIC 125µg/mL. The [VO(acac)(ABH)] showed inhibitory effect at MIC 62.5µg/mL against Staphylococcus aureus,Staphylococcus epidermidis and Salmonella typhi quite improved than ligand. Complex of composition [VO(ABH)$_2$] inhibited Staphylococcus aureus and Salmonella typhi at MIC 31.25 µg/mL while Staphylococcus epidermidis and Escherichia coli were inhibited at 62.5 µg/mL. An appreciable antibacterial activity compared to reference drug streptomycin has been shown by complexes.

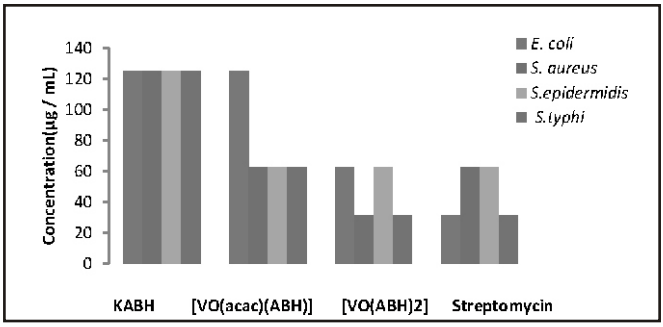


Figure 10.In vitro antibacterial spectrum of oxidovanadium (IV) complexes

Conclusions

New oxidovanadium(IV) complexes with 4-aminobenzohydroxamate ligand of composition [VO(acac)(ABH)] and [VO(ABH)2] have been successfully synthesized using VO(acac)2 as the vanadium precursor and characterized by various spectroscopic techniques. The 4-aminobenzohydroxamate ligand has displayed O,O coordination mode involving bonding through carbonyl and hydroxamic oxygen atoms excluding the bonding of amino group. Five coordinate square-pyramidal geometry evidenced from spectral studies has been proposed for complexes. From TG-DTA studies, thethermal stabilityorder has been observed as [VO(ABH)2> [VO(acac)(ABH)]. Two step decomposition with sequential loss of acetylacetonate followed by 4-aminobenzohydroxamate ion in case of I and of 4-aminobenzohydroxamate ion in each step in II yielded VO(ABH) as an intermediate and VO2 as the final decomposition product. An assay of antibacterial activity of complexes has shown efficient antibacterial activity against the test organisms. [VO(ABH)2] has exhibited most pronounced inhibitory effect against S.aureusand S.typhi better than standard drug compound Streptomycin.

Acknowledgements

The authors wish to thank Department of Science and Technology (DST)New Delhi, Govt. of India for providing financial assistance for FTIR and UV-Vis spectrophotometer facility to the department under its FIST program and UGC, New Delhi for cyclicvoltammeteric facility under UGC-SAP-II to the department, IIT Roorkee for magnetic susceptibility measurements, IIT Bombay for ESR spectra and Department of Biotechnology, Himachal Pradesh University Shimla for carrying out antibacterial activity study.

References

Abakumova, O. Y., Podobed, O. V., Belayeba, N. F., Tochilkin, A. I., 2012. Anticancer activity of oxovanadium compounds. Biomed. Chem., 6(2), 164-170.

Arber, J.M., De Boer, E., Garner, C.D., Hasnain, S.S., Wever, R., 1989. Vanadium K-edge x-ray absorption spectroscopy of bromoperoxidase from Ascophyllum nodosum. Biochem. 28, 7968-7973.

Ballhausan, C.J., Grey, H.B., 1962. The electronic structure of vanadyl ion. Inorg. Chem. 1, 111-122.

Botos, I., Scapozza, L., Zhang, D., Liotta, L.A., Meyer, E.F., 1996. Batimastat, a potent matrix mealloproteinase inhibitor, exhibits an unexpected mode of binding Proc. Natl. Acad. Sci. U.S.A., 93, 2749.

Botto, I.L., Vassallo, M.B., Baran, E.J., Minelli G., 1997. IR spectra of VO2 and V2O3.Mater. Chem. Physics. 50267270.

Codd, R., 2008. Traversing the coordination chemistry and chemical biology of hydroxamic acids. Coord. Chem. Rev. 252, 1387-1408.

Crans, D.C., Smee, J.J., Gaidamauskas, E., Yang, L., 2004. The chemistry and biochemistry of vanadium and the biological activities exerted by vanadium compounds. Chem. Rev. 104, 849-902.

Crans, D.C., Yang, L., Alfano, J.A., Chi, Lai-har., Jin, W.Z., Mahroof-Tahir, M., Robbins, K., Toloue, M.M., Chan, L.K., Plante, A.J., Grayson, R.Z., Willsky, G.R., 2003. (4-Hydroxypyridine-2,6-dicarboxylato)oxovanadate(V)a new insulin-like compound: chemistry, effects on myoblast and yeast cell growth and effects on hyperglycemia in rats with STZ-induced diabetes. Coord. Chem. Rev. 237, 13-22.

Demuth, H.U., Stockel, A., Schierhorn, A., Fittkau, S., Kirschke, H., Bromme, D., 1993. Inhibition of aminopeptidases by N-aminoacyl-O-4-nitrobenzoyl hydroxamates. Biochem, Biophys. Acta. 1202, 265-270.

Domingues, N., Pelletier, J., Ostenson, C.G., Castro, M.M., 2014. Therapeutic properties of VO(dmpp)2 as assessed by in vitro and in vivo studies in type 2 diabetic GK rats. J. Inorg. Biochem. 131, 115122.

Etcheverry, S.B., Leon, I.E., Di Virgilio, A.L., Muglia, C.I., Naso, L.G., Williams, M., Fogolin-Bollati. 2013. Antitumor properties of a vanadyl(IV) complex with the flavonoid chrysin [VO(chrysin)2EtOH]2 in a human osteosarcoma model: The role of oxidative stress and apoptosis. Dalton Trans. 42, 11868-11880.

Farkas, E., Brown, D.A., Cittaro, R., Glass, W.K., 1993. Metal complexes of glutamic acid-γ-hydroxamic acid (Glu-γ-ha)(N-Hydroxyglutamine) in aqueous solution. J.Chem. Soc. Dalton Trans. 2803-2807.

Geary, W.L., 1971. The use of conductivity measurements in organic solvents for the characterisation of coordination compounds. Coord. Chem. Rev., 7, 81-122.

Grams, F., Crimmin, M., Hinnes, L., Huxley, P., Pieper, M., Tschesche, H., Bode, W., 1995. Structure determination and analysis of human neutrophil collagenase complexed with a hydroxamate inhibitor Biochemistry. 34, 14012-14020.

Haratake, M., Fukunaga, M., Ono, M., Nakayama, M., 2005. Synthesis of vanadium(IV,V) hydroxamic acid complexes and in vivo assessment of their insulin-like activity. J. Biol. Inorg. Chem. 10, 250258.

Karmaker, S., Saha, T.K., Yoshikawa, Y., Sakurai, H., 2010. Vanadyl-poly(glutamic acid) complexes as oral therapeutic agents for the treatment of type 1 like diabetic mice. Afri. J. Pharm. Pharmacology. 4, 235-243.

Kawabe, K., Yoshikawa, Y., Adachi, Y., Sakurai, H., 2006. Possible mode of action

for insuliunomimetic activity of vanadyl(IV) compounds in adipocytes. Life. Sci. 78, 2860-2866.

Kehl (ed.), H., 1982. Chemistry And Biology of Hydroxamic Acids, Karger, New York.

Kobashi, K., Kumari, K., Hase, J., 1971. Effect of acyl residues of hydroxamic acids on urease inhibition. Biochim. Biophys. Acta. 227, 429-441.

Marmion, C. J., Griffith, D., Nolan, K. B., 2004. Hydroxamic acids − an intriguing family of enzyme inhibitors and biomedical ligands. Eur. J. Inorg. Chem. 15, 3003-3016.

Maurya, M. R., 2003. Development of the coordination chemistry of vanadium through bis(acetylacetonato)oxovanadium(IV): synthesis, reactivity and structural aspects. Coord. Chem. Rev. 237, 163-181.

Maurya, M. R., 2006. Structural models of vanadate-dependent haloperoxidases and their reactivity. J. Chem. Sci. 118(6), 503-511.

Messershmidt, A., Wever, R., 1996. X-ray structure of a vanadium-containing enzyme: chloroperoxidase from the fungus Curvularia inaequalis. Proc. Natl. Acad. Sci. USA. 93, 392-396.

Mlyuka, N.R., niklasson, G.A., Granqvist, C.G., 2009.Thermochromic VO2-based multilayer films with enhanced luminous transmittance and solar modulation. Phys. Status. Solidi. A. 206, 2155-2160.

Molineuvo, M.S., Bario, D.A., Cortizo, A.M., Etcheverry, S.B., 2004. Antitumoral properties of two new vanadyl(IV) complexes in osteoblasts in culture: role of apoptosis and oxidative stress. Cancer. Chemother. Pharmacol. 53, 163-172.

Odake,S., Morita, Y., Morikawa, T., Yoshida, N., Hori, H., Nagai, Y., 1994. Inhibition of matrix metalloproteinases by peptidyl hydroxamic acids. Biochem. And biophy. Research. Comm. 199, 1442-1446.

Pasayat, S., Böhme, M., Dhaka, S., Dash, S.P., Majumder, S., Maurya, M.R., Plass, W., Kaminsky, W., Dinda, R., 2016. Synthesis theoretical study and catalytic application of oxidometal (Mo or V) complexes: unexpected coordination due to ligand rearrangement through metal-mediated CC bond formation. Eur. J. Inorg. Chem. 1604-1618.

Pawar, V., Joshi, S., Uma, V., 2011. Antibacterial and antioxidant properties of macrocyclic Schiff bases with vanadium (V) complexes. Biokemistri, 23(1), 21.

Peter, B., Nicola, C., Kiss, T., Giovanni, M., Daniee, S., 1995. Vanadium (IV) and vanadium (V) complexes of deferoxamine B in aqueous solution. J. Inorg. Biochem., 60, 45-49.

Rehder, D., 2003. Biological and medicinal aspects of vanadium. Inorg. Chem. Comm. 6, 604617.

Sanna, D., Micera, G., Garribba, E., 2010. A quantitative study of the biotransformation of insulin-enhancing VO2+ compounds. J. Biol. Inorg. Chem. 15, 825-839.

Sanna, D., Micera, G., Garribba, E., 2010. New developments in the comprehension of the biotransformation and transport of insulin-enhancing vanadium compounds in the blood serum. Inorg. Chem. 49, 174-187.

Sharma, N., Kanwar, S.S., Gupta, R., Kumari, L., Sharma, R., 2012. Reactions of oxidobis(quinolin-8-olato)vanadium(IV) with hydroxamate ligands: a route providing mixed ligand and quinolin-8-olato-free vanadium(IV) complexes. Bull. Chem. Soc. Japan. 85, 1310-1317.

Sharma, N., Kumar, V., Sharma, R., Kumari, M., Kanwar, S.S., 2011. Coordination compounds of hydroxamatooxovanadium(iv) complexes with nitrogenous bases and their antimicrobial activities. Bull Chem. Soc. Japan. 84, 855-861.

Sharma, N., Kumari, M., Sharma, R., 2012. Thermoanalytical studies of oxovanadium(IV) hydroxamate complexes. J. Therm. Anal. Calorim. 107, 225-229.

Sharma, R., Sharma, N., 2012. Thermal studies of some biologically active oxovanadium(IV) complexes containing 8-hydroxyquinolinate and hydroxamate ligands. J. Therm. Anal Calorim. 110, 539-543.

Sharma, R., Sharma, N., 2013. A thermal behaviour and structural study of bis(hydroxamato)oxovanadium(IV) complexes. J. Therm. Anal. Calorim. 112, 25-30.

Stankiewicz, P.J., Tracey, A.S., Crans, D.S., Sigel, H., Sigel, A., 1995. Metal ions in biological systems, Marcel Decker, New York, 31.

Thompson, K.H., Orvig, C., 2001. Coordination chemistry of vanadium in metallopharmaceutical candidate compounds. Coord. Chem. Rev. 219-221, 1033-1053.

Ugwu, D. I., Ezema, B. E., Eze, F. U., Ayogu, J. I., Ezema, C. G., Ugwuja, D. I., 2014. Synthesis and biological applications of hydroxamates. Amer. J. Org. Chem. 4(2), 26-51.

Analysis of Indo-BIMSTEC Trade Relations: Opportunities and Challenges

- Raj Kumar Singh
Ajay Kumar

ABSTRACT

The creation of BIMSTEC can be accredited to certain events such as liberalization of South Asian economies, stagnation in the function of SAARC and Thailand's cravings to find out alternative market in Indian subcontinent because of escalating competition in the ASEAN market. BIMSTEC is 5 SAARC + 2 ASEAN nation's economic grouping which is proposed to integrate the "West Look Policy" of ASEAN and "Look East Policy" of South Asia, specifically of Thailand and India. The present study attempts to analyze the Indo-BIMSTEC trade relations in the backdrop of trade intensity and trade potential Models for the period from 1997 to 2018. The outcomes of the study reports that India's average trade was maximum with Thailand followed by Bangladesh, Sri-Lanka, Nepal, Myanmar and Bhutan. Better position of India's average export intensity index (EII>1) and import intensity index (III>1) with all BIMSTEC countries except Thailand indicates that India has strong trade relations with these countries.

Key Words: Exports Intensity Index, Imports Intensity Index, Trade, BIMSTEC, Trade Potential.

1. Introduction: In the Asian economies various regional economic groupings like, Association of Southeast Asian Nations (ASEAN), South Asian Association

RajKumar Singh, *Professor and Chairman, Department of Commerce, HPU, Shimla*
Ajay Kumar, *Research Scholar, Department of Commerce, Himachal Pradesh University, Shimla*

for Regional Co-operation (SAARC), Economic Co-operation Organization (ECO), Mekong-Ganga Co-operation (MGC), Sanghai Co-operation Organization (SCO), Asian Co-operation Dialogue (ACD), Gulf Co-operation Council (GCC) and Bay of Bengal Initiative for Multi-Sectoral Technical and Regional Co-operation (BIMSTEC) are playing significant role in their development (Kaur & Dhami, 2016). The Bay of Bengal Initiative for Multi-Sectoral Technical and Regional Co-operation (BIMSTEC) consists of India, Nepal, Bhutan, Sri-Lanka, Bangladesh, Myanmar and Thailand, and was formed on 6 June 1997 through the Bangkok Declaration with the idea of imparting greater economic cooperation among the member nations in the area of technology, transport and communications, energy, tourism, agriculture, fisheries and human resources development. Compared to South Asian Association of Regional Co-operation, BIMSTEC seems to be more promising because negotiations under BIMSTEC will be easier than under SAARC because all the BIMSTEC members were purely guided by economic interests rather than by political interests (Banik, 2007). The BIMSTEC nations are engaged in the regional economic co-operation with an objective to attain benefits of scale of economies in the production process, achieve specialization, boost competitiveness, expand export basket and utilize their under-utilized demographic, economic, technological and natural resources.

The area of Bay of Bengal has been an important part of India's civilization and collective consciousness due to its way of life, language, religion and culture (Kaur & Dhami, **2016)**. BIMSTEC acts as a bridge between the two prominent regional groupings of Asian region, viz., SAARC and ASEAN and received major impetus after the signing of the framework agreement for free trade in 2004 (Devi, 2005). BIMSTEC balances India's relations with South East and South Asia (Yahya, 2005). BIMSTEC attains the fresh look due to the stagnation in the functioning of SAARC to form vibrant regional economic environment for trade and development owing to chronic Indo-Pak conflict (The Hindu, 2019). The BIMSTEC region is home to around 1.6 billion people which constitute around 22 percent of the global population with a combined gross domestic product of US$ 2.8 trillion (Rahman & Kim, 2016). This indicates that BIMSTEC itself is big and effective market. The present research work investigated the position of India's trade relations with BIMSTEC countries, explore the India's exports to and import from BIMSTEC countries, trend analysis of Indo-BIMSTEC trade, India's projected trade for next ten years, analysis of India's export and import intensity

index from 1997 to 2019. The study is of critical significance to political elites, policy makers, researchers, academicians, industrial groups and international organizations.

2. Review of Literature: A brief review of literature relating to India's trade relations with BIMSTEC countries has been conducted which helped in the shaping of new dimensions to study the various facets of Indo-BIMSTEC business relations.

Banik (2005), has stated that the BIMSTEC region has the requisite characteristics such as price, income and geographical characteristics that would be desirable to free trade area. The statistically significant price income and geographical characteristics coefficient implies that trade in the region will flourish provided if obstacles relating to liberalized trade regime were sincerely addressed. It was also found that the BIMSTEC economies have fair chances to flourish as successful regional trade area and it will be beneficial for every member country. The greater economic co-operation among BIMSTEC members nation have important implications in the form of the larger market economies of scale in production and improved resource allocation Yahya (2005), analysed that BIMSTEC bridges India's engagement with South East and South Asia but it was also countered china's growing influences among Association of South East Asian Nations member, in particular Myanmar. Basu and Dutta (2007), reported that Bangladesh's export competitiveness, chronic bilateral trade deficit and the lack of match between Bangladesh exports and Indian imports are some significant constraints in Indo-Bangla trade relations. It was suggested that Bangladesh should pursue appropriate exchange rate policy and should diversify export structure in order to avoid and reduce the bilateral trade deficit with India. Chakraborty (2007), observed that that several BIMSTEC countries were already linked with each other through various preferential arrangements and the regional integration process has not been an easy exercise especially with respect to determination of the rules of origin, safeguard list, sensitive list etc. It was concluded that trade growth would be fuelled not only through tariff elimination but also with the removal of the non-tariff barriers and implementation of the trade facilitation as well. Nag and De (2007), described the uniqueness of BIMSETC is in multi-sectoral approach compared to other Asian blocs like ASEAN, SAARC etc, which initially include trade, technology, energy, transport, tourism and fisheries. This creates another layer of cooperation to ensure quicker integration.

The causes of low intraregional trade was due to the fact that coverage of these trade agreements were either limited or unable to address actual barriers to trade or even not being able to capture the essence of regional value chain in the production process. Kabir and Salim (2010), examined the trading pattern of BIMSTEC by employing an augmented Gravity model and found that distance elasticity was negative and significant; real depreciation were imports reducing and exports enhancing; common language and bilateral trade agreements were found to be exports and imports enhancing; governance of both local and destination countries impact trade of the bloc positively. Hossain (2013), observed that BIMSTEC free trade area was more promising than South Asian Free Trade Area because unlike South Asian Free Trade Area all the BIMSTEC members were purely guided by the economic interests rather than by political interests. Rahman and Kim (2015), found large part of BIMSTEC's trade has remained unrealized and the trade transaction cost was one of the major trading barriers prohibiting the growth of BIMSTEC intra-regional trade. Chowdhury & Neogi (2016), identify suitability of commodities for trade among BIMSTEC nations by applying Revealed Comparative Advantage Approach for 16 major commodity groups from 1997- 98 to 2012-13, it was found that mean RCA for agricultural commodity was above one for Myanmar and Sri Lanka whereas it was below one for India, Bangladesh, Nepal, Bhutan and Thailand and the mean RCA for food item was above one for India only. This means there was opportunity of trade in food items between India and low RCA BIMSTEC countries. Mohan (2016) BIMSTEC was likely to grow 6.9 percent when the world economy was sluggish and growing at a pace of 3.1 percent in 2016, according to international monetary fund. BIMSTEC gross domestic product was $3 trillion or 4 percent of global gross domestic product in 2016, which indicates that BIMSTEC has potential to emerge as a vibrant grouping in coming time. Rahman and Kim (2016), argued that the establishment of BIMSTEC bridges the gulf between 5 South Asia and 2 South East Asia, through establishing intra-regional collaboration between ASEAN and SAARC. Busbarat (2017), examined the prospects of Thailand's foreign policy in the post cold war period. Its foreign policy was marked by peace and stability despite occasional bilateral tensions with neighbouring nations. The Quadrangle Economic Co-operation (OEC) shows that endurance of its regional initiative. Thailand considers its position as a catalyst for change in regional affairs, especially in mainland Southeast Asia or as a bridge between various levels of regional co-operation. Bhogal (2018), emphasized the significant role

played by the India-ASEAN relations for regional growth and prosperity. It was found that there were ample opportunities for India and ASEAN to strengthen its economic tie.

3. Statement of the Problem: The above-mentioned review of literature covers the significant areas of India's trade intensity and trade potential with BIMSTEC countries butstill there remain some unexplored area. Therefore, the present study titled "An Analysis of Indo - BIMSTEC Business Relations: Opportunities and Threats"is undertaken to fill the research gap.

4. Scope of the Study: The scope of present study is to analyse India's Trade Relations with 6 BIMSTEC countries namely Bangladesh, Bhutan, Myanmar, Nepal, Sri-Lanka, and Thailand.The study is confined to analyse Indo-BIMSEC trade and India's trade intensity with BIMSTEC countries.

5. The objectives of the Study: In the present study following objectives have been undertaken: -

1. To study India's trade performance with BIMSTE C countries in globalised regime.
2. To analyse India's business relations with BIMSTEC countries in the framework of trade intensity model.

6. Hypotheses of the Study: In accordance with the objectives of the study thefollowing hypotheses have been formulated: -

$H_{0(1)}$: There is no significant difference in India's trade with BIMSTEC countries

$H_{0(2)}$: There is no significant difference in India's export intensity with BIMSTEC countries.

$H_{0(3)}$: There is no significant difference in India's import intensity with BIMSTEC countries.

7. Research Methodology: The methodological framework of the present study is elaborated as under:

Source of Data: The study is purely based on secondary sources of information. In order to accomplish the objectives of the study, the nominal value of trade data

for the period 1997-2018 has been obtained from IMF.Datafor calculating intensity indices has been obtained from International Monetary Fund.

Statistical Technique: After collecting the data from secondary sources, it has been edited and analysed by using SPSS software. The statistical techniques ANOVA and Tukey Test has been used to test the hypotheses. Trade intensity indices have been calculated to examine the level of India's intense relations with BIMSTEC in terms of exports and imports during the studied period.

Trade Intensity Index (TII): The trade intensity statistic is the ratio of two export shares. The numerator is the share of one country's exports going to a partner and the denominator is the share of the world exports going to a partner. The statistic tells us whether or not a region exports more (as a percentage) to a given destination than the world does on average. It does not suffer from any "size" bias, so we can compare the statistic across regions, and over time when exports are growing rapidly. Trade Intensity index is further divided in to Export Intensity Index (EII) and Import Intensity Index (III) for looking the pattern of exports and imports. In this study, the trade intensity index developed by K. Kojima (Kojima, 1964) has been used and restated as follows:

Export Intensity Index (EII) of India's trade with BIMSTEC

$$EII_{IA} = \frac{X_{IA}}{X_I} \div \frac{M_A}{M_W - M_I}$$

Here,

X_{IA} = India's Exports to BIMSTEC; X_I = Total Exports of India

M_A = Total Imports of BIMSTEC; M_W = Total World Imports

M_I = Total Imports of India

Import Intensity Index (III) of India's trade with BIMSTEC

$$III_{IA} = \frac{M_{IA}}{M_I} \div \frac{X_A}{X_W - X_I}$$

Here,

M_{IA} = India's Imports from BIMSTEC; M_I = Total Imports of India

X_A = Total Exports of BIMSTEC; X_W = Total World Exports

X_I = Total exports of India

The value of Trade Intensity Index ranges from 0 to 1 (0 to 100 when multiplied with 100). If the value is 0, it implies no trade relationship between India and BIMSTEC. On the other hand, if the value is 1, indicates high trade relations. If import intensity index is more (or less) than 1, it indicates that India is importing more (or less) from BIMSTEC than might be expected from that BIMSTEC's share in total world trade. In exports too, if value is 0 it implies export link between India and BIMSTEC is negligible and if value is nearer to 1 that indicates that performance is significant and if it exceeds 1, it indicates that India is exporting more to BIMSTEC than might be expected from that BIMSTEC's share in world trade.

In this analysis, if the intensity indices between India and BIMSTEC are well below 1, it is believed that both have much trade potential to reap between them. Bilateral trade relationships between India and BIMSTEC, which is described in terms of import and export intensity indices, helps to identify how intensively both are trading with each other(Raj & Ambrose, 2014)**.**

8. Analysis and Interpretation: In this section, data has been analysed and interpreted with statistical tools and techniques in order to arrive at the logical inferences. The analysis and interpretation of India's trade relations with BIMSTEC countries have been presented as under: -

8.1 Analysis of India's Trade Performance with BIMSTEC Countries: - Table-1 reports the India's trade performance with BIMSTEC countries from 1997 to 2018. India's trade with Bangladesh, Bhutan, Myanmar, Nepal, Sri-Lanka, and Thailand were US$ 860.78 million, US$ 33.98 million, US$ 260.58 million, US$ 256.36 million, US$ 520.20 million, and US$ 594.06 million respectively in 1997 which increased to US$ 9726.00million, US$ 909.95million, US$ 1681.42million, US$ 7747.00million, US$ 5981.40million, and US$ 12041.90million respectively in 2018. The analysis of indicates that Compound Annual Growth Rate of trade was highest in case of Nepal 17.62 percent followed by Bhutan 16.95 percent, Thailand 15.41 percent, Sri-Lanka 12.33 percent, Bangladesh 12.24 percent, and Myanmar 9.28 percent.

Table-1 India's Trade Performance with BIMSTEC Countries
(Value in US$ Million)

Years	Bangladesh	Bhutan	Myanmar	Nepal	Sri Lanka	Thailand
1997	860.78	33.98	260.58	256.36	520.20	594.06
1998	1002.83	18.46	221.25	266.78	485.96	589.90
1999	800.38	23.13	205.25	321.68	526.33	731.58
2000	940.18	23.05	227.22	381.88	649.70	845.35
2001	1059.73	29.18	401.00	544.89	664.95	999.48
2002	1193.86	61.28	417.17	616.69	933.42	1081.70
2003	1673.28	124.20	476.77	874.57	1388.40	1353.10
2004	1685.39	136.10	504.76	1040.20	1666.99	1627.35
2005	1766.16	179.85	607.27	1202.10	2399.67	2156.99
2006	1840.11	196.19	851.12	1235.80	2695.24	2964.19
2007	2844.43	260.51	976.81	1908.95	3273.75	3879.18
2008	3299.17	270.30	1148.58	2274.31	3311.76	4927.36
2009	2415.98	248.92	1405.04	1844.40	2060.85	4276.24
2010	3382.77	345.48	1394.26	2413.47	3833.60	6093.66
2011	4347.96	426.22	1724.16	3225.68	5525.92	8291.96
2012	5614.41	411.65	1883.26	3626.23	4832.72	8919.11
2013	6264.77	446.13	2046.43	3943.27	4900.12	9358.69
2014	7136.52	462.81	2270.07	5007.12	7024.87	9171.60
2015	6378.64	661.51	1887.88	3815.54	6380.07	8814.26
2016	6423.31	649.65	2242.89	5022.01	4542.56	8278.88
2017	7831.84	613.30	1798.28	5941.26	5033.93	10055.14
2018	9726.00	909.95	1681.42	7747.00	5981.40	12041.90
CAGR	12.24	16.95	9.28	17.62	12.33	15.41

Source: Data retrieved from IMF Database on 18 May 2019.

Table-1(a), present the descriptive statistics regarding India's trade with BIMSTEC countries. India's average trade was highest with Thailand US$ 4865.985 million, followed by Bangladesh US$ 3567.659 million, Sri-Lanka US$ 3119.655 million, Nepal US$ 2432.281 million, Myanmar US$ 1119.612 million and Bhutan US$ 296.902 million with standard deviations US$ 3831.116 million, US$ 2696.407 million, US$ 2143.391 million, US$ 2104.899 million, US$ 731.946 million, and US$ 250.999 million respectively, while the positive value skewness in case of all BIMSTEC countries indicates that variation was on the lower side of the mean. The value of kurtosis shows that distribution of trade is leptokurtic in case of Bhutan and Nepal and platykurtic with all other BIMSETC countries. The value coefficient of variance is minimum in case of Myanmar i.e. 65.375 percent, which indicates that India's trade with Myanmar is more consistent as compared to other BIMSTEC countries, while maximum variation in trade are with Bhutan.

Table-1(a) Descriptive Statisticsof India's Trade with BIMSTEC Countries

Countries	Mean	SD	Skewness	Kurt	C.V
Bangladesh	3567.659	2696.407	0.799	-0.540	75.579
Bhutan	296.902	250.999	0.798	0.005	84.539
Myanmar	1119.612	731.946	0.158	-1.569	65.375
Nepal	2432.281	2104.899	0.980	0.296	86.540
Sri Lanka	3119.655	2143.391	0.261	-1.279	68.706
Thailand	4865.985	3831.116	0.355	-1.452	78.733

Source: SPSS, Descriptive Statistics Output

Table-1(b), highlights the ANOVA results of India's trade with BIMSTEC countries. It is evident from the study that the computed value of the F-test is 11.588 and its p-value is 0.00, which indicates that the null hypothesis is rejected at a 1 percent level of significance. Therefore, it can be concluded that there is a significant difference in India's trade with BIMSTEC countries.

Table-1(b) ANOVA Results of India's Trade with BIMSTEC Countries

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	304887095.026	5	60977419.005	11.588	.000
Within Groups	663002175.772	126	5261922.030		
Total	967889270.798	131			

Source: SPSS, Descriptive Statistics Output

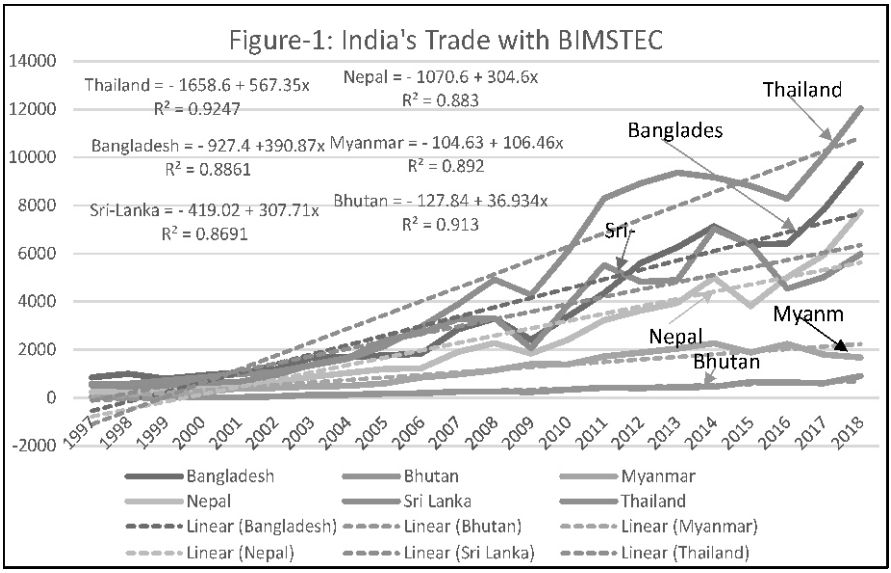
Table-1(c), highlights the Post-hoc results of India's trade with BIMSTEC countries. It is evident from the study that there is a significant difference in India's trade with BIMSTEC countries with respect to Bangladesh and Bhutan, Bangladesh and Myanmar, Bhutan andNepal, Bhutan and Sri -Lanka, Bhutan and Thailand, Myanmar and Thailand, Nepal and Thailand.

Table-1(c) Post Hoc Results of India's Tradewith BIMSTEC Countries

	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
Bangladesh	---	3270.75682*	2448.04682*	1135.37773	448.00409	-1298.32636
Bhutan	-3270.75682*	---	-822.71000	-2135.37909*	-2822.75273*	-4569.08318*
Myanmar	-2448.04682*	822.71000	---	-1312.66909	-2000.04273	-3746.37318*
Nepal	-1135.37773	2135.37909*	1312.66909	---	-687.37364	-2433.70409*
Sri-Lanka	-448.00409	2822.75273*	2000.04273	687.37364	---	-1746.33045
Thailand	1298.32636	4569.08318*	3746.37318*	2433.70409*	1746.33045	---

Source: SPSS, Descriptive Statistics Output

8.2 Trend Analysis of Indo-BIMSTECTrade: Figure-1 exhibits trend lines and lines of best fit for India's Trade withBIMSTEC countriesduring 1997-2018. It is evident from the figure that trends of trade are showing the increasing tendency during the studied period. The line of best fit explains the potential relationship between dependent variables –trade, and independent variable– time (Gupta and Chaturvedi, 2017).The R^2 value in respect to tradewith Bangladesh, Bhutan, India, Myanmar, Nepal, Sri-Lanka and Thailand are 0.8861, 0.9130, 0.8920, 0.8830, 0.8691, and 0.886 respectively which demonstrates that 88.61 percent, 91.30 percent, 89.20 percent, 88.30 percent, 86.91 percent, and 88.61 percent variation in India's trade with BIMSTEC countriescan be explained by Independent variable time during the study period.



Source: Author's Calculations, computed from the data extracted from IMF Direction of TradeStatistics.

8.3 India's Projected Trade with BIMSTEC Countries: Table -2,describes India's projected tradewith BIMSTEC countries from 2019 to 2028, which is calculated with least square method, Y= a + bx (Gupta and Chaturvedi, 2017). The study shows that India's projected trade with Bangladesh, Bhutan, Myanmar, Nepal, Sri-Lanka, and Thailand will increase to US$ 11580.44 million, US$ 1054.05 million, US$ 3302.09 million, US$ 8676.60 million, US$ 1054.05 million, and US$ 16496.60 million respectively by the year 2028.

Table -2India's Projected Trade with BIMSTEC Countries

year	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
2019	8062.61	721.64	2343.95	5935.20	721.64	11390.45
2020	8453.48	758.58	2450.41	6239.80	758.58	11957.80
2021	8844.35	795.51	2556.87	6544.40	795.51	12525.15
2022	9235.22	832.44	2663.33	6849.00	832.44	13092.50
2023	9626.09	869.38	2769.79	7153.60	869.38	13659.85
2024	10016.96	906.31	2876.25	7458.20	906.31	14227.20
2025	10407.83	943.25	2982.71	7762.80	943.25	14794.55
2026	10798.70	980.18	3089.17	8067.40	980.18	15361.90
2027	11189.57	1017.11	3195.63	8372.00	1017.11	15929.25
2028	11580.44	1054.05	3302.09	8676.60	1054.05	16496.60

Source: Authors Calculation, Based on Least Square Method.

9. Analysis of India's Trade Intensity with BIMSTEC Countries: Trade intensity explain the intensity of trade relations between the trading countries/region. India's trade intensity index in terms of exports and imports with BIMSTEC countries have been calculated for the time period 1997 to 2018. The analysis and interpretation of India's trade intensity with BIMSTEC has elaborated as under:

9.1 Analysis of India's Export Intensity Index with BIMSTEC: Table-3, explains India's export intensity indices with BIMSTEC countries from 1997 to 2018. It is evident from the study that during the reference period, India's export intensity is above one (EII>1) for all BIMSTEC countries except Thailand which implies that India's exports relations with these countries more intense. In case of Thailand, the value of exports intensity indices was reflecting fluctuating position during studied period. For the year 2018, India's trade intensity index is more than one with all BIMSTEC countries.

Table -3: Analysis of India's Export Intensity Index with BIMSTEC Countries

Years	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
1997	18.50	18.10	2.71	16.51	14.76	0.93
1998	20.83	12.73	2.41	15.25	11.70	1.22
1999	13.96	7.14	2.10	19.28	12.42	1.33
2000	14.99	1.77	2.34	14.09	14.31	1.27
2001	16.33	4.55	3.22	17.70	16.11	1.41
2002	18.91	23.40	3.09	29.51	18.98	1.40
2003	20.53	37.38	3.68	46.51	23.75	1.33

2004	17.49	25.89	4.33	48.05	21.52	1.12
2005	12.90	26.60	4.07	43.00	23.40	0.94
2006	10.27	16.35	4.14	37.96	22.14	1.04
2007	12.84	14.51	3.76	39.90	25.20	1.11
2008	10.34	16.67	3.76	39.46	20.20	1.00
2009	7.55	15.34	3.67	28.33	16.27	0.89
2010	7.38	12.64	3.75	25.12	21.38	0.79
2011	6.06	12.16	3.13	26.27	16.31	0.82
2012	8.92	13.99	4.08	30.74	16.07	0.84
2013	8.88	18.10	3.24	30.91	13.75	0.91
2014	9.18	18.89	3.09	33.58	19.45	0.89
2015	8.83	22.01	3.09	30.32	22.20	0.95
2016	8.34	24.64	4.43	31.21	12.25	0.91
2017	8.89	23.06	3.21	32.24	12.44	0.94
2018	9.39	27.82	3.74	33.54	12.36	1.03

Note: Authors' calculations, computed from the data extracted from IMF on 20 May 2019.

Table-3(a), states the descriptive statistical analysis of India's export intensity index with BIMSTEC countries from 1997 to 2018. Analysis reveals that India's mean export intensity index is maximum with Nepal i.e. 30.431, with standard deviation 9.776 followed by Bhutan, Sri-Lanka, Bangladesh, Myanmar, and Thailand with the mean value of 17.897, 17.590, 12.332, 3.441, and 1.049 respectively along with standard deviation 8.213, 4.358, 4.633, 0.646 and 0.195 respectively, while the positive values of skewness in case of all BIMSTEC countries except Myanmar and Nepal indicates that variation is on the lower side of mean. The value of kurtosis is less than zero in case of all BIMSTEC countries except Bhutan indicates that distribution is platykurtic. The analysis of coefficient of variance reveals that India's export intensity index is most consistent with Thailand followed by Myanmar, Sri-Lanka, Nepal, Bangladesh and Bhutan.

Table- 3(a): Descriptive Statistics

Countries	N	Mean	Std. Deviation	Skewness	Kurtosis	C.V
Bangladesh	22	12.332	4.633	0.595	-1.036	37.568
Bhutan	22	17.897	8.213	0.171	0.467	45.888
Myanmar	22	3.411	0.646	-0.382	-0.533	18.931
Nepal	22	30.431	9.776	-0.031	-0.628	32.126
Sri-Lanka	22	17.590	4.358	0.193	-1.386	24.775
Thailand	22	1.049	0.195	0.665	-0.876	18.627

Source: SPSS, Descriptive Statistics Output

Table-3(b), reports the ANOVA results of India's export intensity indices with BIMSTEC countries. It is evident from the study that the computed value of the F-

test is 75.137 and its p-value is 0.00, which indicates that the null hypothesis is rejected at a 1 percent level of significance. Therefore, it can be concluded that there is a significant difference in India's exports intensity indices with BIMSTEC countries.

Table-3(b): ANOVA Results of India's Exports Intensity Indices

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	12769.213	5	2553.843	75.137	.000
Within Groups	4282.647	126	33.989		
Total	17051.860	131			

Source: SPSS, Descriptive Statistics Output

Table-2(c), highlights the Post-hoc results of India's export intensity indices with BIMSTEC countries. It is evident from the study that there is a significant difference in India's exportintensity indices with BIMSTEC countries with respect to Bangladesh and Bhutan, Bangladesh and Myanmar, Bangladesh and Nepal, Bangladesh and Sri-Lanka, Bangladesh and Thailand, Bhutan and Myanmar, Bhutan and Nepal, Bhutan and Thailand, Myanmar and Nepal, Myanmar and Sri-Lanka, Nepal and Sri-Lanka, Nepal and Thailand, Sri-Lanka and Thailand.The analysis indicates that India's export intensity indices with Bangladesh, Bhutan, Nepal and Sri-Lanka fall in the category of higher export intensity, while exportintensity indices with Myanmar and Thailandcome under the category of lowerexport intensity indices. Hence, this analysis indicates that India needs to maintain the exportintensity in case of Bangladesh, Bhutan, Nepal and Sri Lanka and take the policy initiativesto improve the export intensity indices with Myanmar and Thailand.

Table-3(c): Post Hoc Results of India's Exports Intensity Indiceswith BIMSTEC Countries

	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
Bangladesh	---	-5.56500*	8.92136*	-18.09864*	-5.25727*	11.28364*
Bhutan	5.56500*	---	14.48636*	-12.53364*	.30773	16.84864*
Myanmar	-8.92136*	-14.48636*	---	-27.02000*	-14.17864*	2.36227
Nepal	18.09864*	12.53364*	27.02000*	---	12.84136*	29.38227*
Sri-Lanka	5.25727*	-.30773	14.17864*	-12.84136*	---	16.54091*
Thailand	-11.28364*	-16.84864*	-2.36227	-29.38227*	-16.54091*	---

Source: SPSS, Descriptive Statistics Output

9.2 Analysis of India's Import Intensity with BIMSTEC countries: Table-4, presents the results of India's import intensity indices with BIMSTECcountries.

The import intensity indices of India with Bangladesh were more than 1 upto the year 2008 except the years 2004 and 2005.After 2008, the value became lessthan 1 and increased to 0.99 in 2018. The value ofindices with Bhutan, Nepal, Myanmar and Sri-Lanka were more than 1 which indicates thatbilateral trade flow in terms of imports was more than expected, given the importanceof these countries in the world. The import intensity indices ofIndia with Thailand were less than 1 up to the year2013. After 2013, the value becamemore than 1 which indicated that the importance of Thailand in India's imports was increasing. Therefore, it is clear from the Table-2 that importintensity index of India was already more than 1 with Bhutan, Nepal, Myanmar and Sri-Lankaand it became more than 1 with Bangladesh and Thailand.

Table -4: Analysis of India's Import Intensity Index with BIMSTEC Countries

Years	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
1997	1.99	21.11	25.19	29.58	0.98	0.52
1998	1.98	9.29	20.82	37.98	0.95	0.60
1999	1.93	15.22	14.52	36.26	1.08	0.63
2000	1.83	25.29	6.60	42.34	1.08	0.62
2001	1.27	27.03	9.93	58.24	1.47	0.77
2002	1.24	29.47	8.58	54.19	2.12	0.63
2003	1.21	36.49	9.59	45.52	3.48	0.70
2004	0.73	25.44	8.27	41.03	5.41	0.74
2005	0.97	24.29	7.12	33.95	6.48	0.76
2006	1.27	21.01	8.18	26.40	5.17	0.84
2007	1.21	15.82	7.34	36.62	4.21	0.83
2008	1.21	15.40	5.76	31.52	2.40	0.78
2009	0.78	13.52	7.52	22.54	1.96	0.84
2010	0.93	19.16	6.04	24.25	2.31	0.87
2011	0.97	17.43	5.92	22.30	2.45	0.88
2012	0.98	12.61	5.44	23.42	2.32	0.88
2013	0.84	12.64	4.70	22.50	2.35	0.95
2014	0.78	12.79	4.92	26.22	2.18	1.01
2015	0.89	13.47	3.67	30.57	3.59	1.10
2016	1.03	19.08	4.01	23.80	2.74	1.09
2017	0.68	16.16	2.07	19.04	2.12	1.06
2018	0.99	17.40	1.00	19.47	4.22	1.14

Note: Authors' calculations, computed from the data extracted from IMF on 20 May 2019.

Table-4(a), presents the descriptive statistical analysis of India's import intensity index with BIMSTEC from the period 1997 to 2018. Analysis reveals that India's import intensity index is maximum with Nepal i.e. 32.170, with standard deviation 10.918 followed by Bhutan, Myanmar, Sri Lanka, Bangladesh and Thailand with the mean 19.096, 8.054, 2.776, 1.169 and 0.829 respectively along with standard deviation 6.628, 5.654, 1.519, 0.410 and 0.176 respectively. The positive value of skewness in case of all BIMSTEC countries indicates that variation is on the lower side of mean. The value of kurtosis is higher than zero in case of all BIMSTEC countries except Thailand which depicts that distribution is leptokurtic whereas the value of kurtosis was lower than zero in case of Thailand shows that distribution is platykurtic. The analysis of coefficient of variance revealed that India's import intensity index is most consistent with Thailand followed by Nepal, Bhutan, Bangladesh, Sri-Lanka and Myanmar respectively.

Table-4(a): Descriptive Statistics

Countries	N	Mean	Std. Deviation	Skewness	Kurtosis	C.V
Bangladesh	22	1.169	0.410	1.069	0.085	35.045
Bhutan	22	19.096	6.628	0.946	0.719	34.708
Myanmar	22	8.054	5.654	1.900	3.919	70.201
Nepal	22	32.170	10.918	0.951	0.299	33.938
Sri-Lanka	22	2.776	1.519	0.959	0.338	54.715
Thailand	22	0.829	0.176	0.173	-0.798	21.256

Source: SPSS, Descriptive Statistics Output

Table-4(b), describes the ANOVA outcome of India's import intensity indices with BIMSTEC countries. It is evident from the table that the computed value of the F-test is 105.481 and its p-value is 0.00, which indicates that the null hypothesis is rejected at a 1 percent level ofsignificance. Therefore, it can be concluded that there is a significant difference in India'simports intensity indices with BIMSTEC countries.

Table-4(b): ANOVA Results of India's Imports Intensity Indices

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17369.698	5	3473.940	105.481	.000
Within Groups	4149.707	126	32.934		
Total	21519.405	131			

Source: SPSS, Descriptive Statistics Output

Table-4(c), highlights the Post-hoc results of India's import intensity indices with BIMSTECcountries. It is evident from the study that there is a significant difference in India's exportintensity indices with BIMSTEC countries with respect to Bangladesh and Bhutan, Bangladesh and Myanmar, Bangladesh and Nepal, Bhutan and Myanmar, Bhutan and Nepal, Bhutan and Sri-Lanka, Bhutan and Thailand, Myanmar and Nepal, Myanmar and Sri-Lanka, Myanmar and Thailand, Nepal and Sri-Lanka, Nepal and Thailand. India's import intensity indiceswith Bhutan and Nepal fall in the category of higher import intensity whilewith Bangladesh, Myanmar, Sri-Lanka and Thailand come under the category of lower exportintensity indices.Hence, India needs to maintain the import intensity in the case of Bhutan and Nepal and take the initiatives to improve the import intensityindices with Bangladesh, Myanmar, Sri-Lanka and Thailand.

Table-4(c): Post Hoc Result of India's Exports Intensity Indices with BIMSTECCountries

	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
Bangladesh	---	-17.92773*	-6.88545*	-31.00136*	-1.60727	.33955
Bhutan	17.92773*	---	11.04227*	-13.07364*	16.32045*	18.26727*
Myanmar	6.88545*	-11.04227*	---	-24.11591*	5.27818*	7.22500*
Nepal	31.00136*	13.07364*	24.11591*	---	29.39409*	31.34091*
Sri-Lanka	1.60727	-16.32045*	-5.27818*	-29.39409*	---	1.94682
Thailand	-.33955	-18.26727*	-7.22500*	-31.34091*	-1.94682	---

Source: SPSS, Descriptive Statistics Output

10. Analysis of India's Trade Potential with BIMSTEC Countries: Table-5,states that India's trade potential with BIMSTEC countries for the year 2018 for the top 25 items exported by India to BIMSTEC countries.Trade potential indicates the maximum level of trade which would have been possible between India and BIMSTEC.The analysis of India's trade potential with BIMSTEC countries during the year 2018 shows that India has maximum trade potentialwith Thailand which is US$ 246521.61 million followed by Bangladesh US$ 48299.57 million, Myanmar US$ 18110.81 million, Sri-Lanka US$ 15519.12 million, Nepal US$ 2928.22 million and Bhutan US$ 159.81 million.

Table 5: Trade Potential between India and BIMSTEC Countries (2018)

(Values in US$ Millions)

Product code	Product label	Bangladesh	Bhutan	Myanmar	Nepal	Sri-Lanka	Thailand
2	Meat and edible meat offal	1.34	0.05	-96.89	0.72	9.85	119.78
3	Fish and crustaceans, molluscs and other aquatic invertebrates	30.17	0.01	6.76	0.51	115.01	3205.71
9	Coffee, tea, maté and spices	143.33	0.01	11.48	2.43	38.18	274.97
10	Cereals	1324.53	0.00	141.04	4.36	317.28	785.62
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral ...	4247.31	0.62	3819.07	4.79	1697.53	42635.96
29	Organic chemicals	562.49	0.05	91.55	16.89	174.59	4643.14
30	Pharmaceutical products	195.76	0.54	348.18	69.88	172.74	2441.79
32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring ...	553.69	0.14	37.44	9.08	120.88	1464.70
38	Miscellaneous chemical products	580.38	0.66	133.57	12.71	168.06	4050.04
39	Plastics and articles thereof	2127.32	3.41	789.41	64.46	641.86	7782.61
40	Rubber and articles thereof	221.54	0.32	151.74	7.73	266.56	2666.68
52	Cotton	4861.45	0.01	139.16	4.81	430.45	734.44
61	Articles of apparel and clothing accessories, knitted or crocheted	52.64	0.20	33.87	106.66	58.64	575.13
62	Articles of apparel and clothing accessories, not knitted or crocheted	150.14	0.32	32.60	132.17	96.91	699.66
63	Other made-up textile articles; sets; worn clothing and worn textile articles; rags	53.45	5.39	33.37	17.61	33.15	328.82
64	Footwear, gaiters and the like; parts of such articles	212.56	0.14	85.39	78.51	28.54	537.07
71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	973.52	4.23	4.76	480.78	814.04	15320.50
72	Iron and steel	2469.12	0.00	916.18	42.42	464.33	9718.42
73	Articles of iron or steel	938.68	0.40	530.28	20.76	303.77	6989.80
76	Aluminium and articles thereof	237.92	0.04	121.64	11.34	134.05	3764.41
84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	6176.12	14.08	1765.08	277.19	1451.88	19804.57
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	3806.71	14.29	1182.48	433.98	1211.91	11631.80
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	918.08	8.30	1388.89	55.93	1474.79	9985.24
89	Ships, boats and floating structures	195.57	0.00	423.84	0.88	33.52	840.76
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical ...	613.15	7.07	191.61	91.71	241.23	3172.36
TOTAL	**All products**	48299.57	159.81	18110.81	2928.22	15519.12	246521.61

Source: Calculated from UN Comtrade Database and Trade Map Database (www.Comtrade.un.org. and (www.Trademap.org) Data retrieved on May 25,2019.

11. Findings and Conclusion: The present study provides an exhaustive and critical analysis of Indo-BIMSTEC trade relationship in the backdrop of trade intensity and trade potential models from1997 to 2018. India's trade with BIMSTEC countries is highest in case of Thailand followed by Bangladesh, Sri-Lanka, Nepal, Myanmar and Bhutan. The analysis of indicates that Compound Annual Growth Rate of trade was highest in case of Nepal was 17.62 percent followed by Bhutan 16.95 percent, Thailand 15.41 percent, Sri Lanka 12.33 percent, Bangladesh 12.24 percent, and Myanmar 9.28 percent. The null hypothesis $H_{0(1)}$ is rejected which states that there is significant difference in India's trade with BIMSTEC countries. India's trade is maximum with Thailand followed by Bangladesh, Sri-Lanka, Nepal, Myanmar and Bhutan.

India's intensity of trade relations with BIMSTEC countries has been measured through the trade intensity approach in the framework of export and import intensity index. The mean export intensity index is highest in case of Nepal (30.431) which is more than one (EII>1) followed by Bhutan, Sri-Lanka, Bangladesh, Myanmar and Thailand which indicates that India's export relations are very strong with all BIMSTEC countries. The analysis of coefficient of variance explains that India's export relations are more consistent with Thailand followed by Myanmar, Sri-Lanka, Nepal, Bangladesh and Bhutan. The analysis of India's import intensity index reports that mean import intensity index is highest for Nepal (32.170) which is more than one (III>1)followed by Bhutan, Myanmar, Sri-Lanka and Bangladesh which reports that India's import relations with these countries are of high level. In case of Thailand mean import intensity index is 0.829 which indicate that India importing less from Thailand. The analysis of coefficient of variance highlights that India's import relations are more consistent with Thailand followed by Nepal, Bhutan, Bangladesh, Sri Lanka and Myanmar respectively.

Further, the results of India's trade potential with BIMSTEC countries shows that India' has a huge trade potential with BIMSTEC countries, maximum trade potential is with Thailand followed by Bangladesh, Myanmar, Sri-Lanka, Nepal and Bhutan during 2018.

11. Limitations of the Study and Scope for Future Research: The study has some limitations as it is based on secondary data, confined to period from 1997 to 2018, analysed only India's trade with BIMSTEC countries by applying trade

intensity and trade potential models. The prospective area of research on this topic may include India's trade relations with BIMSTEC countries with gravity model approach, intra-BIMSTEC trade relations, inter regional bloc business relations, and so on. Poor communication and transport facilities along with tariff and non-tariff barriers are obstacles in the way regional economic co-operation. The political, intellectual and economic elites of both India and BIMSTEC should work collectively to strengthen the socio-economic-political relations through meaningful interactions to strengthen the economic tie.

References

Banik, N. (2005). Trade liberalization and Regional Development in BIMSTEC Region:Does Geographical Characteristics Matter? Centre for Studies in International Relations and Development (CSIRD)(3/2005), 1-12.

Banik, N. (2007). The BIMSTEC FTA and its relevance. Centre for study in International Relations and Development: Discussion Paper# 36.

Basu, S., & Datta, D. (2007). India-Bangladesh trade relations: Problem of bilateral deficit. Indian Economic Review, 42(1), 111-129.

Bhogal, P. (2018). India-ASEAN Economic Relations: Examining Future Possibilities. Observer Research Foundation (ORF)(221), 1-8.

Busbarat, P. (2012). A Review of Thailand's Foreign Policy in Mainland Southeast Asia: Exploring an Ideational Approach. European Journal of East Asian Studies, 11(1), 127-154.

Chakraborty, D. (2007). Trade performance and integration experience of BIMSTEC: A review of issues. Centre for Studies in International Relations and Development, Discussion Paper, 30, 1-50.

Chowdhury, A. B., & Neogi, D. (2016). Identifying Suitability of Commodities For Trade Among Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Nations: An Application of Revealed Comparative Advantage Approach. International Journal of Management Sciences and Business Research, 5(5), 15-27.

Devi, T. N. (2005). BIMSTEC-Japan Economic Cooperation: Trends and Prospects. Centre for Studies in International Relations and Development, 11, 1-15.

Gupta, J., & Chaturvedi, R. (2017). A Study to Analyze FDI Inflow to India. IOSR Journal of Economics and Finance (IOSR-JEF), 8(5), 44-52.

Hossain, S. M. (2013). Impacts of BIMSTEC Free Trade Area: A CGE Analysis. Journal of Economics and Sustainable Development, 4(13), 16-28.

Kabir, M., & Salim, R. (2010). Can Gravity Model Explain BIMSTEC's Trade? Journal of Economic Integration, 25(1), 143-165.

Kaur, G., & Dhami, J. K. (2016). Empirical Analysis between Exports and GDP: A case of BIMSTEC as regional trading Bloc. Arthashastra Indian Journal of Economics & Research , 5(6), 8-20.

Kojima, K. (1964). The Pattern of Interntional Trade Among Advanced Countries. Hitotsubashi Journal of Economics, 5(1), 16-36.

Mohan, N. C. (2016). BIMSTEC: An Idea Whose Time Has Come? Observer Research Foundation (ORF)(164), 1-8.

Nag, B., & De, D. (2007). Asian Integration Process and BIMSTEC. CSIRD-Centre for Studies in International Relations and Development, Discussion Paper, 35, 1-23.

Rahman, M. M., & Kim, C. (2016). Prospects for economic integration of BIMSTEC: Trade and investment scenario. International Journal of u and e-Service, Science and Technology, 9(4), 235-248.

Rahman, M. M., & Kim, C. (2016). Prospects for Economic Integration of BIMSTEC: Trade and Investment Scenario. International Journal of u and e- Service, Science and Technology, 9(4), 235-248.

Raj, P. S., & Ambrose, B. (2014). A Brief Analsis of India-Japan Bilateral Trade: A Trade Intensity Approach. International Journal of Research in Commerce, Economics & Management, 2(2), 36-38.

Yahya, F. (2005). BIMSTEC and emerging patterns of Asian regional and interregional cooperation. Australian Journal of Political Science, 40(3), 391-410.

The invitation list for the swearing in signals the Modi government's foreign policy focus (2019, May 30), The Hindu. Retrieved from https://www.thehindu.com/opinion/editorial/the-second-coming/article27297821.ece

Relationship Between Market Return and Scheme Return of Select Equity Mutual Fund Schemes in India

- Puneet Bhushan
Yashwant Gupta

ABSTRACT

This paper aims at evaluating the performance of some of the top-rated Equity Mutual funds schemes belonging to three different sub-categories i.e. Large Cap, Mid Cap & Small Cap which have been active for a decade or more, in terms of risk these schemes possess and return they have been yielding out with respect to three different time frames i.e. 3-year, 5-year, and 10 - year period.The purpose of this study is to provide information about how some of the best-rated equity mutual funds of different categories have been performing over the different time frames i.e. 10-year, 5-year and 3-year considering the investment span that an investor might choose as per his investment goal and also his risk-taking capabilities. The results of the study, shows that the entire equity mutual fund category has performed well as far as the returns yielded are concerned in the decade gone by, with the small-cap funds performing exceedingly well with the returns hovering between 9-15% beating the benchmark by a massive margin of almost 8-14. The returns of the midcap category are also not very far behind the small caps in long term. On the other hand, the large-cap funds have proved their mettle as a safer investment option with steady growth and minimal volatility in short as well as the long term.

Keywords : Mutual Funds, Market Return, Scheme Return, CAGR, Alpha.

Puneet Bhushan, *Assistant Professor, Himachal Pradesh University Business School, Himachal Pradesh University, Summerhill, Shimla -5*

Yashwant Gupta, *Professor, Himachal Pradesh University Business School, Himachal Pradesh University, Summerhill, Shimla -5*

I. INTRODUCTION

A mutual fund is a company that pools money from many investors having common investment objective and invests the same in securities such as stocks, bonds, and short-term debt. The combined holdings of the mutual fund are known as its portfolio. Investors buy shares in mutual funds which are called units. Each share represents an investor's part ownership in the fund and the income it generates.

The SEBI (Mutual funds) Regulations 1993 defined Mutual fund (MF) as a fund established in the form of a trust by a sponsor to raise money by the Trustees through the sale of units to the public under one or more schemes for investing in securities in accordance with these regulations.

MECHANISM OF MUTUAL FUNDS

The investment in mutual fund begins with the investors having similar financial objectives pooling up their money with the fund manager in return of which the mutual fund issues them units of the fund. The units are issued in proportion to the amount contributed by the investors. The fund does not have any fixed quantity of units to be issued rather new units are issued each time the investment is made.The fund manager then invests the money pooled up into different stocks, debentures and other investment instruments. The investment pattern depends on the mutual fund's stated investment objective. The fund manager monitors the financial markets continuously and makes required adjustments to the fund portfolio to achieve the financial objective. Hence, the fund manager is responsible for all investment decisions in a mutual fund. The fund manager is also assisted by a team of well-qualified researchers, brokers, custodians etc. who help the manager in making sell/buy decisions and carrying out different activities for the fund. The research team keeps a close eye on the market movements, provides the manager with complete market information and suggests different investment opportunities available for the fund. Once the opportunity is selected for investment, the dealers execute the decisions. The primary assets of the fund are the securities in which the fund invests and these securities generate income for the fund in the form of dividends, interest and sale proceeds. At the close of every trading day, the value of one unit of the mutual fund or the NAV ofthe mutual fund is calculated by taking the market value of all the securities in its portfolio, deducting its expenses,

advertising costs, etc. and then dividing the balance by the number of units owned by the unitholders. The incomes or lossesare then passed on to the investors in proportion to the number of shares or unitsheld by them.

Equity Mutual Funds

An equity fund is a mutual fund scheme that invests predominantly in equity stocks. In the Indian context, as per current SEBI Mutual Fund Regulations, an equity mutual fund scheme must invest at least 65% of the scheme's assets in equities and equity-related instruments.

An Equity Fund can be actively managed or passively managed. Equity mutual funds can be categorized according to company size, the investment style of the holdings in the portfolio and geography.

The size of an equity fund is determined by market capitalization,based onwhich, the equity mutual fund schemes can be classified as follows:

i. **Large Cap funds** are equity funds which invest at least 80% of their total assets in large-cap company stocks. Large-cap companies are trustworthy and strong companies with an excellent track record. As per thelatest SEBI regulations, the Large Caps companies are the ones which are ranked between 1 and 100 on the basis their of full market capitalization.

ii. **Mid-cap funds** are equity funds which invest around 65% of their total assets in equity and equity-related instruments of mid-cap companies.As per the latest SEBI regulations, the Mid-Caps companies are the ones which are ranked between 101 and 250 on the basis of their full market capitalization.

iii. **Small-cap funds** are equity funds which invest a minimum of 65% of their total assets in the stocks of small-cap companies. These are the smaller companies or the new entrants in the market. As per the latest SEBI regulations, the Small caps companies are the ones which are ranked beyond 250based on their full market capitalization.

II. REVIEW OF LITERATURE

M. Ravindran & S. Narayan Rao (2003) in their paper titled "Performance Evaluation of Indian Mutual Funds" examined the performance of Indian mutual funds in a bear market through relative performance index, risk-return analysis, Treynor's ratio, Sharpe's ratio, Sharpe's measure, Jensen's measure, and Fama's measure with a sample of 269 open-ended schemes (out of total schemes of 433). It was be concluded that 58 of 269 open ended mutual funds have provided better returns than the market during the bear period of September 98 April 2002, some of the funds provided excess returns over expected returns based on both premium for systematic risk and total risk.

Rao D. N (2006) in his paper titled "Investment styles and Performance of Equity Mutual Funds in India" studied the financial performance of select open-ended equity mutual fund schemes and concluded that most of the Growth plans are better than Dividend plans in terms of superior returns and in terms of risk 14 out of 21 Growth plans had lesser risk and in terms of risk per return 13 out of 21 Dividend plans had a higher coefficient of variation than Growth plans.

Satheesh Kumar Rangasamy; Dr.VetrivelT; Athika M(2016) in their paper titled "A Comparative Study on Performance of Selected Mutual Funds with reference to Indian Context" concluded that it is not advisable to invest in equity fund category as the market undergoing fluctuations asset component are subject to high risk. Debt and liquid funds offered decent returns than the equity and indexed funs in 2015. It is suggested that investment in the debt and liquid funds will fetch fair returns in the forthcoming year also.

Mamta& Satish Chandra Ojha(2017) in the study titled"Performance Evaluation of Mutual Funds: A Study of Selected Equity Diversified Mutual Funds In India" compared the various equity diversified mutual funds. Summary of results is presented in different tables. In India, innumerable mutual fund schemes are available to general investors which generally confound them to pick the best out of them. This study provides some insights on mutual fund performance so as to assist the common investors in taking the rational investment decisions for allocating their resources in correct mutual fund scheme.

D. Chennappa& V. Ravi (2019) summarized that Large Cap Funds are known to offer stable and sustainable returns over a period of time. The Performance Evaluation of Large Cap Funds has been Evaluated by using parameters like risk returns related analysis. All the large-cap category funds have succeeded in imitating the performance of the underlying index and registered excessive returns over the CNX Nifty Index.

III. RESEARCH METHODOLOGY

OBJECTIVES OF THE STUDY

a) To analyse the trend in annual returns of selected equity mutual fund schemes for the decade.

b) To find out the relationship between market return and scheme return.

METHODS OF DATA COLLECTION

Secondary Data Collection is used in this Research and the information so collected is processed further to satiate Research's own distinct objectives.

Following are the sources from which data has been collected for the research purpose:

i. Respective AMC websites.

ii. NIFTY official website.

iii. Other Financial Information Source websites like investing.com etc.

SAMPLING DESIGN LAYOUT:

The most competitive 15 major funds as per CRISIL rating of March 2020 (which have been active in operations since decade odd) have comprised as the Study Samples of this Research, inclusive of distinguished account of Small-Cap, Mid-Cap and Large- Cap Funds, respectively which have been enlisted below:

Large Cap Schemes	Mid Cap Schemes	Small-Cap Schemes
SBI Blue-chip Fund	DSP Midcap Fund	DSP Small cap
Kotak Blue-chip Fund	Tata Midcap Growth Fund	Franklin India Smaller Companies
Axis Blue-chip Fund	Kotak Emerging Equity Fund	Kotak Small cap
MIRAE Asset Large Cap Fund	HDFC Midcap Opportunities Fund	HDFC Small cap
ICICI Prudential Blue-chip Fund	Invesco India Midcap Fund	SBI Small cap

PERIOD OF STUDY

The present study is aimed at analysing the performance of equity mutual funds between April-2010 to April-2020 in order to capture the pattern of the funds' performance in a decade long period. This has also helped to evaluate the performance of each fund scheme through bullish, bearish and consolidation stages of the market.

PERFORMANCE PARAMETERS

To measure the performance of funds with respect to the general stock market and risk-free securities, the NIFTY INDICES i.e. NIFTY 50, NIFTYMIDCAP100 & NIFTY SMALLCAP 100 have been used for market returns and Risk-free return is taken to be equal to 3-year,5-year & 10-year returns given by 10-year Government Bond.

LIMITATIONS OF THE STUDY

a. The study completely depends on the data which was collected from the annual reports, websites, and newspapers of SEBI, NIFTY, AMCs, and sites of mutual fund schemes. Therefore, the study incorporates all the limitations that are inherent in the published data.
b. A large number of Equity schemes have been operating in India but the present study has covered just 15 out of all those schemes.
c. The comparative performance of mutual funds has been studied in relation to NIFTY index returns only; the other indices like BSE SENSEX, S&P, etc. have not been taken into consideration for comparative performance evaluation of mutual funds.
d. The risk-free rates have been assumed to be constant, which is not a case in reality.
e. Only quantitative tools have been used to analyse the performance of mutual funds and the qualitative factors that may affect the performance of mutual fund have been ignored.

IV. DATA ANALYSIS

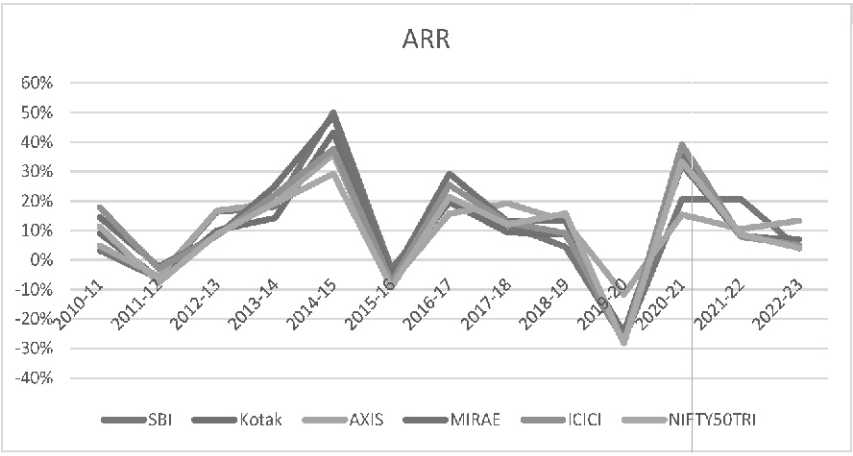
GROWTH TREND ANALYSIS OF THE CATEGORIES

I. Trend Analysis and Forecast of Year on Year Growth

Trend analysis of the funds' returns refers to the year on year analysis of how funds have performed from the beginning of one year to that of the next year. This analysis tells about how a category has performed on yearly bases and

how their performance has been affected by general economic factors. Also, this analysis tries to forecast the future returns of the mutual fund schemes on the basis of their past performance and seasonal variations.

A) Large-Cap Funds



YEAR	FUND NAME					
	SBI BLUECHIP FUND	KOTAK BLUECHIP FUND	AXIS BLUECHIP FUND	MIRAE ASSET LARGE CAP FUND	ICICI PRUDENTIAL BLUECHIP FUND	NIFTY50 TRI
2010-11	3%	9%	5%	15%	18%	11%
2011-12	-6%	-6%	-6%	-2%	-3%	-8%
2012-13	16%	10%	17%	8%	8%	9%
2013-14	18%	14%	19%	25%	22%	19%
2014-15	50%	43%	36%	49%	38%	29%
2015-16	-3%	-6%	-8%	-6%	-8%	-9%
2016-17	21%	20%	16%	29%	25%	21%
2017-18	12%	9%	19%	13%	13%	12%
2018-19	4%	9%	13%	13%	9%	16%
2019-20	-27%	-25%	-12%	-27%	-28%	-28%
2020-21*	21%	32%	15%	35%	39%	33%
2021-22*	21%	8%	11%	8%	8%	9%
2022-23*	4%	5%	13%	7%	5%	4%

**Forecasted Values as calculated with MS- EXCEL FORECAST function.*

Interpretation:

Looking at Cumulative Annual Growth Rates of Large-cap funds for last 10 years we can say that the funds didn't perform well in the initial years,

giving negligible returns with exception of a few funds i.e. MIRAE (14.5%) & ICICI (17.9%) outperforming the Benchmark index (11.3%) in 2010-11 and all the selected funds giving negative returns with the benchmark giving the worst (-7.7%) returns while MIRAE (-2.2%) and ICICI (-3.0%) eroded the investors' wealth to a much lesser extent.

This poor performance of the entire category was largely caused by the 2008 sub-prime mortgage crisis which had its impact even in India, although to a much lesser extent than the rest of the world.

After a tough year like 2011 which mostly gave negative returns, 2012 was the year of a turn-around for the general market leading to a strong a rally which was seen in the large-cap mutual fund category as well, this is evident from the fact that the funds which eroded maximum wealth of the shareholders i.e. AXIS (16.7%) and SBI (16.3%) gave maximum returns. This rally of the funds continued throughout 2013-14 & 2014-15.

In the following year i.e. 2015-16, large-cap funds gave negative returns with NIFTY50TRI (-9.1%) performing the worst, the reason being fears of a slowdown in China which also had its impact on large-cap companies due to their global presence.

Though the manufacturing and construction sectors were contracting in the year 2016-17, the Demonetization of currency notes came as a blessing in disguise for Indian mutual fund industry, contrary to the hell blaze it generated for other sectors, as the banking institutions, as well as novice investors, started to mobilize their surplus cash towards Large-cap funds having low risk and stable returns owing to the fact that returns on other assets such as real estate and gold weren't too great at that time.

In the year 2016-17, the returns were too good to be true considering the inception of economic slowdown, but in the following year, the negative impact of demonetisation and GST on the economy started to catch up with the mutual fund industry as is evident from the fact that the average returns generated in the year were 13.2% as compared 22.3% of the preceding year with Axis performing the best out of the lot.

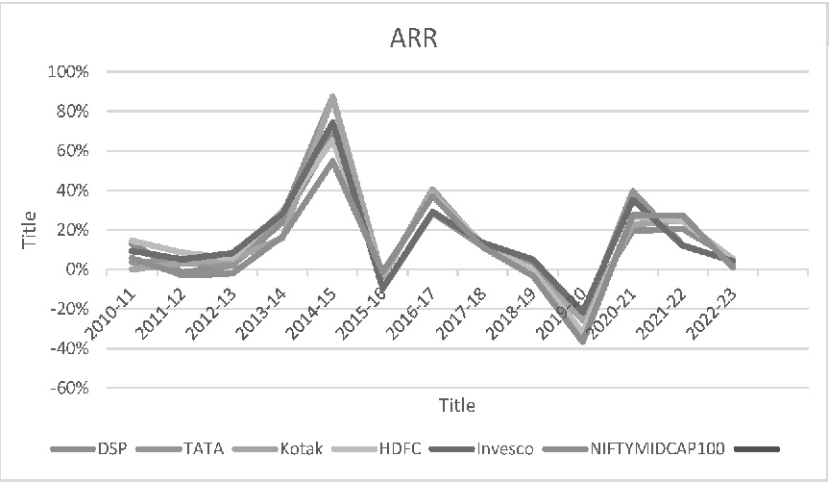
In the year 2018-19, the structural and cyclical factors impacted the economy as well as the stock market adversely, but still, the large-cap

category of funds held its ground although not outperforming the benchmark index (15.8%) with MIRAE and AXIS coming closest with 13.2% each. Which was a still a noteworthy performance in comparison to the mid-cap and small-cap category which in general gave negative returns.

Although the markets were not doing great in the first 3 quarters of 2019-20 owing to the global economic slowdown but the pandemic has brought bloodshed like situation in the market worldwide. This has happened due to massive nationwide lockdowns in almost all of the major economies of the world which have further triggered the recession, which experts have started to compare with the Great Depression of 1929. In our study, this is evident from the benchmark performance as it has given a negative yearly return above 28% which has taken the markets to a position of 5-year low.

The prediction or estimates made about the future performance of the market will be as good as not having any in such volatile times. But experts believe that despite witnessing a marked dip in net asset value (NAV) in recent times, large-cap and blue-chip funds should be able to bounce back at a faster pace. Quality businesses and industry leaders with superior fundamentals will always command a premium multiple over the rest and would be the first ones to see investment inflows on major dips.

B) Mid-cap Funds



YEAR	FUND NAME					
	DSP MIDCAP	TATA MIDCAP GROWTH	KOTAK EMERGING EQUITY	HDFC MIDCAP OPPOR-TUNITIES	INVESCO INDIA MIDCAP	NIFTY MIDCAP 100
2010-11	13%	4%	0%	15%	9%	6%
2011-12	-2%	3%	3%	8%	5%	-3%
2012-13	2%	2%	5%	6%	8%	-2%
2013-14	24%	27%	16%	30%	28%	17%
2014-15	68%	87%	87%	65%	74%	55%
2015-16	-3%	-10%	-4%	-2%	-10%	-1%
2016-17	40%	29%	40%	38%	29%	37%
2017-18	12%	12%	12%	13%	14%	11%
2018-19	-1%	4%	-2%	0%	5%	-3%
2019-20	-21%	-25%	-26%	-32%	-22%	-37%
2020-21*	20%	40%	23%	27%	35%	28%
2021-22*	20%	12%	25%	24%	12%	27%
2022-23*	5%	4%	3%	5%	4%	1%

**Forecated Values as calculated with MS- EXCEL FORECAST function.*

Interpretation:

In the last 10 years, it has been observed that mid-caps see the relatively bigger peak to bottom fall compared to their large-cap peers as is evident from the performance of 2010-11 when the midcaps performed even worse than the large-cap funds. In the last 10 years, the midcap index has never underperformed the large-cap index for more than a year as is evident from the fact that even though the returns in large-cap and small-cap segment were negative, the midcaps gave good returns. In fact, after every year of underperformance, like that of 2010, midcaps have come out with all guns blazing. This can be seen in the above analysis as the funds have given returns as high as 8% (HDFC) when the other categories couldn't even give positive returns in the year of 2011-12

The performance of midcaps has been mediocre in the next year i.e. 2012-13, with the returns ranging between 2% to 8%.

The pattern previously observed between the large-cap and mid-cap index can be seen again in 2013-14 as the midcaps have yet again beaten their large-cap peers as the selected midcaps fund have yielded higher returns as compared to selected large-cap funds.

The mid-caps can be seen riding the overall market rally, which was caused due to the big margin win of NDA in general elections in the year 2014-15. Due to these factors, the funds have given returns as high as 87%(TATA&KOTAK), while the worst performing fund has given 65% returns(HDFC).

As we know that market is not a rocket that is always bound to go up, it has to come down and correct itself after big rallies like the one which took place in 2014-15 which was purely sentimental, therefore after such high inflated valuation, the midcap benchmark gave negative return. Also, HDFC(-2%) performed the best and TATA & INVESCO (10%) performed the worst among the category.

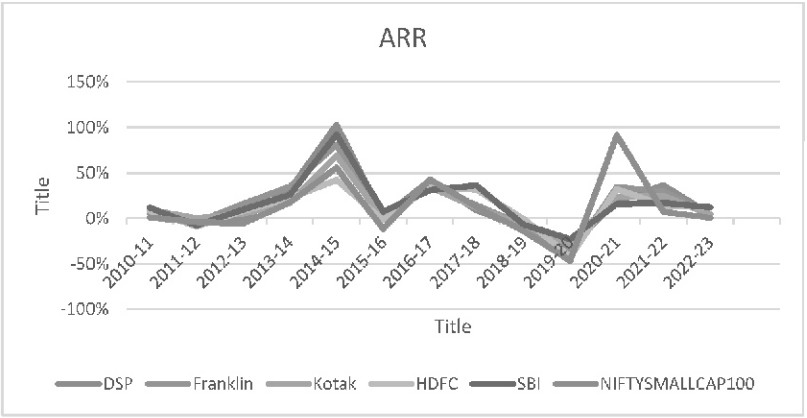
The year 2016-17 gave good returns but their returns were hampered by Demonetization, unlike their large-cap counterparts which were was benefited to a large extent by this move(for reference see large-cap analysis). The midcaps have returned 29% to 40% in that year.

The year 2017-18 and 2018-19 saw a declining rate of returns on the part of midcaps, as the market returns first fell from 37% to 11% and then to- 3 % in consecutive years. Considering the fact that the average return difference between NIFTY and NIFTY MIDCAP 100 in such corrections has been 10%-15%, the difference in May 2019 stood at around 23%, almost two times the average differential, making the recent midcap correction a bit overdone.

The performance of Midcaps in the last fiscal year of the decade has been no different than the other two categories, as the worst performance of the decade can be seen in this years with market eroding the investors' wealth upto 37%

The prediction or estimates made about the future performance of the market will be as good as not having any in such volatile times.

C) Small-Cap Funds



D)

YEAR	FUND NAME					
	DSP SMALL-CAP	FRANKLIN INDIA SMALLER COMPANIES	KOTAK SMALL-CAP	HDFC SMALL-CAP	SBI SMALL-CAP	NIFTY SMALL-CAP 100
2010-11	6%	7%	9%	9%	12%	1%
2011-12	0%	-4%	0%	-9%	-8%	-4%
2012-13	0%	16%	5%	8%	10%	-6%
2013-14	32%	35%	17%	22%	26%	18%
2014-15	103%	81%	69%	42%	92%	56%
2015-16	2%	-2%	0%	-2%	8%	-12%
2016-17	42%	36%	35%	34%	31%	43%
2017-18	9%	15%	12%	32%	37%	13%
2018-19	-12%	-7%	-8%	0%	-7%	-14%
2019-20	-31%	-40%	-28%	-42%	-23%	-47%
2020-21*	19%	35%	24%	32%	16%	92%
2021-22*	37%	30%	25%	14%	17%	7%
2022-23*	5%	5%	4%	12%	12%	1%

*Forecasted Values as calculated with MS- EXCEL FORECAST function.

Interpretation:

Small-cap stocks can sometimes surprise by yielding large returns to investors. But as a matter of fact, the entire past decade was ruled by the

large-cap stocks as they have outperformed the small caps by a big margin. In theory, small caps outperform other categories in long term, however, small-cap segments always remain cyclical, every 3rd or 4th year this segment performs quite badly, although there are certain stocks which showed linearity of growth along with time.

In 2010-11 the returns were in single digits for most of the selected funds because of stock price manipulation in some of the small-cap companies. This can also be seen in the table above, as maximum returns in the year have been 12% given by SBI Small Cap Fund.

The returns in the following year were mostly negative with returns being as low as- 9%(HDFC Small Cap Fund) in the wake of the failure of wide macro-economic variables.

The year 2012-13 & 2013-14 were particularly good, with Franklin Small Cap fund performing the best in both the years by yielding 16% & 35% returns with the benchmark index performing poorly in both the years, the reason for such performance was that GDP was booming at that time.

As the market was banking on the victory of the BJP government in the 2014 General Elections, the markets gave phenomenal returns as what market expected had become reality. In this period, the returns of the selected funds ranged between 42% to 103% with DSP Small Cap Fund performing the best, which otherwise was underperforming for the past few years.

The year 2015-16 saw negligible returns since the correction had to take place in the general market after such exponential performance in the preceding year which was nothing but the result of investor sentiments overpowering the logic of the investment.

The year 2016-17, 2017-18, 2018-19 have turned to be the testing ones for the small-cap category with many economic events impacting the markets such as Demonetization, the introduction of GST and the global economic slowdown. The funds in this period provided moderate to low returns with only a few funds showing consistency in performance, that too just because of their strategic awareness.

The end of the decade has been the darkest period for the stock markets or as a matter of fact for the entire global economy because of the emergence of the COVID-19 Pandemic which has impacted Small cap segment the most. The funds in this period have eroded the investors' wealth from -20% to -40%. Talking about the overall performance of these funds in the decade gone by, this category of funds have given negative returns in 4 out of 10.

2. RETURN ANALYSIS

i. CAGR

	CAGR		
	10-YEAR	5-YEAR	3-YEAR
Large Cap Category			
SBI Blue-chip	7.15%	-0.01%	-5.25%
Kotak Blue-chip	6.39%	0.20%	-3.62%
Axis Blue-chip	9.09%	4.96%	6.03%
MIRAE Asset Large Cap	9.94%	2.69%	-2.19%
ICICI Prudential Blue-chip	7.90%	0.55%	-3.95%
NIFTY50TRI	5.86%	0.51%	-2.38%
Mid Cap Category			
DSP Midcap	10.90%	1.77%	-4.22%
Tata Midcap Growth	10.17%	0.14%	-4.39%
Kotak Emerging Equity	10.03%	0.99%	-6.38%
HDFC Midcap Opportunities	11.20%	0.27%	-8.58%
Invesco India Midcap	11.75%	0.88%	-2.23%
NIFTYMIDCAP100TRI	5.28%	-0.79%	-11.92%
Small-Cap Category			
DSP Small cap	10.63%	-0.76%	-12.65%
Franklin India Smaller Companies	9.49%	-3.18%	-13.88%
Kotak Small cap	8.65%	-0.02%	-9.48%
HDFC Small cap	6.46%	0.02%	-8.87%
SBI Small cap	14.27%	6.67%	-0.78%
NIFTYSMALLCAP100TRI	0.90%	-8.14%	-19.70%

Source: Computed from NAVs of respective schemes

The table above provides information about CAGR of the funds of the three categories in three different time frames. CAGR is the mean annual growth rate of an investment over a specified period of time longer than one year. In long term as well as medium-term the SBI Small-Cap fund has yielded the best returns. While talking about the category wise performance the midcap category has on average

performed better than the other two in 10-year time frame providing 10.81% average returns. However, the Large Cap has performed better as a category in the 5-year holding period with Axis Blue-chip performing best in this category. Also, the Axis Blue-chip has performed the best in terms of returns in the 3-year period.

ii. ALPHA (EXCESSIVE RETURNS OVER THE BENCHMARK)

	Alpha		
	10-YEAR	5-YEAR	3-YEAR
Large Cap Category			
SBI Blue-chip	1.26%	-0.87%	-3.35%
Kotak Blue-chip	0.50%	-0.48%	-1.58%
Axis Blue-chip	3.18%	3.62%	6.82%
MIRAE Asset Large Cap	4.06%	2.08%	-0.13%
ICICI Prudential Blue-chip	2.02%	-0.27%	-2.10%
Mid Cap Category			
DSP Midcap Fund	5.54%	1.61%	4.21%
Tata Midcap Growth	4.76%	0.23%	5.32%
Kotak Emerging Equity	4.64%	1.06%	3.20%
HDFC Midcap Opportunities	5.78%	0.36%	1.25%
Invesco India Midcap	6.32%	0.59%	6.57%
Small-Cap Category			
DSP Small cap	8.34%	4.10%	1.54%
Franklin India Smaller Companies	6.89%	0.75%	-1.09%
Kotak Small cap	6.34%	4.36%	4.28%
HDFC Small cap	3.64%	4.29%	4.63%
SBI Small cap	11.43%	10.85%	12.25%

Source: Computed from NAVs of respective schemes.

The above table shows the alpha values of schemes with respect to the respective benchmark index of the categoryThe alpha is the excess return of a fund relative to the return of a benchmark index. Looking at the table one can confer that SBI Small Cap has outperformed the small-cap benchmark to the largest extent in all the periods. Also, the rest of the funds of this category have outperformed the index by 6% to 8% on an average. While the outperformance of midcap is next best with Invesco India Midcap showing highest outperformance in long run. In Large Cap category, MIRAE Asset fund has outperformed the NIFTY50TRI by more than 4%. The table also shows that the mid-cap category has outperformed its benchmark in all the scenarios.

V. CONCLUSION

The study conducted so far shows that the entire equity mutual fund category has performed well as far as the returns yielded are concerned in the decade gone by, with the small-cap funds performing exceedingly well with the returns hovering between 9-15% beating the benchmark by a massive margin of almost 8-14%, the credit for which can be to a large extent given to the growth potential of the companies in this category which can be actualized only in long run. The returns of the midcap category are also not very far behind the small caps in long term. On the other hand, the large-cap funds have proved their mettle as a safer investment option with steady growth and minimal volatility in short as well as the long term. It is only because of the steadiness of the funds in this category that these funds have managed to return positively even in shorter periods.

From this study, it can be concluded that the selection of mutual funds can depend on a large number of parameters, some of which are quantifiable and some are not, for instance, we can quantify the returns of different funds but we can't quantify the risk appetite of an individual investor. Hence the whole purpose of this study is to provide information about how some of the best-rated equity mutual funds of different categories have been performing over the different time frames i.e. 10-year, 5-year and 3-year considering the investment span that an investor might choose as per his investment goal and also his risk-taking capabilities. He may choose any appropriate fund classas per his goal and risk appetite, for example, an investor who wants stable returns and does not want to lose his night's sleep, might go for the Large Cap Category whereas an investor who manages his portfolio actively and has a higher risk appetite may choose Small Cap or Mid Cap Funds in search of higher returns.

References

Sapar, Narayan Rao and Madava, Ravindran, "*Performance Evaluation of Indian Mutual Funds*." Available at SSRN:http://dx.doi.org/10.2139/ssrn.433100

Rao, DabbeeruNeelakanteswar, "*Investment Styles and Performance of Equity Mutual Funds in India*" (August 6, 2006). Available at SSRN: http://dx.doi.org/10.2139/ssrn.922595

Satheesh Kumar Rangasamy; Dr. Vetrivel T; Athika M(2016) "*A Comparative Study on Performance of Selected Mutual Funds with reference to Indian Context*", Asian Journal of Research in Social Sciences and Humanities Vol. 6, No. 5, May 2016, pp. 96-107.

Mamta & Satish Chandra Ojha (2017) "*Performance Evaluation of Mutual Funds: A Study of Selected Equity Diversified Mutual Funds In India*",IMPACT: International Journal of Research in Business Management (IMPACT: IJRBM), Vol. 5, Issue 11, Nov 2017, pp. 85-92.

D. Chennappa & V. Ravi (2019) "*Performance Evaluation Of Large Cap Funds"* International Journal of Business Management & Research (IJBMR) Vol. 9, Issue 2, Apr 2019, pp. 13-26

R.Kumar Gandhi, Dr. R. Perumal (2017) "*Mutual Fund Financial Performance Analysis -(Comparative Study On Equity Diversified Schemes And Equity Mid-Cap Schemes)"*AMET International Journal Of Management Vol. 11, Jan-June 2017, pp. 86-97

Thamaraipandy, Lalitha (2017), "*Mutual Funds The Money Multiplier"*, Chennai, India: Notion Press

Revati Krishna (2020), "*What Is The Difference Between Large Cap, Mid Cap, And Small Cap Funds?*" Available athttps://groww.in/blog/large-cap-mid-cap-small-cap-do-you-know-the-difference

Study of Awareness and Preparedness of Disaster Management among Tribal and Non-Tribal Students

-Surender Kumar Sharma

ABSTRACT

Present Paper has been done to know the awareness and preparedness of disaster management among the tribal and non-tribal students of Himachal Pradesh. Total 200 students were selected from the two district of Himachal Pradesh State. For the present study, a questionnaire is used as a tool to find the outcomes of this research paper. On the basis of the score obtain by the students mean, standard deviation and t- values were calculated to know the awareness and preparedness of the students about disaster management. No Significant differences were found between tribal and non-tribal students. Tribal students are more aware then Non-Tribal students regarding awareness of disaster management.

Key Words: Awareness, Preparedness, Disaster Management.

INTRODUCTION

More than 60% of India is earthquake prone, 12% flood prone, 8% cyclone prone….more than 70% of the cultivable land in prone to either drought or flood. Many fatal disasters occur in last few decades due to lack of knowledge of its occurrence so we must learn not for another. Such disaster like super cyclone (Orissa 1999).Bhuj earthquake (Gujarat 2001) or Bhopal gas tragedy (1984) happen to realize the need of disaster management. Almost all parts of India

Surender Kumar Sharma, *Assistant Professor (Education), HPU, Shimla - 171 005, India*
E-mail: sharmasurender09@gmail.com

experiences one or more of these disasters. According to the frequency of occurrence and vulnerability to natural disaster we can classify into three regions. The first is Himalayan region, which is prone mainly to earthquake landslides, avalanche, and bush fire. The second category is north and the central Indian. Plains having some great river system and a rich source of water in the monsoon period usually carry water in excess to their capacity causing flood phenomenon. The same reason also experiences droughts when the rainfall is less.

The third is great coastline of India, which is prone to devastating winds engineering in the oceans. The need of this study has also been felt to survey how much students considerate about disaster management and whether they aware and prepared for it too. Requirement of growing evaluation of disaster preparedness studies attracts my interest to work on it.

OBJECTIVES:

1. To compare the awareness of disaster management among Tribal and Non-tribal students.
2. To compare the preparedness of disaster management among Tribal and Non-tribal students.
3. To compare the awareness and preparedness of disaster management among Tribal and Non-tribal students.

HYPOTHESIS: On the basis of objectives following hypothesis were fixed:

1. There will be no significant difference between the awareness of disaster management among Tribal and Non-Tribal students.
2. There will be no significant difference between preparedness of disaster management among Tribal and Non-Tribal students.
3. There will be no significant difference between awareness and preparedness of disaster management among Tribal and Non-Tribal students.

LIMITATION OF THE STUDY:

1. The study of present research paper is limited of 10+1 class students of government schools of district Kinnaur and Shimla of Himachal Pradesh.
2. A sample of 200 10+1 class students i.e., 100 Tribal and 100 Non-Tribal was randomly selected for present research paper.

SAMPLE: In the present study the sample consisted of 100 Non-Tribal and 100 tribal students in different Senior Secondary and High Schools of District Shimla and Kinnaur were randomly selected.

METHODOLOGY: A descriptive survey method followed to assess and compare the awareness and preparedness of disaster management in the tribal and non-tribal students.

TOOL USED: For the present study, a questionnaire is used as a tool. In questionnaire there are 22 questions divided into two sections: First section is to asses' the awareness of the student regarding disaster management. In this section, there are 11 questions. All questions were related to the general awareness of the disaster. Second section is to assess the preparedness of the student regarding disaster management. In this section, there are 11 questions. All questions were related to the common sense regarding disaster.

STASTISTICAL TECHNIQUES USED: To obtain the correct information from the data following techniques were used by the researcher:

1. The descriptive statics lake mean, standard deviation and standard error were used.
2. t-ratio was calculated to test the various hypotheses.
3. "t" value was calculated with the help of following formula;

$$t\frac{M_1 - M_2}{\sqrt{\frac{(Sd1)^2}{N_1} + \frac{(Sd2)^2}{N_2}}}$$

TESTING OF HYPOTHESIS: The result has been discussed in the light of the hypothesis of the study.

Testing of Hypothesis (1)

To test the hypothesis that "There will be no significant difference between the awareness of disaster management among Tribal and Non-Tribal students. T-ratio was calculated between the mean score of tribal and non-tribal students. The results are also shown in the table 1 give below:

TABLE. 1

TABLE SHOWING SIGNIFICANCE OF DIFFERENCE IN MEAN SCORE OF TRIBAL AND NON TRIBAL STUDENTS ON AWARENESS OF DISASTER MANAGEMENT (200)

Groups	Number	Mean	S.D.	S.E	df	t-ratio	Level of sig.
T.	100	6.16	1.96	0.19	198	0.74	N.S
N.T.	100	5.95	2.00	0.20			

T. – Tribal N.T. – Non-Tribal N.S. - Not Significant ''t'- value to be significant at df 198 should exceed value of 1.97 at. 05 level and 2.60 at .01 levels).

RESULTS ON TABLE 1 Table no 1 indicates that 't' - ratio between the mean Score of Tribal and Non-Tribal students on awareness of disaster management is 0.74 't' to be significant should exceed 1.97 at .05 level and 2.60 at .01 level but since obtained 't' – value is less than 1.97 and 2.60 at both. 05and .01 level, so it is not significant.

DISCUSSION OF RESULTS-1 It indicates that there is significant difference between the mean score of tribal and non-tribal students on awareness of disaster management. Hence, hypothesis I stand accepted.

Testing of Hypothesis-2 To set the hypothesis that "There will be no significant difference between preparedness of disaster management among Tribal and Non-Tribal students." 't' ratio was calculated between the mean scores of tribal and Non-Tribal students on preparedness disaster management. The results are also shown in the table 2. Given below.

TABLE- 2

TABLE SHOWING SIGNIFICANT OF DIFFERENCE IN MEAN SCORE OF TRIBAL AND NON TRIBAL STUDENTS ON PREPAREDNESS OF DISASTER MANAGEMENT (200)

GROUPS	NUMBER	MEAN	S.D.	S.E	df	t- ratio	Level of sig
T.	100	5.85	1.76	0.17	198	-1.32	N.S
N.T.	100	6.18	1.74	0.17			

T. – Tribal N.T. - Non-Tribal N.S. - Not Significant ('t'-value to be significant at df 198 should exceed value of 1.97at .05 level and 2.60at. 01level).

RESULTS ON TABLE 2. Table no 2. indicates that 't' ratio between the mean score of Tribal and Non-Tribal students on preparedness of disaster management is -1.32 , 't' to be significant should exceed 1.97 at.05 level and 2.60at.01 level but since obtained 't'-value is less than 1.97 and 2.60 at both. 05 and. 01 level, so it is not significant.

DISCUSSION OF RESULTS 2 It indicates that there is no significant difference between the mean score of Tribal and Non-Tribal students on preparedness of disaster management. Hence, hypothesis IInd stands accepted.

Testing of Hypothesis-3 To tests the hypothesis that "There will be no significant difference between the awareness and preparedness of disaster management among Tribal and Non-Tribal students. The results are also shown in the table 3 given below.

TABLE- 3

TABLE SHOWING SIGNIFICANTE OF DIFFERENCE IN MEAN SCORES OF TRIBAL AND NON TRIBAL STUDENTS ON AWARENESS AND PREPAREDNESS OF DISASTER MANAGEMENT (200)

Groups	Number	Mean	S.D.	S.E.	df	t-ratio	Level of sig
T.	100	12.0	3.00	0.30	198	-0.29	N.S
N.T.	100	12.1	3.20	0.32			

T. – TRIBAL N.T. - NON-TRIBAL N.S. - Not SignificantLi-Mvalue to be significant at df 198 should exceed value of 1.97at.05 level and 2.60 at.01 level).

RESULTS ON TABLE OF 3 Table no.4.2.3 indicates that 't'-ratio between the mean score of Tribal and Non-Tribal students on awareness and preparedness is- 0.29, 't' to be significant should exceed 1.97 at .05 level and 2.60 at .01 level but since obtained 't'-value is less than 1.97 and 2.60 at both. 05 and .01 level so it is not significant.

DISCUSSION OF RESULTS It indicates that there is no significant difference between the mean score of Tribal and Non-Tribal students on Awareness and Preparedness. Hence, hypothesis IIIrd stands accepted.

MAJOR FINDING AND CONCLUSIONS

The present study entitled as "A study of Awareness and preparedness of Disaster Management among Tribal and Non-Tribal Students."For the convenience results have been presented one by one according to the objectives.

Conclusion-1 the first objective was to compare the awareness of disaster management among Tribal and Non-Tribal students. Table 1 indicates that't'-ratio between mean score of tribal and non-tribal students on awareness of disaster management is 0.74. As obtained't'-value is less than the table value at both .05 and .01 level of significance. So, it indicates that there exists no significant difference between tribal and non-tribal students. Tribal students are more aware then Non-Tribal students regarding awareness of disaster management.

Conclusion-2 The second objective was to compare the preparedness of disaster management among Tribal and Non-Tribal students. Table-2. Indicates that't'-ratio between mean scores of Tribal and Non-Tribal students on preparedness disaster management is -1.32. As obtained't'-value is less than the table value at both. 05 and .01 level of significance. So, it indicates that there exists no significant difference between Tribal and Non-tribal students regarding preparedness of disaster management.

Conclusion -3 the third objective was to compare the awareness and preparedness of disaster management among Tribal and Non-Tribal students. Table-3 indicates that't'-ratio between mean score of tribal and non-tribal students in Awareness and Preparedness is -0.29. As obtained't'-value is less than the table value at both .05 and .01 level of significance. So, it indicates that there exist no significant difference between tribal and non-tribal students regarding awareness and preparedness of disaster management.

IMPLICATIONS OF THE STUDY:

1. The mean score of Tribal students are higher than the Non-Tribal students. It is therefore suggested by the investigator that some efforts should made to raise the awareness of disaster management among Non-Tribal students.
2. The mean score of Non-Tribal students are slightly higher than by the Tribal students. This difference is not large but there is still need of improvement regarding preparedness of disaster management among Tribal students. So, there is a need to motivate the Non-Tribal students by organizing various programmers in schools and outside regarding preparedness of disaster management.
3. The mean score of Non-Tribal students are slightly higher than the Tribal

students. This difference is not large but there is still need of improvement to raise the awareness and preparedness of disaster management between Tribal and Non- Tribal students.

4. Awareness and preparedness regarding disaster management in both Tribal and Non-Tribal students need to be improved in this practical work should be included in the syllabus in school level.

5. From the study, it is evident that the factor of area of residence also affects the awareness of disaster management so it can be possibly improve by giving information.

6. Teacher should update their knowledge about various disaster and hazards by studying newspaper by getting maximum information's using internet concerned to this field.

7. Disaster is one of the serious challenging to Indian security in the fourth coming decade so that major steps must be taken for it.

8. Mechanism must be designed and adopted for disaster management among schools, college and community.

References:

Aggarwal. A (1996). Education for Environmental Awareness University News, Vol. XXXIV (43)

Bank Off, Freks and Ltilhorst (2006). Mapping vulnerability- Disaster Development and people. Earth scanes publishers, London.

Bhatt, B.B. (1997). The natural calamities in Orissa in the 19th century Commonwealth Publishers, New Delhi.

Chakrabarti,(2006). Micro Finance and Disaster Risk Reduction. Knowledge World, New Delhi.

Dani, H.M. (1996), Environmental Education, Publication Bureau, Punjab University Chandigarh.

Deborah Linnell (2001). Encyclopedia of Disaster Management, Deep and Deep New Delhi.

Druze, J., Sam (2010). The Dam and the Nation: Displacement and Resettlement in the Narmada Vally. Delhi: Oxford University Press.

Gupta M.C.et al. (2004). Manual on natural disaster management in India. National centre for disaster management (NCDM) Ministry of agriculture, Government of India.

J.P. Mulilis (1998). Persuasive communication issues in Disaster. Management

review of the hazards mitigation and preparedness literature and a look towards the future, Australians Journal of Emergency Management (Aut. J. Emergency management). Vol.13, no.1, and p.51-59.

Kanpur, Neeti et al (2005). Disaster in India studies of grim reality. Rawat Publication New Delhi.

Kaur Gurpreet (2009) Effect of capacity building training in preparedness for Disaster Management of school student, M.Ed. Dissertation, PU CHD.

National Disaster Management division (2007) Together towards a safer India-11,A Textbook on Disaster Management for class IX, Central Board of secondary Education, New Delhi, 1-3,7-10,13-16.

Neha Vashist; Med (G&C) (2008-09) Awareness and preparedness for disaster management in college students of Chandigarh in relation to their attitude towards volunteerism.

Ozerdem Alparlom, Jacob Tim (2006). Disaster Management and civil society: earthquake relief in japan, Turkeys and India published by IB Tauris.

Pelling Mark (2003). Natural disasters and management in a globalizing world published by Rutledge.

Prasad a Rae, (2008). Disaster Management: Orissa Cyclones, Floods and Tribal Waves Disaster (October 1999).Hyderabad: National Institute of Rural Development.

Quarantelli, E.L. (1983). Delivery of Emergency Medical Services in disaster Assumptions and Realities. New York (NY): Irvington press.

Rajni Devi; Med (general)(2007-08). Awareness and preparedness of Punjab University students for disaster management; 2007-08.

School on social Science (1998) syllabus on Disaster Management New Delhi, IGNOU.

Seakr, K. (2012). Psychosocial support in Tsunami disaster: The article presents the psychosocial assessment and intervention offered by Nimhans to the survivors of Tsunami.

Sharma Monika (2008) Awareness and preparedness of Secondary School Teacher Regarding Disaster management, M.Ed. Dissertation, PU CHD.

Sonia (2009). Awareness and preparedness of students for Disaster management in relation to their Personality, M.Ed. Dissertation. PU CHD.

Srinivasan (2011). The state and Civil Society in Disaster Response: Post Tsunami Experiences in Tamil Nadu. Disaster and Development.

An Analysis of 'Tamil Nadu Factor' in Indo-Sri Lankan Relations

- Joginder Singh Saklani
Rattan Lal

ABSTRACT

For a long time, Sri Lanka has faced ethic problem which has also been resulted into the civil war till 2009. There was conflict between Sinhala and Tamil ethnic groups and the bilateral relations between India and Sri-Lanka have traditionally been critical for both countries. The complexities of domestic politics have played a significant role in deciding the direction of bilateral relations between India and Sri Lanka. The nature of Tamil minority in Sri Lanka affects India's domestic politics (especially Tamil Nadu) as much as that of Sri Lanka's politics, because there are nearly seventy million Tamils in the state of Tamil Nadu in India who belong not only to the same ethnic stock as Tamils in Sri Lanka but also speak the same language and follow the same cultural patterns. Whenever communal riots between the Sinhalese and the Tamils take place, the seventy million Tamils in the Indian state of Tamil Nadu press the government of India to take up the matter with Sri Lanka and to do something or redress the injustice done to their brethren in that country. Both India's and Sri Lanka's foreign policy assertiveness, fuelled by domestic dynamism, makes many believe that the above factors influence and drive their relationship. This research paper also examines that how and why Tamil Nadu factor has varied influence on the India-Sri Lanka bilateral relations.

Keywords: Tamils, Sinhala, Ethnic group, Sri Lanka, Riots, Foreign Policy

Introduction

The history of Indo-Sri Lankan relations is very old. Both nations enjoy cordial relations, sustained by geographical proximity and cultural affinity. In facts the

Dr. Joginder Singh Saklani, *Assistant Director, HRDC, HPU ; Assistant Professor, Department of Political Science, ICDEOL, HP University, Shimla.*

Ratan Lal, *PhD. Research Scholar, Department of Political Science, HP University, Shimla, 171005.*

relations between India and Sri Lanka go back very far into history, and have been exceptionally strong. During the western colonial rule in Asian content, India and Ceylon were under the British rule nearly hundred and thirty years and got independence during same time (i.e. in 1947 and 1948 by India and Sri Lanka respectively). Sri Lanka is barely twenty two miles away from India's southern tip. The presence of the people with common culture, traditions and some ethnicity across Palk Straits has been a factor that has conditioned closeness. Despite this, there is misunderstanding and distrust between the two countries resulting in many ups and down in their relations. During post colonial era both countries maintained close relationship within the international system due to common understanding on international issues and ethnic sensitivity towards each other. There are so many factors which are affecting Indo-Sri Lanka relations. Due to close ethnic affinity with the people of Sri Lanka, India's policy towards Sri Lanka always affected. Sri Lankan Tamils has direct affinity with the people of Indian State-Tamil Nadu. Since independence, due to Sri Lankan ethnic conflict Tamil Nadu became a factor in Indo-Sri Lanka relations. Whatever happens in Sri Lanka, it has direct or indirect impact on Tamil Nadu politics.

Since independence, Sri Lankan successive governments enacted policies which favour only Sinhala community and adopted discriminatory politics which resulted into ethnic conflict in Sri Lanka. Sri Lanka has been affected by an ethnic conflict for well over three decades resulting in the death of over one lakh and displacement of millions. Sri Lankan ethnicity has always taken a heavy proportion of intensity in the politics of India and especially the domestic politics of Tamil Nadu. However, the major factors which by and large have shaped the Tamil Nadu's approach to Sri Lankan Tamil are- 'Sinhala only', 1983 Riots against Tamils, atrocities against Sri Lankan Tamils, Mahindra Rajapaksa's proactive approach against Tamils during Eelam War-IV, fishermen issue, influx of refugees in Tamil Nadu.

Tamil Nadu politics also affects the policies of Indian government towards Sri Lanka. Indian involvement in Sri Lankan ethnic conflict was the outcome of Tamil Nadu pressure. But this factor had low intensity after the assassination of Rajiv Gandhi in 1991. In this paper, the researchers covers the main research questions that why Tamil Nadu state takes interest in Sri Lankan ethnic conflict? How Tamil Nadu politics influence the making of Indian foreign policy towards Sri Lanka? It also analyses about domestic politics of Tamil Nadu in regard to Indo-Sri Lanka relations. For analyzing these questions, we have opted historical, analytical, chronological and descriptive approaches.

Genesis of the Tamil Nadu Factor

Indo-Sri Lanka relations have been always affected by the problems faced by Tamils in Sri Lanka. The ethnic conflict in Sri Lanka can be seen as an

international as well as domestic issue for India. India's policy towards Sri Lanka offers an example of how domestic political compulsion influences the policy. West Bengal is a factor in Indo- Bangladesh relations, Jammu & Kashmir in Indo-Pakistan relations and similarly, Tamil Nadu is a factor between Indo-Sri Lanka relations. Tamil Nadu is a sprawling state of nearly 70 million people, which is only 30 km away from Sri Lanka. Its size and proximity to Sri Lanka has predictably left its historical imprint on the civilization of the land. Sri Lankan Tamil find them not only close to India but also to Tamil Nadu state. Northern and Eastern provinces are mainly inhabited by Tamils, who not only regard the two areas as their traditional home land, but also maintain close links with their brethren of Tamil Nadu (Kant, 2004:8).

The outstanding fact of Sri Lanka's nationality structure is that from ancient times two major ethnic people the Sinhalese and the Tamil have lived in and shared the country as co-dwellers. The main segments of the population were migrants from India. They carried their language culture and traditions from India to Sri Lanka. The Tamil still maintain the social links with their more numerous Tamil brethrens living in south India. It created a complex psyche among the Sinhalese that Tamil Nadu state always supports the Tamil minority of Sri Lanka. The ethnic and political consciousness of the Sri Lankan Tamils had always been influences by the developments across the Palk Strait. Tamil Nadu's political parties; to a significant degree have the power to translate Tamil Nadu's sympathies for its kin population into Indian government policy (Ghosh, 1995:57). The emotional attachment has added an internal compulsion for the government of India to get involved in what is technically an internal problem of Sri Lanka, thus giving it an external dimension. In fact, different regional political parties of Tamil Nadu vied with each other for championing the cause of Sri Lankan Tamils.

The Tamil kin connection entrusts Tamil Nadu politician with the obligation and moral authority to prevent Indian support of Sri Lankan Tamils. Tamil Nadu is playing active role in Sri Lankan ethnic conflict since independence. Immediately after independence, Sri Lankan government enacted Citizenship Act in 1948, by this Act more than 9 Lakhs of Indian origin Tamils disenfranchised by Sri Lanka. Tamil Nadu's political leaders had raised this issue with Central government of India. In 1956, SWRD Bandaranaike government passed 'Sinhala Only' Act[1] to discard Tamil Community of this island. The Sri Lankan Tamils had raised voice against this biased Act. In reaction to this Tamil-Sinhalese riots of 1958, set off ripples in Tamil Nadu. Madras government and Dravida Munnetra Kazhagam (DMK) pressurized the Central government but Nehru had not shown any objection. During his visit to Madras in January 1958, over 20,000 DMK supporters organized demonstration in the city and burned copies of Indian constitution (Gopal, 2000:19). However, regarding the safety of Tamils in Sri

Lanka, the Indian High Commissioner- Y.D. Gundevia, along with other friendly countries, persuaded the Governor General Olivior Goonetileke, to accept the offer of ships to transfer the Tamils to the safety of the Tamils areas in Jaffna peninsula. India along with other countries, arranged ships and those Tamils who wanted to leave Colombo were taken to Kankesenturai. When normalcy was restored, the Tamils returned back to the city (Suryanarayan, 2009:287).

At the height of language controversy, Indian National Congress leader C. Rajagopalachari supported the demand of Sri Lankan Tamils and appealed to the Sri Lankan government to offer a federal solution to the Tamil people and supported the demand of Federal Party of Sri Lanka for the provincial autonomy for the Tamils in the Island (Phadanis, 1979:205). The question of language controversy in Sri Lanka was also raised by DMK members in the Indian Parliament in1961 but Deputy Minister for External Affairs stated that it was not proper for the government of India to discuss on internal affairs of Sri Lanka (Indian Lok Sabha, 1961).

In October 1964, India-Sri Lanka signed the 'Sirimavo-Shastri Pact',[2] which converted the people on Indian origin in Sri Lanka into merchandise to be divided between the two countries; thousands of them were conferred Indian citizenship and repatriated to India. This inhuman agreement was criticized by Indian leaders such as by C. Rajagopalachari, Krishna Menon, Kamraj, Ramanurthy and Annadurai. New Delhi also concluded the maritime boundary agreement with Sri Lanka in 1974 and 1976, which ceded the 'Island of Kachchativu'[3] to Sri Lanka and bartered away the traditional fishing right enjoyed by the Indian Fisherman. These agreements were opposed by the DMK government but New Delhi went ahead (Suryanarayan, 2013). In 1976, Tamil United Liberation Front (TULF) and other Tamil groups had passed resolution to create separate Tamil State in Sri Lanka as final solution of Tamil problem. The DMK supported this resolution.

In 1977 with the defeat of Congress party, one party dominance era came into an end and coalition politics shaped the policy making process in India towards regional political parties. In the same year, the United National Party (UNP) in Sri Lanka came into power headed by Jayewardene. The anti-Tamil riots broke out in Sri Lanka in 1977. The repercussions of the riots felt in Tamil Nadu. DMK, the main opposition party in Tamil Nadu organized the one day strike on 24th August, 1977 to condemn the anti-Tamil riots (Palanithurai, 1993:51). Simultaneously, Tamil Nadu legislative assembly had passed the resolution on 24th August, 1977 to express the 'Rude Shock' at the happening in the island. The TULF and LTTE started Tamil Eelam movement in Sri Lanka. This movement has direct impact on Tamil Nadu. During 1980s, the chief minister of Tamil Nadu M.G. Ramachandran demanded from Indian Prime Minister to take initiative for the safety of Sri Lankan Tamils, simultaneously, Tamil Nadu legislative assembly passed the resolution that

government of India should take up Tamil issue in United Nations Organization (UNO).

Due to emergence of regional political parties in national politics, DMK and AIDMK (All India Dravida Munnetra Kazhagam) of Tamil Nadu state emerged as a savior of Union government of India; and even, after 1980, Indira Gandhi became dependent on the South for electoral base. This in turn became a factor in her support for Tamil cause in Sri Lanka, later Congress found itself dependent upon coalition building and allied itself variously with the AIDMK and DMK.

Active Involvement of Tamil Nadu in Sri Lankan Ethnic Conflict (1983-1991)

In July 1983, violent attack against over Indian Tamils taken place in Sri Lanka and it was basically the starting of civil war in Sri Lanka.[4] These anti-Tamils program in Sri Lanka generated spontaneous sympathy and support of Tamil cause in India, particular in Tamil Nadu. DMK leaders M. Karunanidhi and Anbazhagan resigned from the membership of state legislative assembly in protest against New Delhi's response to the suffering of their brethrens in Sri Lanka. DMK has also passed a resolution on 27th August, 1983 against the anti-Tamils riots and stated that "Separate Tamil Eelam" shall be the only solution for this conflict. The 'Black July' unleashed a wave of sympathy in Tamil Nadu for the Sri Lankan Tamil and there was clamor from leader like M. Karunanidhi of DMK, for a Bangladesh type intervention in Sri Lanka to carve out an independent Tamil Eelam, but Indira Gandhi did not fall for that, and for valid reason such as New Delhi was always wary of Tamil Nadu which in 1950s and early 1960s saw the growth of DMK by espousing the cause of separate Dravidnadu (Dravidshan) comprising the present four states of India. Secondly acceptance of Tamil Eelam would have adverse effects on India (Murari, 2019:19). Ruling party AIDMK also organized a statewide stoppage of work, protested against the oppression of Tamils by the Sri Lankan government; a resolution was passed in October 1983 in Tamil Nadu legislative assembly condemning the violence of Sri Lanka and urging the UNO to intervene in the pursuit of a peaceful solution (Venkateshwarlu, 2013:189). Response of DMK and AIDMK on 1983 riots, was motivated mainly by their desire to score debating points and stage one-up men ship on the opponent. During 1983-87, the debate centered around as to who was the grater champion of the Sri Lankan Tamil interest. There was no love lost between Ramachandaran of AIDMK and M. Karunanidhi of DMK; and both try to score points over each other using the Tamil issue as exchequer board. Various Tamil organizations of Sri Lanka established their relations with different political groups of Tamil Nadu. Such as TULF was close to central government where as LTTE leader V. Prabhakaran was close to M.G.R; Amrita lingam tried to maintained good equations with DMK and AIDMK. During 1983-1990, LTTE built its vast network in different parts of Tamil Nadu. Tamil Nadu was not only the sanctuary; it also became a safe haven from which the

Eelam struggle derived its vocal and material support. V. Prabhakaran the Chief of LTTE exploited to the full contradictions in political scene between the DMK and AIDMK in Tamil Nadu, between state and central government and between Research and Analysis Wing (RAW) and Indian Peace Keeping Force (IPKF). LTTE had developed sufficient network in Tamil Nadu with the help of people of Tamil Nadu. LTTE got sufficient help and support from Tamil Nadu to develop its network is Sri Lanka the four principles of ancient Indian state craft *Sama*, *Dama*, *Bheda*, and *Danda* were employed by LTTE to retained Tamil Nadu as the sanctuary and supply base (Suryanarayan, 2009:189). Moreover, Tamil Nadu politician supported the Tamil militants financially and military after the Tamil riots. They allowed Tamil militant groups to freely move in the state. Sri Lankan Tamil militant leaders who were in Tamil Nadu were given armed body guards and escort cars to ensure their safety. Tamil groups, especially the LTTE were allowed to establish arms factories in Coimbatore which manufactured guns and explosives. They were also allowed to purchase explosive from Kerla, Orissa, and Karnataka with the blessing of South Indian politician (Rather, 2018:128). Keeping in view of Tamil Nadu situation Indian Prime Minister Indira Gandhi asked M.G. Ramachandran to stop his support to Sri Lankan Tamil militants and stabilize the state without making difficulties for the central government, but Ramachandran refused to do so due to political compulsion as his political opponent M. Karunanidhi was mobilizing people with Tamil issue.

Indira Gandhi was not in favour of separate Tamil Eelam in Sri Lanka and wanted to solve this issue through peaceful negotiations, with Tamil militant groups. She stated in the Parliament on 5th August 1983, that India does not pose any threat to Sri Lanka or we do not want interfere in Sri Lankan affairs. We want the unity and integrity of Sri Lanka to be preserved. Srilankan President Jayewardene assessed shrewdly that after the assassination of Indira Gandhi, India's stand in regard to Tamil militants would undergo a change. Rajiv Gandhi became the Prime Minister and he had given four assurances: a) India would not invade Sri Lanka; b) he was willing to change the mediator; c) he was agreeable to make a fresh start; and d) the unity and integrity of Sri Lanka would be proteded (Murari, 2019:21). However Rajiv Gandhi insisted that aspiration of Tamil people should be met through a political solution. Thimpu Talks[5] were the result of policy of Rajiv Gandhi.

By early 1987, Sri Lanka government launched military operation in Jaffna against LTTE. This operation was resulted a large number of civilian causalities and a sharp reaction was seen in Tamil Nadu against this operation and Tamil Nadu government announced in legislative assembly a Rs. 4 crore "Humanitarian Assistance" to the beleaguered Jaffna Tamils. On the demand of Tamil Nadu political parties, on 3rd June, 1987, Indian government sent relief supplies for the people of Jafffna in a flotilla of nineteen fishing boats flying the Red Cross flag. But the Sri Lankan

government blocked the Indian flotilla's entry into their territorial water (Swamy, 1994:236). After this incidence, Tamil Nadu put pressure on central government to provide humanitarian intervention. There for, Rajiv Gandhi was compelled to follow the mother's basic policy of supporting Tamil militants. On 4th June, 1987, five Indian Air Force planes escorted by Miraj 2000 fighter Jets entered in Sri Lanka's airspace and dropped twenty five tones relief supplies in and around Jaffna. This step was welcomed by AIDMK, DMK and people of Tamil Nadu.

To solve the ethnic conflict of Sri Lanka, Indo-Sri Lanka Accord of 29th July, 1987 was signed by Rajiv Gandhi and Jayewardene. Rajiv Gandhi signed this agreement only after asking and getting the concurrence of the entire opposition including the AIDMK. Although he did not, constitutionally, have to seek any such concurrence (Sridharan, 2016:55). India's involvement in Sri Lankan ethnic conflict was mainly due to the domestic pressure of Tamil Nadu. IPKF was sent to Sri Lanka as per the provision of accord to control LTTE and to establish peace in the Island. But as the war between LTTE and IPKF broke out, there was huge emotional breakdown in Tamil Nadu. DMK and its leader like V. Gopalaswamy (Vaiko) criticized Rajiv Gandhi government about signing July 1987 Accord. It was also criticized by trio-Vaiko (DMK) from Tamil Nadu, V. Gurupadaswamy (JP) from Karnatka and Goswami (AGP) from Assam in the Parliament. M. Karunanidhi and his party DMK took pro-LTTE stand in the state and encouraged party cadre of DMK to have the flag of LTTE in their vehicle along with photo of Prabhakaran and Vaiko become torch bearer of the LTTE support in Tamil Nadu through the veteran M. Karunanidhi (Selvaganesan, 2016:117). DMK pressurized V.P. Singh government to pull out IPKF from Sri Lanka. Due to internal and external pressures, V.P. Singh government withdrew the IPKF from Sri Lanka in 1990. DMK had taken a decision to boycott the functions in connection with the return of IPKF. DMK strongly supported the LTTE for their cause of Tamil Eelam. It organized public rallies in favour of LTTE throughout the state. When IPKF returned from Sri Lanka, DMK Chief and Chief Minister of Tamil Nadu did not have even the courtesy to receive them but accused the Indian Army of committing 'atrocities' against the Tamils (Muni, 2008).

Turning Point in Tamil Issues after 1991

On May 21, 1991, Rajiv Gandhi was assassinated by an LTTE suicide bomber at Sriperumbudur, Tamil Nadu and after this incident LTTE became bad word; the Sri Lankan Tamil issue was no more a device of the vote bank politics in the Tamil Nadu state. The political parties of the state including the DMK and AIDMK quickly jettisoned the Tamil cause from their agenda. With the changed global scenario due to end of cold war, Sri Lankan Tamil issue for India, is an internal problem of Sri Lanka. Thus India's response thereafter to Sri Lankan Tamil issue including LTTE insurgency had been muted (Hariharan, 2006:117). Indian

government declared LTTE as a terrorist organization and banned all its activities in India; particular in Tamil Nadu. This was the turning point of Tamil Nadu State politics as well. LTTE had lost sympathy and support in Tamil Nadu. In 1991 AIDMK came into power with the alliance of Congress. Chief Minister Jayalalitha demanded that Sri Lankan Tamil refugees should be send back to Sri Lanka and the process of repatriation of refugees commenced in January 1992. LTTE's network of Tamil Nadu was destroyed and many who extended their support to the LTTE were detained (Chand, 2012:193). Political parties of Tamil Nadu were making a clear distinction between the Sri Lankan Tamils and LTTE. The two could not be equated. The sympathy for LTTE was not the same as it was before the assassination of Rajiv Gandhi, but in some parts of Tamil Nadu people never gave up supporting the LTTE. Indeed in certain areas a person named their children after LTTE leader Prabhakaran, hangs his picture on walls and built bus shatters and housing colonies honoring LTTE martyrs. AIDMK leader Jayalalitha loudly opposed the LTTE (Devotta, 2018:48).

During 1991-2005 Tamil Nadu political parties and their leaders did not get involved in political development of Sri Lanka. Indian government had also adopted a 'hand off' policy in Sri Lankan internal affairs. The Tamil Nadu's political parties that were the part of National Democratic Alliance (NDA) government at centre (1998-2004) have the opportunity to exert-some influence over India's policies towards Sri Lanka, but with numerous political parties constituted such coalition in which either Congress or BJP led these coalition also have more option when picking partners and perusing foreign policy. This does not preclude coalition partners taking a stance very different from central government, but it is rarely that coalition partners wills successes in dictating foreign policy to the Centre. DMK was the third largest party in the UPA-I, not pressurized the central government on the issue of Sri Lankan Tamils up to 2006.

Re-emergence of Tamil Nadu Factor during Eelam War-IV (2006-2009)

In 2004, general election was held in India and UPA-I government came into power and DMK was the third largest alliance party in it. In Sri Lanka, Mahinda Rajapaksa was elected as President in November 2005. It was turning point of Indo-Sri Lanka relations. Mahinda Rajapaksa wanted to solve the ethnic issue of Sri Lanka with the positive support of India, for that he visited India in Dec. 2005 but could not succeed to get positive response of India, even though he was not received by Chief Minister Jayalalitha in Chennai (Swami, 2012:149). To curb LTTE, Mahinda Rajapaksa government initiated military operation in North-East province. It was the beginning of Eelam War-IV. Sri Lankan armed forces began to resort to savage bombing of the Tamil area in the northern part of the island, political parties in Tamil Nadu began to express deep concern. However, the major factors that by and large have shaped the Tamil Nadu approach to Tamils of Sri Lanka were Sencholai

attack and large scale influx of refugees. The event that have taken a sharp down turn in Sri Lanka since military operation of Muttur over the problem of Mavilaru water canal in July 2006, has strengthen the pro-Sri Lankan constituency in Tamil Nadu. In particular, the Sri Lankan government's air attack on Sencholai Orphanage centre on 14th August, 2006 brought back the wide spread sympathy and support for the Sri Lanka Tamil cause. For the first time, perhaps, ever since the assassination of Rajiv Gandhi, people from all walks of the sphere have come to same platform in support of Sri Lankan Tamil, on the other side, Sri Lankan government criticized the Tamil Nadu Assembly's Act. The Chief Minister M. Karunanidhi defended the right of Tamils in Tamil Nadu to stand by their brethren across Palk Strait by stating, "If Tamils condemning the killing of their brethren was dubbed a mistake then they would continue to commit (Mayilvaganan, 2007:201). The indiscriminate killing of Tamil Children in Sri Lanka has unintentionally come to redefine the parameter of domestic politics of Tamil Nadu. All the political parties of Tamil Nadu criticized Sencholai attack; MDMK leader Vaiko termed the attack as 'genocide' by the Sri Lankan government.

To eliminate the LTTE, Mahinda Rajapaksa took military action and he also purchased arms from India. Resultantly, the situation intensified and the war against the LTTE degenerated into war against Tamil civilians. The political parties in Tamil Nadu began to setup up their agitations. The Sri Lankan issue became enmeshed in the electoral politics. DMK expressed sympathy for Sri Lankan Tamils, started pressuring the Central government to demand the ceasefire from Colombo and DMK leader M. Karunanidhi pressurized Manmohan led UPA government for the peace in Sri Lanka. For that he adopted a resolution in 14th October, 2008, in which he stated that "the centre should stop the thirty years old Civil War and that was resulted in thousands of Tamil death in Eelam. Since Indian army aid is resulting in genocide of Tamils, this meeting urges its immediate stoppage (Jha, 2012:14).

In November, 2008, DMK pushed the Indian government to get Sri Lanka to accept donations from India, aid that international Red Cross distributed among internally displaced people (IDPs) in the warzone. DMK parliamentarians at first threaten taken to resign and thereby undermine the UPA unless Indian government got Sri Lanka to agree to ceasefire with beleaguered LTTE. The LTTE chief, Prabhakaran was killed by Sri Lankan armed forces on 18th May, 2009, that was end of Eelam war and LTTE (Khobragade, 2013:93). Thus this period (2006-2009) was the period of resurgence of Tamil Nadu factor in Indo-Sri Lanka relations.

Tamil Nadu Factor in Post LTTE Era

After the death of Prabhakaran, there were large scale demonstrations on daily basis in Tamil Nadu. PMK supporters hoisted black flags in front of their houses in

protest against genocide of Sri Lankan Tamils. DMK, MDMK and other pro-LTTE organization organized state wide protest in the state and demanded international enquiry of war crimes in Sri Lanka but India went so far as to support Sri Lanka in a special session of United Nations Human Rights Council (UNHRC) on 28 May, 2009, and voted against a motion that called for an investigation of war crimes. Regional leaders of Tamilnadu- DMK Chief Minister Karunanidhi and Pattali Makkal Katchi (PMK) chief Ramadasa were annoyed with central government on India's response to the resolution of UNHRC.

AIDMK government came into power in May 2011 and Chief Minister Jayalalitha had raised the issue of Sri Lankan Tamils and resolution have been passed in Tamil Nadu legislative assembly on 7th June, 2011, demanded a U.N. referendum on self determination by the Tamils in Sri Lanka's Northern and Eastern province and also demanded economic sanctions on Sri Lanka on the issue of war crimes (Sridharan, 2016:66). Jayalalitha government of Tamil Nadu has also urged New Delhi to increase pressure on Mahinda Rajapaksa's government on a range of issues, including war crimes and the continued hardship faced by Tamils in the north and east. It has interceded to block training of Sri Lankan military personal in Tamil Nadu and even sent back a visiting sports team of Sri Lanka. Indian government has cancelled or shifted many training programmes of Sri Lankan armed personnel's due to the objection raised by Tamil Nadu political parties.

Human rights violation during Eelam war and post civil war is a main issue in Indo-Sri Lanka relations and all the political parties of Tamil Nadu raised issue of atrocities against Sri Lankan Tamils. With the domestic compulsion, in March 2012, India voted in favor of UN sponsored resolution on the human rights violation in Sri Lanka, against its policy of abstaining on country specific UNHRC resolution. In March 2012, India again voted with twenty four other countries in favor of UNHRC resolution on human rights violation in Sri Lanka. The main aspect of the Indian intervention was the need for investigation of alleged war crimes and human rights abuse during the final stage of war (Pant, 2016:115). India voted twice against Sri Lanka due to domestic pressure from Tamil Nadu state. This was the substantial shift in New Delhi's approach, which had always been opposed to country specific resolution and to interfere in the internal matters of third countries.

In March, 2013, DMK withdrew its support from UPA government and in result of it India took a tougher stand on the Tamil issue with Sri Lanka, and voted against Sri Lanka at the time of the resolution of UNHRC. The most obvious example of domestic politics casting a shadow over India's policy towards Sri Lanka came in November 2013, when Commonwealth Heads of Government Meeting (CHOGM) was held in Colombo. The participation of Indian Prime Minister was essential in this meeting; but ahead of CHOGM, both main political parties- AIDMK and DMK

appealed to Prime Minister Manmohan Singh to boycott the summit. Even several Ministers in Manmohan government who hailed from Tamil Nadu among them, the finance Minister P. Chidambaram was opposed to Prime Minister's participation in the CHOGM. However, after a huge domestic debate, Prime Minister Manmohan Singh did not attend the Colombo CHOGM summit (Gokhale, 2014:130). New Delhi's such action was the reflection of Tamil Nadu factor in the foreign policy making towards Sri Lanka.

Modi Government and Tamil Nadu Factor

In May 2014, Modi government came into power with clear mandate and did not depend on Tamil Nadu's parties for survival in Lok Sabha, although his government does need the support of AIDMK in Rajya Sabha for legislative changes. In India, since 1989, there was no one political party who got majority in Lok Sabha, hence, pressure politics from the alliance partner was always on government which, a little bit, came to an end during Modi led NDA government. But it does not mean that Tamil Nadu factor is irrelevant in policy making towards Sri Lanka. There are so many issue other than ethnic issue such as fisherman issue, problems IDPS, Sri Lankan refugees in Tamil Nadu, human rights violation issue etc, which have direct impact on Tamil Nadu. In Sri Lanka, Mahinda Rajapaksa was defeated in 2015 presidential election by his old colleague Maithripala Sirisena. He visited India in 2015, during his visit India did not raised Tamil issue. DMK and other regional political parties continuously raised the issue of Sri Lankan Tamil on various platforms. In UPA era (2004-14), New Delhi principally prioritized the internal interest, of the people of Tamil Nadu over national interest in Sri Lanka but Modi government (2014-19) had no such binding to regional politics as BJP and its allies got full majority in the Lok Sabha. Therefore, Modi government was not helpless as the earlier coalition governments of India (Sheorah, 2015). Fisherman issue is another area of confrontation between India and Sri Lanka. The government of India has always ruled out this problem. Tamil Nadu political parties always raised the issue of fishermen with central government. Killing of Indian fisherman by Sri Lanka navy is highly objectionable to Tamil Nadu. Hundreds of Indian fishermen are detained in Sri Lankan prison on the charge of trespassing into that country's waters (Scott, 2018). Tamil Nadu state wants to protect the fishing rights of their fisherman.

Sri Lankan refugee is also a main issue for Tamil Nadu. There are many Sri Lankan Tamil refugees in refugee camps and many have lived in Tamil Nadu for at least a decade and half. Sri Lankan Tamil refugees did not include in Citizen Amendment Bill (CAB), 2019, by Modi Government in 2019.[6] DMK MPs staged walkout in the Lok Sabha on the issue of these refugees. DMK's leaders T.R. Balu said that proposed bill did not include Sri Lankan Tamils and should have been 'sensitive' to this issue (Tripathi, 2019). In January 2020, Tamil Nadu government proposed dual citizenship to Sri Lankan Tamil refugees and urged central government to enact a

law which provide dual citizenship. But DMK Chief M.K. Stalin said that AIDMK government has supported CAB in the parliament and because of that the bill got passed in law (Vaitheesvaran, 2020). Both the main political parties of Tamil Nadu blamed each other on the plight of Sri Lankan Tamils.

Conclusion

India's policy towards Sri Lanka is affected by domestic politics of Tamil Nadu. India's internal politics and Centre-State relations determines the equation with Sri Lanka. India's policy towards Sri Lanka is pragmatically determined inter play between Tamil Nadu politics and Delhi's security and foreign policy establishment. New Delhi favours more practical and co-operative approach towards Sri Lankan whereas Tamil Nadu puts pressure to address Sri Lanka's ethnic Tamil minority's concerns. Since independence, Tamil Nadu politics centered around Sri Lankan ethnic conflict. Political parties and pro-LTTE organizations raised the issue of Sri Lankan Tamils on various platforms. Tamil Nadu played active role in Sri Lankan ethnic conflict up to 1991, when Rajiv Gandhi was assassinated its role grown dimmer. But during Mahinda Rajapaksa regime 2005-2014, Tamil Nadu factor again emerged due to his anti LTTE approach. Sencholai attack by Sri Lankan forces was the turning of resurgence of Tamil Nadu factor in Indo-Sri Lanka relations. There are so many issues like devolution of powers as per 13th Amendment, internally displaced persons (IDPs) and rehabilitation process, fishermen issue, Sri Lankan Tamil refugees in Tamil Nadu etc. which has direct links with the Indian state of Tamil Nadu. Political leaders of Tamil Nadu had more effect on union government especially during the UPA regimes but after 2014 Modi led NDA government has no such compulsion of domestic pressure from Tamil Nadu due to its majority in Lok Sabha. But it does not mean that now Tamil Nadu factor has no importance in Indian foreign policy because there are so many issues related with Tamil Nadu. For taking any decision towards Sri Lanka, central government will have to think about the sentiments of the people of Tamil Nadu because they always have concern about their brethrens in the island.

Notes

1. 'Sinhala Only' Act is also known as the Official Language Act of 1956 which replaced English as the official language of Ceylon with Sinhala language. The Tamil speaking people opposed it violently. At present, Sri Lanka's constitution lists Sinhala and Tamil as official languages, with English being given the status of a 'link language'.
2. The Srimavo-Shastri Pact or Sirima-Shastri Pact was an agreement that was signed between Sirimavo Bandaranaike, the Prime Minister of Sri Lanka, and Lal Bahadur Shastri, the Prime Minister of India, on 30 October 1964.

Officially, it was known as *Agreement on Persons of Indian Origin in Ceylon*. The central part of the pact was the granting of Ceylonese citizenship to 300,000 of the Indian population in Sri Lanka, while 525,000 would be repatriated to India. It was agreed that the citizenship of the remaining 150,000 Indian residents of Ceylon would be negotiated at a later point. The pact was criticized in various ways, especially on the procedure for its implementation.

3. Kachachativu is a tiny barren but strategically important island in the Palk Strait. Sri Lanka made a claim on the ground that its ownership of the island was tacitly accepted by British Indian government while Tamil Nadu state of India maintained that the island was the part of Ramanathapuram Samasthanam-Zamindari of Raja of Ramnad. To solve this issue of ownership, both countries have signed bilateral agreements in June 1974 in the maritime boundary in the Gulf of Mannar and in March 1976 on Bay of Bengal against the objection by the Dravid Munetra Kazhagami (DMK) Government in Tamilnadu.. India recognized Sri Lanka's sovereignty over Kachchativu Island in 1974; in return, Sri Lanka recognized India's sovereignty over Wedge Bank in 1976.

4. The violence occurred in July, 1983, is also known as 'Black July', which commonly refer to the anti-Tamil pogrom and riots in Sri Lanka. The riots began as a response to a deadly ambush on 23 July 1983 by the LTTE, one of the many Tamil militant groups of that time. The LTTE had killed 13 Sri Lanka Army soldiers in the ambush. In reaction, on the night of 24 July 1983, anti-Tamil rioting started in the capital city of Colombo and then spread to other parts of the country.

5. In July and August 1985, the leaders of the Tamil armed resistance participated in talks with the Sri Lanka government and they unanimously agreed on a set of principles concerning a political solution to the ethnic conflict in Sri Lanka. This talk was sponsored by India which was held in Thimpu, the capital of Bhutan.

6. The Citizenship **(**Amendment) Act, 2019 was passed by the Parliament of India on 11 December, 2019. It amended the Citizenship Act, 1955 by providing a path to Indian citizenship for illegal migrants of Hindu, Sikh, Buddhist, Jain Parsi and Christian religious minorities, who had fled persecution from Pakistan, Bangladesh and Afghanistan before December 2014. Muslims from those countries were not given such eligibility. In India, first time religion had been overtly used as criterion for citizenship under law.

Reference

Chand, Gurnam (2012). *Dynamics of Indo-Sri Lanka relationship since independence*, New Delhi: Swastik Publication.

Devotta, Neil (2018). "When individuals, state and system collide: India's foreign policy towards Sri Lanka". in Sumit Ganguly (ed.), *India's foreign policy: Retrospect and prospect*. New Delhi: Oxford University Press.

Ghosh, Bipattaran (1995). "India and the ethnic crisis in Sri Lanka". India *Quarterly*, Vol. L1, No. 4, Oct-Dec.

Gokhale, Nitin A. (2014). "Role of domestic politics in India-Sri Lanka relations". *Centre for Land Warfare Studies (CLAWS) Journal*, Winter.

Gopal, Krishan (2000). "Nehru's policy towards Sri Lanka". *South Asian Studies*, Vol. 44, No. 1, Jan-June.

Hariharan, R. (2006). "Is war a viable option in Sri Lanka?". *World Focus*, Vol. 27, No. 13, January.

Indian Lok Sabha (1961). Debates, Vol. 55, No-61 5 May, cots, 15689-93.

Jha, Nalini Kant (2012). "Coalition government and foreign policy: A case of India's foreign policy during the UPA regime". *World Focus*, Vol. XXXIII, No. 12, December.

Kant, Rama (2004). "World view of Sri Lanka". *South Asian Studies*, Vol. 39, No. 1-2, Jan-Dec.

Khobragade, Vinod F. (2013). "Co-operation to trust deficit: Post LTTE India-Sri Lanka relations". *World Focus*, Vol. XXXIV, No. 7, July.

Mayilvaganan, M. (2007). "Tamil Nadu and the Sri Lankan ethnic crises. *World Focus*, Vol. XXVIII, No. 5 May.

Muni, S.D. (2008). "India's Tamil politics and the Sri Lankan ethnic conflict". *ISAS Brief No.86*, 6th November.

Murari, S. (2018). *The Prabhakaran saga: The rise and fall of Eelam warrior*. New Delhi: Sage Publications.

Palanithurai, G. and Mohinasundaram, K. (1993). *Dynamics of Tamil Nadu politics in Sri Lankan ethnicity,* New Delhi: Northern Book Centre.

Pant, Harsh V. (2016). *Indian foreign policy: An overview*. New Delhi: Blackswan.

Phadanis, Urmila (1979). "India and Sri Lanka". in Bimal Prasad (ed), *India's Foreign Policy, Studies in Continuity and Change*, New Delhi: Vikas Publishing House.

Rather, Mohd. Ashraf (2018). *Indo-Sri Lanka relations*. Delhi: Ankit Publication.

Scott, D.J. Water (2018). "Why are several T.N. fisherman in trouble with the Sri Lankan navy?". *The Hindu*, 10 February.

Selvaganesan, G.B. (2016). *The story of India and Sri Lanka and the Tamils*. Chennai: Nation Press.

Sheorah, Tamanna (2015). "India and Sri Lanka since new government at centre. *Youth Forum on Foreign Policy,* 29 September. Retrieved from https://yffpindia.wordpress.com/2015/09/29/india-and-sri-lanka-since-new-government-at-the-centre/

Sridharan, Eswaran (2016). "Indo-Sri Lanka relations: Geopolitics, domestic politics or something more Complex?". in Sumit Ganguly (ed.). *Engaging the world: Indian foreign policy since 1947*. New Delhi; Oxford University Press.

Suryanarayan, V. (2009). "Influence of Tamil Nadu in Sri Lanka". *World Focus*, Vol. XXX, No. 7, July.

Suryanarayan, V. (2013). "Sri Lanka: Tamil Nadu and India's foreign policy". *Institute of Peace and Conflict Studies*, Paper No. 3862, 31 March. Retrieved from http://www.ipcs.org/comm_select.php?articleNo=3862.

Swami, M.R. Narayan (2012). "Sri Lanka needs to do a lot more". *Indian Foreign Affairs Journal*, Vol.7, No. 2, April-June.

Swamy, N. (1994). *Tigers of Sri Lanka: From boys to Guerrillas*. Delhi: Konark Publishers.

Tripathi, Rahul (2019). "DMK wants Tamil refugees in CAB". *The Economic Times*, 10 December. Retrieved from https://economictimes.indiatimes.com/news/politics-and-nation/dmk-wants-tamil-refugees-in-cab/articleshow/72450147.cms?from=mdr

Vaitheesvaran, Bharani (2020). "DMK walks out of Assembly as governor promises to push for dual citizenship for Lankan Tamil refugees," *Economic Times*, 6th Jan 2020. Reytrieved from https://economictimes.indiatimes.com /news/politics-and-nation/dmk-walks-out-of-assembly-as-governor-promises-to-push-for-dual-citizenship-for-lankan-tamil-refugees/articleshow/73117683.cms?from=mdr

Venkateshwarlu, Chalamalla (2013). "Ethnic conflict in Sri Lanka and its impact on Indo-Sri Lanka relations: The intervention of SAARC". in R. Siddha Gaoud and Manisha Mookherjee (eds.), *India-Sri Lanka relations: strengthening SAARC*. New Delhi: Allied Publishers.

A Comparative Analysis of Haematological Profile of Female Sprinters, Long Distance Runners and Throwers

- Sanjay Sharma

ABSTRACT

The intent of the study was to compare the long distance runners with sprinters and throwers with respect to their haematological characteristics. To accomplish the study a purposive sampling device was used and a sample of 20 female athletes of 16-20 years age group was taken from two sports training centres of Himachal Pradesh namely; SAI, Sports Training Centre, Dharamshala and State Sports Hostel, Luhnu, Bilaspur. The sample of 20 athletes comprised of 10 sprinters, 7 long distance runners and 3 throwers who had secured positions or have participated in the National and State level completions. It was hypothesized that there would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristics. To enumerate the haematological characteristics viz. haemoglobin, T.L.C. and D.L.C. (i.e. neutrophils, lymphocytes, monocytes, eosinophils and basophils) blood samples of the athletes were taken with the assistance of registered medical practitioner and were tested for the selected haematological characteristics at haematological laboratory of Dr. RPGMC, Kangra. "Mean" was used as a statistical tool for analysing and comparing the scores of haematological characteristics. In order to rectify the sampling errors, researcher has calculated the margin of error at 95% level of confidence. The results exhibited that sprinters and long distance runners have higher concentration of haemoglobin content in their blood in comparison to throwers whereas the TLC and DLC of sprinters, long distance runners and throwers came out to be nearly same. Thus, indicating that haematological characteristics have a mixed effect on the performance of long distance runners, sprinters and throwers.

Sanjay Sharma, *Assistant Professor, Department of Physical Education, H. P. University, Summer Hill, Shimla-171005 (India)*
Email: sanjay.sports2010@gmail.com

Keywords: Haematological Profile, Haemoglobin, Total Leucocytes Count (TLC), Differential Leucocytes Count (DLC).

Introduction

The field of sports and physical education is very vast. Right from the origin of mankind people used to strive for physical activity, may be it in the search of food in the earlier times, for self defense in the battlefield latter on or for recreational purpose in recent times. Sports and physical education always occupied a central stage in nearly all civilizations. In the modern era sports and physical education play an important place in the delivery of fitness and health care for common people as well as sportsperson.

Fitness and health is the concern of all, competitive and recreational players present their physicians, trainers, therapists and coaches with an assortment of problems and disorders to diagnose and manage. A team doctor requires good all round knowledge and experience in sports medicine and general medical conditions. It is therefore, important for the team doctor to maintain all trends in the diagnosis and treatment in the sports as it is in the everyday illness.

In the modern age the greater emphasis is being laid at preparing sportsman physically, physiologically and skillfully. The human body is a complex machine. The sophisticated mechanism of our body has attracted scientists to probe into its complex nature. With the advancement of technology, numerous instruments were developed to enable scientists to gain further insight into the functioning of the human body.

In spite of extensive invention and discoveries, there still exists tremendous demand on scientists to obtain appropriate answers to certain queries about the mechanism of the human body. It therefore, becomes apparent to understand the relevant changes that occurs during rest or when the body is exposed to different intensities of physiology activity.

Physiology is the scientific discipline that seeks to understand the function of living organism and their constituent parts. The word itself is composed of two Greek roots: physis (meaning nature) and logos (meaning study or science). Exercise physiology is the aspect of sports medicine. It studies the functional changes that occur in the human body when exposed to physical activity. A science that elucidates how the human body functions, reacts, adjusts and adapts when exposed to varied degrees of physical activity or training.

Cardiovascular System

The cardiovascular system comprising of the heart, blood vessels also have functions other than the supply of oxygen, which include the supply of the demanded nutrients to the cells of various organs, carrying the hormones to their

target tissues or organs, maintaining body temperature and removal of the several metabolic waste products.

Blood

Blood is a bodily fluid in animals that delivers necessary substances such as nutrients and oxygen to the cells and transports metabolic waste products away from those same cells. Blood accounts for 7% of the human body weight, with an average density of approximately 1060 kg/m3, very close to pure water's density of 1000 kg/m3. The average adult has a blood volume of roughly 5 liters (1.3 gal), which is composed of plasma and several kinds of cells. These blood cells (which are also called corpuscles or "formed elements") consist of erythrocytes (red blood cells, RBCs), leukocytes (white blood cells), and thrombocytes (platelets). By volume, the red blood cells constitute about 45% of whole blood, the plasma about 54.3%, and white cells about 0.7%.

The most abundant cells in vertebrate blood are red blood cells. These contain hemoglobin, an iron-containing protein, which facilitates transportation of oxygen by reversibly binding to this respiratory gas and greatly increasing its solubility in blood. In contrast, carbon dioxide is almost entirely transported extracellularly dissolved in plasma as bicarbonate ion.

In terms of anatomy and histology, blood is considered a specialized form of connective tissue, given its origin in the bones and the presence of potential molecular fibers in the form of fibrinogen. Thus, it is quite clear that Exercise Physiology is the study of how exercise alters the functions and structure of the human body. The existing of knowledge of exercise physiology builds a strong foundation for the professional groups like physical education teachers, coaches, fitness experts etc., concerned with human physical activity.

Moreover, physiology can improve an athlete's performance by giving important objective information which can help coaches to adapt training programmes to maximise their desired outcome. This will depend on many factors including the environment, diet, gender, age and health. Therefore, keeping all above points in mind researcher had undertaken a comparative study of haematological characteristics of female spinsters, long distance runners and throwers of Himachal Pradesh in order to draw certain meaningful findings and conclusions.

Objective of the Study

The purpose of the study was to compare the long distance runners with sprinters and throwers with respect to their haematological characteristics.

Materials and Methods

In the present investigation, researcher applied purposive sampling device to select the subjects and a sample of 20 female athletes of 16-20 years age group was

selected from two sports training centres of Himachal Pradesh namely; SAI, Sports Training Centre, Dharamshala and State Sports Hostel, Luhnu, Bilaspur. The sample of 20 athletes comprised of 10 sprinters, 7 long distance runners and 3 throwers who had secured positions or have participated in the National and State level completions. Selected haematological characteristics viz. haemoglobin, T.L.C. and D.L.C. (i.e. neutrophils, lymphocytes, monocytes, eosinophils and basophils) were assessed from the blood samples of the screened out athletes which were taken with the assistance of registered medical practitioner and were tested for the selected haematological characteristics at haematological laboratory of Dr. RPGMC, Kangra. It was hypothesized that there would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristics.

The collected data was statistically analysed using "Mean" as a statistical tool for comparing the scores of haematological characteristics. In order to rectify the sampling errors, researcher has calculated the margin of error at 95% level of confidence.

	Haematological Variables	Mean Values of Different Haematological Variables			Reference Range for Healthy Individual
		Sprinters (n=10)	Long Distance Runners (n=7)	Throwers (n=3)	
1.	Haemoglobin (HB)	11.8 gm/dl	11.3 gm/dl	10.8 gm/dl	11-15 gm/dl
2.	Total Leucocytes Count (TLC)	7110/cumm	7485/cumm	7233/cumm	4000-11000/cumm
3.	(DLC) Neutrophils	61.1%	60.8%	64.6%	40-75%
4.	Lymphocytes	33.8%	33.7%	29.3%	25-45%
5.	Monocytes	2.3%	2.5%	2.6%	00-08%
6.	Eosinophils	2.8%	2.8%	3.3%	00-06%
7.	Basophils	00%	00%	00%	00-01%

It is apparent from table 1 that the mean values of haematological variable haemoglobin (HB) of female sprinters, long distance runners and throwers are 11.8, 11.3 and 10.8 gm/dl respectively. This indicates that the sprinters have higher concentration of haemoglobin in their blood as compared to long distance runners and throwers. Though, the haemoglobin levels of sprinters and long distance runners differ slightly but are well within the reference range (11-15 gm/dl) whereas the haemoglobin level of throwers is below the reference range. Thus, it is interpreted that the throwers differ significantly from sprinters and long distance runners on haemoglobin concentrations. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners

and throwers on the basis of their haematological characteristic haemoglobin" is **accepted**.

It is evident from table 1 that the mean values of haematological variable total leucocytes count (TLC) of female sprinters, long distance runners and throwers are 7110, 7485 and 7233/cumm respectively. This indicates that the long distance runners have higher count of total leucocytes in their blood as compared to sprinters and throwers. Though, the total leucocytes count of sprinters, long distance runners and throwers differ slightly but are well within the reference range (4000-11000/cumm). Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on total leucocytes count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic total leucocytes count" is **rejected**.

It is obvious from table 1 that the mean values of haematological variable neutrophils count (DLC) of female sprinters, long distance runners and throwers are 61.1%, 60.8% and 64.6% respectively. This indicates that the throwers have higher count of neutrophils in their blood as compared to sprinters and long distance runners. Though, the neutrophils count of sprinters, long distance runners and throwers differ slightly but are well within the reference range (40-65%). Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on neutrophils count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic neutrophils count" is **rejected**.

It is clear from table 1 that the mean values of haematological variable lymphocytes count (DLC) of female sprinters, long distance runners and throwers are 33.8%, 33.7% and 29.3% respectively. This indicates that the sprinters and long distance runners have higher count of lymphocytes in their blood as compared to throwers. Though, the lymphocytes count of sprinters, long distance runners and throwers differ slightly but are well within the reference range (25-45%). Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on lymphocytes count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic lymphocytes count" is **rejected**.

It is apparent from table 1 that the mean values of haematological variable monocytes count (DLC) of female sprinters, long distance runners and throwers are 2.3%, 2.5% and 2.6% respectively. This indicates that the throwers have higher count of monocytes in their blood as compared to sprinters and long distance runners. Though, the monocytes count of sprinters, long distance runners and

throwers differ slightly but are well within the reference range (00-08%). Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on monocytes count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic monocytes count" is **rejected**.

It is obvious from table 1 that the mean values of haematological variable eosinophils count (DLC) of female sprinters, long distance runners and throwers are 2.8%, 2.8% and 3.3% respectively. This indicates that the throwers have higher count of eosinophils in their blood as compared to sprinters and long distance runners. Though, the eosinophils count of sprinters, long distance runners and throwers differ slightly but are well within the reference range (00-06%). Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on eosinophils count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic eosinophils count" is **rejected**.

It is evident from table 1 that the mean values of haematological variable basophils count (DLC) of female sprinters, long distance runners and throwers are 0.0%, 0.0% and 0.0% respectively. This indicates that sprinters, long distance runners and throwers have no count of basophils in their blood. Thus, it is interpreted that the sprinters, long distance runners and throwers have no significant difference on basophils count. Hence, the formulated hypothesis i.e. "There would be a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic basophils count" is **rejected**.

Discussion on Findings

1. Sprinters and long distance runners have higher concentration of haemoglobin in their blood as compared to throwers. This may be attributed to greater demands of O2 in their events and might have resulted due to more strenuous aerobic training.
2. Sprinters, long distance runners and throwers have nearly same count of total leucocytes in their blood. This may be attributed to the reason that leucocytes are responsible for immune system of human body and hence, similar results for all.
3. The differential leucocytes count (DLC) comprising of the counts of various white blood cells namely; neutrophils, lymphocytes, monocytes, eosinophils and basophils of sprinters, long distance runners and throwers came out to be nearly same. This may be attributed to the reason that differential leucocytes, though, have different assigned tasks in defense

mechanism but are collectively responsible for immune system of human body and hence, similar results for all.

Conclusion

Based on the present study, it can be concluded that:

1. There is a significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic haemoglobin.
2. There is no significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic total leucocytes count.
3. There is no significant difference between sprinters, long distance runners and throwers on the basis of their haematological characteristic differential leucocytes count (DLC) comprising of the counts of various white blood cells namely; neutrophils, lymphocytes, monocytes, eosinophils and basophils.

Acknowledgement

I am highly grateful to the managers and athletes of SAI, Sports Training Centre, Dharamshala and State Sports Hostel, Luhnu, Bilaspur for extending utmost support during the entire course of research investigation.

References

Alteri (1975). Cerebral Blood Flow during Submaximal and Maximal Dynamic Exercises in Man. Journal of Applied Physiology, 1989.

Cureton and Crimly (1966). Reference Values of Artrial Oxygen Tension in the Middle-Aged Elderly. Journal of Applied Physiology, 279.

Hilton (1977). Haemoglobin Mass and Peak Oxygen Uptake in Untrained and Trained Residents of Moderate Attitude. International Journal of Sports Medicine, 22, pp.572-78.

Michal and Gallon, Haidet, G.A. & Ordnary, J.C. (1960). Training Effects on Regional Blood Flow Response to Maximal Exercise. Journal of Applied Physiology, 62, pp.1724-1792.

Shvartz (1962). Capacity of Blood Flow Delivery to Exercising Skeletal Muscle in Humans, International Journal of Sports Medicine, 12, pp.41-45.

Naoroji's Quest for Self-Rule, 1896-1906

- Abha Chauhan Khimta

ABSTRACT

Dadabhai played a pivotal role in the socio-religious and educational life of India. These formidable contributions in the initial years laid down in him the basic desire to serve his countrymen. Similarly in England a bigger work for the emancipation of the country was awaiting him and was to be gradually accomplished by him to a great extent. His interest in the socio-religious and educational reforms in the formative stage and their propagation through various societies and organizations were showing the signs of his inner strength and resolve to fight for the cause dear to him and was in the process establishing methods to achieve them. Dadabhai was of the opinion that the British may consider right, what the Indians may regard as wrong and accordingly they might follow a policy which can have a detrimental effect to the Indian interests. For him, the remedy laid in agitation and wanted the Indian people to unite and give ventilation to their convictions. According to Dadabhai, a nation which was united, its voice was bound to be heard. His settlement in England and thereafter his political activism for reforms in India (1855-65) were essentially an expression of his political ideas he was gradually evolving at that time. This paper explores Dadbhai Naoraji's contribution for attaining self government from British Empire.

Key Words: Emancipation, Pivotal, self government, Political activism.

The last quarter of 19th century essentially witnessed a national awakening and

Abha Chauhan Khimta, *Assistant Professor, Department of Political Science, Himachal Pradesh University, Shimla - 171005, India*

enhanced political awareness in India. Dadabhai already had made contribution in arousing the nationalist feelings amongst the educated Indians. Without doubt, Dadabhai's bigger role for the Indian cause lay in England; still he was closely associated with the efforts of founding a national level organization in India along with other nationalist colleagues. Dadabhai remained an ardent and loyal Congressmen till the very end of his eventful life. Dadabhai's return to India in April 1881 coincided with the efforts in founding a nationalist organization admittedly secular in nature. Later, in 1885 along with Hume, Wedderburn, Mehta and Teland, Dadabhai kept himself busy in making preparation for holding the first national Congress. He was the moving spirit behind the foundation and establishment of the national institutions. Dadabhai took a leading part and also actively shared in its deliberations in its first session held in December 1885. Through a resolution, which was passed unanimously, he demanded the appointment of a Royal Commission with adequate representation of Indians, to inquire into and examine the working of administration in India.

He remarked "…it is evidently the desire here that a full and impartial inquiry by fair and high mind English state man, with an adequate number of natives on the inquiry body, should be carried on in India itself."[1] By another resolution Dadabhai proposed the holding of the Civil Services Examination both in England and in India simultaneously. He said "it is the most important key to our material and moral advancement. All other political reforms will benefit us but very little indeed if this reform of all reforms is not made. It is the question of poverty and prosperity. It is the question of life and death to India. It is a question of questions"[2] He extended his full support and cooperation to the resolution concerning reforms in the Indian Legislative Councils. Dadabhai declared that representation of Indians was necessary for good Government and also demanded the abolition of the Indian Council, which had failed in its primary duty of protecting and forwarding the Indian interests. He said "... We desire to have the actual government of India transferred from England under the simple controlling power of the Secretary of State, and of Parliament, through its standing committee, and that we further desire that taxation and Legislation shall be imposed by representative Councils….."[3] Dadabhai further reiterated in the speech "Britain is the parent of free and representative Government, and that we as her subject and children, are entitled to inherit the great blessing of freedom and representation… We are British subjects of the same gracious sovereign who has pleaded her royal word that we are to her as all her subjects, and we have right to own British institutions."[4]

For long, Dadabhai had been making efforts to sensitize the British authorities about the aspirations and demands of the Indians and their duties towards

fulfillment of the same. With the establishment of the Congress it was as if a legal platform had been provided to raise those demands. He added:

> 'The Chief work of his first national Congress of India is to enunciate clearly and bolding our highest and ultimate wishes. Whether we get them or not immediately, let our rulers know, what out highest aspirations are"[5]

Thus, Dadabhai Naoroji in the very first session of the Congress made manifest his conception of reforms in India with the ultimate objective of self Government, though it was not explicitly expressed. Dadabhai was essentially ahead of the other Congressmen who were not willing to go to his extent. Dadabhai Naoroji was honored by the Congress by electing him as the President of the organization for its second session which was held in Calcutta in 1886. Dadabhai's role and contribution to the early nationalist activity was an adequate proof to justify his election as President of the Congress. In his presidential address Dadabhai, who had thorough grasp of the political situation in India, spoke on various issues facing the country in an eloquent and powerful manner, and laid emphasis on the importance of the Congress movement. While referring to the Proclamations of '**1833**' and '**1858**', he not only pointed out the advantages of the British rule in India but also added that the British were bound to administer India for the welfare of its people.

He further defined the objectives of the Congress which he regarded purely as a political organization and laid stress on the economic impoverishment of India, appointment of the Royal Commission, representative institutions for India, trial by Jury and separation of Executive and Judiciary.[6] Dadabhai wanted the government to listen to them and accede to their reasonable demands. His early association with the Indian National Congress essentially strengthened it and helped in the formulation of its demands in a stringent and firm language. The Congress proceeded to serve the vocation with realism and vision and made it clear to the British masters that through this body the Indian feelings could be expressed and those feelings needed to be honored by them. However, Naoroji was constitutional and parliamentary in his approach for bringing the Indian opinion to the notice of the British rulers both in India and England.

Early Congressmen and especially Dadabhai felt a dire need for agitational activity in Britain and it became the center of his political activities. Dadabhai continued his efforts to organize the Indian agitation in England through an authorized agency to work on behalf of the Congress and in this effort he was joined by William Digby, W.S. Caine and W. C. Bonnerji as its active members. The Members of the British Parliament and the British people were enlightened about the situation in India and

as such the Indian question was prominently brought before the British opinion.The British Committee of the Indian National Congress was founded in July 1889 as its branch in England. Dadabhai, one of its original and permanent members was associated with the inception of this committee and his role and activity to push forward the Indian agitation through this committee was significant. He acted as an enthusiastic member, guide and an undisputed leader and became the chief representative of the Congress to see that the aspirations of this national body were realized. As a proactive member of the British Congress Committee he carried on regular correspondence with persons interested in the Indian affairs, conveyed information to the press supporting the Indian Movement, made contradictions on wrong news and false impressions, represented the Indian National congress as its permanent agent throughout his sojourn in England.[7]

Dadabhai, as one of the speaker in a meeting held on April 18, 1890 under the Chairmanship of Mac Carthy, appealed to the British nation to give Indians 'some voice in the legislation and administration' of their own country. He remarked "…we by representation, which desire to prepare India for a system of government by representation, which every race and every class is entitled to…, there is no man in his senses in this country, who, if you press this to him, will not have admit it. To end that, sooner or later, India must be governed on the principle of representation, or we must lose our hold on that great Empire." [8] The Congress deputation visited several parts of Britain putting forward the Congress viewpoint on various demands. The services of Dadabhai as one of the most active and most eloquent member of the British committee were specially recognized by the committee.[9] Thus; he sensitized the British authorities and people with the Indian issues and problems and insisted on the redressal of their grievances. However, even after a long spell of his untiring and sustained efforts to impress upon the British the Indian problem he could not see response on part of the British in terms of their policies towards India.

Much before the first Congress session was held Dadabhai had laid emphasis on the urgency and value of Indian representation in the British Parliament. He accordingly reached England to gradually prepare himself for entering the British Parliament, where the most fundamental questions regarding Indian administration were decided and there was no Indian to put forth the native view on this question. He was accepted as a liberal candidate for the Holbourn constituency in 1886. He spared no effort in his election campaign but suffered a defeat, yet it did not dampen his spirit and courage and emerged victorious six years later in the next election.

On the 9 August 1892, Dadabhai in his maiden speech in the House of Commons remarked.

> "…So long as India is satisfied with the justice and honor of British, so long will her Indian Empire last, and I have not the least doubt that though our progress may be slow and we may at times meet with disappointments, if we preserve, whatever justice we ask in reasons we shall get"[10]

The Indian national Congress in its eighth session held at Allahabad in 1892 put on record its high esteem and deep appreciation of the services which Dadabhai had rendered to India, and looked upon him as Indian representative in the House of Commons.[11] Dadabhai's initial efforts as member of the British Parliament was to attract the attention of the British members in the Indian affairs, and, with the aid of Sir Wedderburn and Mr. Caine, he succeeded in organizing The Indian Parliament Committee which ,for many years, rendered important services to the country. He emphasized upon Mr. Herbert Paul to move the famous resolution on holding of simultaneous examinations in India and England for the Indian Civil Service, and though it was opposed by the government, it was passed by a majority in the House. The credit for this success was mostly due to efforts of Dadabhai.[12]

He acted as a true Indian representative in the House of Commons, and immensely contributed to the debates on the Indian subject especially, simultaneous examinations for the Indian Civil Services, reforms of the Legislative Councils, economic problems etc and made his presence felt in the House of Commons. Lokmanya Tilak remarked:-

> "..If the twenty eight crores of Indians were entitled to send only one member to the British Parliament, there is no doubt that we would have elected Dadabhai Naoroji unanimously to grace the post."[13]

The Indian National Congress depended on Dadabhai's incessant efforts for keeping up the pressure for reforms. He came back to India to preside over the ninth session of the Congress held at Lahore and his homecoming was marked by unparalleled rejoicing and enthusiasm throughout the country which marked an epoch in the political evolution of the Indian and reflected in the popular demonstration held in his honor.[14] Dadabhai in his presidential address laid stress on the need for reforms and ending of Indian grievances, he laid emphasis on the Civil Services examination question, reform of the Legislative Councils, Indian Budget, poverty in India, Indian representation in the parliament, trade between India and England, costly Army and the Civil Services, separation of executive and judicial functions, burden on Indian taxpayers, fellow feeling and nationality and finally he foundations of the British power in India.

He maintained that the efforts of the people of India had succeeded in creating not only an interest in Indian affairs among the people of United Kingdom, but also a desire to promote the true welfare of India. There was, however, need further agitation, "we must keep our courage and never say die."[15] For more than forty years Dadabhai had hoped for a change in the official outlook. For long he along with his friends, both British and Indian, had made unceasing and sustained efforts to bring to the notice of the British the grievances of India and the defects in the administrative system of the country. No doubt, they had received the encouragement and sympathy of numerous individuals and a large audience throughout the country, but they essentially had failed to stimulate an appreciable impression on those who held power and authority, whether they were liberals or conservatives. Was he to give up this struggle or be more devoted to an extensive and more intensive campaign throughout Britain, demanding for the British Rule in India on British principles.

He started drawing the attention of the British public opinion towards the deplorable economic condition of India resulting from famine, plague, frontier war, and poverty of the Indian people and demanded an immediate solution on the principles of right and justice. He remarked, "of all these and many other minor evil the main cause in the un-righteous and un-British system of governing which produces an unceasing and ever-increasing bleeding of the country, and which is maintained by political hypocrisy and continuous subterfuges, unworthy of British people and utterly in violation of Acts and resolutions of Parliament and other most solemn and repeated pledges of the British Nation and Sovereign. That unless the present unrighteous and un-British system of government is thoroughly reformed into righteous truly British system destruction to India and disaster to the British Empire must be an inevitable result. That the European agencycivil and military in the government must be very largely reduced."[16]

Dadabhai deplored the British policy at a speech at Chorley, Lancheshire on November 16, 1898 and remarked, "The Government of Indian had continued to act on the most un-English and the wicked principles. The result was that India was reduced to the utmost poverty and was the poorest country."[17] He was also vocal on the late response of the British administration in India regarding the famine in 1900.

Thus, Dadabhai delivered many such speeches in different parts of Britain in public meetings attracting a sizeable number of British people. He conveyed the Indian feelings and message to the British public in a most effective and constitutional manner. He exhorted the Indian populace to make the British conscious of the justification and soundness of Indian demands by means of petitions, memorials, resolution and deputations. However, despite being loyal to the British and his

undying faith in constitutional agitation he clearly exposed the oppressive character of the British rule in India. When the British authorities did not accede to the genuine demand for reforms in the administration of India and virtually continued to follow anti India administrative and economic policies, he felt disappointed, but he did not give up hope for this noble cause and emphatically asked the nationalist leaders in India, especially the younger generation, too uphold and carry forward the difficult task and continue the struggle with enhanced vigor and perseverance. Gradually, in the last few years of his stay in Britain, Dadabhai has been drawing more towards radicalism. For, in the Indian context too, gradually now he was showing a tendency towards emphatically and clearly enunciating the need for Self Government under British rule and deep down in the heart of most Indian nationalists there was an aspiration that their country would someday in near future become self governing and individual Congressmen often gave expression to that aspiration though not from the formal Congress platform. The early nationalists were practical minded to realize that India was not yet fit for Parliamentary Self government in their own life time.

Dadabhai began urging, both in private and in public from the mid 1903 onwards that the Indian National Congress should proclaim Self Government under British paramountcy to be the goal of its endeavors. The time has come, he wrote to R. C. Dutt in July, 1903 "when an agitation must be begun for Self Government under British paramountcy. The work will be slow, but very effort needs to be concentrated on this great battle, and I am therefore more anxious to see that younger hands and hearts set themselves to work."[18] In his message to the Madras Congress in December 1903, Dadabhai had reiterated that Self-Government under British paramountcy must be the aim and the mission of the educated Indians. If the Indian people are united in their mind that they will have this, "Self-Government under British paramountcy" and nothing less and if the British see that the Indians are determined to rise in their material, moral and political condition, he have no doubt that the British, in the spirit of their instincts of justice and liberty, will accede to the demand.[19]

Early in the year 1904 Lord Curzon's speech at the Calcutta University provided the ground for the whole country to protest not only against the insulting speech but also against the general policy of the Viceroy's administration. Dadabhai and the Indian National Congress shared this general feeling of resentment on this occasion. Now, the whole nation was up in arms against the principles and policy under which India was administered and governed. No event of such significance had taken place before in the history of British India. The seeds Dadabhai had scattered were bearing fruit and a new India was rising which was conscious of its

rights and pulsating with ideas of self governance and freedom. He, asked his countrymen, who were infuriated against Lord Curzon, to go to the root of the issue and demand change in the system of administration. He was of the opinion that, "There were only two alternatives before both the people and the rulers peaceful evolution of the administration of the country, or explosion."[20]

Dadabhai drew up the following paragraph, and it regularly appeared in India during this period;

> "The present system of British rules in India by ever increasingly plundering and draining away the resources of the people deliberately produces impoverishment and thereby causes famine, plague and starvation on an ever increasing scale… Further, the present system is dishonorably violating the most solemn and Parliamentary pledges and the declared honest policy of the British people. It is therefore, the duty as also the greatest interest of the British people to put an end to the present deplorable and unrighteous system and compel their government to honestly take steps to introduce as speedily as practicable Self-Government like that of colonies under British Paramountcy."[21]

In the latter half of 1904, Dadabhai wrote a number of times to Dinashaw Wacha insisting that in the forthcoming Congress at Bombay a resolution on Self-Government should be adopted. However, the Bombay Congress adopted a resolution which said, "That in the opinion of the Congress, the time has arrived when the people of this country should be allowed a larger voice in the administration and control of the affairs of their country."[22] Though, Henry Cotton in that very session did emphasize in his presidential address on the need for Self-Government as the objective of the Indian people. There was virtually nothing revolutionary or new about this idea, but it had never before been put forward in such an unmistakable terms from the platform of the Indian National Congress. In these circumstances it acquired a peculiar significance and was taken up by others like G.K. Gokhale who incorporated the ideal of Self-Government on the colonial model in his Servants of India Society Preamble.

Dadabhai did not relent his pressure. His message to the Indian people in November 1905 re-emphasized the absolute necessity of Self-Government and freedom like that of the colonies as the plausible remedy for India's woes and wrongs. He was, no doubt, being gradually driven to extremism, which were becoming manifest at least

in his public utterances. It was the result, clearly of disappointment. However, he had not lost his faith in British justice and fair play, nor did he falter in his adherence to the Congress policy of constitutional agitation.

In an interview to The Daily News, in August 1905, said that present India was different from the India of the past. The country was ripe for taking steps towards Self-Government. At a dinner hosted by the Indian residents in England in November, 1905 in honor of Gokhale and Dadabhai the latter said:

> "The work of the last fifty two years has not been thrown away. Though it may not be my fortune- perhaps it may be to see our efforts crowned with success, many of you may live to see the dawn of the day of Self-Government and prosperity for India".[23]

Dadabhai Naoroji had spoken (said Gokhale) "with that overmastering force and conviction which comes from a life-long and strenuous efforts on behalf of his countrymen. He is the only man who is entitled to speak in the terms in which he has addressed them."[24]

As the time for the twenty second session of the Indian National Congress was drawing near, it was an occasion for stock taking about the achievements of the national political organization of the country in respect of its mendicant policy and the ideals and methods of work. Young India demanded and required a proper constitution and a vitalizing programme for the Congress and reconstruction of the political life of the country. The 'Old word politicians', who had been carrying on the Congress work in their own way for the last twenty years paid no attention to this demand. It was, however not merely an emotional conflict, nor was it a personal conflict for ascending; it was essentially an intellectual conflict, a conflict of ideology. Self Government under British paramountcy was the goal of the old school; the ideal of the new school was national autonomy and freedom from all foreign control.[25]

Dadabhai was neither an extremist and nor a moderate, he had never hesitated to freely speak in the language of his heart and he was not the man to placate one side or the other. After the repressive regime of Curzon, his words invariably breathed fire. He had already asserted in the past and could assert again what the extremist had been urging and demanding with double the force and outcome with which any one of them could have done. He still believed in a constitutional struggle for progressive and gradual expansion of political freedom, but he was no longer the same submissive person that he was in his early years, praying for justice and fair play before the British public opinion and authorities.

The Congress had so far devoted itself in demanding isolated reforms and the redressal of particular grievances. The extremists did not believe in these methods and demanded a radical change in the Government itself and removal of foreign control in order to make a way for national liberty. The older Congress men firmly believed that the continuance of British rule was a requirement of the time and indispensable condition for progress and prosperity in India. The extremists argued firmly that political freedom was the essential pre-requisite to national progress. The moderates were hesitant to take such a course. They were anxious and wanted to avoid an open split in the Congress. To avoid any adverse situation which could have weakened the Congress, the moderate congressmen persuaded Dadabhai to come over from Britain in order to preside over the 1906 session which was to be held in Calcutta. The personal influence of the 'Grand old man of India' essentially sufficed to maintain unity within the Congress for some time, but it was not sustainable without making large concessions to the extremists.

The keynote of Dadabhai's address was Swaraj. He had been claiming it for some years past and others, notably Tilak, were reinforcing the demand, as the only solution for the ills of India, but this was not without making large concessions to the wishers of the extremists. The keynote of Dadabhai's address was Swaraj. He had been claiming it for some years past and others like Tilak were reinforcing this demand as the only solution for the problems and ills of India, but this was for the first time that the demand was made from the Congress session platform. It thrilled the audience present and the whole country and Dadabhai did not intend to repeat his previous lamentations, but was willing to look only to the future.

He said "What position did the Indian hold in the British empire? Were they British citizen or not? We do not ask any favour. We want only justice. Instead of going into any further divisions or details over rights as British citizens, the whole matter can be comprised in the one word Self Government or Swaraj, like that of the United Kingdom or the colonies."[26] "The next important question was whether it was practicable to grant Indians the rights of Self -Government at once and, if not, when and in what way. The whole machinery of Indian Government could not certainly be broken up and the system of Self-Government introduced all at once. The time had, however, arrived for the transfer to begin".

The resolution on the Self Government said:-

> "That this congress is of opinion that the system of government obtaining in self governing British colonies should be extended to India and that as steps leading to it, it urges that the following reforms should be

> immediately carried out: (1) Simultaneous examinations in India and England; (2) Adequate representation in the India Council and the Executive Councils Viceroy and Governors of Bombay and Madras; (3) Expansion of councils; (4) Extension of power of local and municipal bodies"[27]

Dadabhai, who had for more than half a century consistently struggled for the cause of India had full faith in the British sense of fair play and justice and expected that India's just claim for Self Government would be gracefully accorded, leaving aside and forgetting the past? He said, "I hope to see a loyal, honest, honorable and conscientious adoption of the policy of Self-Government for India and a beginning made at once towards that end"[28] On the concluding day of the Congress session Dadbhai remarked:-

> "The labours of the past fifty years have not been in vain. If Congress has had no other results, it has placed before us the "clear star" as Sir Campbell Bannerman would say, of Self-Government. I regard it as the best result of the political work during the past fifty years that we have now decided upon a goal"[29]

Dadabhai"s Presidential address was marked by reasonableness so characteristic of his previous utterances. The Grand old man, with half a century of service to his Motherland, pleaded for consensus and brought a hope to the country with the most determined demand for Self-Government or Swaraj. Thus, in the year 1905 we see how a new spirit of nationalism was born alongwith a keen desire to broad base national revival and lay the foundation of a freedom movement in India, a movement for Self-Government or Swaraj on constructive lines. A mere effervescent nationalism which was represented by eloquent speeches and resolutions was felt to be ineffective. Swadeshi and National education were now considered potent instruments for intensifying the struggle and in broadening the base and for it the partition of Bengal became trigger and the stimulating course. The boycott movement got a fillip from the people who had been motivated and stirred to their depths. The Swadeshi Programme and national education scheme were becoming sustaining forces in deepening the sense of nationalism and intensifying the desire for Self -Government. Dadabhai and the Indian National Congress now wanted 'Swaraj' or Self-Government to be not merely a slogan to shout for but also as an ideal to work for. The old spell had now been broken and people now spoke their minds freely and this psychological change essentially worked miracles in the coming years.

References

1 Report of Indian national Congress, Bombay Session 1885, *Naoroji's Speech.* P.41.

2 *Ibid.*

3 *Speeches and Writings of Dadabhai Naoroji*, II Ediion, 1886, G.A. Natesan and Company, Madras. P.109.

4 Report of Indian national Congress, *Op.Cit.*P.42.

5 *Ibid* .P.43.

6 A.M.Zaidi. *The Encyclopedia of Indian National Congress, Vol I. 1885-1890.*New Delhi, 1976.PP.138-144.

7 *Modern review Vol.XXXV.No.5* May 1919. P.530.

8 "India" April 25, 1890, Vol.I, No. 5. P.99.

9 R.P.Masani. *Builders of Modern India: Dadabhai Naoroji*. Govt. of India, New Delhi, 1960. P.311.

10 Famous Parsis, Natesan Company, Madras, 1930. PP.119-20

11 Report of Indian national Congress, 1892, Resolution XVI. P.44.

12 Famous Parses'. Op.cit. P.121.

13 KESARI" July, 12, 1892.

14 R.P.Masani., *Op.Cit.*P.341.

15 Ibid.,P. 34

16 *The Englishmen*. Jan, 1898, P.7

17 "INDIA". 2 December, 1898, P.207.

18 Naoroji to Dutt, 5,july1903.Qouted in S.R.Mehrotra, *A History of Indian National Congress,* Vol.1.Vikas publishing house, New Delhi, 1995. P.119.

19 Ibid. PP.199-20

20 R.P.Masani., *Op.cit* P.427.

21 Ibid. PP.428-29.

22 S.R.Mehrotra., *Op.cit* P.120.

23 R.P.Masani*., Op.cit.* P.438.

24 Ibid .P.438.

25 Ibid.P.493.

26 R.P.Nasani.*Op.cit.*P.500.

27 M.B.Rama Rao., *A short history of Indian national Congress*. S. Chand and Company, New Delhi, 1959, P.54.

28 R.P.Masani .*Op.cit*.P.501.

29 Ibid. P.505.

Importance of Party System in Democracy

- Vikas Singh

Democracy is a form of government in which people rule themselves directly or indirectly by electing their representatives. India has adopted parliamentary system of government with a representative democracy. In a parliamentary system of government along with legislative and executive interest groups, political elites and political parties play an important role. Political parties serve as the motive force in crystallizing public opinion, and as the unifying agency which makes democracy workable. They are the indispensable links between the people and the representative machinery of government. They are the vehicle through which individuals and groups work to secure political power and, if successful, to exercise that power. They make people politically conscious, that is, aware of their roles as citizens. The role cannot be performed simply by voting, but must be a continuous one if government is to be kept responsive to public interest. Thus, political parties are responsible for maintaining a continuous connection between the people and those who represent them either in the government or in the opposition.[1]

By a political party we mean a more or less organised group of citizens who act together as a political unit. They share, or profess to share, the same opinion on public questions, and by exercising their voting power towards a common end, seek to obtain control of the government. They constitute something like a joint-stock company, to which each member constitutes his share of political power. They are thus collectively able to acquire the strength which it would have been impossible for them, acting singly to obtain. In all except the autocratic modern governments

Vikas Singh, *Assistant Professor, Department of Political Science,*
Himachal Pradesh University, Shimla - 171 005, India Mob.: +91 94181 90194

this system of deliberate collective action supplies the motive power which keeps the wheels of administration moving.[2]

Parties are now found almost universally around the world; totalitarian or democratic, developed or modernizing, large or small. Modern nations have turned to the political party as an essential institution of the political system. Political stability and achievement of political goals are dependent upon the ordered behaviour of the masses of individuals composing the society. In primitive and traditional societies political behaviour, like all behaviour is determined by traditional norms. These norms generally limit participation in politics to a select few, and even their activities are curtailed by tradition. Traditional system often display a high degree of stability as they did in ancient Egypt and China, but the attainment of elite goals is strictly limited by the very tradition which binds the obedience of the masses.[3] The more centralized the power over decisions that most effect citizens the more incentive there is for political entrepreneurs to co-ordinate to form nationwide political parties, and for voters to vote for such parties and ignore state level parties.[4]

To bind the people together as a political unit there are certain level of agreement on fundamental principles in political parties. There should not be any kind of difference in opinion. This bondage of people on certain principles must be duly organised for formulation of a clear and specific programme so that they could place it before the electorate for their support. The political parties should seek to carry the programmes and policies according to the constitutional means and should always promote the national interest.

For the smooth working of democratic set up the political parties are very important. To carry the wheels of administration moving political party supply the fuel and strength and work as a motive power. Without political party organization there can be no unified statement of principles, no orderly evolution of policy, no regular resort to the constitutional device of parliamentary elections, nor of course any of the recognised institution by means of which party seeks to gain or to maintain power. Without party organisation there maybe factions and cables, there may be appeals and petitions to government, or again those leagues and convents, 'agreements of the people', manifestos and protests which flourished before the days of party control. But a political party seeks to do more than influence or support the government, it seeks to make it. It implies therefore some kind of parliamentary system on the one hand, and on the other a recognised electorate by whose vote, at stated intervals or on special occasions, the legislature is created. The primary business of a party is to influence and electorate which in turn has the right of determining government.[5]

This is the means through which the ultimate sovereign can control the government. Even not a part of the government machinery political parties play an important role in the functioning and making of the government. It is because of the existence of political parties that people are always in the process of making government and through it they express their views. These come into force with their common minimum agenda and programme. The political parties groups make their representative successful to capture power through the people in elections and make the authoritative allocation of values in their hands and make policies for the people in that state. Political parties are the link between the representative machinery of the government and the general masses. These organize the vastly diversified people by nominating candidates as a representative for the office and popularize the idea on which governmental policies are carried upon. Political parties make the people aware that man is a political animal; he is rational and capable of deciding about political matters. All are equal in this way. They make the dream clear that it is the people who govern the government and by political parties people come to know that it is the election through which a responsible government can be established. Political parties make it clear that only the will of people is sound and government should be based on the principle of majority.

The representation of the people derives their powers from the people and work in close co-operation with them. Political power is the trust of the people and it is in the hands of their representatives, and the object of government is to serve the common good and to facilitate people for the development in a various way. It also makes clear that the government is responsible to the people and people must have vigilant control over the government. It is through the political parties that people come to know that it is the duty of the government to protect the rights of the people and government should make people able enough to participate in politics for safeguarding their rights. The government must inform the people about the political decisions and the people must have the right of free expression of opinion. These are the ways through which political parties can fulfill their duty to keep up the moral aspects of democracy.[6]

Thus political party may be considered the specialized aggregation structure of modern societies. Political parties seem to emerge where the number and variety of interests being articulated becomes too great to receive satisfaction through informal interaction in a competitive system the party aggregates certain interests into a set of policy proposals, and then attempts to garner a victory at the poles to install decision makers who will use the previously aggregated policy structure as the basis for rule formation.

Hence political party activity may shape political culture in each of three dimensions: the cognitive, the affective, and evaluative. Even with increasing penetrative mass media, the informal personal lines of communication engendered by party activity can be important sources of information- accurate or otherwise- about national issues and problems, political elites and their conduct, channels of grievance and redress, and the means by which the individual may relate actively to this policy. In addition to its impact on cognitive and effective dimensions of political culture, the party can become a factor in determining evaluative orientations. Parties can supply both goals and criteria against which to measure existing political and economic realities.[7]

Thus political parties play a role of motive force in crystallizing public opinion. It is an unified agency which makes the democracy workable. An important link is served between people and the representative machinery of the government. Political parties work as a source through which individual and groups try to secure their political power and if successful then power is exercised by the representative of the political parties. Due to the impact of political parties people get awareness about surrounding activities of the government. There are circumstances when a large number of political parties are in the fight to contest election and to be the representative of the government. If a single party won the desirable majority in the house the party form the government to fulfill the election agenda and promises made during the election. The other political party which did not cover the desirable percentage of mandate to be the representative to form the government, if secures requisite proportion of votes to be a party in opposition, works as an opposition party. There are the circumstances when there is no hope to get desirable proportion of vote then two or more political parties contest the election on the common minimum agenda by making pre-poll coalition and if won run the government accordingly but if there is no any pre-poll coalition and if no any political party got the requisite set to run the government then post-poll coalition is also practiced by the party having some common minimum agenda and run the government. One among other political party who secured requisite seats to be a party in opposition is considered as a party in opposition. Same importance is given to the party in opposition like the party in rule. The opposition party offers a reliable, stable and accountable alternative to the majority in power. It works to ensure transparency, integrity and efficiency by supervising and criticizing the action of the government in public affairs and prevents the government to be authoritative and protect the public interest. In a democratic government the opposition party has a significant role to play by upholding the best interests of the people as an equally responsible. It checks the excesses of ruling party if it is antagonistic.

Apart from it the opposition party is expected to support the ruling party on the actions which are beneficial to the people. Opposition party act firmly on behalf of the people about their grievances and interest. The opposition party has full rights in democracy to get free and equal access of information like members of the majority party, have the right to inform public, can ask the questions from the executive members in parliament, can raise an enquiry if otherwise in any matter from the ruling party. Opposition party has the right to be consulted about any decision of the parliament. The members of opposition party can take part in the decision making bodies of the parliament as well as in law drafting process. In a democratic setup when people handover there right to political parties govern them, then it becomes the duty of the political party in rule or in opposition to perform its role by keeping the positive aspirations of the masses in mind so that the welfare of all the people could be made possible.

References

1. A.C. Kapur, Principles of Political Science, S. Chand & Co., Pvt. Ltd., New Delhi, 1987, P. 563.
2. Stephen Leacock, Elements of Political Science, Constable & co., London, 1924, P. 311.
3. G. A. Almond, G. B. Powell, Jr., Comparative Politics- A Developmental Approach, Oxford & IBH Publishing Co., New Delhi, 1976, P. 115.
4. E. Sridharan, The Party System, in Niraja Gopal Jayal and Pratap Bhanu Mehta, The Oxford Companion to Politics in India, Oxford University Press, New Delhi, 2019, P. 118.
5. R. M. MacIver, The Modern State, Oxford University Press, 1926, P. 396.
6. M.P. Jain, Political Theory- Liberal Marxian, Kaveri Printers, New Delhi, 1989, PP. 453-454.
7. G. A. Almond, G. B. Powell, Jr., Comparative Politics- A Developmental Approach, Oxford & IBH Publishing Co., New Delhi, 1976, PP. 102- 124-125.

Non-Aligned Movement and the Environmental Issues

- Yog Raj

Man and environment are inter-related. The environment influences the life of human beings and human beings also modify their environment as a result of their growth, dispersal, activities, death and decay etc. Thus all living beings including man and their environment are mutually reactive each other in a number of ways and a dynamic equilibrium are possible in between two i.e. human beings and environment. The interaction between environment and society depends largely on the social and political system.

Man is the worst offender in polluting our environment. Dumping of garbage all over the world pollutes it. The release of chemical wastes from factories into rivers and seas pollutes them. The impact of development on environment and the impact of environmental degradation on future development have attracted world-wide attention. Despite the world-wide efforts to slow down deterioration of the human environment the environmental degradation has been posing a real threat to every form of life on our planet. The negative effects of civilization and economic development on human environment are glaring. Environmental pollution has been spreading like an epidemic threatening both present and future generations.

The industrialization in the developed world has created the problems of environmental pollution, greenhouse effect, acid rain, toxic waste disposal etc. But the impact, of all this is more on the Third World countries than on the advanced countries. The Third World countries are not in a position to spend large amounts and develop counter technologies to prevent environmental degradation.

Dr. Yog Raj, *Assistant Professor, Department of Political Science, ICDEOL, Himachal Pradesh University, Shimla - 171 005, India*

Among all waste management has become a challenging issue that demands immediate attention. Inappropriately managed waste can attract rodents and insects, which can harbour gastrointestinal parasites, yellow fever, worms, the plague and other conditions for humans, and exposure to hazardous wastes, particularly when they are burned, can cause various other diseases including cancers. Toxic waste materials can contaminate surface water, groundwater, soil, and air which cause more problems for humans, other species, and ecosystems. Waste treatment and disposal produces significant greenhouse gas (GHG) emissions, notably methane, which is contributing significantly to global warming.

Waste management is important environmental issue. Many of the environmental burdens that threaten the cities and nations at large are more often than not borne by marginalized groups, such as racial minorities, women, and residents of developing nations. However, the need for expansion of waste treatment and disposal facilities is increasing worldwide. There is now a growing market in the Trans boundary movement of waste, and although most waste that flows between countries goes between developed nations, a significant amount of waste is moved from developed to developing nations.

Environmental problems received the attention of Non-Aligned Movement in the year 1972. The meeting of Foreign Ministers of the Non-Aligned countries in Georgetown in August 1972 addressed to the problems of environment and called for collective action. The Algiers Summit (1973) referred to cooperation between developing and developed countries in matters of environmental protection. Their developmental efforts need to be consistent and in harmony with environment.

The New Delhi Summit (1983) and Harare Summit (1998) noted that there had been a serious deterioration in the quality of the environment on our planet. It was felt that environment as a whole would be destroyed beyond repair, unless timely measures were taken.[1] NAM Countries seriousness towards environmental concerns is a succor, impels an understanding to work for its protection. It is pertinent to mention here that the Planet Protection Fund was first mooted by the late Prime Minister of India Rajiv Gandhi at the Belgrade non-aligned conference in 1989.[2]

In this Conference, NAM countries stressed the need of the international community to consider with utmost seriousness the degradation of the global life-support systems, primarily the process of water and air pollution, depletion of the ozone layer, soil degradation, desertification and deforestation. Further it was felt that developed countries, which bear the primary responsibility for damage to the

environment, must also bear the primary responsibility for global environmental protection which includes the provision of additional resources for developing countries. The conference noted with serious concern that changing global climate patterns threaten present and future generations with severe economic and social consequences and emphasized that necessary and timely action should be taken to deal with climate changes and their consequences within a global framework in conformity with General Assembly Resolution 43/53. The members in conference welcomed the measures taken under the auspices of the UN Environment Programme and called on all countries with experience in this field to assist United Nations Environmental Programme, regional environmental agencies and individual countries in their efforts to protect the seas and waterways of the world.[3]

NAM countries exhibited their unequivocal concern for environmental protection on every occasion. The United Nations Conference on Environment and Development the Earth Summit, held at Rio de Janeiro (Brazil) in June 1992, attended by 180 countries has been known to recognize the problem of environmental deterioration being faced by mankind, emphasized the need for unity of the non-aligned nations for survival of the eco-system, global life support, checking water and air pollution etc. It was observed that the environmental problems are mostly the consequence of the affluent developed world. Therefore, the Third World countries should insist on the developed North to bear the burden of environmental improvement. This Earth summit, however, lacked desired unity of views among the participating countries.[4]

The tenth Jakarta NAM conference (1992) welcomed the outcome of the Rio de Janeiro conference as 'it elaborated a new concept for international cooperation based on global partnership … which reaffirmed the principle of the sovereign right of states to use their own natural resources and the right to development for states and peoples'. It also emphasized for a new global partnership 'including the provision of new and additional financial resources to developing countries and adequate access for them to environmentally sound technology'. The conference stressed that the lasting solution to global environmental problems lays in sustainable development.[5]

Resounding the issue with vigour, NAM countries in its eleventh conference (1995) emphasized that the environmental problems are associated with unsustainable patterns of consumption and followed production adopted mainly by the developed countries rather than underdeveloped, poor and afflicting Third World countries, with technical and financial limitations. NAM members affirmed that the

protection of the environment and economic growth should mutually be reinforced, however, on the principle of common but differential responsibilities. The conference also emphasized the importance of biodiversity as a strategic wealth of the developing countries, on account of both its present or potential value, and greed that its adequate management and conservation are essential for sustainable development, especially in the most important areas of national economies such as forest utilization, agriculture, fishing, health, industry and tourism.[6]

Environment as an issue also attracted the attention of the world at the Earth Summit, New York (June 1997). Vindicating the NAM countries standpoint, summit emphasized that the developed nations had a responsibility to stop pollution and change their life-styles by changing their consumption habits, and restrict the release of toxic gases responsible for global warming, natural disasters leading to climate changes, flooding, soil erosion etc. Forestry development, water conservation and less use of petrol were essential in order to maintain a good natural environment. The developed countries were called upon to own the responsibility and take the lead role first and only then they could ask the underdeveloped nations to protect the environment. The non-aligned nations had been stressing upon the importance of clean environment and preservation of natural resources for a long time. The developed nations have also come to recognize this now although the United States continued to ignore the plea and refused to change its consumption behaviour.[7]

Obstinate endeavours turned into a major breakthrough at the International Conference on Global Warming in the city Kyoto, Japan (Dec. 1997). During this conference, the Kyoto Protocol Treaty was negotiated that came into force on February 16, 2005. It was an international agreement linked to the United Nations Framework Convention on Climate Change. The Kyoto Protocol is a legally binding agreement, if ratified, under which industrialized countries will reduce their collective emissions of greenhouse gases by 5.2% compared to the year 1990. The goal is to lower overall emissions from six greenhouse gases carbon dioxide, methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydro fluorocarbons (HFC_s), and perfluorocarbons (PFCs) calculated as an average over the five-year period of 2008-2012. National targets range from 8% reductions for the European Union and some others to 7% for the US, 6% for Japan, 0% for Russia, and permitted increases of 8% for Australia and 10% for Iceland.[8]

India and China which have ratified the Kyoto protocol, are not obligated to reduce

greenhouse gas production at the moment as they are developing countries; i.e., they were not seen as the main culprits for emissions during the period of industrialization thought to be the cause for the global warming of today.

The NAM countries expressed happiness and welcomed the Kyoto Protocol at its twelfth conference (1998) and called on the developed countries to undertake urgent and effective steps to implement the commitments through domestic action only, leaving the onus upon them by categorically rejecting all attempts of some developed countries to link their ratification of the Kyoto Protocol with the question of participation of developing countries in the reduction of Greenhouse gases emissions.

The NAM member countries acknowledged that the depletion of the ozone layer poses a serious threat to the whole world. The NAM members urged Parties to the Protocol to comply with its requirements, including those relating to the phasing out of the consumption of regulated ozone depleting substances, and assistance to affected producers in developing countries, and voiced to undertake immediate measures to provide the developing countries with necessary financial resources and clean technology to enable them to meet their existing commitments under the UN Framework Convention on Climate Change, including inter alia, inventorisation of national emissions and dissemination of knowledge of climate change.[9]

The NAM countries in its thirteenth conference (2003) welcomed the adoption of the Johannesburg Declaration and its plan of implementation during the World Summit on Sustainable Development (2002), and maintained that the Plan, which further builds on the achievements made since UN Conference on Environment and Development must be accompanied with the necessary financial, technological and technical support to developing countries to ensure its effective implementation. These countries also reiterated the need to promote the integration of the three pillars of sustainable development: economic development; social development; and environment protection, as interdependent and mutually reinforcing pillars.[10]

Followed by the fourteenth NAM conference in 2006, the member states expressed over the continuous deterioration and degradation of the unique eco-system of the Dead Sea and emphasized the importance of working progressively towards reversing this environmental catastrophe. Members in the conference drew attention of the international community to the need for international action to protect the Dead Sea and prevent any further environmental degradation of its eco-system through concessional grants.

NAM countries fifteenth conference in Sharm-El-Sheikh (September 2009) reiterated their standpoint and extended full support to U.N. efforts and called upon for all states to work expeditiously to come with an outcome within the framework of United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol. The members at this conference candidly observed that ocean and coasts provide valuable resources and services to support humankind and that the sustainable use of marine living resource will enhance global food security and increase resilience to climate change for present and future generations, and underlined the need to develop comprehensive adaptation measure to address climate related impacts on oceans and coasts, including through greater capacity building, enhanced scientific monitoring activities and to promote environmentally sound policies for integrated coastal and ocean management.

The NAM member Countries in its 16th conference in Tehran (2012) reaffirmed that climate change is one of the greatest challenges of our times, and expressed profound alarm that emissions of greenhouse gases continue to rise globally. They expressed their extreme concern about the increased adverse impacts of climate change particularly on developing countries, which are severely undermining their efforts to eradicate poverty and achieve sustainable development. The NAM Members reiterated that the UN Framework Convention on Climate Change and its Kyoto Protocol remains the central multilateral framework for cooperative action to address climate change. Further, the conference stressed the process of work under the UNFCCC must be open, party-driven, inclusive and transparent and strengthen multilateralism in order to achieve an agreed outcome as mandated by the Bali Action Plan based on the principles and provisions of the convention.

The conference also urged the international community to assist developing countries to address the adverse impact of climate change, particularly through new, additional, adequate and predictable financial resources that should not replace ODA, as well as, capacity building, and access to and transfer of technology on concessional and preferential terms. Further the Conference reaffirmed that developed countries' commitments to provide developing countries with finance and the transfer of technology for climate change should be carried out under the UNFCCC and conference of the parties, and in this regard welcomed the decision to undertake a work programme on long-term finance in 2012. In this regard the conference encouraged the intensification of South-South cooperation to support developing countries in addressing the impacts of climate change through technical cooperation and capacity building programs.[11]

The NAM member countries in its 17th conference in Venezuala (2016) underscored the fact that developing countries continue to suffer the most from the adverse impact of climate change, and the increasing frequency and intensity of extreme weather event and the impact of response measures, even though they are the least responsible for climate change. The conference reiterated that the United Nation Framework Convention on Climate Change and its Kyoto Protocol remains the central multilateral framework for cooperative action to address climate change. The conference further stressed that the process of work under the UNFCCC must be open, party-driven, inclusive and transparent and strengthens multilateralism through concrete decision on remaining work under the Bali Action Plan, a Plan of Work under the Durban Platform, the Doha Outcome, the Warsaw outcome, the Lima outcome and a Second Commitment Period of the Kyoto Protocol and its ratification.

In this conference, the NAM members stressed the need to urgently close the ambition gap, and expressed their deep concern with the lack of fulfilment of commitments by developed countries. In addressing this gap, focus must not only be limited to mitigation but also include gaps relating to adaptation, finance, technology and support for capacity building. The conference emphasized the importance of the Second Commitment Period under the Kyoto Protocol and underscored that developed countries must take robust and ambitious mitigation commitments, with ambitious quantitative emission limitation reduction targets, as required by science and mandated by the Convention. Further the conference encouraged all parties to the Kyoto Protocol to ratify and implement the Doha Amendment to the Kyoto Protocol.[12]

It is pertinent to write here that the preceding discussion reveals that despite much efforts, and conferences, treaties and agreements at the international level, the outcome is not substantial and pronounced. The whole debate of environmental protection lacks serious and prudent steps by all the states and stakeholders. Humanity cannot afford to let the problems aggravate further and is looking anxiously towards important players to come out of the narrow grooves and boundaries, to own the shared responsibilities by exhibiting a cosmic and all embracing outlook to save the nature from possible appalling destruction around the globe.

Notes and References

K.C. Arora, *Imperialism and the Non-Aligned Movement,* (New Delhi: Sanchar Publishing House, 1998).

Pramila Srivastava, "Non-Aligned Movement and Development" in Pramila Srivastava ed., *Non-Aligned Movement Extending Frontiers,* p. 11.

"Economic Development", *Review of International Affairs,* Vol. 40, No. 947 (4-7 September, 1989), p. 60.

Pramila Srivastava, "Non-Aligned Movement and Development" in Pramila Srivastava ed., *Non-Aligned Movement Extending Frontiers,* p. 11.

Sally Morphet, "The Non-Aligned in 'The New World Order': The Jakarta Summit, September 1992", *International Relations,* Vol. 11, No. 4 (April, 1993), p. 366.

"XI Summit, Cartagena 1995," Final Document, http://www.nam.gov.za/xisummit/chap3.htm, accessed on January 10, 2019.

K.C. Arora, *Imperialism and the Non-Aligned Movement,* p. 72.

"Providers and Research involved in the effort to understand and deal with climate change", http://www.kyotoprotocol.com, accessed on May 6, 2020.

"XII Durban Summit, September, 1998", Final Document, http://www.nam.gov.za/xiisummit/ chap3.htm#Environment, accessed on May 11, 2020.

"Kuala Lumpur 2003", Final Document, http://www.google.co, accessed on, Junr 25, 2020.

"XV Summit of Heads of State and Government of the Non-Aligned Movement", Final Document, http://www.namegypt.org/en/RelevantDocument, accessed on June 22, 2020.

16th Summit of Heads of State or Government of the Non-Aligned MovementTehran, Islamic Republic of Iran August 2012, " Final Document", http://mea.gov.in/image/pdf/final-document-of xvi-nam-summit.pdf, accessed on June, 2020.

Role of Queens in Protection of Natural Resources in Western Himalayan Region

- Reeta Devi
- Anjali Verma

Natural resources are resources that exist without actions of humankind. This includes all valued characteristics such as magnetic, gravitational, electrical properties and forces etc. On Earth it includes sunlight, atmosphere, water, land (includes all minerals) along with all vegetation, crops and animal life that naturally subsists upon or within the here to fore indentified characteristics and substance.

In ancient times the queens also accompanied the kings increased participation in the protection of natural resources.

Today when the whole globe as a village is serious on the issue of protection of resources of Mother Earth, the history of Western Himalaya remained witnessed part of. We get literary and inscriptional references of few queens, named and un-named, who got constructed and renovated ponds, bowries water reservoirs and kuhls for water-supply, irrigation and public welfare.

We get information on many royal houses or princely states in Himachal Pradesh during early medieval period to colonial period like: Chamba, Kangra and Sirmour.[1]

Rita Devi, *Research Scholar, Department of History, Himachal Pradesh University, Summerhill, Shimla-5 Mob: 8580465688.e-Mail: kundal92reet@gmail.com*
Anjali Verma, *Assistant Professor, Department of History, Himachal Pradesh University, Summerhill, Shimla -5 Mob.: 8130333540.e-Mail: verma.anjali11@yahoo.com*

Chamba

Suhi Mela- The legend hold that Raja Sahila Varman was founder King of Chamba town 10th century A.D. Yogakar Varman the son and successor of Sahila Verman mentions his mother's name in the only copper plate of his reign which has been founded. It was Nenna Devi. At the time of establishment of Chamba town it is said to be that there was a lot of water problem. Rani Nenna Devi sacrificed herself to remove water scarcity in Chamba to honour this sacrifice in Chamba the fair is held in memory of queen which is known as Suhi Mela.

A mela was to be held yearly, from the 15th of chait to the 1st of Baishakh, and is attented only by women and children, who in their turn sing the Rani praises and present their floral offerings. In memory of her devotion a small shrine was afterwords erected by her husband on the spot, at the top of the present flight of steps, where she is said to have sat down to rest.[2]

Fountain stone slabs of Chamba

The fountain stone slabs of Chamba are not necessarily memorials to the dead but a few of them might have been erected for the sake of the living or even for one's own self fearing with the fear of existence. The erection of the fountain slabs opens of the gate of the heaven for the donor and donee both. And there are many Lokas of which the fountain stone slabs speak of. The donor may prefer one heaven to the other. The very illustrious Ludrapala of Sali, the queen the illustrious Delha erected a fountain stone slab for the sake of Shivas heaven in order to gain the other heaven of Vishnu for the sake of paradise.

Raj Naun

The royal fountain house of chamba is located at the foot of the Shahmadar hill near the eastern end of the down. Though the site is ancient, the present fountain house was commissioned by Rani Sharda, the pious queen mother of Raja Charat Singh of Chamba 1808-1844 A.D. in the year 1824 A.D. In the gazetteer of Chamba the smaller fountain is called Panihar for drinking water and larger Naun for bath. The erection of a Panihar and Naun was regarded as an important and auspicious occasion and was accompanied by certain religious rites.

Its water spout the Makara Parnalas which once qusted forth water in full torrents have long since dried up their water are now collected high up in reservoirs built in the mountains.[3]

The legend hold that Raja Sahila Varman, the founder king of Chamba town had to pay a heavy price by sacrificing his queen to appease the water spirit who were

causing obstruction in the flow of water to the fountain house. The queen voluntarily offered herself for sacrifice and was buried alive on the other site of the valley named sarotha (SKT) Statora-the source.

The sacrifice of queen of Chamba not only indicates bent of mind but also a sung feeling of public welfare without taking into consideration personal motive. These sacrifices of queen, though indirectly, has certainly helped Chamba to be a water/ natural reservoir sufficient state.[4]

Kangra

The reign of Raja Ghumand Chand 1751-1774 A.D. marked the ascendancy of Katoch rule. In the mid-eighteenth century the Mughal Empire was preoccupied with suppressing Marthi attack from the south and the Sikh revolt in the Punjab. Raja Ghumand Chand took this opportunity to wrest control of many of the former territories of Kangra fort. He also founded Sujanpur at the conflunce of the Neugal and the Beas rivers, which bcame the seat of Katoch political power. Ghumand Chand's Rani sponsored the construction of a 12 miles long Kuhl know as Raniya Kuhl. Although subsequently destroyed by a flood, its repair was later sponsored by Rani of Sansar Chand who linked the Kuhl's repair to religious patronage.[5]

Contribution to the protection of natural resources of Queens of Sirmour:

The King Vijay Prakash reign has been from 1713 to 1736 A.D. He was married to Rani of Kumaon. He was the son of Bhup Prakash and throned in 1713 A.D. The Raja was highly religious and was a worshiper of Kali. He was also inspired by his Rani to construct a big tank at Nahan to overcome the shortage of water in Nahan twon.

The Fateh Prakash reign had been from 1815 to 1850 A.D. He was married to Rani of Kahluri. There is a pagoda and bowrie about a mile from Nahan, famous by Jodi Bai. They were built by Kahluri Rani.

The King Shamsher Prakesh reign has been from 1856 to 1898 A.D. The King built a pagoda in memory of his queen Kutlani. There is also a raw pond and garden at this place, which has a well, it is made rani Kutlani.[6]

Maharaja Amar Prakash assumed the Gaddi on the death of his father in July 1911. He was married in eldest daughter of Deb Shamsher Jung Bahadur of Nepal, the Maharani who was distinguished for her high education, sharp intellect, polished manners and charitable disposition. He was blessed with one son and two daughters from the Maharani. After this one of the maharani's daughter Mahima Kumari Devi died in 1929. The Mahima Library which owes its origin to the munificence of the

Maharani, was constructed in 1930 and stands as a memorial after her name.[7]

Maharaja Rajendra Prakash and his mother-in-law Mandalasa Devi has raised many subjects by the books of literary works, gave the library prosperity library status was also given. [8]

It can be concluded that, early Medieval to Modern times Queen and princesses contributed a lot in the history of Himachal Pradesh. Queen of Chamba, Kangra and Sirmaur played on role protection of Natural Resources in Western Himalayan region.

Notes and References

1. Mark Brentnall, *The Princely and Noble Families of the Former Indian Empire*, Vol.1, Indus publishing company, New Delhi, 2004, p.7
2. *Gazetteer of the chamba state 1904*, Indus Publishing Company, New Delhi, 1904, p.73
3. S.M. Sethi, Hari Chauhan, *Fountain Stone Slabs of Chamba*, Literary Circle, 2006. p.16
4. Ibid.19
5. J.M Baker, *Communities, Network and the State: Contiunity and change among the Kuhl Irrigation System of the Western Himalayan*, Asia Publishing House, New York , 2001,p.89.
6. Kunwar ranzor singh, *Sirmour Riyast ka Etihas,* Himachal kala Sanskriti Bhasha Academy, Shimla,2007, p192
7. *Gazetteer of Sirmaur state* 1934, Indus Publishing Company, New Delhi,1934, p.20
8. Acharya Chandramani Vashihtha, *Sirmaur ke aakheri tajadar Maharaja Rajender Prakash*, Aggarwal Printers, Paontasahib, 2006,p. 25.

Minority Rights in Europe in View of Hijab Controversy

- Bhawna Sharma

Introduction

Since 9/11, Western Europe's growing Muslim population has been the focus of debate on issues ranging from immigration policy to cultural identity to security. Several incidents in recent years have increased tensions between some Western European states and their Muslim populations: the 2004 Madrid and 2005 London attacks, the 2004 ban of the head scarf coupled with recent calls to ban the "burqa" in France, the 2005 Paris riots, the 2006 Danish cartoon incident, and several high-profile murders.[1]

Despite signs that Muslims are beginning to succeed in business and academia in countries such as France and Germany, many analysts say most of Western Europe's Muslims are poorly integrated into society. They cite closed ethnic neighborhoods, high crime rates in Muslim communities, calls for use of sharia law in Europe, the wearing of the veil, and other examples as evidence of a conflict with European values.

A system of belief and worship of a creator and governor of the universe; the state of being concerned with the soul, mysticism prayer and other intangible matters in relation to the physical world is paradoxically both deeper and higher. Tariq Ramadan, Oxford University scholar wrote in the *Christian Science Monitor*: that "Over the last two decades Islam has become connected to so many controversial debates ... it is difficult for ordinary citizens to embrace this new Muslim presence as a positive factor."[2] Fears over a possible major demographic shift toward Islam as

Bhawna Sharma, *Assistant Professor, Department of Political Science,*
Himachal Pradesh University, Shimla - 171 005, India
Mob.: +81188 59096, 90015 40521 E-mail: drbhawnasharma@yahoo.com

well as ongoing Muslim assimilation problems highlight the continuing divide between Europe and its Muslim population.

Islamic Populations in Europe

After II World War, as the Europe was devasted and dilapidated, Western Europe welcomed a large number of immigrant labor force to help rebuilding Europe. Later more immigrants were admitted meeting rapid economic growth, allow family reunification, and provide asylum. At first, concerns over the influx of workers from other countries were "largely about race and ethnicity," The rise of Islamic regimes after the Iranian revolution in 1979 and more recently the increase in terrorism has called attention to the fact that many of these immigrants were not only ethnically different but also Muslim.[3]

Western Europe has experienced an increase in immigration from all around the globe in the last decade. About a total of 18.5 million registered non-EU nationals and an estimated 8 million illegal immigrants living in the European Union.[4] This number of an estimated illegal immigrants in Europe according to Pew Research Center is in between 3.9 million to 4.8 million in 2017. It is unclear what percentage of these immigrants are Muslim. As the EU does not track statistical data on religion. The EU countries with the largest percentages of Muslims are France at an estimated 8 percent, Netherlands estimated at 6 percent, Germany at 4 percent, and the United Kingdom at 3 percent of the population. And Muslim populations exceed 20 percent in some major EU cities.[5]

The total Muslim population, including immigrant and native born, in Western Europe is about 20 million of the EU's 500 million residents Muslims in Europe are working hard to try to find ways to educate their own communities and talk about the balance between being Muslim and Western, not Muslim or Western.[6]

The Hijab Controversy

Hijab is a Muslim headscarf which literally means "to cover". Muslim women wear different kinds of hijab as part of their Islamic dress and this headdress worn by Muslim women, become the prominent symbol of presence of Islam in Europe. Adhesion to hijab has led to political debates and disputes especially in Western Europe. Muslims differ as to whether the hijab is required in public, as it is in countries like Iran and Saudi Arabia or it should be banned, as it is in France and Turkey; or whether it should be left for the women to decide.

The hijab has divergent legal and cultural statuses in numerous countries. At present there are about seven nation-states, including France, have banned the wearing of all visible religious symbols in public spaces. But France become the

first European country to ban on full face veils in public places. Since 11th April 2011 it is illegal to wear all kinds of visible religious symbols including hijab in public schools and universities or government buildings.[7] Veils, Scarves and other kinds of headwear that do not cover the face remain unaffected by the law.

Since 1981 in Tunisia[8] and 1997 in Turkey[9] which are Muslim countries even though they have banned on hijab in public schools and universities or government buildings. Both these countries lie in region of North Africa and West Asia respectively. Although small part of Turkey lies in Southeastern Europe but the most of its region lies in West Asia. In addition to this turkey is not a member of European Union till date and its joining in European Union is a dream plan for Turkey since decades. In other Muslim nation- states such as Morocco,[10] hijab is seen as a sign of political Islam or fundamentalism against secular government.

European Commissioner from 2004 to 2008 Franco Frattini gave the first official statement on the issue of prohibition of Islamic dress in November 2006 that he did not favour a ban on the burqa,[11] the reasons given for prohibition differ. Legal bans on hijab are usually justified on security concerns, as an anti-terrorism measure.

Ayaan Hirsi Ali activist, politician and writer of the book “Infidel” which was the global best seller of 2006. She advocates secularism and equality of women including the values and standards of 'Enlightenment liberalism'. She looks wearing of hijab as incompatible with Western values in contemporary times. Further she considers that Western Enlightenment values require prohibition, regardless of whether a female has chosen Islamic dress by her will.

Islamic dress is also seen as a symbol of the existence of parallel societies and failure of integration. Tony Blair who served as British Prime Minister from 1997 to 2007 described hijab or veil as a "mark of separation" and it makes other people feel uncomfortable.[12] As these evident symbols of a non-Christian culture appears as conflicting with the national identity in European states, which accepts a shared culture that is non-religious. When Veils are banned in educational institutions in Britain and the Netherlands then it is justified as since eye-to-eye contact and face-to-face communication is required in specific professions such as teaching. As when females are isolated behind the burqa, they are unable to communicate with the world around them.

The Danish government in May 2008, decided that judges in courts should practice for political and religious neutrality. For this justification they would no longer be allowed to put on any kind of visible religious symbols, which includes crucifixes, kippot and head scarves.[13]

Nicolas Sarkozy served as the President of France from 16th May 2007 to 15th May 2012. He said on 22nd June 2009 that burqas are "not welcome" in our country. Sarkozy further added "we discard that women be prisoners behind a screen, cut off from all social life and deprived of all kinds of identity,"[14] and finally in France it is concluded that women should be restricted to wear the burqa when accessing public services. According to the French ban on full length Islamic veils, it is now illegal to wear the burqa and hijab in France. If a woman wears, she must pay the fines of 150 euros. If a man forces his wife to wear burqa, in that condition he has to pay the fine of 30,000 euros, with up to one year in prison. This fine and punishment may be doubled if someone forces to a female who is under eighteen years of age.

Berlin, the largest city both in area and population banned all religious symbols in public institutions, including the Christian crucifix, kippot, head scarves and the Jewish yarmulke.[15] Eight states of Germany out of total sixteen ban wearing of hijab; a religious clothing by female teachers with an exception for Christian symbols and clothing: means they prohibit only Muslim teachers from wearing the headscarf, but allow Christian teachers to wear head clothing, such as the nun's habit. Many people moved to court regarding this discrimination they argue that selective ban violates European Union Equality regulations and it is against European Convention on Human Rights. Two 18-year old students, one Turkish and another Kurdish at school in Bonn appeared in a burqa then they were suspended from school. The reason given behind suspension is that they were "disturbing the peace." These two were investigated by the intelligence service, they were suspected of contacts with others who may be a threat to peace and security.[16] This incident exemplify the sensitivity in schools of Germany as for Islamic dress. Women in burqas are not allowed to drive for road safety measures. The Federal Transport Ministry confirmed that in practice means a de facto ban already exists.[17]

In Italy Christianity is widely practiced religion and then Islam is the second widely practiced religion even the number of Islam follower is less than 4% and, in this percentage, large contribution is of people who immigrate in the last two decades. Otherwise population in Italy is traditionally Catholic. The Hijab controversy has become a national political issue, usually in combination with other Islam-related issues, such as new mosques, raising heights of mosques and the teaching of the Quran in schools.

Kosovo is a secular country which unilaterally declared independence from Serbia in 2008. Out of the six states with partial recognition in UN, Kosovo is one of them. The government of Kosovo also banned the headscarf in schools in late 2009. This

arouse protests in the capital Pristina by about 5,000 people in June 2010.[18]

In Netherlands during February 2007 there was polling over the issue of banning burqa. The result of the opinion poll indicated that 66 percent support a ban and 32 percent oppose it.[19] Finally a "burqa ban" came into force but headscarves is not included in this ban as the face is still visible in scarfs.

In Norway there was no ban on Islamic dress, in March 2010, a ban on the burqa and niqab in public places was finally proposed in the Norwegian Parliament by the Progress Party. [20] Finally a ban on burqas and niqabs come into force in schools of Norway in June 2018 but many people described it as unnecessary.

No, laws exist in the government of Spain restricting Islamic clothing. At the local level, the city governments of northeastern Barcelona and some neighboring town councils have banned the wearing of face-covering outfits in public buildings such as town halls and hospitals. The Spanish parliament rejected a proposal to ban burqas in July 2010. [21]

UK Independence Party (UKIP) is a right-wing party. This party always focus on national identity because of this fact some people regard it as Racist Party. As this party advocated Brexit so usually people call this party as "Anti-Political Establishment" party. Former UKIP leader Nigel Farage has said that full veils are a symbol of an "increasingly divided Britain", that they "oppress" women, and are a potential security threat.[22] The legal status of Islamic dress in schools was clarified by the Shabina Begum case, where the Judicial Committee of the House of Lords ruled that freedom to manifest religious beliefs was not absolute and could be restricted.[23]

Veils also cause problems in the fight against crime. A man wanted, on terrorism charges is also believed to have dressed up in a Burqa, a garment which completely covers the body and face, in order to escape from the police.[24] It is true that use of burqa gives woman a huge disadvantage economically and socially as they lose their visible identity in society which means they are unemployable, unfit to engage in most healthy forms of social interaction in society, on the street, at parties, and generally anywhere, where visible identification is important. It makes impossible for them to exercise and deprives them of adequate sunlight.

Some women say that they put on veil by them on choice, but it is the fact that this choice is commanded by a fundamentalist religious-cultural context. These religio-cultural contexts originate from Afghanistan, Saudi Arabia, Pakistan, and Jordan, where burqas are almost universally worn. This is where women are not able to leave the house without their husband's permission and with a burqa on,

and where they are often not allowed to work, drive, and engage in socially meaningful lives. Burqa ban protects women from pressure to wear it. On the contrary burqa is individual commitment to modesty not oppression. The wives of the prophet wore the burqa and some women wear burqa to emulate wives of Prophet Muhammad. One more thing, a ban on of the burqa would likely prompt women to hold on to it tighter.

Terrorism is the only act which caused Islam to decline and because of that people began to conclude that Islam hinders worldly success. The general attitude of EU citizens towards minorities shows an ambivalent picture. There are signs of both positive and negative developments. It is of course too early to draw general conclusions, but research shows that politicians, other opinion leaders and future experiences will play a key role in influencing the future orientation of the public opinion. Countries across Europe wrangle over the issue of burka and the hijab, which covers the body or the face apart from the eyes. The heated debate grounds on religious freedom, minority, secular traditions, female equality, assimilation of ethnic and religious minorities, multiculturalism in Europe and the scariest aspect; terrorism.

References

1. Toni Johnson: senior staff writer, Europe: Integrating Islam, updated - Dec. 2009, P.1
2. Tariq Ramadan: Oxford university scholar, Christian science monitor, updated - Nov. 2009
3. Ceri Peach; A professor of social geography at Oxford University in a 2007 report from the center for strategic and international studies.
4. The European Union's; June 2009, strategy report on immigration.
5. 2008 Brookings study
6. Farah Pandith US, envoy to Muslim communities.
7. French MPs back headscarf ban BBC news retrieved on 13th Feb. 2009
8. Abdelhadi, Magi Tunisia attacked over headscarves, *BBC News*, September 26, 2006. Accessed June 6, 2008.
9. Turkey headscarf ruling condemned Al Jazeera English (07 June 2008). Retrieved on February 2009.
10. Richard Hamilton (6 October 2006) Morocco moves to drop headscarf BBC News (BBC). Retrieved on 13 February 2009.

11. European Commissioner Franco Frattini; Reformatorisch dagblad: *Brussels* against burqa ban, 30 November 2006.
12. Tony Blair's concerns over face veils BBC News Online. October 17, 2006.
13. Prime Minister Anders Fogh Rasmussen, "Ban on religious symbols in courtrooms", Jyllands Posten, 14 May 2008.
14. *Nicolas Sarkozy says burqas are 'not welcome' in France*, Breitbart, 22 June 2008
15. Zeit online: Countries thing: the eternal dispute over the headscarf, 31st October 2006.
16. Rheinische Post: Burqa ban-Turkish women expelled from school 29 April 2006
17. Netzeitung: No Burqa behind the wheel, 14 June 2006.
18. "Headscarf ban sparks debate over Kosovo's identity" BBC News by Mark Loewen, Pristina, 24 August 2010.
19. J. Jerome; Christian Democratic Appeal (CDA) wants total ban on veil in class; 29.01.2003
20. David Lande; "To remove the burqa from the public", 4th March 2010 linked with progress party (Norway).
21. Arab News, "Spain rejects proposal to ban burqa", July 21, 2010.
22. https://www.bbc.com/news/world-europe-13038095
23. Judgments R (on the application of Begum (by her litigation friend, Rahman)) (Respondent) v. Head teacher and Governors of Denbigh High School (Appellants), 22 March 2006.
24. Sean O' Neill and Anthony Browne; The Times "Suspect in terror hunt used veil to evade arrest", October 9, 2006.

Feminism in India : Evolution Over Time

- Snigdha Bhatt

The present paper looks at the rise of feminism and its emergence through the writings of various women writers in India. There has been a close link between the rise of feminism and its emergence through women writings all over the world, each inspiring the other. Every woman writer in India has developed her own brand of feminism while keeping with her philosophy and vision of life, thus making the Indian feminism a heterogeneous rather than a homogeneous phenomenon. Feminism is an intricate blend of a number of cultural and political theories, movements, philosophies, and concerns which on one hand raises a voice for equal rights to be given to women while on the other hand it also raises voice against the gender inequality prevailing in the society. Like many other movements, feminism in the 19th century emerged as a social reform movement.

In the post-Independence era initially, no programs were designed specifically aimed at women, since the main concern was the economic growth which was followed by issues of alleviation of poverty amongst the weaker section or the poverty-stricken population of the country. During this time, the idea of western liberalism was being translated into a social reform movement. A large number of NGO's came forward during this time taking up the issues of child marriage, girl child education, dowry, Dalit and marginalised women, political and social participation of women in the society etc. It is through these initial struggles that a feministic movement came into prominence thus bringing up the women issues to a visible spectrum of the common public. As a result, Gender Studies centres were set up which represent the long history of women's movement in India. The important

Snigdha Bhatt, *Department of Public Administration,*
International Centre for Distance Education and Open Learning (ICDEOL),
Himachal Pradesh University, Shimla 171005 (HP), India E-mail: snigdhabht9@gmail.com

issues of gender inequality, equal rights etc have been discussed in detail in the present manuscript.

Keywords: Feminism; Women's Movement; Women Writers; NGO's; Gender Studies.

INTRODUCTION:

The present paper aims at the rise of feminism and women's movement and what doing gender has entailed in the Indian context. The relationship between the women's movements and feminism is a close-knit affair so much so that one cannot be understood independent of the other. In the Indian context, while the women's movement is a much earlier phenomenon, the term Feminism is a modern one. Feminism is concerned with equal rights for women comprising of a number of social, cultural and political movements, theories and moral philosophies. Basic definition of Feminism or Feminisms can start with the assertion that at its very core are the concerns of women for their subordinate status in society and the discrimination encountered by women merely because of their gender.

Although women have been presented differently in various Literatures of the world since time immemorial, however, the representation of women and womanhood got a whole new definition after entry of women writers in the scene. These female writers have given a new meaning to self-assertion and establishment of identity of women by redefining the pre-existent norms that were set for them by the patriarchal society. The Indian female writers, through their writing in English, have advocated the cause of womanhood by establishing their own brand of feminism.

When talking about feminism, the names of writers like *Virginia Woolf, Simone de Beauvoir*, *Adrienne Rich*, and *Elaine Showalter* come to one's mind. These women started the task of theorising the needs of women in a society where the inner feelings of a woman should be voiced out loud and bold. Hence the idea of feminism is usually attributed to western influence.

Having said so, yet history cannot be seen and understood in monolithic universal terms as it would lead to overlooking the differences in culture. The needs of women living in different countries are conditioned by several factors like societal, racial, marital, economic, cultural and individual consciousness. Thus, it can be seen that due to these differences in circumstances, feminism can be termed as multicultural and diasporic. It would be therefore wrong on our part to associate Indian feminism with western feminism as there is a diversity of context.

The term *Feminism* is a modern one as compared to *women's movement* which was

a much older phenomenon. The term Feminism seems to have been first used in 1871 in a French medical text to describe a cessation in development of the sexual organs and characteristics in male patients who are perceived as suffering from "feminization" of their bodies (Geneviève, 1995). The term was then picked up by Alexander Dumas, a French writer, republican and anti-Feminist to describe women who behaved in a supposedly masculine way. With the emergence of Women's right movement in United States of America with the *Seneca Falls Convention* of 1848, the term became widely used worldwide. The writings of writers like Elizabeth Cady Stanton and Mary Wollstonecraft then followed, which questioned many injustices met out to women. Even now, many were not ready to be identified as feminist as they did not relate their struggles for women rights with the term feminism. Hence the term Feminism emerged long after the women started questioning their inferior status and demanding an amelioration of their social position. They believed that it failed when the focus shifted from *"the society to the individual"* and so thought to favour politics rather than its anti-capitalist roots. Today, feminist as a term is understood to denote a political stance when someone is committed to changing the social position of women.

In India the works of writers like *Mahashweta Devi, Ismat Chughtai, Amrita Pritam* and *Kamla Das* by analysing the female protagonists, presented to us through their writings a picture of different struggles of women in India. These stories are presented as a mirror for different cultures and societies, that beautifully co-exist and blend into each other, forming the Indian society as a whole where the protagonists struggle to assert their individuality and establish their self- identity in a male- dominated socio-cultural set-up. These writers in their own way have acted as a collective voice for the women and discrimination against them, they often raise their voice against social and cultural practices that restricts their freedom. In most of the cases, the writings are in a confessional and personal note, where their composition acts as a social document as they are themselves both sufferers as well as the agents of social revolution.

Prior to the emergence of women writers, the novels were focused on the social and political issues of the society. The novelists presented more or less, the similar stereotype description of women characters- showing them either as self-sacrificing angels and scape-goat for the sake of their family and near and dear ones or as vamps. These novels merely put forward an image of women which was analysed and evaluated from the point of view of men. After independence, many women writers tried to represent the real experiences, feelings, sufferings and

emotions of women, by coming into the literary circuit. The concept of womanhood acquired a new dimension in the works of these women writers as they tried to reveal the inner psyche, feelings, longings and actual experiences of the Indian women. Womanhood has now become an assertion of their individuality as women without being defensive for or apologetic about being a woman. It has now become more about evaluating their status in relation to the traditional patriarchal society and their real problems, real dreams and real aspiration. It is about their yearnings for liberty and getting more rights. It is also about rebellion or at least about protest against the male-chauvinist mentality. Still we must say that women writers necessarily need not be anti-men. They are just against unjust male-dominance and prevailing patriarchy. They want to be equal players in socio-cultural development by achieving their rightful place in society.

When talking about feminism one can clearly divide it into three waves. The pattern of different waves is similar to tidal movement of water characterised by cycles of swelling, eventual cresting and final subsiding forming a pattern of rise and fall over time. The first wave was concerned with gaining equal rights for women particularly the rights of suffrage. In Britain the Suffragettes campaigned for the women's vote. In 1918, the Representation of the People Act 1918 was passed granting the right to vote for women over the age of 30 who owned houses. In 1928, this right was extended to all women aged over eighteen (Melanie PHILLIPS, 2004). The second wave was centred around women's inequality in all fields, be it in terms of political rights, sexuality, work or in the areas of family. Second-wave Feminism existed continuously and still continues to coexist with the third-wave Feminism.

In second-wave feminism, cultural and political inequalities were seen as inextricably linked to each other. The movement encouraged women to understand aspects of their own personal lives as deeply politicized, and reflective of a sexist structure of power. If first-wave feminism focused upon absolute rights such as suffrage, second-wave feminism was largely concerned with other issues of equality, such as the end to discrimination. Carol with her essay "*The Personal is Political"*, coined a slogan that became synonymous with the second-wave and was related to the women's liberation movement (Ellen Carol DU BOIS, 1997).

The failures of the second-wave gave rise to the third wave of feminism which started during early 1990s and continues even in the present times. The backlash against movements and initiatives created by second-wave also responded in the rise of the third-wave. The second-wave's *"essentialist"* definition of feminity

relying more on the experiences of upper middle class white women was challenged by the third-wave feminism. The ideology of third-wave feminism revolves around post structuralist interpretation of gender and sexuality. Third-wave feminists challenge the second-wave's paradigm as to what is, or is not, good for females focusing more on "macro-politics".

The term post-feminism is often used to describe different view-points reacting to feminism. One of the earliest uses of the term was in "Voices of the Post-Feminist Generation", article of Susan Bolotin's 1982 published in *New York Times Magazine*. This article was based on a number of interviews with women who largely agreed with the goals of feminism, but did not identify themselves as feminists (Ruth ROSEN, 2000).

The rise of feminism and women's movement in the Indian context can be seen in two distinct phases, i) the pre-independence era and ii) the post-independence era.

In the Indian context, more distinct divisions can be paralleled with that of the rest of the world. We can divide the pre independent era into two phases and post-independence era into a single phase:

1) Pre-independence era
   i) First Phase (1850 - 1915),
   ii) Second Phase (1915 - 1947)
2) Post Independence era
   iii) Third Phase (1947 - Present)
   This third phase can be further sub divided into three sub-phases :
   i) The Period of Accommodation (1947 - 1960s)
   ii) The Period of Crisis (1960s - 1975)
   iii) 1975 - to date

As a part of the women's movement women studies centres were set up. The women studies aim at providing information about the lives of women which would one day end the gender inequalities and subordination of women. This is more like an offshoot of the society's concern towards the problems and position of women. It critiques the existing knowledge forms to show how and why women's lives, views and perspectives remained largely hidden in the existing academic disciplines. It can also be seen as the failure of social scientists to enquire into women's issues, their lack of questioning of the assumptions, theories and tools of analysis borrowed from the West and to bridge the glaring gaps in data that can help to change the orient policy and also the definition of the orient as given by the occident.

This happened because of the Social Scientists and educational planners who did

not find it to verify the concepts and methodological approaches in terms of the social reality obtained in India. Women's Studies thus started as part of a larger social movement and the growing social concern among few academicians with the widening issues of poverty, unemployment, inequality and under-development. Its aim gradually evolved into bringing about greater knowledge on the social basis of women's inequality, their marginalization in development and their exclusions from centers of powers and power structures. In nutshell, the evasion of the women's question or the unsatisfactory treatment of this issue was a major cause that simulated a yearning for the subject.

The introduction of Women's Studies in the University system has been a path breaking event for social scientists and other scholars who want to see a comprehensive and balanced presentation of our social reality. Women's Studies is viewed as an instrument for social and academic development that will help the University community and the society at large acquire a better understanding of the multi-dimensional roles played by women and look into the reasons for gender disparity (PANDE, 2004a, p. 54).

Hence, to conclude, in India, what framed the background for the struggle behind gender equality and paved a way for women's empowerment in the form of women voices being heard and their problems seeing the light of the day was women's movement. In its initial phases, it was the enlightened males of the Indian society who had imbibed the liberal ideas of women's freedom. Until 1920s, the women followed men who raised the issues of women's rights giving a direction to the future struggle that had to be done in the direction of gender equality and equal rights. Women themselves for the first time raised their voice against the oppressive attitude of the society towards them only after Gandhi ji's entry into politics, when the *Nationalist Movement* under his leadership was transformed into a mass movement from initially a middle-class movement.

Women not only questioned the cause of their suffering but also their struggl against both the British rule and the Patriarchy that was deep imbedded in the society. They were fighting on two fronts: on one front against a foreign rule in favour of independence for their country and on the other hand, against the orthodox mind-set of people for their own independence. In the process, women secured many rights, social freedom and realized many other rights as grants. All this led to providing a stage for the women's issues and making them more visible which in-turn contributed immensely to women's struggle for equal status in the society.

References

Banerjee, Narayan. *Grassroots Empowerment*. Center for Women's Development Studies, New Delhi, 1991.

Forbes, Geraldine. *Women in Modern India*. Cambridge: Cambridge University Press, 2000

Fraisse, Geneviève. “As quoted”. In: FREEDMAN, Jane. *Feminisms*. New Delhi: Viva Books, 2002 [1995].

Kishwar, Madhu. *Off the Beaten Track Rethinking Gender Justice for Indian Women*. New Delhi: Oxford University Press, 1999

Mazumdar, Vina. *Education and social change: three studies in 19th Century Bengal*. Shimla: Indian Institute of Advanced Studies, 1972.

Pande, Rekha. “Solidarity, Patriarchy and Empowerment - Women's Struggle against Arrack in India".

Phillips, Melanie. *The Ascent of Woman: A History of the Suffragette Movement and the Ideas Behind It*. London: Abacus,2004.

UNESCO Report. “Samya Shakti”. *Women Studies and Social Sciences in Asia: Report of a Meeting of Experts*. New Delhi, 1983.

Interjection of the Protection of Girl Child and Human Rights

- Ruchi Sapahia

Introduction

The girl child of today is the young women of tomorrow. She is a beautiful creation of the god; she shapes the destiny of the civilisation. Traditions and rituals have put barriers on the freedom of girls. The girl child in India is always suffering many torments right from her birth. She is never considered equal to her male counterpart and she is being denied from right to life. Girl is tortured and becomes a victim of physical, sexual and psychological violence. The girl child is considered a lesser child in our society. She is neglected at all levels and discrimination against her is rampant in all strata of society irrespective of class, caste and economic conditions. The existing profile of the girl child indicates declining female ratio, low nutritional status, and high female mortality rate and school dropouts among girls. She is abused by being burdened at home with labour like cooking, cleaning and taking care of the younger siblings that is never acknowledged as a contribution to the household economy. The infant mortality rate of the girl child is higher than the male child. It clearly indicates the intentional neglect and discrimination against the girl child with regard to food, nutrition and health care. Girls in India are facing many torments and she is always looked down upon when it comes to the comparison with boys. We always forget that hundreds of women like Razia Sultana, Indira Gandhi, Aishwarya Rai, Kiran Bedi, Kalpana Chawla etc. have done brilliantly well in their respective fields and have proved otherwise but the

Ruchi Sapahia, *Assistant Professor, Himachal Pradesh National University of Law, Shimla.*

myth continues. It is due to this myth the girls have to bear discrimination in their families in the Indian context. They are treated rudely and are deprived of the love, care and affection, which is their due. Although some spiritual scriptures say, "where women are respected, there dwells god", the fact is that the girl child is considered a burden on the society. Guru Nanak Dev Ji, founder of Sikh religion, said, "Woman gives birth to kings than why we call her bad". Men and women are equal therefore, women cannot be considered socially or spiritually inferior to man.

Some facts showing the status of the girl child in India:

- 2.5 million Children die in India every year, which accounts for one in five deaths in the world, with girls being 50% more likely to die.
- The National AIDS Control Organisation has estimated 3.8% HIV infected children (0-14 years) in the total HIV positive population of 1.027 billion in 2011.
- The very existence of the girl child is under threat. The female to male balance in India has been adverse since past 100 years. It started showing signs of improvement after independence. In 1901, National Census recorded female to male ratio of 972 to 1000, for all ages. Since then the sex ratio has been declining to the worse. At present, according to 2011 census report there are 914 females for every 1000 males.
- The Government of India in its report to the UN Committee on the Rights of the Girl Child said, "Every year 12 million girls are born- three million of whom do not survive to see their 15th birthday. About one third of these deaths occur in the first year of life and it is estimated that every sixth female death is directly due to gender discrimination."
- Most of the government's health policies seem to have family planning agenda on their priority list. One of the major initiatives is National Rural health Mission that is mainly dealing with family planning. Over the years, it has become clear that when people are asked to limit the size of their families, they shall do it at the cost of the girl child. The result is that they have to import the brides from outside states or their communities.
- In our society, the girl child has always faced the brunt of the society in the form of physical and psychological violence, child marriage, selling and buying for illegal purposes, depriving of basic amenities like nutritious food, education etc. All these forms of crimes are signs of male dominance over women. These crimes against women are increasing day by day and it is an alarming issue, which needs urgent resolution.

Various Forms of Violence against the Girl Child

Female Infanticide and Female Foeticide

The girl child has been subject of contempt, utter disregard, oppression and cruelty since the beginning of human civilisation. Female infanticide is killing of infants, which is prevalent since ages. Various methods were used to kill girls like giving tobacco pills, poison, banging the head of girls in the wall and sometimes they were left to die in cold weather. Such barbarous acts were used to kill girl child like an object. Female Infanticide Prevention Act was passed in 1870 by British regime. However, this practise continued to stay in our society. Now days with the advancement of science and technology and developments in medical science it has become very easy to determine the sex of the foetus. If the foetus turns out to be a female, it is aborted. Thus, the girl child is not allowed to take birth and she falls prey of violence even before her birth. Due to this reason sex ration of our country has declined considerably. According to the 2011 census report, sex ratio is 940 in India and Haryana and Punjab are at the bottom having the sex ratio of 861, 876 respectively.

Physical abuse of the girl child

Physical abuse of the girl children take place at the hands of the parents, other family members or even strangers when they physically abuse or inflict pain on the child. Physical abuse includes hitting the children with hands, fists or any other object, sexual exploitation and trafficking. These problems are increasing at an alarming rate. Every fifth child is subject to physical abuse in India. Around 59% of the children across the country were subjected to physical abuse within the family, of which 47% are girl victims in the age of 5-12 years. Everyday incidents of rape/ molestation with minors are reported by newspapers and other electronic and print media. The frequency of rape has increased and so does the cases of child molestation.

Child Marriage

Girls are usually deprived of basic rights of life, development, play, education and nutrition as compared to boys. Girls are required to look after their younger siblings, perform domestic works and thus, denied the right to education. The national crime record reveals that about 20% of the total rape victims in year 2011 were girls below the age of 16 years. Among all the metropolitan cities, Delhi reported 54.1% and 49.7% of the rape cases among children up to 10 years and 11-15 years of age respectively. Despite various legislations and provisions, girl children in our country are deprived of their basic rights. Unless we conceive the

significance of girl child and change our attitude, such Acts/ Statutes/ Legislations could be only ineffective tools to bring about equality between male and female. The prevailing social attitude of preference for a male child, poverty of people, socio economic backwardness of people etc are highly responsible for child marriages which leads to denial of basic rights to girl child and thus there has been a violation of human rights.

Child Labour

The problem of child labour is a major concern. Children are employed in agriculture sector by the family members to supplement the family income. The early employment of the children is to help the family in their farm work and traditional crafts by acquiring necessary skills at an early stage. With the advent of industrialisation, the entrepreneurs find it more profitable to employ children. Children of poor families are picked up by unorganised sectors in cities to employ in various industrial businesses, domestic work. The worst sufferers are working girls. The girl child is completely marginalised with regard to her opportunities for education, health care, nutrition etc on one hand and shouldering double burden of housework and wage earning torture, violence, sexual abuse etc.

Education of girl child

Since time immemorial, bigotry and superstition has predominated our society. Males are brought up more carefully whereas females are looked down upon by everyone. Males get priority in every field. Education enriches and expands the mental horizons of an individual. It makes the kinder sober and nobler. Girls are treated as second-class citizens who are deprived of the basic education rights. Investment on the education of the girls has been treated as a liability rather than an asset. People forget that if we educate girls, we educate two families: one her family of birth and second the family into which she is married. If the mother is educated she knows how to look after her children properly, when to give medicine, when to give proper vaccination to the child. An educated mother can help in eradicating the problem of malnutrition, which is one of the major hurdles in the progress of the nation. This can be achieved if the girl child is educated as she is tomorrow's woman who will become mother one day. The right to education is fundamental right, special laws are enacted for it, but still it is not fully available to girls in India. According to the survey by National Sample Survey Office (NSSO) in June 2010, the literacy rate among the population with the age 7 and above was 72%. India has the largest illiterate population on the earth. Nearly two out of three women are illiterate. Only 82 girls of every 100 boys get enrolled in school, while 35 million girls in India do not attend the school at all.

Health Care of the Girl Child

India is an unfortunate destination for nearly 75 million malnourished children below the age of five years, the largest number of malnourished children in the world. At the time of the birth, one in every three children born in India is of low birth weight, which is the result of undernourishment in the womb during the pregnancy period. A child becomes malnourished mostly between six months to eighteen months of age, and remains so thereafter. Breast-feeding is essential during first month after birth to assure rapid and healthy growth. In India, a girl is given less amount of breast-feeding as compared to boys as a result of which the girls grow up into weak adulthood and are under nourished. The situation worsens in case of second or third daughter. In India, females receive only 88% of the required nutrition intake as compared to boys. In infancy and early childhood iron deficiency and anaemia can impair their psychomotor development.

Various Legislations for Protection and Empowerment of Girls

Human rights are those rights, which every human being is entitled to enjoy but these rights are violated when it comes to girls. The American Declaration of independence (1776) and the French Declaration (1789) of the Rights of men and citizens are the landmarks in chronicles of history. The emergence of United Nations (1945) and the Universal Declaration of Human Rights (1948) have reaffirmed faith in fundamental human rights. In response to the new problems and issues, which are of deep concern to humanity, certain human rights have emerged. Human rights are universal, inter related and interdependent but special attention is needed in certain areas, mainly in the rights of the child. The UN Convention on the Rights of the Child, adopted by the UN has been ratified by India in 1992. Important human rights relating child have been discussed below:

Equality and Non-Discrimination

Article 2.1 states that parties shall respect and ensure the rights set forth in the present convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child's or his or her parent's or legal guardian's race, colour, sex, language, religion, national, ethnic or social origin, property, disability, property, birth or other status.

The Best Interest of the Child

Article 3.1 states that in all actions concerning children, whether undertaken by public or private social welfare institutions, court of law, administrative authorities or legislatives bodies, the best interest of the child shall be the primary consideration.

The Right of Survival, Department, Protection and Education

The Fourth International Conference on Women (Beijing, in 1995) while spelling out the strategies for empowering women gave a clarion call for gender equality at international, national, local and individual levels. It recognised that the action to protect and promote the rights of women has to begin with the girl child.

All these resolutions, declarations, and platforms of actions have tried repeatedly to redress human rights issues, which affect women in particular, play a vital role in maintaining the peace and prosperity of a just society. Women represent the very kernel of the human society around which social change must take place. We have many laws for the protection of the girl child and promotion of their empowerment in our country and implementation remains a major problem. As a result of abuse meted out to them, girl children are vanishing fast. The Constitution of India talks about equality for the girl child. Article 14 of the Constitution says that a man and woman are equal in law. Article 15 prohibits discrimination on the grounds of religion, race, caste, sex or place of birth. Article 15 (3) specifically mentions that State can make special provisions for women and children, despite all the provisions in the Constitution, the situation of inequality for the girl child still prevails. Various legislations have been enacted from time to time and again to keep a check on the alarming decline in sex ratio. These legislations have been discussed in detail here.

The Pre Conception and Pre Natal Diagnostics Techniques (PC PNDT) Act, 2002 seeks to address the discrimination against the girl child even before she is born. If this law is implemented correctly, we will see many more girl children taking birth. The medical fraternity is involved in assisting sex determination tests at the time of conception and following conception. This is a good law in terms of monitoring, but very difficult in terms of prosecution. The act was first implemented in the state of Maharashtra in the year 1986. Following 22 years of convictions there have been very few convictions under this Act. Prosecution and conviction of doctors is extremely difficult. But unless the doctors are prosecuted, nothing is possible. There is a need to enforce the Act more effectively.

The Prohibition of Child Marriage Act, 2006. *A*ccording to this Act, child means a person who if a male, has not completed twenty one years of age and if a female, has not completed eighteen years of age. Defining the age of the girl differently is no justification for depriving the girl child of opportunities. In spite of this Act, still there is prevalence of child marriages, which is supported by customs and traditions in rural parts of India. This is also reflected in mass media projections like the prime time television serial "Balika Vadhu" which actually glorifies child marriage in

India. The Law Commission of India suggested for change in the age of bride and groom and to make it 18 years to promote equality and to counter the belief that male should always be elder to female while getting married.

The Juvenile Justice (Care & Protection of Children) Act, 2000. *T*his Act follows the *UN Conventions on the Rights of the Child* (UNCRC) and hence defines the age of the child as eighteen years. There are separate provisions for a child who has committed a crime and a child in need of care and protection; there are no separate provisions for the girl child in the Act. The girl child who is abandoned has to be produced before the Child Welfare Committee, who will then take care of the best interest of the girl child. The child will be sent to an appropriate institution, where she may be put up for adoption, given education, vocational training, and other provisions.

The Child Labour (Prohibition and Regulation) Act, 1986. In this Act, the age of the child means a person who has not completed 14 years of age. There are no separate provisions for the girl child. Children work in dhabas, in homes doing domestic work and in various unorganised sectors. Work is demarcated as hazardous and non-hazardous. Currently domestic work has been included under hazardous work. The female child worker is most exploited, tortured, sexually abused and discriminated child worker. Tasks assigned, pay, hours of work are not equal for girls and boys. Domestic work for the girl child continues into long and undefined hours. Sexual abuse and harassment of the girl child is rampant. If the girl makes a complaint against an abusive employer, the parents who have sent the girl child to work in the first place, do not support the case against the employer. This creates a huge problem for protecting the female child domestic worker against any kind of abuse or harassment. Poverty plays a big role too in promoting child labour.

The Indian Penal Code, 1860 defines crime and punishment that has to be given for a particular crime. It defines the punishment for procuring a minor girl for illicit intercourse, importing of a foreign girl from other country. It also defines the punishment for any person indulging in the acts of obscenity, pornography, nudity under section 292. Under section 293 if any person circulates, distributes or exhibits to any person under the age of twenty one year any such obscene object shall be punished with imprisonment and fine.

Domestic Violence Act 2005. This Act does not have separate provisions for the girl child. The advantage is that it talks about protection of women from any male in the family. There is no provision of punishment under this Act. The court can only suggest possible actions like separate residence for women, leaving the house, living in separate rooms and so on for avoiding the violence. There is much

discussion about appointment, roles and responsibilities of protection officers under the Act, which mars the implementation process. This Act should be given more teeth to implement it more effectively to achieve its goals.

The dichotomy that exists between laws while defining the girl child is the biggest problem to combat abuse and discrimination of the girl child in India. As the definition of the child varies under different laws, it sometimes becomes a hurdle in effective administration of justice to the girl child victim of abuse/crime.

Various Schemes and Programmes for Development of Girls

In order to improve the survival and welfare of girls and to reverse the distorted sex ratio at birth, both the national and state governments have launched special financial incentive schemes for girls. Most of these conditional cash transfer schemes are good steps to enhance the status of girls. Under these welfare schemes, families have to comply with certain minimum requirements such as registration of birth, childhood immunization, enrolment and retention in school, and delaying the age of marriage beyond 18 years to receive the specified financial incentives against the fulfilment of each of these conditions. These incentive based schemes aim at improving the value of the girl child on the premise that financial benefits would trigger behavioural changes among parents and communities. In the long run such initiatives hope to ensure the survival and well-being of girls. Various schemes run for the welfare of the girls are Sukanya Yojna, Beti Padhao Beti Bachao, Dhan Laxmi Schemes of Government of India, Ladli Scheme of Delhi, Ladli Lakshmi Yojana of Madhya Pradesh, Bhagyalakshmi Scheme of Karnataka, Balri Rakshak Yojana in Punjab, Ladli Scheme of Haryana, Kanyadan scheme of Madhya Pradesh, Girl Child Protection Scheme in Andhra Pradesh, Indira Gandhi Balika Suraksha Yojna in Himachal Pradesh, Mukhya Mantri Kanya Vivah Yojana of Bihar, Balika Samrudhi Yojana in Gujarat and Himachal Pradesh, Kunwarbainu Mameru scheme in Gujarat, Beti Hai Anmol Scheme in Himachal Pradesh (initiated in 2010) and Mukhya Mantri Kanya Suraksha Yojana of Bihar. Most of these schemes are administered through the Department of Women and Child Development using the vast network of ICDS and Anganwadi workers. The primary objective of these schemes range from ensuring safe birth, promoting delayed marriage, education, overall well-being and family planning.

Conclusion

The Constitution of India offers all citizens, including children, certain basic fundamental rights. The Directive Principles of State Policy emphasizes that the state needs to ensure that all children are provided services and opportunities to

grow and develop in a safe and secure environment. However, in the Indian context, the adverse social attitude towards daughters has left girl children vulnerable and at a disadvantage. Their survival, education, health care, development, security and well- being are a matter of national concern. A significant impact of this discrimination is reflected in the deteriorating sex ratio. The 1991 Census of India indicated worsening trends in sex ratio. The 2001 Census revealed the gravity of the situation. However, the census of 2011 has shown some improvements in sex ratio. It has still not improved considerably and lot of more efforts are required to bring the ratio of girls at par with boys. The dwindling number of girl children is due to increase in the incidences of sex selection. Even after legislations such as the *Pre-conception and Pre-Natal Diagnostic Techniques Act* of 1994 and many campaigns to promote the value of the girl child, the situation has not improved at an expected pace. Programmes and policies clearly state that it is necessary to empower girl children in all aspects of life so that they become equal partners in society. They should be in a position to avail equal freedom and opportunity. Special measures are required to protect the survival and security of the girl child from conception to birth, during infancy, and through her childhood. All sections of society should be sensitized towards valuing the girl child.

We must first accept that the country has not done enough for its children, especially for the girls. The reason for such gross violation of the rights of the girls is in the absence of a social norm in favour of her survival, dignity and education. We need to feel a sense of shock and outrage that there is the practice of female foeticide and infanticide. No modern cultured nation can be called civilised if it continues to tolerate such a perpetration of violence on its 'un-borns' and 'new borns'. The government too must ensure that children are protected and make available all the institutions function to give security to these children. There has also to be a campaign against child labour and an argument for its total abolition. In emphasising on abolition of child labour in 'hazardous' industry alone girls are left out. The middle class must abide by the law and not employ girls as domestic servants. They should know that they are violating the Constitution and its provisions for right to education in giving employment to girls. They have to give a lead as protagonists of child rights. Armed with such an atmosphere, there could be pressure built to rescue girls from child labour, child trafficking and early marriages. The government too must be more committed about its policies on abolition of child labour. Girls' work which is hidden and invisible, that keeps them out of school and renders them illiterate, must be recognised as child labour. Every effort must be made to rescue them from work and early marriage. There has to be an abundance of schools at all levels, colleges,universities, hostels and all other

educational facilities be provided for attracting them. Timely and substantial scholarships must be offered to those pursuing education. Short term, adhoc programmes offering incentives in the nature of offering fixed deposits to encourage girl children will not suffice. Nor even some vocational courses, tailoring and doll making or livelihood schemes are enough. There are several young children, who have taken courageous steps to defy the authority in the family and society to get away from marriages and join schools. Such children are to be encouraged and given full support. For in their success lies the future of girls in our country. We are a modern nation and are proud to be citizens of the largest political democracy in the world today. We have freedom of expression and association, universal adult franchise, a track record of holding elections with reasonable regularity and public institutions such as the legislature, executive and judiciary that are quite stable, especially so for a post-colonial State. Our Constitution captures the essence of human spirit and celebrates the finest principles of equality, social justice and human dignity and guarantees rights to its citizens. We have made strides in economy that has attained a growth level of 8-9% GDP that is self reliant and independent, with a large middle class base that provides professional services competing with global standards. We have many things to be proud of. Yet, simultaneously we are witness to the growth in inequalities with a huge gap between those who have and the multitudes of those who are left out of the gains of independent India.

Women live in fear and anxiety, unsure of their next source of work and wages, feeling vulnerable, insecure but with an innate faith in the system and a hope that things would change during their lifetime. They do not want to receive doles and thus battle every day of their lives for their entitlements. They too are citizens of modern India yearning for freedom and dignity. All of us know that a successful democracy is the ability of the State to reach out to the weakest, include them in all planning, and ensure their well-being. The weakest among those who are marginalised and enduring the most of the onslaught on the poor are children, and especially girls. The agony of the girl is further compounded by the fact that she is born a girl when she is allowed to be born at all. An enlightened democracy is that which learns to respect its children, both boys and girls, enables their blossoming to their fullest potential.

References

1. Asha Bajpai, *Child Rights in India.*
2. Bette L. Bottoms & Gail S. Goodman, *International Perspectives on Child Abuse and Children's Testimony.*
3. Census Of India , 2011
4. Gautam Banerjee, *Child and The Law.*
5. Jaya Sagade, *Child Marriage in India: Socio Legal and Human Rights Dimensions.*
6. Manju Anupama, *Empowerment of Women And Girl Child.*
7. Marjorie Agosin, *Women, Gender and Human Rights: A Global Perspective.*
8. Nitu Kumara, *Rights Of The Girl Child In India, Struggle For Existence And Well Being.*
9. R. Chakraborty, *Anti Human Trafficking Laws*.
10. S. N. Tripathy, *Girl Child in India.*
11. S.C.Tripathi & Vibha Arora, *Law Relating To Women & Children.*
12. Vibhuti Patel, *Girls and Girlhoods at Threshold Of Youth And Gender.*
13. http://wcd.nic.in/schemes.htm
14. http://www.un.org/en/globalissues/women/

Similarities and Differences between Chetan Bhagat's *Five Point Someone: What not to do at IIT!* and Rajkumar Hirani's *3 Idiots*

- Vandana Thakur

Chetan Baghat, a rising star in the contemporary modern Indian literature, is a multitalented personality. He is a novelist, columnist, public speaker and a screenplay writer. He is one of the most popular novelists of India, whose novels have been adapted into movies. Most of his literary works address the issues related to Indian youth and their aspirations which earned Bhagat status of the youth icon. He has opened the floodgates for a new movement in Postmodern Indian Writing. His novels deal with life the way it is being lived in the present time which is presenting the reality.

As Manisha Gahelot observes, "Chetan Bhagat's Postmodernism [sic] writing offers India a mixed bag of ideas. It embodies reader friendly language with a style so novel and fresh. His writings have gained the greatest legacy of refined postmodernism literature by dismantling the authority of the West" (250).

Chetan writes for leading English and Hindi newspapers, focusing on youth and national development issues. Chetan Bhagat is a much sought after writer and motivational speaker. He writes several columns focusing on youth-related as well as social issues. Ashwani Rana says, "There is originality of content in his writings and when he writes, people feel as if it is their story. He is a phenomenon that has affected everybody, touched everybody's life" (66).

Chetan Bhagat mainly concentrates on issues related to youththeir dreams and aspirations; joys and sorrows; victories and defeats. As Rajeev Yadav says, "Chetan

Vandana Thakur, *Asstt. Professor, Dept. of English, HPU Centre for Evening Studies, Shimla -171 001*
Mob.: +919418 704888 E-mail: coolvandy2006@gmail.com

Bhagat's novels are of youth, for youth and written by him in 'personified youth form' " (3). He himself writes: "In the youth of India I see hope for change. I see them as impressionable, open to ideas and willing to accept that things need to be different. It is from the youth that I derive most of my optimism" (qtd. in Yadav 3).

Rajkumar Hirani (commonly known as Raju Hirani) was born in Nagpur to a Sindhi family. In college days, he was involved with Hindi theatre. He gradually established himself as a director and producer of advertising films. He is a National

Award and Filmfare Award winning Indian director, screenwriter and film editor of Hindi films.

In an interview with Mrigank Dhaniwala, Raju Hirani talks about his inspiration behind *3 Idiots*; he is redefining the meaning of the word 'idiot'. He says, "With the film, I am trying to show that guy is not an idiot but the most intelligent man. We are trying to redefine the meaning of idiot by saying that they were the people who took the less trodden path." He told: "Idiots think unconventionally and they listen to their heart while taking a decision. 'Idiots' means 'I do it on my terms.' "

3 Idiots is a 2009 Bollywood comedy film and it was closely adapted from the novel *Five Point Someone:What not to do at IIT!* by Chetan Bhagat. A film that deliberately trains its guns on the education system and the pressures generated therein ironically become the focal point for a raging debate in academic circles.

The movie *3 Idiots* is totally focused on the current education system and its drawbacks. It has covered the situation of all the participants practically involved in the education system in India i.e. students, colleges, faculties and parents. Thus, this movie is a lesson to all the above parties, which I have analyzed after watching this movie. Basically, this movie covers the pressures that the students of higher education are facing because of high end expectation from their parents, colleagues and faculties. One of the important issues covered in this movie is student suicide due to pressure and failure in fulfilling their expectations. The movie underscores the drawbacks of the current education system as it shows how students of higher education are expected and forced to perform best in their exams to achieve good marks, which will get them highly paid jobs in top most companies around the globe. The gist of this movie is that instead of running after degrees and marks, we should focus on getting knowledge and developing skills through knowledge. This is what *3 Idiots* is about! It's not a film; it's education in itself.

Chetan Bhagat's novel *Five Point Someone*: *What not to do at IIT!* is the inspiration behind the film *3 Idiots*; the latter derives its characters, plot and context from the novel. The nature of most of the principal characters, broad scheme of events and narrative style of delivery was adapted in a direct manner; substantial changes in the plot were effected with an intention of appealing to a constituency larger than

the existing one that the novel had reached out to. Most of the changes were of the nature that are generally carried out during any attempt to adapt a novel into a commercial film, particularly in the Indian context. More importantly, however, while the novel tended to recount an individual student's attitude towards his academic surrounding, the film transcends the sphere of the individual by seeking to address the larger malaise that has struck our system of higher education, even in the most coveted institutions.

There are many similarities between the two mediums. The plot of the film is the same as that of the novel. Both the film and the novel follow the story of three friends and it is based in the setting of a top engineering college. The three characters in the novel are very similar to those of the film. While one of themRyan (Aamir as Rancho)is radical and thinks differently from the rest, the second oneHari (Madhavan as Farhaan)is a confused character. The third characterAlok (Sharman as Raju)is facing severe financial and domestic pressures. In both the novel and the film, Farhan happens to be the narrator of the story. These three characters are shown to bond over shared disaffection for the place and some of the scenes like sitting on the water tank are common to both the novel and the film. Some dialogues in the film"the examiner looked at me as if I had asked for his kidneys" and "define machine"are common in both the novel and the film. The professor in the novel disapproves of this friendship or bonding most of the times, similar to that in the film.

Neha (the main female protagonist in the novel and daughter of the professor and Pia (the role played by Kareena Kapoor in the film, also incidentally the daughter of dean of the college) are of a similar kind. The main female protagonist helps the hero in stealing the question papers, by giving them the keys of the room; intentionally in the film, unknowingly in the novel. Raju, the role played by Sharman Joshi is similar to that described in the novel. Interestingly this character has a family background which mentions a father suffering from paralysis, a mother who is a teacher and an unmarried sistervery similar to what was shown in the movie. The character of Rancho played by Aamir Khan in the film is similarly creative as the character Ryan in the novel.

The portrayal of the suicide attempt by a student in the college, is done by Raju in the film. In the novel, Neha (Kareena as Pia) tells her father Cherian (Professor Viru played by Boman Irani) why her brother committed suicide due to the latter's demanding and domineering behavior. A similar incident takes place in the film as well. However, the novel talks about this incident in much more detail than the film which covers this strand of the storyline in a single scene.

There are many differences when we compare the novel and the film. The major dissimilarity is the twist in the tail of the plotChatur Ramalingam (played by Omi

Vaidya) challenging Rancho (played by Aamir Khan in the film) to meet him after ten years to prove who has turned out to be more successful. The sub-plot of impersonation on behalf of another and then the friends' quest to find their lost friend, resulting in the discovery of the real identity of Rancho being that of Phunsuk Wangdu, the 'third idiot' after ten years' interval. The Institute Director's characteristics of having an 'astronaut's pen', the scene with the breaking eggs, among other idiosyncratic features are not found in the novel. The sub-plot concerning Farhan (played by R. Madhavan) aspiring to be a wildlife photographer against the wishes of his father is exclusive to the film. Though the narrators are the same, the narrator of the novelHariromances Prof. Viru's (played by Boman Irani) daughter, the filmmakers give the romantic mileage to Rancho (played by Aamir Khan). There was an entertaining five minute scene carried out by Chatur which highlighted the hazards of learning without understanding. Rancho's and Farhan's persistent efforts to get Raju out of coma when he was hospitalized after the suicide attempt, and Rancho teaching Prof. Viru Sahastrabudhe (the Dean of the college, played by Boman Irani) how to teach by bringing in the terms 'PreRajulization' and 'Farhanitrate' which are fictionalized terms using the names of his friends, are not there in the novel. The paper stealing episode is the turning point of the novel. It causes Alok to jump out of the window to commit suicide. This scene however, is twisted in the movie as Raju jumps out of the window because Prof. Viru Sahastrabudhe decides to rusticate him because of hooliganism. Pia's fiancé being obsessive about brands, prices, which helps bring Rancho and Pia closer and also highlights the materialistic side of some people are not there in the novel. The concept of 'Aal Izz Well' and the song which popularized it, which is being talked about all around, is not a copy. While ragging scenes are depicted in both, the methods used differ, with the scene of Rancho turning the tables on the senior being exclusive to the film. The biggest difference comes in the second half of the film. While the novel finishes at graduation, the film goes beyond it and builds on the future of the characters till ten years later. It talks about how their careers have shaped and how their mediocrity in college played into the future. In the film, because of commercial compulsion, and for a soothing end, apart from giving the message, the director has beautifully presented the ending of the film by uniting the hero and heroine after ten years' of gap.

The novel and the film throw light on the aspects of post modernist thought process where the engineering youth try to stand against the conventional system of imparting technical education and traditional way of evaluating the cognitive abilities of a student on the basis of GPA. Chetan Bhagat has conveyed an important message through his novel to elite technical institutes.

Biswas mentions, "…replace the traditional teaching style of 'I teach; you listen'

with an approach that develops students' own abilities to collect, select, filter and assimilate information that inspires students' creativity by developing their life-long abilities; that teaches students how to learn efficiently and actively" (2). In all, the educational institutes should focus on learning methods, instead of accumulation of knowledge.

Thus, both the novel and the film depict present day troubles, dreams, aspirations, psychological burdens, and frustrations of the youth. The novelist and the film maker put emphasis on the observational teaching. They believe this technique must help the students to get rid of mugging. It must support them to apprehend the things in a natural way. The observational technique makes the students observe the things minutely and find out solutions to problems on their own. The novel is not only about three friends, but, in fact, it is a social commentary. On the other hand, the film makers have compulsions to please the audience. That is why there is an abundance of songs as in any other light hearted film. For commercial success, they have given a soothing end to the film because of which it became such a wonderful commercial success.

Works Cited

Bhagat, Chetan. *Five Point Someone: What not to do at IIT!* New Delhi: Rupa Co, 2004. Print.

3 Idiots. Dir. Rajkumar Hirani. Perf. Aamir Khan, R. Madhavan, Sharman Joshi, Kareena Kapoor, Boman Irani, Omi Vaidya, and Javed Jaffery. 2009. Film.

Biswas, Mun Mun Das. "Depiction of Youth Culture in Chetan Bhagat's Five Point Someone." *The Criterion* 4.2 (2013): 1-7. Print.

Dhaniwala, Mrigank. "3 Idiots is Our Comment on What is Right and Wrong with SocietyRaj Kumar Hirani." <http://www.bollywood.com/3-idiots- our-comment-what-right-or-wrong-society-rajkumar-hirani> Web.

Gahelot, Manisha. "Chetan Bhagat: A Real Taste of Refined Post Modern Indian Literature." *Thematics Journal of English Criticism* 1.1 (2011): 13-14. Print.

Rana, Ashwani. "Problems and Aspiration of Youth As Highlighted in the Novels of Chetan Bhagat." *International Journal on Arts, Management and Humanities* 2.2 (2013): 66-72. Print.

Yadav, Rajeev. "Chetan Bhagat: The Voice of Youth in India." *A National E-Journal for Research in Humanities and Social Sciences* 1.1 (2014): 1-6. Print.

Tagore's Ratan and the Third Force Perspective

- Anshu Kaushal

ABSTRACT

Rabindranath Tagore holds the indisputable reputation of being one of the best children's writers in the Indian scenario. He envisaged the belief that the finest ideals of human existence were embodied in the phase of childhood. Tagore wrote short stories, poems and plays for children and child characters drawn from real life dominated his literary canvas. The following article offers an insight into Tagore's immortal child character Ratan from the story, "The Postmaster", analyzing its creation from the perspective of Third Force psychology. The article unravels Tagore's genius in portraying a psychologically convincing child character a unique quality that lends an everlasting appeal to his writing for and about children.

Writing for children as a separate literary entity in India coincided with the emergence of western education and culture in the early nineteenth century. It was possibly because of an intimate interaction of the Bengalis with the British that children's literature and literature depicting childhood took root in the eastern part of the country. The early writings for or about children were imitations of western models and were confined to didactic or academic objectives. Gradually, however, in the hands of great Indian masters like Rabindranath Tagore, these imitations acquired their own distinct character and form.

Tagore's contribution towards juvenile literature began with the magazine named Balak and soon branched out to different literary genres. It included short stories like The Postmaster, Athithi and Kabuliwala, poems like Birpurusa and Bhitare - O Bahire, dramas like Rajarani, Bisharjan, and Mukut, a dance drama Balmiki

Dr. Anshu Kaushal, *Assistant Professor, Department of English, G.D.C., Kandaghat.*
Email: anshukshl76@gmail.com

Pratibha to name only a few. Most of Tagore's works are philosophical and subjective in spirit which, to a certain extent, takes the purely "juvenile" tag away from his writings, but it certainly does not take away from him the credibility of portraying his young characters realistically and with a keen psychological insight.

Characters play a vital role in a work of fiction. They appeal to us largely because we as readers are interested in human nature, human condition, human values and human relationships which are revealed through fictive characters. These characters were categorized by E.M. Forster into two broad categories, flat and round. While the former can be understood in context of their thematic function, the latter have to be understood in psychological terms. The Third Force psychology is particularly useful in analyzing characters in motivational terms and comprehending their inner conflicts. The objective of this paper is to study the child characters Rabindranath Tagore's short story, The Postmaster, on the basis of the analytical theories propounded by two Third Force psychologists, Abraham Maslow and Karen Horney.

Maslow's greatest contribution to the development of Third Force psychology was his theory of the hierarchy of basic needs. According to him, these needs are arranged in an order of prepotency. The need of physiological satisfaction comprises the lower most need in this hierarchy followed by middle needs like the need for safety, love, belonging and self esteem and the need for self-actualization forms the highest need in the psychological evolution of a human being. According to Maslow, "Healthy people have sufficiently gratified their basic needs for safety, belongingness, love, respect, self-esteem so that they are motivated primarily by trends to self-actualization" (Paris 35). Maslow defines self-actualization as the ongoing actualization of potentials, capacities and talents as fulfillment of mission", involving "a fuller knowledge of and acceptance of, the person's own intrinsic nature" (Paris 35). However, if the conditions for healthy growth are absent and the basic needs of an individual are not gratified, he loses touch with his true feelings, remains engrossed with his lowest unmet need and develops unhealthy strategies of defense. Karen Horney describes these strategies and accounts for the behaviour of those individuals who have been deprived of their basic needs.

The first thing that grabs our attention when we read the story The Postmaster by Tagore is the richness of Ratan's characterization. While a Maslowian perspective on her character helps us to understand her ungratified needs better, Horney's theory enables us to comprehend where her inner conflicts come from and why they are not resolved. Ratan is introduced to us as a young orphan girl who lives in Ulapur and does odd jobs for the postmaster who has recently been transferred from Calcutta to this remote village. Her physiological needs are sufficiently met by the

postmaster as he shares his food with the little girl. Ratan's most prepotent need being well gratified, there emerges a middle order of needs, the need for safety, belongingness, love, respect and self- esteem. In the absence of parents, Ratan looks up to the postmaster as a sort of father figure, a protector, a food giver, a stronger person on whom she can depend. She constantly craves his attention waiting anxiously for the postmaster's call every evening. According to Maslow, "Young children seem to thrive better under a system that has at least a skeletal outline of rigidity, in which there is a schedule of a kind, some sort of routine, something that can be counted upon, not only for the present but also far into the future" (Maslow 40). Ratan looks for a safe and orderly world in which nothing unpredictable or unusual happens. The postmaster's hut becomes an ordered world for Ratan that shuts out the chaos of her orphan existence. Daily chores like lighting fire, cooking food, recalling her family memories and learning the alphabet lend a "routine or a rhythm" (Maslow 40) to Ratan's life and provides her the much needed security of a predictable world.

Ratan's need for affection and belongingness is portrayed by Tagore with great psychological insight. She recollects some memories of her dead family and does not hesitate to share them with the postmaster. Conversing about Ratan's family was fertile ground for the postmaster. A sense of affection and belongingness develops between the two so that some times "the postmaster too would call up memories of his own home, of his mother and his sister, of those for whom in his exile his heart was sad,memories which were always haunting him, but which he could not talk about with the men of the factory, though he found himself naturally recalling them aloud in the presence of the simple little girl." Maslow states that the need for belongingness and affection motivates an individual to seek for a place in a group or a family. Though Ratan had never seen or met the postmaster's family, she started thinking and talking of them as her own family:

"And so it came about that the girl would allude to his people as mother, brother, and sister, as if she had known them all her life. In fact, she had a complete picture of each one of them painted in her little heart."Ratan feels alienated and lonely after the loss of her family. She keenly desires to be a part of the postmaster's family, a desire which is strongly motivated by her ungratified basic need for love and affection. The postmaster also experiences something similar. Having lived in Calcutta before, he felt like a "fish out of water" in this remote village. He longed for "desirable companions" and often thought to himself, "Oh, if only some kindred soul were nearjust one loving human being whom I could hold near my heart!" The need for affection and belongingness is mutual but for Ratan it can be gratified only by being of use to the postmaster in one way or another. The postmaster falls ill one

day and being so far away from his family there is no one to nurse him back to health. He craves for a tender womanly touch to soothe his aching body and drive away the feeling of loneliness from his tired mind. It is at this moment that Ratan tip toes into his hut and takes on the duty of a caring family member:

"Ratan ceased to be a little girl. She at once stepped into the post of mother, called in the village doctor, gave the patient his pills at the proper intervals, sat up all night by his pillow, cooked his gruel for him, and every now and then asked: "Are you feeling a little better, Dada?"

After recovering from his illness, the postmaster decides to give up his job in Ulapur and return to his family in Calcutta. A strange silence prevails when he tells Ratan that he is going away never to return. Her world had suddenly become chaotic once again and she started contemplating many solutions simultaneously to bring it back to order. She eventually finds a way out. "Dada, will you take me to your home?" she asks the postmaster. He laughs and says rather callously, "What an idea!" This moment brings about a turning point in Ratan's psychological life. She suffers from a feeling of being isolated and helpless in a world that she now conceives of as being potentially hostile. When the postmaster suggests that he will request his successor to look after her she breaks down inconsolably and says, "No, no, you need not tell anybody anything at all about me; I don't want to stay on here." She goes back to the post office and wanders around with a hopeful heart that one day her "Dada" will come back for her. How the whole cycle of basic needs repeats itself till it is gratified is very beautifully summed up in the concluding lines of Tagore's story:

"False hope is clung to with all one's might and main, till a day comes when it has sucked the heart dry and it forcibly breaks through its bonds and departs. After that comes the misery of awakening, and then once again the longing to get back into the maze of the same mistakes." (Tagore 5)

Every human being needs favorable conditions for growth. A warm and loving family, a feeling of security, the freedom to express oneself, the freedom to defend oneself, a sense of justice, fairness and honesty are some vital preconditions for the healthy psychological growth of any individual. These conditions encourage a person to "grow in accordance with his real self" (Horney 18). The "intrinsic potentialities" (18) of a human being so develop under favorable conditions that "He will develop then the unique alive forces of his real self: the clarity and depth of his own feelings, thoughts, wishes, interests; the ability to tap his own resources; the strength of his will power; the special capacities or gifts he may have; the faculty to express himself, and to relate himself to others with spontaneous feelings. All this will in time enable him to find his set of values and his aims in life" (17).

However, a child may be prevented from growing in this direction by various adverse influences thus frustrating his or her basic needs.

What happens to Ratan when her basic needs are frustrated? According to Horney, when an individual's basic needs remain unfulfilled, he or she stops experiencing them in a healthy way. Neurotic needs replace their basic needs and such people start developing defensive strategies as a form of compensation for the frustration of both basic as well as neurotic needs. The basic needs of such people remain eternally ungratified because of their inability to believe in the satisfaction of such needs. Ratan, for example, has been severely deprived of love since the time she lost her family. She tries to seek that love from the postmaster but is disappointed when he abandons her. The need to be loved thus becomes insatiable for her and she starts believing that no one will ever love her. The child fails to develop a sense of belongingness to the world around her giving rise to "profound insecurity" and vague apprehensiveness in her mind. Such feelings that are generated as a result of frustration of basic needs and leads the person to conceive the world as hostile and unreliable is termed as "basic anxiety". The child begins to develop defensive strategies to protect himself. His relationship with the world is then determined not by his true feelings but by strategic necessities and he starts developing ways to manipulate his relationships. Thus we find that the inner conflicts generated as a result of defensive strategies adopted by such people leads to self- alienation within that individual, giving rise to a false personality that has completely lost touch with its true self.

The child strives hard to overcome these feelings of alienation and to secure his place in an unfair environment may act in three ways. He may move toward people (self effacing solution), he may move against people (expansive solution) or he may move away from people (detached solution). Whereas a healthy individual moves in all three ways, a self alienated person adopts only one of these ways whether it is appropriate or not. This choice is influenced by the alienated individual's perspective of human nature and of the world around him. On analyzing the movement of self alienated development and the kind of character that it gives rise to, we are able to lay a firm hold on the complexity of fictive characters.

Ratan chooses a compliant and self effacing solution and thus hers is a movement toward people. She tries to overcome her anxiety by being weak and self effacing and gaining the affection of someone more powerful than herself, the postmaster. She does household chores for him and takes care of him during his illness. She readily agrees to learn the alphabet at the behest of her "master" to secure his approval. Her need for the postmaster becomes so frantic that she keeps waiting untiringly for his call. She does not want risk losing his approval at any cost and

while she awaited her call, “The girl read her old lessons over and over again, -- her great fear was lest, when the call came, she might be found wanting in the double consonants” (Tagore 3). Her actions are motivated by her need to appease the postmaster. She reaches out to him to secure her inner self by making her feel loved, appreciated and wanted; “Her salvation lies in others” (Horney 226). Ratan becomes unselfish and self sacrificing. In order to gain her master's support and approval she ignores her own feelings and tries to live up to the postmaster's expectations.

The defensive strategy of compliance not only determines how a compliant person behaves but also gives rise to a certain value system within that person. Thus he moves towards goodness, sympathy, love, nobility, humility and unselfishness not essentially because he values this set of beliefs but because it is important for his defense system to behave in this manner. A compliant person, it seems, has entered into a secret pact with destiny that if he is good, loving, generous and self sacrificing, he will be treated likewise. The compulsive nature of Ratan's expectations of being treated affectionately by the postmaster in the present and future blinds her sense of discrimination. She is mislead by his warm and caring gestures because she refuses to believe that the man would in any way try to deceive or humiliate her expectations. Even when the postmaster leaves for Calcutta without taking her along, she does not abandon her basic expectations and continues to believe , consciously or unconsciously, that the postmaster will come back to take her with him.

“She wanders about the post office in a flood of tears. It may be that she had still a lurking hope in some corner of her heart that her Dada would return, and that is why she could not tear herself away. Alas for our foolish human nature! Its fond mistakes are persistent. The dictates of reason take a long time to assert their own sway. The surest proofs meanwhile are disbelieved. False hope is clung to with all one's might and main, till a day comes when it has sucked the heart dry and it forcibly breaks through its bonds and departs. After that comes the misery of awakening, and then once again the longing to get back into the maze of the same mistakes.”

Ratan's expectations from the postmaster make her greatly dependent upon him and his love becomes the only ray of hope in her life. Love here stands for any positive feeling equivalent to sympathy, appreciation, warmth, care or gratitude. In Horney's words, a self effacing person is “worth as much as he is liked, needed, wanted or loved”. (Horney 227). Love provides to Ratan a guarantee against loneliness, responsibility and hostility and promises affection, sympathy, support and encouragement. The “appeal for love”, as Horney terms it, offers the compliant person the illusion of an ordered world where he can actualize his idealized self. A self effacing individual like Ratan is usually attracted to a proud and masterful

person who appears to be stronger and superior to himself. Ratan is whole heartedly attracted by the warm and caring gestures of the postmaster but she fails to see through his detachment towards her. He is a food provider, a teacher, a protector for Ratan and since the worth of her life rests solely on his appreciation of her, she develops a "morbid dependency" on the postmaster. Ratan, the dependent in this case, drags her conflicts into the relationship, thereby destroying it and plunging herself into greater misery. Her expectations of love fail when the postmaster abandons her in the end of the story and she feels completely disillusioned and gives up on everything around her.

That Ratan takes to the self effacing solution can be attributed to her early environment. She was brought up by a benevolent father who used to come home in the evening after a day's work. She recalls that her father was more fond of her than her mother. It was a hostile situation for Ratan and the only way to appease her mother would probably have been a self sacrificing devotion on Ratan's part. She may have struggled to rebel simultaneously with a desire to win her mother's affection and in the end the need for affection would have won out. She would then have learnt compliance to win the ones she feared most. In such a situation she must have developed a tendency to like everybody by completely suppressing her feelings of hostility. Winning her mother over would have become the greatest priority for her and thus she would have cultivated qualities that made her lovable and acceptable to her mother. This veering towards compliance becomes a norm with Ratan as she enters adolescence, giving up her expansive drives for the sake of love, affection and security.

Works Cited

Horney, Karen. Neurosis and Human Growth. London: Routledge & Kegan Paul, 1965. Print.

Maslow, Abraham. Toward a Psychology of Being. 2nd ed. New York: Van Nostrand, 1968. Print.

Tagore, Rabindranath. "The Postmaster". Web. 21 April 2012. <http:// en. Wikisource.org/wiki/The_Postmaster.

ऋग्वेद में वर्णित धार्मिक दर्शन, समाज एवं संस्कृति

– दीप लता

वेद समस्त सृष्टि के सर्वस्व हैं। विश्व कल्याणार्थ चार वेद हैं– ऋग्वेद, यजुर्वेद, सामवेद एवं अथर्ववेद। वेद मानव जाति सहित समस्त प्राणी जगत् को सुखमय बनाने का एकमात्र साधन है, अर्थात् वेद ज्ञान से ही मनुष्य सुख और शान्ति एवं लोक–परलोक को सुखी करता है। लोक–परलोक से सम्बन्धित समस्त क्रिया–कलापों का समावेश वेद में मिलता है। सृष्टि कल्याणार्थ ऐसा कोई विषय नहीं है जो वेद में उपलब्ध नहीं है। वेद ही एकमात्र ऐसा ग्रन्थ है जो अज्ञान, निराशा, अनाचार और आधि–व्याधि से मुक्त करके मानव जीवन का मार्ग प्रशस्त करता है। इस प्रकार कहा जा सकता है कि वैदिक साहित्य में उपलब्ध ऋषि–मुनियों द्वारा दिया गया ज्ञान मानव जाति सहित समस्त सृष्टि के लिए कल्याणकारी है।

ऋग्वेद विश्व का सबसे प्राचीन साहित्य है। इसमें समस्त सृष्टि का प्राचीनतम चित्र पूर्ण रूप से प्रस्तुत किया गया है। इसकी ऋचाओं में वैदिक युग की सभ्यता और संस्कृति का पूर्णरूप उपलब्ध होता है। ऋग्वेद में धार्मिक, राजनीतिक सांस्कृतिक, साहित्यिक, सामाजिक, वैज्ञानिक आदि सभी प्रकार के विचारों का तथा उनकी प्रगति का विस्तृत वर्णन है।

1) ऋग्वेद का धर्म

वेद धर्म का मूल है। प्रायः सभी भारतीय विचारक अति प्राचीन काल से वेदों को अपने धर्म का मूल मानते रहे हैं। आज हिन्दुओं के धार्मिक स्वरूप में अनेक विभिन्नताएं हैं,

दीप लता, सहायक आचार्य, संस्कृत विभाग, हिमाचल प्रदेश विश्वविद्यालय, समरहिल, शिमला–5
मो.: 9418579522 ईमेलः dr.dthakur78@gmail.com

कुछ ईश्वर के निराकार रूप की उपासना करते हैं और कुछ उसका साकार रूप भी मानकर उसकी मूर्तियों की पूजा करते हैं, कुछ अनेक देवताओं को मानते हैं और कुछ एक देव ईश्वर को मान कर उसमें इन्द्र, वरुण, अग्नि आदि विभिन्न दैवी शक्तियों की कल्पना करते हैं। विभिन्न दार्शनिक विचारधाराएं अद्वैतवाद, विशिष्टाद्वैतवाद, द्वैतवाद, त्रैतवाद आदि सभी सिद्धान्त वेदों को ही आधार मानकर प्रतिपादित किए जाते हैं। ऋग्वेद का मुख्य धार्मिक रूप देवताओं की उपासना करना है। यह उपासना अनेक देवताओं के रूप में या एक महान् देवता के रूप में हो सकती है।[1]

- **अनेक देवताओं की उपासना**

ऋग्वेद में बाह्य रूप से बहुदेवतावाद की प्रधानता दृष्टिगोचर होती है। प्रधान रूप से 33 देवताओं की स्तुतियाँ ऋग्वेद में मिलती है। उपासना करने पर ये देवता मनुष्यों को विविध प्रकार की शक्तियाँ, सिद्धियाँ और सम्पत्तियाँ प्रदान करते हैं। ये देवता तीन वर्गों में विभक्त किए गए हैं– स्वर्ग स्थानीय देवता, अन्तरिक्ष स्थानीय देवता और भूस्थानीय देवता।

वैदिक भाष्यकारों के अनुसार पुरोहित यज्ञ किया करते थे और मन्त्रों का पाठ करते हुए देवताओं का आवाहन करते थे। प्रायः सभी मन्त्र देवता परक हैं और इनका विनियोग यज्ञों में किया जाता है। ऋग्वैदिक काल में ये देवता प्राकृतिक शक्तियों के या ईश्वर की दैवी शक्तियों और गुणों के प्रतीक थे। अनेक स्थानों पर मूर्त रूप वर्णित होने पर भी उनका स्वरूप अमूर्त था। कालान्तर में ये पौराणिक देवता बन गए और इनके मूर्त रूप की कल्पना की गई। देवताओं का राजा इन्द्र हुआ, जिसका निवास स्वर्ग में था। इन देवताओं में लोकोत्तर शक्तियों की भी कल्पना की गई।

- **एकदेवतावाद या एकेश्वरवाद**

ऋग्वेद में यद्यपि अनेक देवताओं की उपासना है तथापि वैदिक मन्त्रों का यह बाह्य अर्थ ही है। वेदों का आन्तरिक सन्देश मूल रूप में एक ही परम शक्ति के स्वरूप को उद्घाटित करना है। वैदिक ऋषियों ने वस्तुतः एक ही चेतन शक्ति की उपासना की थी, जो इस विश्व का मूल है। यह चेतना शक्ति ही परमात्मा, ईश्वर, पुरुष या ब्रह्म है। विभिन्न देवता उसी महान् शक्ति की विविध शक्तियों और गुणों को प्रकट करते हैं इन गुणों के दैवी या लोकोत्तर होने के कारण इनको देवता की संज्ञा दी गई है। वास्तव में इन देवता वाचक शब्दों का अर्थ ब्रह्मपरक ही है। ईश्वर के एकत्व की और उसमें देवता रूप अनेकत्व की स्थापना ऋग्वेद के अनेक मन्त्रों में की नई है। यथा–

इन्द्रं मित्रं वरुणमग्निराहुरथो दिव्यःससुपर्णो गरुत्मान्।
एकं सद् विप्रा बहुधा वदन्त्यग्नि यमं मातरिश्वान्माहुः।।[2]

---

[1]ऋक् सूक्त संग्रह, भूमिका भाग, पृष्ठ 38

[2]ऋग्वेद, 1.164.46

उस परमेश्वर के एक होते हुए भी विद्वान् उसे अनेक नामों से पुकारते हैं। वे– इन्द्र, मित्र, वरुण, अग्नि, दिव्य, सुपर्ण, गरुत्मान्, अग्नि, यम और मातरिश्वा।

य एक इत् तमष्टुहि कृष्टीनां विचर्षिणः।
पतिर्जज्ञे वृषक्रतुः।। [3]

वह परमात्मा एक होते हुए भी विद्वानों द्वारा अनेक नामों से स्तुत किया जाता है। वह धर्मरूप यज्ञों का स्वामी हुआ।

यास्क ने भी सभी देवताओं की आत्मा को एक कहा है–

महाभाग्याद् देवताया एक एव आत्मा बहुधा स्तूयते।। [4]

इन सभी देवताओं की आत्मा एक ही है और उसकी अनेक प्रकार से स्तुति की जाती है।

ऋग्वेद के पुरुष सूक्त में पुरुष परमात्मा के असंख्य सिर, हाथ, पैर, आँख आदि बताए गए हैं और वह समस्त ब्रह्माण्ड को व्याप्त करके स्थित है। ऋग्वेद के दसवें मण्डल के 90वें इस पुरुष सूक्त में परम पुरुष में सभी शक्तियों को व्याप्त करके एकेश्वरवाद की प्रतिष्ठा की गई है।

ऋषियों ने प्रकृति की विभिन्न शक्तियों का दर्शन और अनुभव किया, उन्होंने उनको देवता नाम से अभिहित किया। इन देवताओं में उन्होंने एक चेतन अधिष्ठात्री शक्ति के दर्शन किए। वही चेतन शक्ति सृष्टि का कर्त्ता, नियन्ता और संहता तथा देवताओं को भी शक्ति प्रदान करता है। वह सर्व शक्तिमान् और सर्वव्यापक शक्ति है, जो प्रत्यक्ष अनुभूति का विषय नहीं है।

प्रायः सभी प्राचीन ऋषियों ने वेदों की व्याख्या करते हुए उनमें एकेश्वरवाद की प्रतिष्ठा की थी। उन्होंने विभिन्न देवताओं को उसकी विभिन्न शक्तियां तथा गुण माना। आधुनिक युग में राममोहनराय ने भी वैदिक देवताओं को प्रतीकात्मक गुण माना। ऋषि दयानन्द ने वेद मन्त्रों की व्याख्या के आधार पर प्रबल प्रमाणों द्वारा वेदों में एक ही ईश्वर की सत्ता को प्रमाणित किया।

- **यज्ञ**

वैदिक धर्म को यज्ञों का धर्म कहा जाता है। प्रायः सभी विद्वानों की मान्यता है कि वेदों का प्रतिपाद्य विषय यज्ञ हैं। पश्चिमी विद्वानों ने वेदों के प्रसिद्ध भाष्यकार सायण को

---

[3] ऋग्वेद, 6.45.6
[4] निरुक्त

'याज्ञिक भाष्यकार' का नाम दिया। सामान्यतः अग्नि जलाकर हवन करने और उसमें आहुतियाँ देने को यज्ञ कहा गया है परन्तु यज्ञ के और भी अर्थ हैं। ब्रह्म यज्ञ, द्रव्य यज्ञ, तपो यज्ञ, योग यज्ञ, स्वाध्याय यज्ञ, दान यज्ञ, ज्ञान यज्ञ आदि का उल्लेख परवर्ती साहित्य में मिलता है। भगवान् को यज्ञ स्वरूप कह कर उसे यज्ञेश्वर, यज्ञ पुरुष आदि नामो से अभिहित किया गया है। अनेक ऋषियों ने यज्ञ का अर्थ परोपकार किया है। यज्ञ शब्द का कुछ भी अर्थ क्यों न हो, ऋग्वेद उसका समर्थ करता है।[5]

2) ऋग्वेद में दार्शनिक चिन्तन

दार्शनिक चिन्तन ऋग्वेद से ही प्रारम्भ होता है। आत्मा–परमात्मा, सृष्टि–उत्पत्ति, मृत्यु, पुनर्जन्म, मोक्ष आदि दार्शनिक विषयों का ऋग्वेद में गहन चिन्तन किया गया है।

- **ईश्वर जीव–प्रकृति**

वैदिक धर्म में सृष्टि की रचना एवं विश्व के संचालन के लिए ईश्वर, जीव एवं प्रकृति इन तीन तत्वों की सत्ता स्वीकार की गई है। जीव और प्रकृति के संयोग से सृष्टि की उत्पत्ति होती है तथा ईश्वर इसका नियामक और संचालक है। प्रकृति के द्वारा जीव बंधा रहता है तथा जन्म मरण के चक्र में पड़ा रहता है। तत्त्व ज्ञान होने से वह इन सम्बन्धों से छूट जाता है और मोक्ष के परम आनन्द को प्राप्त करता है। ऋग्वेद के अनेक मन्त्रों में इस त्रैतवाद को पुष्ट किया गया है। निम्न मन्त्र में त्रैतवाद की स्पष्ट अभिव्यक्ति है–

द्वा सुपर्णा सयुजा सखाया समानं वृक्षं परिषस्वजाते।
तयोरन्यः पिप्पलं स्वाद्वत्त्यनश्नन्नन्यो अभिचाकशीति।।[6]

सुन्दर पंखों वाले समान आयु वाले दो पक्षी मित्र समान रूप से विश्व का आलिंगन कर रहे हैं। उनमें से एक स्वादिष्ट पिप्पल का आस्वादन कर रहा है। दूसरा भोग न करता हुआ भी आनन्द प्राप्त करता है। इसमें विश्व प्रकृति है तथा पिप्पल उसके भोग्य पदार्थ हैं। आस्वादन करने वाला पक्षी जीव है तथा भोग न करने वाला दूसरा पक्षी ईश्वर है।

तद्विष्णोः परमं पदं सदा पश्यन्ति सूरयः।
दिवीव चक्षुराततम्।।[7]

यहाँ 'विष्णु' परमात्मा के लिए, 'सूरयः' जीवों के लिए और 'दिवीव चक्षुः' प्रकृति रूप सूर्य के लिए प्रयुक्त हुआ है।

- **सृष्टि–उत्पत्ति**

सृष्टि–उत्पत्ति के सम्बन्ध में ऋग्वेद में 6–7 सूक्त हैं। इनमें नासदीय सूक्त, हिरण्यगर्भ सूक्त और पुरुष सूक्त बहुत प्रसिद्ध हैं। नासदीय सूक्त (10–129) में सृष्टि

---

[5]ऋक् सूक्त संग्रह, भूमिका भाग, पृष्ठ 39–40

[6]ऋग्वेद, 1.164.20

[7]ऋग्वेद, 1.22.10

उत्पत्ति से पहले ही अवस्था का वर्णन करके उसकी रचना का क्रम बताया गया है। उस समय न सत् था, न असत् था। न लोक थे, न आकाश था। न गति थी, न स्थान था। न जन्म था, न मृत्यु थी और न अमृत था। न दिन था न रात थी। वही एक मात्र परमेष्ठी सर्वशक्तिमान् परमेश्वर अन्तश्चेतना के साथ निर्वात अवस्था में शान्त रूप में वर्तमान था। उसमें इच्छा का प्रादुर्भाव हुआ और सृष्टि का बीज उत्पन्न हुआ। वह स्वयं कहाँ से उत्पन्न हुआ, यह सृष्टि कहाँ से उत्पन्न हुई, देवता सृष्टि से पहले हुए या बाद में, यह कौन जानता है। यह परमेश्वर ही उस सृष्टि का अध्यक्ष है उसी को जानना चाहिए।[8]

हिरण्यगर्भ सूक्त (10.121) में भी सृष्टि की उत्पत्ति का वर्णन है। सबसे पहले यह हिरण्यगर्भ परमात्मा ही था। वह उत्पन्न हुए सभी पदार्थों का अधिपति था। उसी ने पृथ्वी लोक और द्यु लोक को धारण किया हुआ है। वही आत्मा का आविर्भाव करने वाला है और मृत्यु का देने वाला है। सब देवता उसी की उपासना करते हैं। उसी सुख स्वरूप हिरण्यगर्भ परमेश्वर की हम उपासना करें।[9]

ऋग्वेद के पुरुष सूक्त (10.90) में पुरुष रूप परमात्मा के स्वरूप का वर्णन करने के साथ–साथ सृष्टि–उत्पत्ति के रूप को भी बताया गया है। जो कुछ वर्तमान में है, भूत काल में था और भविष्य में होगा वह पुरुष ही है। उस पुरुष से विराट् और उससे अधिपुरुष की उत्पत्ति हुई। उसी से सम्पूर्ण सृष्टि की रचना हुई।

- **मृत्यु और पुनर्जन्म**

ऋग्वेद में मृत्यु के बाद जीव की गति तथा पुनर्जन्म के सम्बन्ध में बहुत कुछ कहा गया है। मृत्यु के बाद जीव के मार्ग का निदर्शन यम करता है। यम जीव को उस मार्ग से ले जाता है जहाँ से उसके पूर्वज गए थे। यह स्थान आनन्द से परिपूर्ण है–

प्रेहि प्रेहि पथिभिः पूर्व्येभिर्यत्रा न पूर्वे पितरः परेयुः।
उभा राजाना स्वधया मदन्ता यमं पश्यासि वरुणं च देवम्।।[10]

जिस स्थान पर हमारे प्राचीन पितामह आदि गए हैं, पूर्वकाल में बने हुए मार्गों से शीघ्र जाओ और जाकर अन्न से तृप्त होने वाले दीप्तिमान शरीर वाले दोनों यम की और वरुण देवों को देखो।

ऋग्वेद के इन्हीं मन्त्रों के आधार पर पुराणों में पितृलोक की कल्पना की गई। यम को मृत्यु का देवता कहा गया है।

मृत्यु के बाद पुनर्जन्म होता है, ऋग्वेद में इसकी पुष्टि की गई है। निम्न मन्त्र से पुनर्जन्म के सिद्धान्त की स्पष्ट पुष्टि होती है–

---

[8] ऋग्वेद, 10.129.1–7
[9] ऋग्वेद, 10.121.1–10
[10] ऋग्वेद, 10.14.7

असुनीते पुनरस्मासु चक्षुः पुनः प्राणमिह नो धेहि भोगम्।
ज्योक् पश्येम सूर्यमुच्चरन्तमनुमते मृड्या नःस्वस्ति।।[11]

वह परमेश्वर पुनः प्राणों की प्रतिष्ठा करता है। पुनः चक्षु आदि इन्द्रियों को, प्राणों को और भोगों को धारण कराता है। हे परमेश्वर हम आपकी कृपा से उदय होते हुए सूर्य को दीर्घकाल तक देखते रहें। सबको प्राण देने वाले हे ईश्वर आप हमें सुखी रखिए। हमारा कल्याण हो।

- **मोक्ष**

ऋग्वेद में मोक्ष को सबसे अधिक आनन्द का हेतु कहा गया है। यह सत्य, श्रद्धा, तपस्या और आध्यात्मिक ज्ञान से प्राप्त होता है। ज्ञान रूप ज्योति से मोक्ष के मार्ग के सब विघ्न दूर हो जाते हैं। ऋग्वेद में भक्त भगवान् से प्रार्थना करता है कि हे ईश्वर मुझे उस परम मोक्ष लोक में स्थान प्रदान करो जहाँ निरन्तर ज्योति और परम आनन्द रहता है (ऋ० 9.113.7)। ऋग्वेद के निम्न मन्त्र में मोक्ष की कामना की गई है–

ये यज्ञेन दक्षिणया समक्ता इन्द्रस्य सख्यममृतत्वमानश।
तेभ्यो भद्रमंगिरसो वा अस्तु प्रति गृभ्णीत मानवं सुमेधसः।।[12]

जिन्होंने यज्ञों के द्वारा और दान के द्वारा मुक्ति को प्राप्त किया है, वे इन्द्र की मित्रता को प्राप्त करके मोक्ष को प्राप्त हुए हैं। उनका कल्याण हो गया है। उनके प्राण उनकी बुद्धियों को बढ़ाने वाले होते हैं। उस मोक्ष को प्राप्त मनुष्य को पूर्वमुक्त जीव अपने पास रख लेते हैं।

3) ऋग्वेद का समाज

ऋग्वेद के अध्ययन से उस युग की सामाजिक एवं सांस्कृतिक परिस्थितियों का विस्तृत परिचय मिलता है।

- **वर्णव्यवस्था**

ऋग्वेद के काल में आर्यों का समाज चार वर्णों– ब्राह्मण, क्षत्रिय, वैश्य और शूद्र में विभाजित किया गया था। ये चार आर्यों के चार वर्ण थे। यह वर्ण–व्यवस्था व्यक्तियों के अपने गुणों और कर्मों के अनुसार विकसित हुई थी। चारों वर्ण परस्पर प्रीतिभाव से रहते थे।

ऋग्वेद के मन्त्रों में चारों वर्णों के कर्त्तव्यों का निर्देश किया गया है। ये वर्ण स्वयं पुरुष परमेश्वर के अंगों से उत्पन्न हुए थे–

[11] ऋग्वेद, 10.59.6
[12] ऋग्वेद, 10.62.1

ब्राह्मणोऽस्य मुखमासीद् बाहू राजन्यः कृतः
उरु तदस्य यद्वैश्य पद्भ्यां शूद्रो अजायत।।[13]

इस पुरुष का मुख ब्राह्मण था, क्षत्रिय भुजाओं से उत्पन्न हुए थे। वैश्य इसका उरू था। पैरों से शूद्रों की उत्पत्ति हुई थी।

- **आश्रम व्यवस्था**

ऋग्वेद में आश्रम व्यवस्था का उतना विकास दृष्टिगोचर नहीं होता, जितना अन्य वेदों में तथा वेदोत्तरकालीन साहित्य में है। ऋषियों ने ब्रह्मचर्य, गृहस्थ, वानप्रस्थ और संन्यास इन चार आश्रमों की व्यवस्था की थी। ऋग्वेद में मुख्य रूप से ब्रह्मचर्य का और थोड़ा सा गृहस्थ जीवन का आभास दिया गया है। गुरु के पास विद्याध्ययन के लिए आने वाला विद्यार्थी ब्रह्मचारी कहलाता था और आचार्य उसे अपने पास रख कर शिक्षा देता था। ब्रह्मचर्य का पालन करना बालकों और बालिकाओं दोनों केलिए अनिवार्य था। निम्न मन्त्रों में ब्रह्मचर्य की महिमा गाई गई है–

आचार्यो ब्रह्मचारी ब्रह्मचारी प्रजापतिः।
प्रजापतिर्विराजति विराडिन्द्रो भवद्वशी।
ब्रह्मचर्येण तपसा राजा राष्ट्र नियच्छति।
आचार्यो ब्रह्मचर्येण ब्रह्मारिणमिच्छते।
ब्रह्मचर्येण कन्या युवानं विन्दते पतिम्।
अनड्वान् ब्रह्मचर्येणश्वो घासं जिगीर्षति।।
ब्रह्मचर्येण तपसा देवा मृत्युमुपाध्नत।
इन्द्रो ह ब्रह्मचर्येण देवेभ्यः स्वराभरत।।[14]

वेदों में गृहस्थ आश्रम को सब प्रकार की शारीरिक, आध्यात्मिक और मानसिक उन्नति का साधक बताया गया है। यह आश्रम ब्रह्मचर्य के बाद विवाह के अनन्तर प्राप्त होता है।

- **विवाह**

ऋग्वेद में विवाह के आदर्शों और विधि का रोचक वर्णन किया गया है। वर और कन्या ब्रह्मचर्य का पालन करते हुए यौवन प्राप्त करने पर विवाह के अधिकारी होते थे। विवाह के समय वर कन्या का हाथ ग्रहण करके कहता था। यथा–

गृभ्णामि ते सौभगत्वाय हस्त मया पत्या जरदष्टिर्यथासः।।[15]

सौभाग्य को प्राप्त करने के लिए मैं तुम्हारा हाथ ग्रहण करता हूँ। मुझ पति को

[13]ऋग्वेद, 10.90.12
[14]अथर्ववेद, 11.5.16–19
[15]ऋग्वेद, 10.85.36

पाकर तुम वृद्धावस्था तक पहुँचना। विवाह का मुख्य उद्देश्य पुत्र को प्राप्त करना था। विवाह के अनन्तर इन्द्र से प्रार्थना की जाती है– हे इन्द्र! इस नारी को तुम उत्तम पुत्रों वाली और सौभाग्यवती बनाओ।

विवाह होने के बाद पतिगृह में पत्नी का बहुत अधिक सम्मान और अधिकार होता था। वह सास, ससुर, ननद और देवरों के घर में सम्राज्ञी होती थी और सब पर शासन करती थी।[16]

- **समाज में स्त्रियों की स्थिति**

ऋग्वेद के युग में नारी जाति ने समाज में उचित सम्मान और अधिकार प्राप्त किया था। ऋग्वेद के अनेक देवता– पृथ्वी, उषा, सूर्य, वाक् आदि नारियाँ हैं तथा अनेक ऋषिकाएं भी हैं, जो ऋषियों के साथ शास्त्रार्थ करती थी। वैदिक युग में नारियों का देवियों के समान आदर किया जाता था। पिता के घर में कन्याएं बहुत अधिक स्नेह और सम्मान पाती थीं। ब्रह्मचर्य का पालन करना उनके लिए अनिवार्य था और वे उच्च से उच्च शिक्षा प्राप्त करती थीं। अपने लिए योग्य पति का वरण करने के लिए वे स्वतन्त्र होती थीं।

विवाह होने के बाद नारियों का पति के घर पर पूरा अधिकार होता था। वे पति के लिए सन्तान उत्पन्न करती थीं और उसके प्रत्येक कार्य में सहायक होती थीं। पति के यज्ञ के कार्यों में तो वे सहायक होती ही थीं, आवश्यकता होने पर युद्धों में भी जाती थीं। ऋग्वेद के वचनों के अनुसार पत्नी को पति के प्रति प्रेम करने वाली एकनिष्ठ और प्रत्येक कार्य में सहभागिनी होना चाहिए। असती, विपथगामिनी और पति से द्वेष करने वाली नारी की सर्वत्र निंदा की गई है।

- **निवास**

वैदिक संस्कृति प्रायः ग्रामीण संस्कृति थी। उस समय बड़े नगरों का निर्माण नहीं हुआ था। ऋग्वेद में आर्येतरों के ही बड़े नगरों का उल्लेख मिलता है। इन्द्र ने उनके 100 नगरों को नष्ट किया। घर के लिए यज्ञशाला वास्तु, पस्त्या, आयतन आदि शब्द ऋग्वेद में आए हैं। घरों के निर्माण में यज्ञशाला का विशेष महत्त्व होता था। घर के चार भाग होते थे– अग्निशाला, हविर्धान, पत्नीनां सदन और सदस्।[17]

- **भोजन**

ऋग्वैदीय काल का भोजन सादा और पौष्टिक होता था। घी, दूध, दही आदि का वे प्रचुर प्रयोग करते थे। अनाजों में यव और चावल अधिक प्रयोग में लाते थे।

---

[16]कौशिकगृह्यसूत्र, 78.79 कण्डिका, अथर्ववेद 14.1.61, 14.2.30, 14.1.47
[17]वैदिक साहित्य और संस्कृति, पृष्ठ 431

- **पेय**

उस समय के पेय पदार्थों में जल और दूध के अतिरिक्त सोम और सुरा का भी स्थान था। मधु का उल्लेख आता है। सम्भवतः यह शब्द शहद और सुरा दोनों के लिए प्रयुक्त हुआ है। ऋग्वेद में सोम रस को बहुत महत्त्व दिया गया है। यह मुंजवान् पर्वत पर उत्पन्न होने वाली सोम लता का रस थ। इसको विशिष्ट विधियों से निकाला जाता था और तैयार किया जाता था। यज्ञों के अवसरों पर सोम पान करने के लिए देवताओं का आवाह्न होता था।

- **वस्त्र**

ऋग्वेद के युग में अधिकतर ऊन के वस्त्रों का प्रयोग किया जाता था। कपास के वस्त्रों का प्रचलन कम था ऋग्वेद में वर्णित वस्त्रों में वासस्, वस्त्र, अधोवस्त्र और उत्तरीय उल्लेखनीय हैं। मृगचर्म और वल्कल वस्त्र भी पहने जाते थे। इन वस्त्रों को तपस्वी धारण करते थे।

- **आभूषण**

वैदिक काल के मानव आभूषणों के भी शौकीन थे। स्त्री और पुरुष दोनों ही आभूषण धारण करते थे। ऋग्वेद में प्रायः सोने के ही आभूषणों का उल्लेख मिलता है। रुक्म, निष्क आदि आभूषणों का उल्लेख मिलता है। ये आभूषण गले में वक्षःस्थल पर, कानों में, हाथों में और पैरों में पहने जाते थे। स्त्रियाँ विवध प्रकार से अपने को सजाती थीं और अनेक प्रकार की वेणियाँ बनाती थीं।

इस प्रकार कहा जा सकता है कि ऋग्वैदिक काल में धर्म, दर्शन, समाज एवं संस्कृति समुन्नत एवं सुदृढ़ थी। वर्तमान काल में भी वैदिक रीतियों के अनुसार जीवन–यापन करने से ऐहिक सुख सहित पारलौकिक सुख की कामना की जा सकती है।

निर्मला पुतुल की कविताओं में बाज़ारवाद

— नरेश कुमार

निर्मला पुतुल झारखंड की कवयित्री हैं। इनका जन्म 6 मार्च, सन् 1972 को झारखंड के ज़िला दुमका के दुधानी कुरवा नामक गांव में हुआ। इन्होंने स्नातक तक शिक्षा ग्रहण की है। लेखन, सामाजिक कार्यों और पत्रकारिता में इनकी विशेष रूचि रही है। निर्मला एक अच्छी कहानीकार भी रही हैं, परन्तु अपनी कविताओं के कारण इन्हें साहित्य और समाज में विशेष पहचान मिली है। अपने घर की तलाश में, नगाड़े की तरह बजते शब्द और बेघर सपने इनके तीन प्रमुख कविता संग्रह रहे हैं। इनकी कविताओं का मूल स्वर आदिवासी समाज रहा है।

सन्ताली समाज से निर्मला पुतुल का गहरा लगाव रहा है। यह समाज एक आदिवासी समाज है, जो अपनी कला, संस्कृति, जीवनयापन, ईमानदारी, संघर्षशीलता आदि के लिए विशेष रूप से जाना जाता है। सदियों से यह समाज नगरों और शहरों की आबोहवा से दूर एकांत चित में अपना जीवनयापन कर रहा है, परन्तु आज बाज़ारवाद के बढ़ते प्रभाव के कारण यह सन्ताल परगना भी अछूता नहीं रहा है। बाज़ारवाद के कारण इन शांत वातावरणमयी गावों की सीमाऐं टूट रही हैं और यहां के लोगों के जीवन में नित नवीन परिवर्तन आ रहे हैं। लेखिका ने निरन्तर इन परिवर्तनों को देखा और भोगा। बाज़ारवाद के बढ़ते प्रभाव के कारण जहां इसका एक ओर लोगों के जीवन पर सकारात्मक प्रभाव पड़ा है, वहीं इसका नकारात्मक प्रभाव भी पड़ा है। लेखिका के काव्य में बाज़ारवाद के इसी बनते–बिगड़ते स्वरूप को यथार्थ रूप में देखा जा सकता है।

आज बाज़ारवाद के कारण अनेक कम्पनियां स्थापित हो गई हैं, जिस कारण घरेलू उद्योग और धन्धे इनकी भेंट चढ़ चुके हैं। आदिवासी स्त्रियों द्वारा हाथों से तैयार की गई वस्तुओं का कोई मूल्य नहीं रहा। 'ढेपचा के बाबू' कविता में लेखिका बताती है–

''दोना–पतल नहीं बिकता
और न लेता है कोई चर चटाई

नरेश कुमार, सहायक आचार्य (हिन्दी), हिन्दी विभाग, हिमाचल प्रदेश विश्वविद्यालय, शिमला–5 मो.97360–20860 ई–मेलः naresh.tomar2011@gmail.com

झाड़ू, पंखा, दांतून का भी बाजार नहीं रहा अब
भूले भटके गर कभी कोई पैकर आता भी है
तो रूपये जोड़ा मांगता है पंखा
और सौ रूपये दर्जन चटाई''[1]

अतः बाज़ारवाद के बढ़ते प्रभाव के कारण हस्तकला का निरन्तर क्षरण होता जा रहा है।

आधुनिकीकरण के कारण मशीनों द्वारा नई–नई वस्तुओं का निर्माण व्यक्ति जीवन को प्रभावित कर रहा है। लेखिका ने बताया है कि ग्रामीण लोगों द्वारा निर्मित वस्तुएं कम दामों पर खरीद कर कब बड़े–बड़े शहरों में पहुंच जाती हैं, उन्हें पता तक नहीं चलता। लेखिका के शब्दों में–

''कैसे पहुंच जाती हैं उनकी चीज़ें दिल्ली
जबकि राजमार्ग तक
पहुंचने से पहले ही
दम तोड़ देतीं उनकी
दुनिया की पगडंडियां।''[2]

लेखिका का मानना है कि बाज़ारवाद के कारण लोगों को पता तक नहीं चलता कि उनके द्वारा निर्मित सामान कब बड़े–बड़े बाजारों में पहुंच जाता है।

शहरों की रंगीन दुनियां के कारण ग्रामीण लोग शहरों और बाज़ारों की ओर पलायन कर रहे हैं और वहीं की आबोहवा में गुम हो रहे हैं। निर्मला पुतुल ने अपनी कविता 'तुम कहां हो माया' कविता में इस तथ्य को उजागर किया है–

''दिल्ली के किस कोने में हो तुम?
मयूर विहार, पंजाबी बाग शाहदरा में?
कनाट प्लेस की किसी दुकान में
सेल्सगर्ल हो
या किसी हर्बल कंपनी में पैकर।''[3]

अतः बाज़ारू संस्कृति लोगों को अपनी ओर आकर्षित कर रही है और लोग उसकी चकाचौंध में गुम हो रहे हैं।

बाज़ारवाद के बढ़ते प्रभाव के कारण आज ग्रामीण संस्कृति खतरे में पड़ गई है। धीरे–धीरे इस समाज और संस्कृति में शहरी वातावरण का मिश्रण हो रहा है, जिससे इनकी बोली, रहन–सहन व आचरण पर पाश्चात्य प्रभाव पड़ रहा है। लेखिका के शब्दों में–

''बोलियाँ तो बोलियाँ सांसों में भी
घुल गया है बाज़ारूपन .....
लड़कियों के पास 'फेयर एंड लवली' से
निखरे चेहरे।''[4]

इसी प्रकार लेखिका का मानना है कि जब से गावों के लोगों का शहर के लोगों से सम्पर्क बढ़ा है, तब से ग्रामीण लोगों की दिनचर्या में परिवर्तन आया है। लेखिका कहती है–

''जब से बढ़ा है शहर के साथ हमारी
बस्ती का कारोबार
बढ़ गई है लड़कियों के सैंडिल की ऊंचाई
और मुखर हो गया है उनकी देह की भाषा का मौन संवाद
दोना, पतल, चटाई, झाड़ू, पंखा
अब कुछ नहीं बनाती वह
बल्कि इस दौर में उन्होंने भी तलाश लिए
जीने के शार्टकट रास्ते।''[5]

अतः बाज़ारवाद के कारण पाश्चात्य संस्कृति ग्रामीण लोगों पर हावी होती जा रही है।

बाज़ारवाद के कारण आदिवासी स्त्रियों का शोषण भी हो रहा है। लेखिका का कहना है कि शहरी लोग व्यापारी बन कर उनके समाज में प्रवेश करते हैं, और वहां की स्त्रियों और लड़कियों पर अपनी गन्दी नजरें डालते हैं। 'बिटिया मुर्मू के लिए' कविता में कविता में लेखिका इस तथ्य को उजागर करते हुए कहती है–

''सौदागर हैं वे ..... समझो
पहचानों उन्हें बिटिया मुर्मू
पहाड़ों पर आग वे ही लगाते हैं
उन्हीं की दुकानों पर तुम्हारे बच्चों का
बचपन चीत्कारता है
उन्हीं की गाड़ियों पर
तुम्हारी लड़कियाँ सब्जबाग देखने
कलकता और नेपाल के
बाजारों में उतरती हैं।''[6]

इससे स्पष्ट होता है कि बाज़ारवाद के बढ़ते प्रभाव के कारण ग्रामीण स्त्रियों का शोषण भी हो रहा है।

बाज़ारवाद के कारण जहां एक ओर इसका ग्रामीण जीवन पर नकारात्मक प्रभाव पड़ा है, वहीं दूसरी ओर लोगों की चेतना भी जागृत हुई है। उनकी सोच और जीवनयापन में परिवर्तन के साथ वे अपने अधिकारों के प्रति सचेत भी हुए हैं। कविता 'उतनी ही जनमेगी निर्मला पुतुल' में लेखिका स्वयं में आई चेतना का वर्णन करते हुए कहती हैं–

''यह जो लगी है आग
तुम्हारी व्यवस्था में
उसमें जल रही हूँ मैं

और रह रहकर भड़क रही है
मेरे भीतर की आग .....
इसलिए चुप नहीं रहूंगी अब
उगलूंगी तुम्हारे विरूद्ध आग
तुम मना करोगे जितना
उतना ही जोर से चीखूंगी मैं।''[7]

इसी प्रकार लेखिका उन लोगों के विरूद्ध आवाज़ उठाते हुए नज़र आती हैं, जो भ्रष्ट तरीकों से सब कुछ प्राप्त कर लेते हैं। लेखिका के शब्दों में–

''जानना चाहती हूँ जरूर यह भी
कि गैस सिलिंडर का कार्ड रखने वाला आदमी
लाल कार्ड कैसे प्राप्त कर लिया
और उस आदमी को कैसे मिल गया इंदिरा आवास
जिसके पांव के जूते
मेरे पूरे बदन के कपड़े से
चार गुणा ज्यादा कीमती हैं?''[8]

अतः स्त्री द्वारा इन सभी के विषय में प्रश्न करना और आवाज़ उठाना उसकी चेतना की जागृति को दर्शाता है।

इस प्रकार लेखिका ने स्पष्ट किया है कि जहां बाज़ारवाद के कारण ग्रामीण समाज और संस्कृति खतरे में पड़ती जा रही है, वहीं दूसरी ओर लोग बाज़ारवादी सभ्यता और संस्कृति के कारण सचेत भी हो रहे हैं। अतः लेखिका की कविताओं में बाज़ारवाद के नकारात्मक और सकारात्मक पहलुओं की यथार्थ अभिव्यक्ति हुई है।

सन्दर्भ ग्रन्थ सूची

1. निर्मला पुतुल, ढेपचा के बाबू, पृ० 53
2. निर्मला पुतुल, आदिवासी स्त्रियाँ, पृ० 8
3. निर्मला पुतुल, तुम कहां हो माया, पृ० 31
4. निर्मला पुतुल, कथा दुमका के पायताने बसे कुरूवा की, पृ० 83
5. वही, ... वही, ... वही, ... , पृ० 83
6. निर्मला पुतुल, बिटिया मुर्मू के लिए, पृ० 11
7. निर्मला पुतुल, उतनी ही जनमेगी निर्मला पुतुल, पृ० 100
8. वही, ... वही, ..., पृ० 43

अब्दुल बिस्मिल्लाह के साहित्य में व्यक्त संवेदना

सुनीता देवी

साहित्य मानव की संवेदनाओं का कलात्मक रूप में अभिव्यक्तिकरण है। इसमें भावनाओं और कल्पनाओं की असीम पृष्ठभूमि विद्यमान रहती है। कथाकार अब्दुल बिस्मिल्लाह का साहित्य इसका साक्षात् प्रमाण है। इनके साहित्य में निर्झरिणी की भांति प्रगतिशीलता है और हृदय को शांति देने वाली निर्मलता और पवित्रता। उसमें आह्लाद और आनंद है, जिस प्रकार एक नदी अपने प्रवाह के अनुकूल तटों का निर्माण कर लेती है, उसी प्रकार अब्दुल बिस्मिल्लाह के कथा साहित्य की संवेदना अपने अभिव्यक्तिकरण में सिद्धान्तों का निर्माण करती है। इनका कथा संसार जिस विशिष्ट दृष्टि को लेकर चलता है। वह जीवन के अन्तर्जगत् और बहिर्जगत् दोनों का स्पर्श करता है।

गोपाल प्रसाद व्यास ने इस लेखक के विषय में कहा है, ''जो वेदना को पी सकता है, वही हँस सकता है। जो जीवन के प्रति, उसके मूल्यों के प्रति गंभीर है, वही व्यवहार में हल्का–फुल्का हो सकता है।''[1] यही इनका शान्त स्वभाव ही है कि इन्होंने सत्त कोमलता में ही समाज व परिवार की तस्वीर समक्ष रखी है। बिस्मिल्लाह जी संवेदनशील व्यक्तित्व के धनी हैं। उनकी यह संवेदनशीलता हिन्दू–मुस्लिम तथा संसार के हर एक जाति के लोगों से जुड़ी हुई है। उनके हृदय की यह संवेदनाएँ उनकी रचनाओं में दृष्टिगत होती हैं।

इस सन्दर्भ में राजेन्द्र राव का कथन उचित ही लगता है कि ''झीनी झीनी बीनी चदरिया बनारसी साड़ी बुनने वाले लाखों अंसारी मुसलमान दस्तकारों के परिपाटी बद्ध शोषण और दोहन से उपजी अमानवीय जीवन परिस्थितियों का सजीव चित्रण करने वाला एक प्रामाणिक दस्तावेज है।''[2] प्रस्तुत उपन्यास का केन्द्रीय पात्र है मतीन जो एक बुनकर है। उसने जब से होश संभाला है तब से वह बानी पर ही बिनता आ रहा है उसकी ऐसी स्थिति कभी नहीं रही कि खुद की कतान खरीद सके। उसकी ऐसी स्थिति रही कि हाजी अमीरूल्लाह

सुनीता देवी, शोधार्थी (पी.डी.एफ.), हिन्दी विभाग, हिमाचल प्रदेश विश्वविद्यालय, शिमला

साहब (गिरस) दे तो खाओं वरना भूखे रहो। इस सन्दर्भ में स्वयं मतीन का कहना है कि ''करघा अपना, जाँगर अपनी सिर्फ कतान हाजी साहब का लेकिन हाजी साहब की कोठियाँ तन गयी और मतीन उसी ईंट की कच्ची दीवारों वाले दरबे में गुजर कर रहा है। पेट को ही नहीं अंटता, क्या करें? कितनी भी सफाई से बिनो, नब्बे रूपये से ज्यादा मजदूरी नहीं मिलने की हफ्तेभर में सिर्फ नब्बे रूपया! उसमें से भी कभी पाँच रूपया दाग का तो कभी तीन रूपया मत्ती का और रफू का तो कभी तीरी का कट जाता है। वाह रे अल्ला मियाँ वाह, खूब इन्साफ है तेरा भी।''[3]यहां कहा जा सकता है कि इस उपन्यास में मतीन की तरह कई पात्र, भी शोषक वर्ग के शिकार हैं। गिरस्ता लोग बुनकरों तथा उनके परिवार का किस तरह शोषण करते हैं। इसका मर्मस्पर्शी चित्रण उपन्यास में हुआ है। बुनकर बशीर बीमार है उसे अस्पताल में भर्ती करवाया जाता है उसे आराम तथा इलाज की जरूरत है। उसकी बीवी हाजी अमीरूल्लाह से कर्जा लेती है। गिरस्ता लोग भी ऐसे मौके के इन्तजार में ही होते हैं कि ''कोई आसामी कर्ज लेने आये तो कम–से–कम कर्ज वसूलने में जो एक खास किस्म का मजा है वह और किसी काम में कहां? प्रस्तुत उपन्यास में हिन्दू–मुसलमानों के बीच दीवार खड़ी करने का काम समाज के ठेकेदार ही करते हैं। वैसे देखा जाए तो धर्म दो ही हैं अमीर और गरीब। ये अमीर लोग हिन्दू हो या मुसलमान वे गरीबों का शोषण ही नहीं करते बल्कि उनकी धार्मिक भावनाओं को भड़काकर उनमें दंगे–फसाद भी करवाते हैं। इस सम्बन्ध में राजेन्द्र राव कहते हैं,''बनारस में साम्प्रदायिक दंगा किस तरह से पूर्व नियोजित होता है इस कुचक्रमें गरीब बुनकरों की बहुत बुरी दुर्दशा होती हैं।''[4] इसमें बुनकरों की आर्थिक स्थिति, गिरस्तों द्वारा उनका शोषण, उनके धार्मिक संस्कार, उनका परिवेश, राजनीतिक हथकंडे आदि परिस्थितियों को देखकर लेखक का संवेदनात्मक दृष्टिकोण स्वाभाविक है।

'जहरबाद' लेखक का आत्मकथात्मक उपन्यास है इसका कथ्य मध्यप्रदेश के पूर्वी छोर पर स्थित मंडला अँचल पर आधारित है। यह एक ऐसा प्रदेश है जहाँ आजाद हिन्दूस्तान की कोई भी योजना नहीं पहुँची है और यहाँ के बहुतसे लोग गरीबी रेखा से नीचे का जीवन व्यतीत कर रहे हैं। इन्ही लोगों के माध्यम से लेखक ने समाज की विसंगतियों, वर्जनाओं तथा दारूण विषमताओं को मार्मिक ढंग से अभिव्यक्त किया है।

''संक्षेप में कहें तो यह उपन्यास रोज–रोज मरकर जीने वाले अनगिनत पति–पत्नियों, पुत्रों और प्रेमी–प्रेमिकाओं की उनके दुःख–दर्द की ऐतिहासिक महागाथा है।''[5]मनोज कुमार झा इस उपन्यास के सम्बन्ध में लिखते हैं, ''दरसल यह उपन्यास ग्रामीण परिवेश में जीवन के अस्तित्व के लिए संघर्षरत, सर्वहारा लागों की कहानी है। उनके दुःखों की सुधाग्नि की दाहकता की, हताशा और निराशा की, झुंझलाहट, खिजलाहट और अंतहीन झगड़ों की तथा 'अभावों के कारण' मनुष्य के जहरीले जीव में परिवर्तित हो जाने की कहानी है। एक छोटे से बच्चे की आँखों का यह संसार जिसे भोगने–झेलने को वह विवश है और अपने सीमित अनुभवों के सहारे ही परिस्थिति की भयावह विकलता और निरीह क्षुद्रता की वजहों को समझने की कोशिश करता है और यह पाता है कि 'सारी

लड़ाई की जड़ है पैसा।''[6]इस कथनों से स्पष्ट है कि लेखक ने अपने बचपन के जीवन को परिवेश के साथ जोड़कर उसके अभाव, हताशा, निराशा, झुंझलाहट, टकराव, अंतहीन झगडे, दुःख दर्द, प्रेमी–प्रेमिकाओं का रोमांस, अनैतिक सम्बन्ध है जहां लेखक की संवेदना का सागर उमड़ जाता है।

'समरशेष है' उपन्यास में छत, रोटी और अस्तित्व के संघर्ष में पकते हुए युवक की व्यथा–कथा को प्रस्तुत किया गया है। इस उपन्यास के सन्दर्भ में शशिकला त्रिपाठी लिखती हैं, ''जिन्दगी क्या है?जिन्दगी का वजूद खुद के लिए है या औरों के लिए? यदि औरों के लिए उसकी जरूरत न हो क्या जीते रहने की कोई अनिवार्यता है?व्यक्ति की जिन्दगी क्या अपने लिए इतनी महत्त्वपूर्ण है कि घृणा, अवमानना का बोझ लगातार ढोते रहने के बावजूद भी जिजीविषा बनायी रखी जाए? इतना ही नहीं अभाव की भयंकरता में भी क्या सुन्दर भविष्य की कामना की जा सकती है आदि तमाम सवालों से टकराता है कथाकार बिस्मिल्लाह का आत्मकथात्मक उपन्यास 'समरशेष है'[7]।

'तलाक के बाद' कहानी में देखें तो यहाँ यातना के बीच जीवन का अन्वेषण पूर्णतः द्रष्टव्य होता है इसमें मुस्लिम समाज के रीति–रिवाजों पर, नियमों पर करारा व्यंग्य किया गया है। समाज के नियमों का पालन करना जरूरी है लेकिन ऐसे नियम भी किस काम के जो व्यक्ति को व्यक्ति से, पत्नी को पत्ति से अलग कर दे। सत्तार और साबिरा के विवाह में दूल्हे के रिश्तेदारों को शराब न देना इस छोटी सी बात के कारण सत्तार के पिता साबिरा के पिता पर गुस्सा रहता है। आगे चलकर इसका कोप भाजन साबिरा को ही बनना पड़ता है। वे तलाकनामा लिखकर और अपने बेटे को धमकाकर उस पर दस्तखत करवा लेते हैं और साबिरा अपनी मां के घर चली जाती है। एक दिन सत्तार अचानक साबिराकी माँ के घर पहुंचता है। वह कहता है कि मैंने साबिरा को अपने मन से तलाक नही दिया है। सत्तार और साबिरा फिर से इकट्ठे रहना चाहते है लेकिन माँ इसकी इजाजत नही देती वही शरीयत और सामाजिक नियम का हवाला देते हुए कहती है, ''जब तक साबिरा का निकाह किसी दूसरे मर्द से न हो जाये और उसके साथ रहने के बाद जब तक वह मर्द तलाक न दे दे, साबिरा तुम्हारे निकाह में नहीं आ सकती।''[8] प्रस्तुत कहानी में मुस्लिम समाज की सड़ी गली परम्परा का यथार्थ लेखा–जोखा स्पष्ट किया है।

मध्यमवर्गीय समाज के तनावों को अब्दुल बिस्मिल्लाह इस प्रकार रचते हैं कि वे तथाकथित यथार्थवाद से निरासक्त हो जाते हैं। 'आग' कहानी इसका ज्वलन्त उदाहरण है इस कहानी में 'मुन्नी' की कहानी को प्रस्तुत किया गया है 'मुन्नी' का कम उमर में विवाह हो जाता है। उसका पति नकली जेवरों का बिजनेस करता है। मुन्नी को पाँच बच्चे हो गये हैं वे अपने बच्चों के साथ नागपुर में रहती है। नकली जेवरों को बेचने के अतिरिक्त कुछ दूसरे धंधे भी उसका पति करता है। लड़की बेचना उसका विरोध मुन्नी करती है तो उसे पीटता है। धीरे–धीरे उसका घर आना कम होता है और पैसे भी कम देता है। गृहस्थी चलाने के लिए मुन्नी अपने लिए दूसरों को मुसीबत में नही डालना चाहती। मुन्नी की घर की स्थिति

अत्यंत दयनीय है। राशन का माल दुकानदार उधार नहीं देता। कथानायक कहता है, ''मुझे लगा कि उस टूटी हुई अलमारी के पीछे एक आग जल रही है जो मेरे भीतर की आग से अधिक भयंकर है।''[9] प्रस्तुत कहानी में हमारे समाज में नारी पर होने वाला अन्याय, अत्याचार, शोषण को संवेदनात्मक रूप से वर्णित किया गया है। गरीबों के शोषण के लिए धर्म को हथियार बनाया जाता है। गरीबों के शोषण में धर्म की महत्त्वपूर्ण भूमिका रही है। आर्थिक दृष्टि से सम्पन्न और समर्थ लोगों के लिए धर्म सबसे बड़ा कारगर हथियार रहा है। धर्म से भारतीय समाज को जितनी क्षति पहुंचती है उतनी किसी अन्य चीज से नहीं। 'लफंगा' कहानी का एक पात्र कहता है ''मजहब ने तो आज तक किसी का कोई भला नहीं किया। हाँ उसके नाम पर अत्याचार तो बहुत हुए हैं।''[10]

मानवीय संवेदनाओं और रिश्तों के विद्यटनों को दूसरा सदमा, 'लंठ' और 'पेड़' बड़ी मार्मिकता के साथ व्यक्त करती हैं। दंगे पहले शहरों में ही हुआ करते थे और गांव इस बीमारी से सर्वथा अछूते थे, किन्तु अब गांवों में भी यह बीमारी फैल गई है। गांवों में इस बीमारी को फैलाने में धर्म के ठेकेदारों का ही हाथ है। निहित स्वार्थ के लिए ऐसे लोग भोले–भाले लोगों के दिलों में साम्प्रदायिकता के जहर की भावना को इस तरह भर देते हैं कि गांव वाले आदमी और मनुष्य में 'धर्म और मजहब' में तथा 'जल और पानी' में फर्क करने लगते हैं। ग्राम–सुधार कहानी का एक पात्र कहता है, ''जल होता है गंगा का, जल होता है घड़े का जो पवित्र होता है, शुद्ध होता है और पानी होता है तोंतीदार लोटे, यानी बधने का जिससे मुसलमान जोग उज्जू बनाते हैं और नाक छिनकते है।''[11]

'लंठ' महत्त्वपूर्ण कहानी है जिसमें साम्प्रदायिकता की भावना और समुदाय की धूर्तता का चित्रण किया गया है। 'लंठ' कहानी का आरिफ बिल्कुल भोला भाला है। आरिफ अपने भोलेपन के कारण साम्प्रदायिक राजनीति का शिकार हो जाता है और अपनी जान से हाथ धो बैठता है। कहानीकार की पूरी कोशिश रही है कि, साम्प्रदायिक दंगों के पीछे काम करने वाली शक्तियों को बेनकाब करना, सद्भाव तथा भाईचारा को स्थापित करना। ये कहानियां फिरक्का परस्ती और साम्प्रदायवाद से लड़ने की दिशा में एक साकारात्मक सोच पैदा करती हैं और यह विश्वास दिलाती हैं कि भारतीय समाज मत–मतातरों की भिन्नता के बाबजूद एक है और उसकी सांझी संस्कृति है जिसे तोड़ना आसान नहीं हैं।

अतः यह कहना तर्क संगत है कि अब्दुल विस्मिल्लाह का समूचा कथा संसार संवदेन–सपन्दन और तरह–तरह के जीवनागत संत्रासों से अपने मौजूद देशकाल में भी और अपने स्थानांतरित होते देशकाल में विन्यस्त और व्यस्त होता दिखाई देता है।

सन्दर्भ ग्रन्थ सूची

1) कौशल्या अश्क (सं.) अश्क एक रंगीन व्यक्तित्व, पृ. 01
2) चन्द्रदेव यादव (सं.) अब्दुल बिस्मिल्लाह का कथा साहित्य में संकलित राजेन्द्र राव का लेख, पृ. 33
3) अब्दुल बिस्मिल्लाह, झीनी–झीनी बीनी चदरिया, पृ. 11
4) उपरिवत्, पृ. 42
5) वसीम मंक्रानी, अब्दुल बिस्मिल्लाह का कथा साहित्य, पृ. 88
6) चन्द्रदेव यादव (सं.) अब्दुल बिस्मिल्लाह का कथा साहित्य में संकलित विरेन्द्र यादव का लेख, पृ. 91
7) चन्द्रदेव यादव (सं.) अब्दुल बिस्मिल्लाह का कथा साहित्य में संकलित शशिकला त्रिपाठी का लेख, पृ. 74
8) अब्दुल बिस्मिल्लाह, कितने–कितने सवाल, पृ. 22
9) अब्दुल बिस्मिल्लाह, जीनिया के फूल, पृ. 37
10) अब्दुल बिस्मिल्लाह, रैन बसेरा, पृ. 103
11) अब्दुल बिस्मिल्लाह, अतिथि देवो भव, पृ. 125

HIMACHAL PRADESH UNIVERSITY JOURNAL (HPUJ)

(A Bi-annual Multi-disciplinary Research Journal)

ISSN : 2277-1425; e-ISSN: 2277-1433

General Information

Himachal Pradesh University Journal (ISSN : 2277-1425; e-ISSN: 2277-1433) is a bi-annual peer reviewed multi-disciplinary research journal published on behalf of Himachal Pradesh University covering all areas of research and studies being conducted at Himachal Pradesh University, Shimla.

Submission of Manuscripts

Manuscripts for publication in HPU should be sent in the form of soft copy on the journal's email ID:hpuniversityjournal@gmail.com directly. On receiving the soft copy of the manuscript, the Associate Editors of respective sections will process the manuscripts for reviewing and publication. The authors are required to confirm that the manuscript has not been published or under consideration for publication elsewhere.

Instruction to the authors

Manuscripts should be written in English (except in subjects of languages) in Microsoft Office Word 2007 with 1.5 spacing in Times New Roman font 12. Authors are required to present the text as concise as possible (not more than 7000 words).

Sections of the paper should be arranged in the following order: 1. Title page, 2.Introduction, 3. Materials and Methods, 4. Results, 5. Discussion, 6. Reference (arranged alphabetically), 7. Tables, 8. Figures. The title page should comprise of title of the paper, names and address of authors, abstract (not exceeding 250 words) and key words.

Reference style should be followed as :

Journal article: Levan. A., Fredga, K. and Sandberg, A. 1964. Nomenclature for centromeric position on chromosome. Hereditas, 52:201-220.

Book: Stebbins, G.L. 1971. Chromosome evolution in higher plants, Edward, Arnold, London.

Book Chapter: Randall, J.E. 1995. Groupers, seabasses and their allies. In: Paxton, J. R. and Eschemeyer, W.N. (eds). Encycolopedia is fishes. Academic Press, pp 197-201.

Disclaimer

The information and opinion expressed in the Himachal Pradesh University Journal reflect the views of the authors only and not of the journal or its editorial board or the publisher. Publication does not constitute endorsement by the journal. Himachal Pradesh University Journal or editorial board of HPUJ does not assume any liability or responsibility for the accuracy, completeness and usefulness of any information provided in the journal.

Contact details

Editor
Himachal Pradesh University Journal
Himachal Pradesh University,
Shimla - 171 005 India

Email: hpuniversityjournal@gmail.com

Copyright : Himachal Pradesh University Journal (HPUJ) 2019

Published by:
Himachal Pradesh University, Shimla-5

Printed by:
Design India, Power House, New Totu,
Shimla - 1710 11 Mob.:93180-17070