

*U.G.C. Approved International Refereed Monthly Research Journal*

## **Acme International Journal of Multidisciplinary Research**

**ISSN : 2320 – 236X**

**<http://www.researchjournals.in>    Quality Impact Factor : 5.79 (CARS)**

**Volume – V, Issue – II**

**April – 2017**

**Managing Editor  
A. R. Mahida**

**Chief Editor  
Jagruti A. Mahida  
Assistant Professor  
S.V.Patel Commerce College  
Ahmedabad, Gujarat (India)**

**Chintan Mahida  
Adhyapak Sahayak  
Arts and Commerce College  
Anklav, Gujarat**

**Associate Editor  
Dr. Himanshu A. Srivastava  
Assistant Professor  
Govt. Engineering College  
Bhavnagar, Gujarat**

**Published by  
Publish World  
Anand, Gujarat (India)  
<http://www.publishworld.org>**

### **International Advisory Board**

**Dr. Jerry Watson  
Asst. Professor,  
University of Mississippi  
Oxford, USA**

**Dr. Osman Titrek  
Associate Professor  
Sakarya University, Turkey**

**Dr. Hassan Jafari  
Lecturer  
Khoramashahr Univeristy of Marine  
Science & Technology, Iran**

**Dr. Syeda Shahida Batool  
Assistant Professor  
G.C. University  
Lahore, Pakistan**

**Dr. Ramel D. Tomaquin  
Dean, College of Arts and Sciences  
Surigao Del Sur State University  
Philippines**

**Dr. Jake M. Laguador  
Research Director  
Lyceum of the Philippines University  
Batangas City, Philippines**

**Dr. Hamid Azimi  
Faculty Member  
University of Applied Science &  
Technology, Iran**

**Dr. Fitsum Kidane  
Assistant Professor  
Mekelle University, Ethiopia**

---

# **Advisory Board Members**

---

**Dr. Kallave Maheshwar**  
Assistant Professor  
P.G. Department of Education  
Dr. Babasaheb Ambedkar Marathwada University  
Maharashtra (India)

**Dr Jayendra N Amin**  
Associate Professor  
M K Institute of Education and Research  
Patan - 384265

**Jagruti Mahida**  
Assistant Professor  
S.V.Patel Commerce College  
Ahmedabad, Gujarat (India)

**Dr. Bipasha Sinha**  
Head, Dept. of Education  
S.S.Jalan Girls' College  
University of Calcutta,  
West Bengal (India)

**Dr. Bhavsinh Dodiya**  
Dept. of Commerce  
Smt. J.C. Dhanak Arts & Commerce College  
Gujarat (India)

**Dr. Navin Shah**  
Assistant Professor  
Dept. of Economics  
Saurashtra University  
Gujarat (India)

**Dr. Vinit Kumar**  
Dept. of Economics  
B. B. Ambedkar(Central)University  
Lucknow, Uttar Pradesh.

**Dr. Ishita Chatterjee**  
Assistant Professor  
Department of Applied Psychology  
University of Calcutta  
West Bengal (India)



---

## Review Board

---

The Editorial Board members edit manuscripts after they have been peer-reviewed. The Editor ensures that revisions have been completed if requested by peer reviewers. The editor also makes sure that manuscripts are grammatically correct, consistent in style, readable, and free of plagiarism or other scientific misconduct.

The Review Board members are expert in their respective subject area. In order to encourage a double blind review process where the referee remains anonymous throughout the process, we haven't formed Secondary Review Board. For each issue, we are inviting Secondary guest reviewers according to article received of particular subject. Primary Reviewers are expected to write reviews in a timely, collegial and constructive manner. Second Review Board will approve article.

<b>Dr. Sonal Nena</b>	<b>Accountancy</b>	nena.sonal@gmail.com
<b>Dr. Rachana Shukla</b>	<b>Agricultural Microbiology</b>	rmshukla2003@yahoo.com
<b>Dr. Niraj Kumar Singh</b>	<b>Biotechnology</b>	nirajbiotech@gmail.com
<b>Dr. Rafiuddin Naser</b>	<b>Botany</b>	rafiuddinnaser@rediffmail.com
<b>Dr. Imtiyaz Hussain Zahid</b>	<b>Botany/Biology</b>	mihzahidg@gmail.com
<b>Dr. Ch. Venkata Sivasai</b>	<b>Buddhist Studies</b>	ncym2030@gmail.com
<b>Dr. Latika Ajbani</b>	<b>Business Administration</b>	latika.ajbani@gmail.com
<b>Dr. Tara Nath Nath</b>	<b>Chemistry</b>	taranathnath@yahoo.in
<b>Gourav Dureja</b>	<b>Civil Engineering</b>	gurugourav@gmail.com
<b>Dr. Jayesh Vora</b>	<b>Commerce</b>	jayesh_p_vora@yahoo.com
<b>Dr. Madhu Gaba</b>	<b>Commerce</b>	madhugaba@gmail.com
<b>Dr. Ramesh Davada</b>	<b>Commerce</b>	iiramdavadaai@gmail.com
<b>Ms. Lina George</b>	<b>Commerce</b>	lina@kristujayanti.com
<b>Priyanka Pandey</b>	<b>Commerce</b>	priyankaup.pandey@gmail.com
<b>Bhushan Dave</b>	<b>Computer Science</b>	iiramdavadaai@gmail.com
<b>Manoj Kumar Mogaraju</b>	<b>Computer Science</b>	manojmogaraju@gmail.com
<b>Pardeep Seelwal</b>	<b>Computer Science</b>	pardeepseelwal@gmail.com
<b>Biswajit Das</b>	<b>Economics</b>	bdkcc@rediffmail.com
<b>Dr. Dilipkumar R. Vajani</b>	<b>Economics</b>	iiramdavadaai@gmail.com
<b>Dr. Jignesh B. Patel</b>	<b>Education</b>	jig_har@yahoo.com
<b>Dr. Kamendu Thakar</b>	<b>Education</b>	kamenduthakar@gmail.com
<b>Dr. Birbal Saha</b>	<b>Education</b>	birbalsaha@gmail.com
<b>Dr. P.C. Naga Subramani</b>	<b>Education</b>	naga.subramani@yahoo.com
<b>Dr. Neelu Ghosh</b>	<b>Educational Technology</b>	neelu.ghosh@gmail.com
<b>Dr. Seema Rani</b>	<b>English</b>	sandeep.verma@hfcl.com
<b>Nadeem Jahangir Bhat</b>	<b>English</b>	nadeem8384@gmail.com
<b>Sreevidya Nair N</b>	<b>English</b>	srerems@yahoo.com
<b>Tushar Brahmabhatt</b>	<b>English</b>	tusharbrahmabhatt88@gmail.com
<b>Dr. Brij Pal Suthar</b>	<b>Indian English Literature</b>	brijpalsuthar@gmail.com
<b>Dr. Peena Thanky</b>	<b>English</b>	drpeena@gmail.com
<b>Javeria Khurshid</b>	<b>English</b>	javzsyed@yahoo.com
<b>Sachidananda Panda</b>	<b>English</b>	spandan.0979@gmail.com
<b>Dr. Naveen .K. Mehta</b>	<b>English Language</b>	drnknmehta73@gmail.com

<b>Dr. Tara Nath Nath</b>	<b>Enviromental Science</b>	taranathnath@yahoo.in
<b>CMA Dr. S.K.Jha</b>	<b>Finance and Account</b>	cmaskjha@gmail.com
<b>Nasim Akhtar</b>	<b>Geography</b>	nasim.akhtar380@gmail.com
<b>Renu Sharma</b>	<b>Geography</b>	shine.renu@gmail.com
<b>Sabbir Ahmed</b>	<b>Geography</b>	shabbirgeog@gmail.com
<b>Sangeeta Boruah Saikia</b>	<b>Geography</b>	saikiasangeeta@yahoo.com
<b>Surendra Kaur Rawal</b>	<b>Geography</b>	shabbirgeog@gmail.com
<b>Swati Mollah</b>	<b>Geography</b>	swatimollah@gmail.com
<b>Dr. Mahesh Barot</b>	<b>Gujarati</b>	issnjournal@gmail.com
<b>Zelam C.Zende</b>	<b>Hindi</b>	zelam2282@gmail.com
<b>Ajay Kumar</b>	<b>History</b>	dipiajay2456@gmail.com
<b>Mukesh P. Ahir</b>	<b>History</b>	mukeshahir394@gmail.com
<b>Ankit R. Patel</b>	<b>History</b>	ankitpatel1100@gmail.com
<b>Dr. R. Muthu</b>	<b>History</b>	saranmuthu79@gmail.com
<b>Dr. Alka David</b>	<b>Home Science</b>	alka.david@yahoo.com
<b>Dr. Nivedita Gnawa</b>	<b>Home Science</b>	nganawa@gmail.com
<b>Madhusmita Das</b>	<b>HRM &amp; Marketing</b>	meetpreeti.mba@gmail.com
<b>Dr. Brij Pal Suthar</b>	<b>Indian English Literature</b>	brijpalsuthar@gmail.com
<b>Lalita Jangra</b>	<b>Indian Philosophy</b>	lalitajangra07@gmail.com
<b>Srivatsan Sridharan</b>	<b>IT, Computer Science</b>	vatsan.s@rediffmail.com
<b>Aneeda Jan</b>	<b>Law</b>	aneedajan@gmail.com
<b>Nusrat Ahad Pandit</b>	<b>Law</b>	panditnusrat@gmail.com
<b>Loknath Saur</b>	<b>Law</b>	suarlokanath@yahoo.in
<b>Yogesh Prakash Surwade</b>	<b>Libaray Science</b>	yogeshps85@gmail.com
<b>Anil Ota</b>	<b>Management</b>	anilota@gmail.com
<b>Basanta Dhakal</b>	<b>Management</b>	basantadh@gmail.com
<b>Dr. B. Ravi Kumar</b>	<b>Management</b>	ravi9949418650@yahoo.com
<b>Rajesh Savaliya</b>	<b>Mathematics</b>	issnjournal@gmail.com
<b>Jimit Patel</b>	<b>Mathematics</b>	issnjournal@gmail.com
<b>Hemant Patel</b>	<b>Mathematics</b>	issnjournal@gmail.com
<b>Om Prakash Shukla</b>	<b>Mechanical Engineering</b>	omprakash_shukla97@rediffmail.com
<b>Vijay Naryan Mani</b>	<b>Media Studies</b>	vijaym2004du@gmail.com
<b>Dr. Kalpna Rakholiya</b>	<b>Microbiology</b>	kalpna.rakholiya@gmail.com
<b>Dr. Pritesh P. Parmar</b>	<b>Microbiology</b>	priteshpparmar@gmail.com
<b>Navneet Batra</b>	<b>Pharmacy</b>	batra0310@gmail.com
<b>Shashank Tiwari</b>	<b>Pharmaceutics</b>	shashank6889@gmail.com
<b>Laimayum Bishwanath Sharma</b>	<b>Philosophy</b>	laibishwanath@yahoo.com
<b>Dr. Chhanda Chatterjee</b>	<b>Philosophy (Indian)</b>	amiyachhanda@rediffmail.com
<b>Dr. Arvind Kumar Tripathi</b>	<b>Physical Education</b>	drakripathi@gmail.com
<b>Dr. Jayendra Sinh Thakor</b>	<b>Physical Education</b>	j.pthakor@yahoo.in
<b>Dr. Saugata Sarkar</b>	<b>Physical Education</b>	sougata.babul@gmail.com
<b>Sanjay Joshi</b>	<b>Physical Education</b>	sanjayngu@gmail.com
<b>Dr. Jignesh Rathod</b>	<b>Physics</b>	issnjournal@gmail.com
<b>Hiral Ravia</b>	<b>Political Science</b>	mails2hiral@yahoo.co.in

<b>Ravjeetsingh Atwal</b>	<b>Political Science</b>	ravjeet_atwal@yahoo.co.in
<b>Dr. Bhavna Thummar</b>	<b>Psychology</b>	drbhavnagudm@gmail.com
<b>Dr. Ramesh Prasad Dwivedi</b>	<b>Public Administration</b>	shrinishvas_ngo@rediffmail.com
<b>Jagdish Kumar Mogaraju</b>	<b>Remote Sensing</b>	jagadishmogaraju@gmail.com
<b>Dr. Md. Selim Reza</b>	<b>Rural Development</b>	selim.cibart@gmail.com
<b>Ashish Vashisath</b>	<b>Sanskrit</b>	ashishvashisath@gmail.com
<b>Dr. Dilkhush U. Patel</b>	<b>Sanskrit</b>	tusharbrahmbhatt88@gmail.com
<b>Dr. Dixa Savla</b>	<b>Sanskrit</b>	dixasavla@gmail.com
<b>Dr. Bhavana Verma</b>	<b>Social Work</b>	bhavanamgkvp@gmail.com
<b>Dr. L. Ranjit</b>	<b>Social Work</b>	ranjitlingaraj@gmail.com
<b>Dr. Md. Selim Reza</b>	<b>Social Work</b>	selim.cibart@gmail.com
<b>Yirga Alem Siawk</b>	<b>Socio Linguistic</b>	issjournal@gmail.com
<b>Dr. Satish Gamit</b>	<b>Sociology</b>	mukeshahir394@gmail.com
<b>Dr. Sribas Goswami</b>	<b>Sociology</b>	santoshbehera.jkc@gmail.com
<b>Dr. Sunil Kumar</b>	<b>Sociology</b>	skdhullkuk@gmail.com
<b>Heena Qadir</b>	<b>Sociology</b>	heequad@yahoo.com
<b>Dr. Mudasir Ahmad Lone</b>	<b>Sociology</b>	mudasirshaheen@yahoo.com
<b>Dr. Bhavana Upadhyay</b>	<b>Teacher Education</b>	bhawana_opsikhwal@rediffmail.com
<b>Dr. Neeraj Kumar</b>	<b>Thermal Engineering</b>	nk4296@gmail.com
<b>Dr. Nikunj Gajera</b>	<b>Zoology</b>	gajeranikunj@gmail.com

**1. Editing of the research journal is processed without any remittance. The selection and publication is done after recommendation of subject expert Referee.**

**2. Thoughts, language vision and example in published research paper are entirely of author of research paper. It is not necessary that both editor and editorial board are satisfied by the research paper. The responsibility of the matter of research paper is entirely of author.**

**3. In any Condition if any National / International university denies to accept the research paper published in the Journal then it is not the responsibilities of Editor, Publisher and Management.**

**4. Before re-use of published research paper in any manner, it is compulsory to take written acceptance from Chief Editor unless it will assume as disobedience of copyright rules.**

**5. All the legal undertaking related to this research journal are subjected to be hearable at Gujarat jurisdiction only.**

**6. If we don't have reviewer of any unlisted subjects, we will invite guest reviewers for those kinds of subjects**

**7. All efforts are made to ensure that the published information is correct. Publish World is not responsible for any errors caused due to oversight or otherwise**

**8. RNI is not applicable to our journals because they are Peer-Reviewed Open Access Journal. We are giving well bind print copy only to all authors as a reward for their research contribution. It is not distributed or circulated for Commercial purpose**

.



**NATIONAL INSTITUTE OF SCIENCE COMMUNICATION  
AND INFORMATION RESOURCES**

**(Council of Scientific and Industrial Research)**

14, Satsang Vihar Marg, New Delhi 110 067 &  
Dr. K. S. Krishnan Marg (Near Pusa Gate) -110 012



Ms. V. V. Lakshmi, Head, National Science Library

Phone: 91-11-2686 3759

E-mail: [vvlakshmi@niscair.res.in](mailto:vvlakshmi@niscair.res.in) website: [www.niscair.res.in](http://www.niscair.res.in)

**NSL/ISSN/INF/2013/45**

**Dated: January 04, 2013**

Mr. Chintan Ambalal Mahida,  
10, Toran Bunglows,  
Near Nandbhumi,  
Vidhyanagar Road,  
Anand- 388001

Dear Sir/ Madam,

We are happy to inform you that the following serial(s) published by you has been registered and assigned ISSN

**ISSN 2320 –236X ACME International Journal of Multidisciplinary Research**

It is important that the ISSN should be printed on every issue preferably at the right hand top corner of the cover page.

The Indian National Centre will be responsible for monitoring the use of ISSN assigned to Indian Serials and for supplying up to-date data of the same to the International Centre for ISSN, Paris. For this purpose we request you to send us the forth coming issue of your serial on complimentary basis.

We solicit your co-operation in this regard.

Yours sincerely

*V.V. Lakshmi*  
(V.V. Lakshmi)

Head  
National Science Library

Please don't forget to send a sample issue of the journal/URL with ISSN printed on it.

Contact : Ms. Shobhna Vij  
e-mail : [issn.india@niscair.res.in](mailto:issn.india@niscair.res.in)  
phone : 011-26516672

<b>Sr. No.</b>	<b>Topic</b>	<b>Page No.</b>
<b>1.</b>	<i>Effectiveness of Total Quality Management on Patient Care Services in Hospital Pharmacies</i>  <b>Dr. Vinay Sharma</b>	<b>1 – 8</b>
<b>2.</b>	<i>Social Security for Women in India: Legislative Provisions and Judicial Approach</i>  <b>Kulwant Singh</b>	<b>9 – 16</b>
<b>3.</b>	<i>Creative Accounting and Corporate Governance</i>  <b>Sonia Mudel</b>	<b>17 – 23</b>
<b>4.</b>	<i>International Trade and its Effects on Economic Growth in TIMP Countries</i>  <b>A.Anu Menon</b>	<b>24 – 26</b>
<b>5.</b>	<i>Religion, Folklore and Oral Traditions: Special Reference to Eastern India</i>  <b>Kalyani Dutta</b>	<b>27 – 32</b>
<b>6.</b>	<i>Concept of Secularism Under Indian Constitution</i>  <b>Kavita Chahal</b>	<b>33 – 36</b>
<b>7.</b>	<i>Hard Times: Revisiting the Partition Horror in Manto's "Khol Do"</i>  <b>Dr. (Mrs.) Dimple</b>	<b>37 – 40</b>
<b>8.</b>	<i>Anti-Epileptic Activity of Claviceps Perpurea</i>  <b>G. Sandhya Rani, Thirupathi Gorre</b>	<b>41 – 48</b>

<b>Sr. No.</b>	<b>Topic</b>	<b>Page No.</b>
<b>9.</b>	<i>An Effectiveness of Concept Attainment Model</i> <b>Dr. Samar Bahadur Singh</b>	<b>49 – 54</b>
<b>10.</b>	<i>Growth Pattern Classification of Selected Indian Manufacturing Industrial Sectors</i> <b>Baishali Bagchi, Malabika Roy and Ajitava Raychaudhuri</b>	<b>55 – 64</b>
<b>11.</b>	खÉÇuÉâSIÉvÉİsÉÉİİÉ xÉxrÉÉİİÉ <b>Dr. Shreekrishna. H Kakhandaki</b>	<b>65 – 69</b>
<b>12.</b>	मत्स्यपुराणे प्रयुक्तानि अपाणिनीय-धातुरूपाणि डॉ. सुरेन्द्र पाल वत्स पद	<b>70 – 76</b>
<b>13.</b>	<i>Class Conflict in Adiga's The White Tiger</i> <b>Dr. Vikram Singh</b>	<b>77 – 84</b>
<b>14.</b>	<i>A Study of Consumer Behaviour in E-Tourism</i> <b>Mrs. Monika Arya, Dr. Meenakshi Godara</b>	<b>85 – 94</b>
<b>15.</b>	<i>Effect of Uranium and Pesticides on the Health of People of Malwa Region, Punjab</i> <b>Monika</b>	<b>95 – 99</b>
<b>16.</b>	वैश्विक निशस्त्रीकरण हेतु : राजीव गांधी का योगदान रमेश कुमार राय	<b>100 – 103</b>
<b>17.</b>	<i>An Analysis of the Practice of Triple Talaq among Muslims in India</i> <b>Ms. Praveen</b>	<b>104 – 110</b>

## EFFECTIVENESS OF TOTAL QUALITY MANAGEMENT ON PATIENT CARE SERVICES IN HOSPITAL PHARMACIES

**Dr. Vinay Sharma**  
Administrative Officer  
Indian Institute of Management Kashipur (Uttarakhand)

---

### ABSTRACT

**Purpose** – Hospital pharmacies are currently facing substantial challenges in creating the highest level of quality care, improving services, and generating economic efficacies that will integrate efficacy of care processes with business processes. The main purpose of this research is to examine the effectiveness of the Total Quality Management (TQM) in pharmacies of Indian hospitals.

**Methodology** - A survey questionnaire research instrument used to examine the performance of Patient Care Services in hospital pharmacies before and after implementation of TQM.

**Findings** – Twenty practicing pharmacist were contacted who are working in hospitals pharmacies. The results were divided into tables of four patient care services: Effective use and reconciliation of standardised medication history, Infection control practices, Standardised medication schedule and Effective patient safety/care training.

The first Patient care service examined was effective use and reconciliation of standardised medication history. There was statistical increase in mean average after TQM implementation. Increase in average mean indicates that in the area of use and reconciliation of standardised medication history, TQM improved the performances. The second practice examined was Infection control practices. In Infection control practice the average mean after TQM was higher than before TQM implementation. The third practice examined was Standardised medication schedule; there was also statistical increase in mean average after TQM implementation. In case of Effective patient safety/care training there was increase in average mean which shows that in the area of Effective patient safety training, earning TQM implementation improved the performances.

**KEYWORDS** : Total Quality Management, Patient Care Services, Hospital Pharmacies

## **1. INTRODUCTION**

Health care organizations today are facing incomparable challenges. Healthcare organizations are an indispensable element in the functioning of every country. Management of healthcare organizations requires high qualified and well experienced infrastructure in terms of human resources, physical infrastructure and operational excellence. There are no chances for any mistakes because that can affect adversely the health of human beings. The country's citizens expect from health care practitioners to implement quality values in their respective health care organizations.

The quality management systems are one of the main factors persuading the development of healthcare institutions, because they augment efficiency and lead to the increase of their market share. Such systems of quality management as accreditation, ISO 9000 Standard (International Organization for Standardization) or the Total Quality Management are applied in these organizations (Goetsch & Stanley, 2009)

If we contemplate in retrospect 30 years, it has been observed that there is an increase in the interest in the systems of quality management among the healthcare organizations, mostly based on the ISO 9001:2008 standard. The standard is accepted and recognized the entire globe. ISO 9000: 2008 is a collection of common quality principles concerning the approach of management of healthcare organizations in order to enlarge the patient satisfaction and to provide them with good health requirements. The implementation of the system of of quality management in line with the above mentioned standard requires fulfilment of a range of requirements, and the ISO certificate is of international character (Juran & Godfrey, 1998).

We can define quality as a process matching phenomenon with the standard stipulated in the ISO 9000: 2008 and TQM system but it does not mean that we stick with the standard for a long time the system should be changed with the ever changing world with acceptable innovations. Evergreen quality can be achieved by "Total Quality Management"(TQM). Deming and Juran have defined TQM as "the strategic commitment to improving quality by combining statistical quality control methods with a cultural commitment to seeking incremental improvements that increase productivity and lower costs"(Krajewski and Ritzman, 2000). TQM have potential to improve quality and reduce costs. There are so many health care organizations worldwide have applied the concept of total quality management and achieve the desired goal. Another definition of TQM is "A comprehensive strategy of organisational and attitude change, for enabling personnel to learn and use quality method, in order to reduce costs and meet the requirements of patients and other customers" (Overtveit, 1997).

## **2. QUALITY MANAGEMENT IN HEALTH CARE**

There are many definitions proposed by practitioners time to time for quality in a healthcare context. Quality is a word which means standard of something which compares with standard one and measured in terms of deviations from standard. Historically, Quality Assurance has been a common feature for industries but it was not an overall solution for quality management it was worked like specific domain within industries. Basically Quality Assurance is a systematic segmented approach to ensure specific standard or level of care. In Health care a quality management is an all-around philosophy that permeate an organization's policies, strategies its infrastructure and effective and efficient practice. It consist of four basic principles – focus on patients and relationship with service provider, emphasis on operational and care systems and prevention of errors, data driven quick decision making, active involvement of leaders and empowerment of employees and more importantly focus on continuous performance improvement.

To achieve the desired objective of quality management now a day we incorporate Quality Management System (QMS) and Total Quality Management (TQM) in healthcare. QMS is well documented and defined system that focuses on consistency and improvement in health care practices



in services as well as product. It based on standard which elaborate procedures to achieve efficient and effective quality management.

TQM is management approach of an organization, centered on quality, based on the participation of all its members and aiming at long term success through customer satisfaction and benefits to all members of the organization and to society (Lejungstorm & Klefso, 2002). The tenets of TQM are continuous improvement, commitment of management to the goal of customer satisfaction, employee empowerment and customer focus (Ugboro & Obeng, 2000). Many thinks that TQM is old concept but many of new improvement initiatives are based on TQM philosophies for example Six Sigma which is popular today, is a methodology within TQM, not an alternative to it (Klefso et al., 2001)

### 3. CONCEPTUALIZATION OF THE PATIENT CARE SERVICES

The Patient care services include the following: Standardized medication schedule, Infection control practice, Effective use and reconciliation of standardized medication history and Patient safety training (Chan, et al., 2007)

Standardized Medication Schedule	Standardized Medication Schedule is conceptualized as an essential component by maintaining following <ol style="list-style-type: none"> <li>1. Medication administration record</li> <li>2. Patient medication profiles</li> <li>3. Pharmacist clinical monitoring notes</li> <li>4. Pharmacist documented care plans</li> <li>5. Intervention documentation</li> </ol> All these components are essential to improve pharmacies efficiency and effectiveness. By the inclusion of these components pharmacies can avoid the errors in critical cases and improve daily patient care services. Process of care includes product selection, dosing, route selection, regimen review, ensuring safe medication administration, monitoring for desired therapeutic outcomes, identifying and avoiding medication errors and adverse drug events (Rozich, John D., et al., 2004).
Infection Control Practices	Pharmacist can control infection by screening appropriate anti-infective therapies and minimize the emergence of antimicrobial resistance. For patient safety pharmacist also need to be involved in ensuring that prophylactic antibiotic therapy is discontinued within 24 after surgery (Wilson, 2001).
Effective use and reconciliation of standardized medication history	For all newly admitted patients, it is the responsibility of pharmacies that they have to document a medication history as soon as possible (Within 24 hours) The Medication history should include the current medications, allergy assessment with documented reactions and medications already taken on the day of admission. A standardized software or form can be used to streamline the process and ensure all necessary information is captured. Medication histories should be permanent part of the patient's medical record that will help in critical cases and in case of readmission in future (Tam et al., 2005)
Patient Safety Training	Patient safety training is conceptualized as commitment toward safety through leadership. It externally defined as core quality performance for quality outcomes and intends to lead ongoing patient safety training for hospital staff as well as participate in healthcare education and counseling of patients (Salas et al., 2005)

Table 1: Conceptualization of the Patient Care Services

#### **4. RESEARCH DESIGN**

The researcher employed then quantitative research method to address the purpose of this research, which is to examine the effectiveness of Total Quality Management on Patient Care Services in Hospital Pharmacies. This research was carried out in one phase, with quantitative data collected during the same time period, from twenty practicing pharmacist. The survey questionnaire research instrument was utilized in this research study. Respondents were asked to express their perception about the benefits gained from implementing Total Quality Management and also perception before implementing Total Quality Management. All patient care services were measured by a five point Likert scale types which are: Strongly Disagree (SD) =1, Disagree (D) = 2, Neutral (N) = 3, Agree (A) = 4, Strongly (SA) = 5.

The survey questionnaire was designed to collect data pertaining to the effectiveness of Total Quality Management in terms of patient care services.

The survey questionnaire measured the performance of four quality management practices before and after the implementation of Total Quality Management. This was done to determine whether the Total Quality Management leads to high quality management practices.

#### **5. ANALYSIS AND FINDINGS**

Patient Care Services Practice Performance: Before implementation of TQM vs. after implementation of TQM

The performance of the Patient Care Services practice was presented in Table 2.

In the patient care services researcher has taken four components that is Standardized medication schedule, Infection control practice, Effective use and reconciliation of standardized medication history and Effective patient safety training. All these components were measured and it was found that after implementation of Total Quality Management the mean were increased in compare to before implementation of Total Quality Management. After the implementation of TQM in hospital pharmacies the standardized medication schedule is effective and patients are benefited. By implementing the TQM hospital pharmacies are able to control the infection within the hospitals. Enforcement of effective use and reconciliation of standardized medication history can reduce the death rate as we aware the history of patient, in critical cases doctors know which drug combination should be prescribed to repetitive patient. Effective patient care training is reduced the chances of error in hospital pharmacies as we can see that after the enforcement of effective patient care training the mean is 4.2 in comparison to 3.5.

	SA	A	N	D	SD	Sum	Mean	Classification
1. Pharmacy implemented Standardized Medication Schedule (A) <sup>1</sup>	0	7	10	3	0	20	3.2	
<b>1. Pharmacy implemented Standardized Medication Schedule (B)<sup>2</sup></b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>4.0</b>	<b>Increase</b>
2. Enforces Infection control Practice (A)	0	8	6	4	2	20	3.0	
<b>2. Enforces Infection control Practice (B)</b>	<b>3</b>	<b>7</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>3.65</b>	<b>Increase</b>
3. Enforces Effective use and reconciliation of standardized medication history (A)	0	7	10	3	0	20	3.2	
<b>3. Enforces Effective use and reconciliation of standardized medication history (B)</b>	<b>7</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>3.95</b>	<b>Increase</b>
4. Enforces Patient care training (A)	0	11	8	1	0	20	3.5	
<b>4. Enforces Patient care training (B)</b>	<b>7</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>4.2</b>	<b>Increase</b>

Table 2. Comparison of the Implementation of TQM on Patient Care Services Practice

1 A represent before implementation of TQM

2 B represent after implementation of TQM

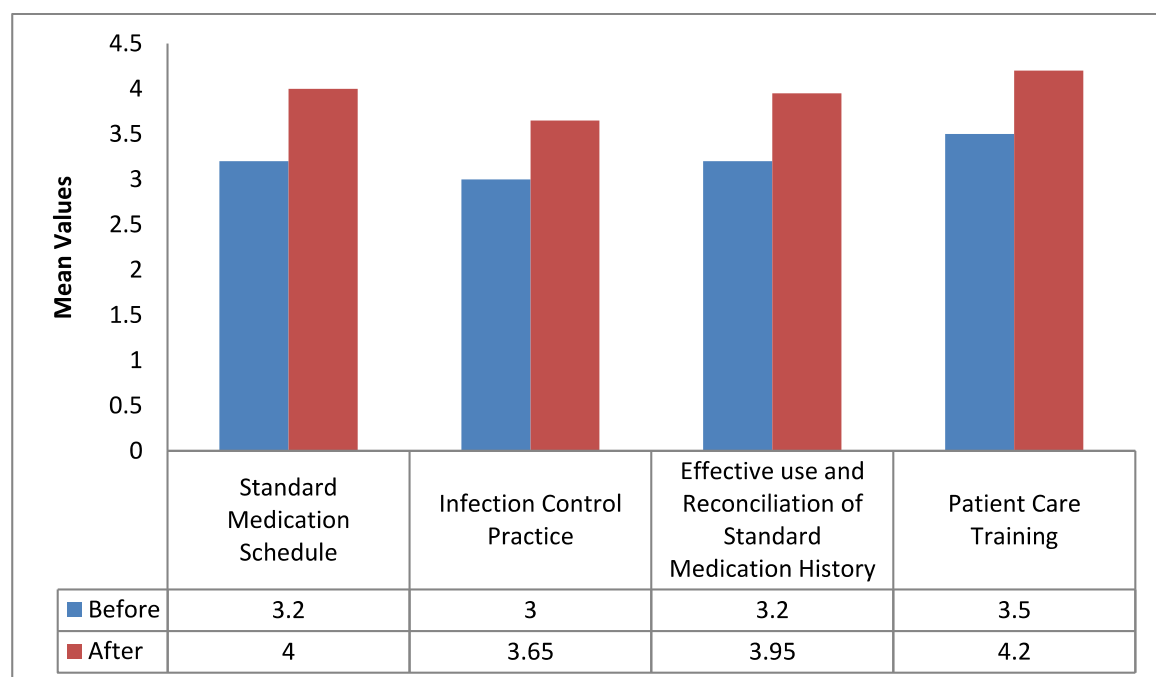


Figure 1. Summery comparison; Effect of the TQM on Patient Care services

## 6. DISCUSSIONS AND CONCLUSIONS

Pharmacy leader should be able to implement the patient care services through good relationships with human resources and through mentoring (Filerman et al., 2007). Visualization involves identifying opportunities for a patient care services within the health care environment and knowing when serve to patients. Valuable ideas sharing and objectives are always necessary for to improve clinical outcomes. These effective relationships should stimulate coordination, teamwork, and acquiescence. Mentoring subordinates not only benefits the profession but motivate current leaders and ensures the better patient care services. Mentoring can lead to a progression plan that enables a pharmacy to maintain its level of patient care services (Scandura et al., 1994).

The whole section on Management Responsibility is concerned with the role of leadership in generation and maintenance of quality services. For example, the standards requires that “Top management shall provide evidences of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by (a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements, (b) establishing the quality policy, (c) ensuring that quality objectives are established, (d) conducting management review, and (e) ensuring availability of resources. More specific responsibilities are spelled out in detail in other clauses of the standards” (Evans & Lindsay, (2005).

A pharmacy should have unit dose distribution systems in place for all dosage forms to provide patient specific, individually packaged medications. A unit dose system minimizes manipulation errors and improves patient safety, and helps to ensure exact dose prior to administration. Unit of use medications should remain in the pharmacy’s packaging up to the point of actual drug administration at the bedside so a final check of the drug can be performed (Fontan et al., 2003).

A pharmacy should participate in ongoing patient safety training, and oversee medications and the medication use process in all care locations (Gosbee et al., 2002). This includes inpatient and ambulatory sites, operating room, emergency department, infusion center, clinics, radiology and dialysis. The pharmacy should approve requests for medications to be stored in all care delivery areas. A health system’s clinical outcomes can be improved through the pharmacy’s commitment to improving patient safety and patient care services. Because a hospital pharmacy is located within the hospital, it plays a direct role in patient safety. The patient care service has a significant impact on the health system’s overall clinical outcomes (Pronovost et al., 2002).

Pharmacists should be active members of the patient care team. This means they are responsible for pharmacy best practices to oversee the optimal medication management, and to improve overall patient care and clinical outcomes for patients. Each inpatient unit should have a pharmacist dedicated to performing patient care activities each day. A pharmacist should also have policies for best practices that clearly articulate pharmacists’ Patient Care Services. The policies should explain how pharmacists are involved in all processes of care that include: (1) Product selection, (2) Dosing, (3) Route selection, (4) Regimen review, (5) Ensuring safe medication administration, (6) Monitoring for desired therapeutic outcomes, and (7) Identifying and avoiding medication errors and adverse drug events (Schnipper et al., 2006). Pharmacists should review all medications orders prior to the first dose being administered to a patient

An efficient medication use policy utilizes pharmacy best practices for safety, compliance and emergency preparedness (Fu et al., 2004). The question raised here is how to ensure that pharmacy best practices are followed for safe and effective delivery of medication therapy. A pharmacy should establish an evidence-based formulary system that increases pharmacy efficiency by incorporating the features of pharmacy patient safety, efficacy, and interchange systems that save on drug expenditure without compromising the quality of care received (Neumann & Peter, 2004).

A pharmacy should have Bar Code Medication Administration (BCMA) technology at the point of care. This technology will verify the accuracy of the medication administration record. When BCMA systems are implemented, a pharmacy should make sure that basic principles for safe

medication administration are maintained to ensure pharmacy patient safety, such as the system facilitates medication preparation and administration for only one patient at a time, requires scanning of a patient bar-coded wristband, etc. (Koppel et al., 2008) A high-alert medication policy should be part of pharmacy operations. The policy aids pharmacy efficiency by requiring double checks throughout the medication use process. High-alert medications should be labeled as such, and warnings should be provided to actively communicate them to providers involved in care delivery after participating in patient safety training (Belknap & Steven, 2001).

Medication errors occur frequently and have significant clinical and financial consequences. Several types of information technologies can be used to decrease rates of medication errors (Bates et al., 2000). Computerized physician order entry with decision support reduces serious inpatient medication error rates in adults. Other available information technologies that may prove effective for inpatients include computerized medication administration records, robots, automated pharmacy systems, bar coding, smart intravenous devices, and computerized discharge prescriptions and instructions (Kaushal et al., 2001). In outpatients, computerization of prescribing and patient oriented approaches such as personalized web pages and delivery of web based information may be important. Public and private mandates for information technology interventions are growing, but further development, application, evaluation, and dissemination are required.

Health care practitioners need to realize that when implementing a TQM programme the expected result do not occur overnight, it may take years before an organization realizes benefits. However, if there is proper planning, training and leadership for quality, then the negative potential outcomes can be avoided. However, the entire organization must be involved. Also customers are requiring more and more quality, and if they do not receive it, they will go elsewhere. It is important to remember that “if you fail to plan you plan to fail”

(Bolman et al., 2011)

## REFERENCES

- Bates, D. W. (2000). Using information technology to reduce rates of medication errors in hospitals. *BMJ: British Medical Journal*, 320(7237), 788.
- Belknap, S. (2001). High-alert medications and patient safety. *Int J Qual Health Care*, 13, 339-40.
- Bolman, L. G., & Deal, T. E. (2011). *Reframing organizations: Artistry, choice and leadership*. Jossey-Bass.
- Chan, N., Gott, M., Kamal, A., Lübke, A., Marston, J., McPherson, L., & Yates, P. (2007).
- PATIENT CARE SERVICES. *PATIENT CARE*, 15(5).
- Filerman, G. L., & Komaridis, K. L. (2007). The pharmacy leadership competency gap: Diagnosis and prescription. *Journal of Health Administration Education*, 24(2), 117-134.
- Fontan, J. E., Maneglier, V., Nguyen, V. X., Brion, F., & Loirat, C. (2003). Medication errors in hospital: computerized unit dose drug dispensing system versus ward stock distribution system. *Pharmacy World and Science*, 25(3), 112-117.
- Fu, A. Z., Liu, G. G., & Christensen, D. B. (2004). Inappropriate medication use and health outcomes in the elderly. *Journal of the American Geriatrics Society*, 52(11), 1934-1939.
- Gosbee, J. (2002). Human factors engineering and patient safety. *Quality and safety in health care*, 11(4), 352-354.

- Kaushal, R., Barker, K. N., & Bates, D. W. (2001). How can information technology improve patient safety and reduce medication errors in children's health care?. *Archives of pediatrics & adolescent medicine*, 155(9), 1002.
- Koppel, R., Wetterneck, T., Telles, J. L., & Karsh, B. T. (2008). Workarounds to barcode medication administration systems: their occurrences, causes, and threats to patient safety. *Journal of the American Medical Informatics Association*, 15(4), 408-423.
- Neumann, P. J. (2004). Evidence-based and value-based formulary guidelines. *Health Affairs*, 23(1), 124-134.
- Pronovost, P. J., Angus, D. C., Dorman, T., Robinson, K. A., Dremsizov, T. T., & Young, T. L. (2002). Physician staffing patterns and clinical outcomes in critically ill patients. *JAMA: the journal of the American Medical Association*, 288(17), 2151-2162.
- Rozich, J. D., Howard, R. J., Justeson, J. M., Macken, P. D., Lindsay, M. F., & Resar, R. K. (2004). Standardization as a mechanism to improve safety in health care. *Joint Commission Journal on Quality and Patient Safety*, 30(1), 5-14.
- Salas, E., Wilson, K. A., Burke, C. S., & Priest, H. A. (2005). Using simulation-based training to improve patient safety: what does it take?. *Joint Commission Journal on Quality and Patient Safety*, 31(7), 363-371.
- Scandura, T. A., & Schriesheim, C. A. (1994). Leader-member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of management Journal*, 37(6), 1588-1602.
- Schnipper, J. L., Kirwin, J. L., Cotugno, M. C., Wahlstrom, S. A., Brown, B. A., Tarvin, E., ... & Bates, D. W. (2006). Role of pharmacist counseling in preventing adverse drug events after hospitalization. *Archives of Internal Medicine*, 166(5), 565.
- Tam, V. C., Knowles, S. R., Cornish, P. L., Fine, N., Marchesano, R., & Etchells, E. E. (2005). Frequency, type and clinical importance of medication history errors at admission to hospital: a systematic review. *Canadian Medical Association Journal*, 173(5), 510-515.
- Wilson, J. (2001). *Infection control in clinical practice*. Baillière Tindall.

## **SOCIAL SECURITY FOR WOMEN IN INDIA: LEGISLATIVE PROVISIONS AND JUDICIAL APPROACH**

**Kulwant Singh**

*Research Scholar: Faculty of Law, CDLU Sirsa, Haryana*

*Email: malikkulwant52499@gmail.com*

---

### **ABSTRACT**

*Women rights and issues have always been subject of social concern of academicians, intelligentsia and policy makers. From pastoral society to contemporary information and global society, the role of women has changed drastically. Law is deeply rooted in social institutions in socio-economic network. There is a reciprocal relationship between the law and society. Law may change social norms and vice versa. The abolition of the abhorable practices of child marriage; sati system, dowry, sexual abuses, sexual assaults, molestation, miscarriage etc. are the typical illustrations of social reforms being brought in the country through legislative provisions. In other words legislations have been at the centre of the agenda for strategizing gender justice in India. In recent times, reliance on the efficacy of law to intimate changes in the social order towards a gender justice got voiced in. legislation is considered as norm setter directly. So role of law in the process of building a gender-just society is perceived as non-ambivalent, well defined and positive aspect. However, the extent to which law is made to serve as instrument of gender equality depends to, a large extent on an informed understanding of the strength and potential weaknesses of the dominant ideology of gender and ability to engage with tenacity and wisdom, to explore the moral and substantive weaknesses of familial ideology in the legal arena. Accordingly the present paper will provide the details about the various constitutional provisions along with other legislative provisions which contributed in protecting the women status in present time. Further the present discussion will also reflect interpretation and its expansion of these provisions through various judicial pronouncements made by the judiciary at various levels.*

**KEYWORDS:** Constitution, social evil, gender equity, fundamental rights, Social Security

### **INTRODUCTION**

The principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles. The Constitution not only grants equality to women, but also empowers the State to adopt measures of positive discrimination in favour of women. Within the framework of a democratic polity, our laws, development policies, Plans and programmes have aimed at women's advancement in different spheres. India has also ratified various international conventions and human rights instruments committing to secure equal rights of women. Key among them is the ratification of the Convention on Elimination of All Forms of Discrimination against Women (CEDAW) in 1993<sup>1</sup>.

---

<sup>1</sup> [www.mospi.nic.in](http://www.mospi.nic.in)

## **HISTORICAL BACKGROUND OF WOMEN'S STATUS**

In spite of women's contribution in all spheres of life and they enjoy a unique position in every society and country of the world, but they suffer in silence and belong to a class, which is in a disadvantaged position on account of several barriers and impediments.

India, being a country of paradoxes, is no exception. Here too, women, a personification of Shakti, once given a dignified status, are in need of empowerment. Women's empowerment in legal, social, political and economic requires to be enhanced. However, empowerment and equality are based on the gender sensitivity of society towards their problems. The intensification of women's issues and rights movement all over the world is reflected in the form of various Conventions passed by the United Nations. Gender equality is always escaped the constitutional provisions of equality before the law or the equal protection of law. This is because equality is always supposed to be between equals and since the judges did not concede that men and women were equal.

## **CONSTITUTIONAL PROVISIONS**

In India, the Constitution makers while drafting the Constitution were sensitive to the problems faced by women and made specific provisions relating to them. In various articles, not only mandates equality of the sexes but also authorizes benign discrimination in favour of women and children to make up for the backwardness which has been their age-old destiny. But categorical imperatives constitutionals by the Founding Father are not self acting and can acquire socio-legal locomotion only by appropriate State action.

Our Constitution is the basic document of a country having a special legal holiness which sets the framework and the principal functions of the organs of the Government of a State. It also declares the principles governing the operation of these organs. The Constitution aims at creating legal norms, social philosophy and economic values which are to be affected by striking synthesis, harmony and fundamental adjustment between individual rights and social interest to achieve the desired community goals. The Constitution of India contains various provisions, which provide for equal rights and opportunities for both men and women.

The Indian constitution not only grants equality to women but also empowers the State to adopt measures of positive discrimination in favour of women for neutralizing the cumulative socio economic, education and political disadvantages faced by them. Fundamental Rights, among others, ensure equality before the law and equal protection of law; prohibits discrimination against any citizen on grounds of religion, race, caste, sex or place of birth, and guarantee equality of opportunity to all citizens in matters relating to employment. Articles 14, 15, 15(3), 16, 39(a), 39(b), 39(c) and 42 of the Constitution are of specific importance in this regard.

### **Preamble**

The Preamble contains the essence of the Constitution and reflects the ideals and aims of the people. The Preamble starts by saying that we, the people of India, give to ourselves the Constitution. The source of the Constitution is thus traced to the people, i.e. men and women of India, irrespective of caste, community, religion or sex. The makers of the Constitution were not satisfied with mere territorial unity and integrity. If the unity is to be lasting, it should be based on social, economic and political justice. Such justice should be equal for all. The Preamble contains the goal of equality of status and opportunity to all citizens. This particular goal has been incorporated to give equal rights to women and men in terms of status as well as opportunity.

### **Political Rights**

Even though the fact that women participated equally in the freedom struggle and, under the Constitution and law, have equal political rights as men, enabling them to take part effectively in the administration of the country has had little effect as they are negligibly represented in politics. There were only seven women members in the Constituent Assembly and the number later decreased further. Their representation in the Lok Sabha is far below the expected numbers. This has led to the demand for reservation of 33% seats for women in the Lok Sabha and Vidhan Sabhas. Political empowerment of women has been brought by the 73rd and 74th Amendments<sup>4.2</sup> which reserve seats for women in Gram Panchayats and Municipal bodies. Illiteracy, lack of political awareness, physical violence and



economic dependence are a few reasons which restrain women from taking part in the political processes of the country.

### **Economic Rights**

At hand there has been series of legislation conferring equal rights for women and men. These legislations have been guided by the provisions of the fundamental rights and Directive Principles of State Policy. Here again there is a total lack of awareness regarding economic rights amongst women. Laws to improve their condition in matters relating to wages, maternity benefits, equal remuneration and property/succession have been enacted to provide the necessary protection in these areas.

### **Social Justice**

For providing social justice to women, the most important step has been codification of some of the personal laws in our country which pose the biggest challenge in this context. In the area of criminal justice, the gender neutrality of law worked to the disadvantage of a woman accused because in some of the cases it imposed a heavy burden on the prosecutor, for e.g. in cases of rape and dowry. Certain areas like domestic violence and sexual harassment of women at the workplace were untouched, unthought of these examples of gender insensitivity were tackled by the judiciary and incorporated into binding decisional laws to provide social justice in void spheres.

Although a Uniform Civil Code is still a dream in spite of various directions of the Court, the enactment of certain legislations like the Pre-Natal Diagnostic Techniques (Prevention of Misuse) Act and the Medical Termination of Pregnancy Act prevent the violation of justice and humanity right from the womb.

In spite of these laws, their non-implementation, gender insensitivity and lack of legal literacy prevent the dream of the Constitution makers from becoming a reality. They prevent the fulfillment of the objective of securing to each individual dignity, irrespective of sex, community or place of birth.

### **Fundamental Rights**

Part III of the Constitution consisting of Articles 12-35 is the heart of the Constitution. Human Rights which are the entitlement of every man, woman and child because they are human beings have been made enforceable as constitutional or fundamental rights in India. The framers of the Constitution were conscious of the unequal treatment and discrimination meted out to the fairer sex from time immemorial and therefore included certain general as well as specific provisions for the upliftment of the status of women. Supreme Court of India in the case of *Maneka Gandhi v. Union of India*<sup>2</sup> held that these fundamental rights represents the basic values cherished by the people of this country since the Vedic times and they are calculated to protect the dignity of the individual and create conditions in which every human being can develop his personality to the fullest extent."

#### **Article 14: Equality before Law**

*The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.*

#### **Article: 15 Prohibition of discrimination on grounds of religion, race, cast, sex, or place of birth**

*(1) The state shall not discrimination against any citizen on grounds only of religion, race, cast, sex, or place of birth or any of them.*

*(3) Nothing in this article shall prevent the State from making any special provision for women and children.*

Accordingly Article 15(1) prohibits gender discrimination and Article 15(3) permits the State to positively discriminate in favor of women to make special provisions to ameliorate their social condition and provide political, economic and social justice. The State in the field of Criminal Law, Service Law, Labor Law, etc. has resorted to Article 15(3) and the Courts, too, have upheld the validity of these protective discriminatory provisions on the basis of constitutional mandate,

---

<sup>2</sup> AIR 1978 SC 597

**Article 16 provides for equality of opportunity in matter of public employment**

*(1) There shall be equality of opportunity for all citizens in matters relating to employment or appointment to any office under the state.*

*(2) No citizens shall, on grounds only of religion, race, cast, sex, descent, place of birth, residence or any of them, be ineligible for, or discriminated against in respect of, any employment or office under the state.*

The Constitution, therefore, provides equal opportunities for women implicitly as they are applicable to all persons irrespective of sex. However, the Courts realize that these Articles reflect only de jure equality to women. They have not been able to accelerate de facto equality to the extent the Constitution intended. There is still a considerable gap between constitutional rights and their application in the day-to-day lives of most women. At the same time it is true that women are working in jobs which were hitherto exclusively masculine domains. But there are still instances which exhibit lack of confidence their capability and efficiency. There remains a long and lingering suspicion regarding their capacities to meet the challenges of the job assigned

**Article 21 Protection of life and personal liberty**

*"No person shall be depriving of his life or personal liberty except according to procedure established by law.*

Denial of right of succession to women of Scheduled Tribes amounts to deprivation of their right to livelihood under article 21 held in the case of *Madhu kishwar v. state of Bihar*.

In the case of *Vishaka v. State of Rajasthan*<sup>3</sup>, the Supreme Court, in the absence of legislation in the field of sexual harassment of working women at their place of work, formulated guidelines for their protection. The Court said: "Gender equality includes protection from sexual harassment and right to work with dignity which is a universally recognized basic human right. The common minimum requirement of this right has received global acceptance. In the absence of domestic law occupying the field, to formulate effective measures to check the evil of sexual harassment of working women at all workplaces, the contents of international conventions and norms are significant for the purpose of interpretation of the guarantee of gender equality, right to work with human dignity in articles 14, 15, 19(1)(g) and 21 of the Constitution and the safeguards against sexual harassment implicit therein and for the formulation of guidelines to achieve this purpose."

**Directive Principles of State policy**

Though the Directive Principles of State Policy are not enforceable in any court of law yet these are essential in the governance of the country and provide for the welfare of the people, including women. These provisions are contained in Part IV of the Constitution. Fundamental Rights furnish to individual rights while the Directive Principles of State Policy supply to social needs. Main Directive principles of state policy relating to women can be categorized as following:-

**Article: 39 certain principles of policy to be followed by the state**

**Article: 42 Provision for just and humane conditions of work and maternity relief**

**Article 44 Uniform civil code for the citizens**

**Fundamental Duties**

Parts IV-A which consist of only one Article 51-A was added to the constitution by the 42nd Amendment, 1976. This Article for the first time specifies a code of eleven fundamental duties for citizens. Article 51-A (e) is related to women. It states that; *"It shall be the duty of every citizen of India to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religion, linguistic, regional or sectional diversities; to renounce practices derogatory to the dignity of women"*

**OTHER LEGISLATIVE PROVISIONS FOR WOMEN**

To uphold the Constitutional mandate, the State has enacted various legislative measures intended to ensure equal rights, to counter social discrimination and various forms of violence and

<sup>3</sup> (AIR 1997 SC 3011)

atrocities and to provide support services especially to working women. Although women may be victims of any of the crimes such as 'Murder', 'Robbery', 'Cheating' etc, the crimes, which are directed specifically against women, are characterized as 'Crime against Women'. These are broadly classified under two categories.

### **(1) The Crimes Identified Under the Indian Penal Code (IPC)**

- (i) Rape (Sec. 376 IPC)
- (ii) Kidnapping & Abduction for different purposes (Sec. 363-373)
- (iii) Homicide for Dowry, Dowry Deaths or their attempts (Sec. 302/304-B IPC)
- (iv) Torture, both mental and physical (Sec. 498-A IPC)
- (v) Molestation (Sec. 354 IPC)
- (vi) Sexual Harassment (Sec. 509 IPC)
- (vii) Importation of girls (up to 21 years of age)

### **(2) The Crimes identified under the Special Laws (SLL)**

Although all laws are not gender specific, the provisions of law affecting women significantly have been reviewed periodically and amendments carried out to keep pace with the emerging requirements, some acts which have special provisions to safeguard women and their interests are:

- (i) The Employees State Insurance Act, 1948
- (ii) The Plantation Labour Act, 1951
- (iii) The Family Courts Act, 1954
- (iv) The Special Marriage Act, 1954
- (v) The Hindu Marriage Act, 1955
- (vi) The Hindu Succession Act, 1956 with amendment in 2005
- (vii) Immoral Traffic (Prevention) Act, 1956
- (viii) The Maternity Benefit Act, 1961 (Amended in 1995)
- (ix) Dowry Prohibition Act, 1961
- (x) The Medical Termination of Pregnancy Act, 1971
- (xi) The Contract Labour (Regulation and Abolition) Act, 1976
- (xii) The Equal Remuneration Act, 1976
- (xiii) The Prohibition of Child Marriage Act, 2006
- (xiv) The Criminal Law (Amendment) Act, 1983
- (xv) The Factories (Amendment) Act, 1986
- (xvi) Indecent Representation of Women (Prohibition) Act, 1986
- (xvii) Commission of Sati (Prevention) Act, 1987
- (xviii) The Protection of Women from Domestic Violence Act, 2005

## **GOVERNMENT INITIATIVES FOR WOMEN SECURITY**

### **(i) National Commission for Women**

In January 1992, the Government set-up this statutory body with specific mandate to study and monitor all matters relating to the constitutional and legal safeguards provided for women, review the existing legislation to suggest amendments wherever necessary, etc.

### **(ii) Reservation for Women in Local Self -Government**

The 73rd Constitutional Amendment Act passed in 1992 by Parliament ensure one-third of the total seats for women in all elected offices in local bodies whether in rural areas or urban areas.

### **(iii) The National Plan of Action for the Girl Child (1991-2000)**

The plan of Action is to ensure survival, protection and development of the girl child with the ultimate objective of building up a better future for the girl child.

### **(iv) National Policy for the Empowerment of Women, 2001**

The Department of Women & Child Development in the Ministry of Human Resource Development has prepared a “National Policy for the Empowerment of Women” in the year 2001. The goal of this policy is to bring about the advancement, development and empowerment of women.<sup>4</sup>

<sup>4</sup> www.mopsi.nic.in

**ROLE OF JUDICIARY FOR PROTECTION OF WOMEN'S CONSTITUTIONAL RIGHTS**

In the case of *C.B. Muthamma v. Union of India*<sup>5</sup> a writ petition was filed by *Ms Muthamma*, a senior member of the Indian Foreign Service, complaining that she had been denied promotion to Grade I illegally and unconstitutionally. She pointed out that several rules of the civil service were discriminatory against women. At the very threshold she was advised by the Chairman of the UPSC against joining the Foreign Service. At the time of joining she was required to give an undertaking that if she married she would resign from service. Under Rule 18 of the Indian Foreign Service (Recruitment, Cadre, Seniority and Promotion) Rules, 1961, it was provided that no married woman shall be entitled as of right to be appointed to the service. Under Rule 8(2) of the Indian Foreign Service (Conduct and Discipline) Rules, 1961, a woman member of the service was required to obtain permission of the Government in writing before her marriage was solemnized. At any time after the marriage she could be required to resign if the Government was confirmed that her family and domestic commitments were likely to come in the way of the due and efficient discharge of her duties as a member of the service. On numerous occasions the petitioner had to face the consequences of being a woman and thus suffered discrimination, though the Constitution specifically under Article 15 prohibits discrimination on grounds of religion, race, caste, sex or place of birth and Article 14 provides the principle of equality before law. The Supreme Court Held that: "This writ petition by *Ms Muthamma*, a senior member of the Indian Foreign Service, bespeaks a story which makes one wonder whether Articles 14 and 16 belong to myth or reality. The credibility of the Constitutional mandates shall not be shaken by governmental action or inaction but it is the effect of the grievance of *Ms Muthamma* that sex prejudice against Indian womanhood pervades the service rules even a third of a century after Freedom. There is some basis for the charge of bias in the rules and this makes the ominous indifference of the executive to bring about the banishment of discrimination in the heritage of service rules. If high officials lose hopes of equal justice under the rules, the legal lot of the little Indian, already priced out of the expensive judicial market, is best left to guess."

Commenting further on the discriminatory rules the Court said: "Discrimination against woman, in traumatic transparency, is found in this rule. If a woman member shall obtain the permission of government before she marries. The same risk is run by government if a male member contracts a marriage. If the family and domestic commitments of a woman member of the service is likely to come in the way of efficient discharge of duties, a similar situation may arise in the case of a male member. In these days of nuclear families, intercontinental marriages and unconventional behavior, one fails to understand the naked bias against the gentler of the species

In case of *Air India v. Nargesh Meerza*<sup>6</sup>, *Nargesh Meerza* filed a writ petition, In this case, the air-hostesses of the Air-India International Corporation had approached the Supreme Court against, again, discriminatory service conditions in the Regulations' of Air-India. The Regulations provided that an air-hostess could not get married before completing four-years of service. Usually an air-hostess was recruited at the age of 19 years and the four-year bar against marriage meant that an air-hostess could not get married until she reached the age of 23 years. If she married earlier, she had to resign and if after 23 years she got married, she could continue as a married woman but had to resign on becoming pregnant. If an air hostess survived both these filters, she 'continued to serve until she reached the age of 35 years. It was alleged on behalf of the air-hostesses that those provisions were discriminatory on the ground of sex, as similar provisions did not apply to male employees doing similar work. The Supreme Court upheld the first requirement that an air-hostess should not marry before the completion of four years of service. The court held that: "*It was a sound and salutary provision. Apart from improving the health of the employee it helps a great deal in the promotion and boosting up of our family planning programme.*"

However, this argument given by the Court came in for criticism that as the requirements of age and family planning were warranted by the population policy of the State and once the State had fixed the age of marriage, i.e. 18 years, the reasoning advanced for upholding the rule was a camouflage for the real concern. The Supreme Court struck down the Air-India Regulations relating to retirement and the pregnancy bar on the services of Air hostesses as unconstitutional on the ground that the

---

<sup>5</sup> (1979) 4 SCC 260)

<sup>6</sup> 1981) 4 SCC 335

conditions laid down therein were entirely unreasonable and arbitrary. The impugned Regulation 46 provided that an air hostess would retire from the service of the corporation upon attaining the age of 35 years or on marriage, if it took place within 4 years of service, or on first pregnancy, whichever occurred earlier. Under Regulation 7, the Managing Director was vested with absolute discretion to extend the age of retirement prescribed at 45 years. Both these regulations were struck down as violative of Article 14, which prohibits unreasonableness and arbitrariness.

In the case of *Sarita Samvedi v. Union of India*<sup>7</sup>, the Supreme Court held invalid a provision of the Railway Board Circular dated 27th December, 1982 which restricted the eligibility of a married daughter of a retiring official for out-of-turn allotment of a house, to situations where such a retiring official had no son or where the daughter was the only person prepared to maintain the parents and the sons were not in a position to do so. This was held to be discriminatory on the ground of sex.

Reservations of seats for women in local bodies or in educational institutions have been judged by the Supreme Court in the case of *Govt. of A.P. v. P.B. Vijayakumar*<sup>8</sup>, in which court held that reservation to the extent of 30% made in the State Services by the Andhra Pradesh Government for women candidates was valid. The Division Bench of the Supreme Court emphatically declared that the power conferred upon the State by Article 15(3) is wide enough to cover the entire range of State activity including employment under the State. The power conferred by Article 15(3) is not whittled down in any manner by Article 16.

In the case of *Madhu Kishwar v. State of Bihar*<sup>9</sup> the Supreme Court dealt with the validity of the Chotanagpur Tenancy Act, 1908 of Bihar which denied the right of succession to Scheduled Tribe women as violative of the right to livelihood. The majority judgment however upheld the validity of legislation on the ground of custom of inheritance/succession of Scheduled Tribes. Dissenting with the majority, Justice K. Ramaswamy felt that the law made a gender-based discrimination and that it violated Articles 15, 16 and 21 of the Constitution. In his dissenting judgment he said: "Legislative and executive actions must be conformable to and for effectuation of the fundamental rights guaranteed in Part III, Directive Principles enshrined in Part IV and the Preamble of the Constitution which constitute the conscience of the Constitution. Covenants of the United Nations add impetus and urgency to eliminate gender based obstacles and discrimination. Legislative action should be devised suitably to constitute economic empowerment of women in socio-economic restructure for establishing egalitarian social order."

## CONCLUSION AND SUGGESTIONS

Women are the half section of Indian society. They are always suppressed by various methods as due to insufficient dowry, for satisfying unjust lust, sexual harassment on working places, rapes, molestation etc. Many investigations reveal that death of newly brides has been caused due to not brought handsome dowry. Modernization has increased people expectations. All these alarming signals should be tackled before these get out the control. Observation shows that there is lot of frustration among young girls, who have not got married due to dowry hassle and have undertaken to live a promiscuous life. However there are many laws are in existence i.e. The dowry prohibition Act, 1961, Indian Penal Code, 1860, Criminal procedure Code, 1973, The Indian Evidence Act, 1872, Hindu Marriage Act, 1955. Etc. for protecting and safeguarding the women from above mentioned atrocities yet this social evil can be eliminating through mass society awareness. Some of important suggestions to combat this social evil are incorporated as under:

1. To provide more investigation powers to investigation officers, so that a free, fair, just, proper, reasonable and corruption free investigation can be taken place.
2. The offender of offences against women or his relative who are involve in that offence as through abetment, these should be providing same punishment like the main offender.
3. Powers of National Commission for Women should be increased so that it may play a vital role to regulate and control offences against women.

<sup>7</sup> (1996) (2) SCC 380)

<sup>8</sup> (1995) (4) SCC520)

<sup>9</sup> (1996) 5 SCC 145

4. Victim should also raise voice against offender, without any fear of her social reputation or fear of her relatives, because until the guilty would not be properly punished, such kind of offences could not be prevented.
5. The police officials should listen, offences against women very amicably and provide a quick and hassle free environment to victim instead on harassing her with strict legal technicalities.
6. Social awareness programmes should be organized by Government, NGO, local authorities, and village panchyats etc. time to time so that psychologically these offences can be prevented with the help of society.

## **REFERENCES**

1. Law relating to women and children, Dr. Anjani Kant, Central Law Publications, second edition, 2006
2. Law relating to women and children, Dr.(Mrs.) Mamta Rao, Eastren Book Company, first edition 2005
3. Criminal Procedure, Takwani, Lexis Nexis, 4<sup>th</sup> edition

## **CREATIVE ACCOUNTING AND CORPORATE GOVERNANCE**

**Sonia Mudel**

*Assistant Professor*

*Department of Commerce, Ramanujan College*

*University of Delhi*

*Delhi (India)*

---

### **ABSTRACT**

*Corporate governance and creative accounting are two sides of a coin. Creative accounting is related to weakness of corporate governance. The concept of corporate governance and creative accounting has come into picture after the big accounting scams like Enron, WorldCom, Satyam computers etc. Corporate governance represents the manner in which a company is directed and controlled and this aspect is closely related to creative accounting practices, ownership structure, board of director's structure, they all can encourage or discourage creative accounting practices. Creative Accounting makes for a half filled glass of water look like half full rather half empty. It is an art of manipulating the books so that desired results can be obtained by taking undue advantage of loopholes of accounting system. Corporate governance is a current issue with great impact on creative accounting This paper is structured as follow, at first some definitions of creative accounting and corporate governance after introduction. Comparative analysis of top scandals is also shown on the basis of some corporate governance parameters. The study has been undertaken with the broad objective of determining the existence of creative accounting among the companies selected for the study and also to find an association in between corporate governance and creative accounting. The study covers the companies listed in the NSE.*

**KEYWORDS:** Creative Accounting, Corporate Governance, Income Smoothing, Financial Performance.

### **INTRODUCTION**

Creative accounting is the practice of manipulating the books in the desired manner which is adopted with the framework of accounting system or in other sense taking undue advantages of loopholes of accounting system. On the other hand Corporate governance is the relationship among various participants in determining the direction and performance of corporations. Creative accounting is of two types positive and negative viewpoints. From positive viewpoint, creative accounting connotes invention of accounting principles and techniques to recognize changes in accounting practice. From negative viewpoint creative accounting means undesirable practices by presenting a misleading and deceptive state of a certain firm's affairs. The general trend we seen in the literature is of the negative viewpoint. Aggressive accountings, cooking the books, massaging the numbers are few common terms used for creative accounting. Since the scandals have deeply influenced both the national and world economies the concept of creative accounting and corporate governance and the ways the tackling this problem have come in agenda of business firm and government.

In India this topic has been the most talked after the collapse of SATYAM COMPUTERS in January 2009. Currently, there is a strong trend of cross disciplinary research on this topic. This topic came under the spotlight as a result of chain of events Like Enron debacle in 2001, Tyco, Quest, Global crossing, the World.com, Xerox, Parmalat etc. were happened just because of creative accounting practices. These practices were perpetuated by management and staff in participation with the auditors.

**Corporate governance is a method against creative accounting.** Corporate governance is the system by which companies are directed and controlled while creative accounting is the transformation of financial accounting figures from what they actually are to what prepares desire by taking undue advantage of the existing rules or by ignoring some or all of them.

## RELEVANCE OF THE TOPIC

The purpose of the topic is to provide information on creative accounting practices and corporate governance. The topic is very relevant in today's time because giant corporate failures in various countries due to creative accounting practices and how corporate governance help to reduce these practices by incorporating BOD structure, independent audit committee, and by applying various code of conduct like *Sarbanes Oxley Act*. **Thus the paper brings attention to the relationship between Creative Accounting and Corporate Governance factors.**

## OBJECTIVE

The objectives of this paper are:

- *To provide awareness about creative accounting practices*
- *To know whether creative accounting is present in companies listed on NSE.*
- *To know relation between creative accounting and corporate governance*

## LIMITATIONS

- Sample for the study that is CNX fifty companies is very limited
- Secondary data is used for the study like annual reports, publications, various sites etc
- Difficult to measure creative accounting and corporate governance

## RELATIONSHIP BETWEEN CREATIVE ACCOUNTING AND CORPORATE GOVERNANCE

The connection between corporate governance and creative accounting take place because of conflict between ownership and control i.e. **AGENCY THEORY**. This is related to the fact that managers may focus on short-term personal incentives such as maximizing salaries, bonuses, and other short-term compensations, instead of focus on the long term economic success of the firm.

Managers may choose to exploit their privileged position for private gain, by managing financial reporting disclosures in their own favour. The conflicts are related to sharing the economic resources and the lack of confidence, these conflicts between the shareholders and managers being considered in the literature to be *the root of creative accounting*.

The importance of corporate governance studies in the area of creative accounting presented under all its arrangements of manifestation is related to the general trend that *poor governance persuade or sustain a manipulative behavior*. A weak corporate governance structure is more likely associated with misleading accounting information (Giroux, 2006) whereas strong corporate governance structure is less prone to fraud, earnings manipulation and other creative accounting practices (Dechow et al, 1996, Beasley, 1996). Basically, a qualified, committed, independent, tough-minded audit committee represents true guardian of public interest. It monitors management actions and oversees the accounting and financial reporting as well as audit of the company thereby helping to stop earnings management. Also discussions are regarded the fact that poor governance results in inflated compensation packages that induce managers to act in a manipulative manner.



**Information asymmetry** is regarded as also as a creation point for manipulative behavior. The general trend when it comes to explain information asymmetry is that one side of the market has more information than the other. Dye (1988) and Trueman and Titman (1988) asserted that the existence of information asymmetry is the necessary condition for earnings management. When information asymmetry is high the shareholders and stakeholders do not have sufficient information, resources, incentives or access in order to monitor manager's actions then this gives rise to creative accounting practices.

There are two different patterns of financing the companies. This related to the corporate governance model that conquers in a particular country. If a certain country belongs to the **Anglo-American accounting model** the determinant corporate governance model is the shareholder model. In a country belonging to **Euro-Continental accounting model**, the corporate governance model that is reflected in this context is the stakeholder model. In this context, great importance is placed on the information presented to the creditors (e.g. banks) since the finance pattern of the companies is related to them. In both corporate governance models, information asymmetry is seen as a creation point for creative accounting occurrence or earnings management behavior. In a context of information asymmetries, the managers can unscrupulously manage the accounting number in order to present the results that are expected by the market. The main purpose appears as a consequence of the desire to avoid the negative consequences that of the news that raised the alarm would represent in terms of stock price performance. *The role of corporate governance complex mechanism is to minimize information asymmetry and to ensure compliance with mandated reporting requirements while maintaining the credibility of a firm's financial statements and safeguard against manipulative behavior.*

**Legitimacy Theory** has also been used in explaining corporate reporting disclosure practices. According to this theory the main scope of disclosure is to alter perceptions regarding the legitimacy of the organization since disclosures are not regarded as voluntary channels of information but as responses to public pressure since firms are considered to have a social contract with the society they activate since their survival depends of societal norms. In this respect sometimes firms may focus more on the need for information on customers' needs rather than investor's needs when preparing the annual reports (Ogden and Clarke, 2005).

The **Institutional Theory** asserted that firms respond to institutional expectations but adopting norms and procedures in order to reduce inspection by internal and external constituents. In this respect managers are assumed to respond to institutional pressures when disclose their financial statements. The Stakeholder Theory is similar to Legitimacy Theory, the differences exist in the fact that firms prepare the financial statements as a response and demand of various groups of stakeholders (e.g. employees, customers, government agencies ,etc. ).

**Signaling Theory** is focused on the behavior of managers in well performing firms who tend to disclose the performance with greater transparency in their presentation of financial statements.

Out of all five theories, Agency theory and signaling theory are preoccupied by the investor's informational data regarding financial performance and the channels related to this, the other three theories consider the society as a whole and the stakeholders particular needs of information, is comprised in the audience of firms' disclosures that in those cases offers a different view since in those disclosures social and environmental performances are approached proving the fact that manipulation is not related only to financial performance (Valdu et al, 2010).

Most of the factors (independent board of directors, independent audit committees, size of board etc.) are considered corporate governance tools designed to restrict creative accounting but still some of them inspire it (e.g. management remuneration packages).

### The role of corporate governance in detecting creative accounting practices

- Role and Responsibilities of Board of Directors
- Role of Internal Auditors
- The Role of the Independent Auditor
- The audit committee's duties and responsibilities

Thus it is important to carry out legislative changes, to harmonize accounting practices with the policies of the international specialized committees, and to cultivate a fair and transparent spirit in order to mitigate the discrepancies within companies and, of course, to eliminate the pressures which, most of the times, lead to a reckless behavior of the managers with long-term drastic consequences or in other words to curb the practices of creative accounting.

### MEASUREMENT OF CREATIVE ACCOUNTING AND RESULTS

#### Hypothesis

The following research hypotheses have been framed for the present paper:

- Smoothing practice is not prevalent among the listed companies in India.

**Size of the Population:** In statistics, a population is a complete set of items that share at least one property in common that is the subject of a statistical analysis. However for the present study total population has been taken as the companies included in CNX Nifty because **criteria for selection of constituent stocks are common for all the stocks viz Liquidity (Impact Cost), Floating Stock etc.** The population consists of 50 companies and out of these 50 companies; finance sector companies have been excluded. The finance sector companies have been excluded from the study because of its unique characteristics of financial reporting practice. The number of companies included in CNX Nifty after excluding finance sector companies stands at 40. This has been taken as the population for the present study.

**The Method of Data Collection** adopted has been selected keeping in view the nature, scope and object of the present study. Primary data in the form of published Annual reports of the companies have been collected by post, fax and internet. Data has been collected for a period of 5 years i.e. 2008-2009 to 2015-2016.

#### Measuring income smoothing

In this research study, the procedure employed to determine the presence of Income Smoothing is the coefficient of variation method developed by Eckel (1981). Eckel's method measures smoothing by aggregating the effects of potential smoothing variables and considering over time (Ashari et al 1994). This aggregation of variables is important, as Zmijewski and Hangerman (1981) suggest that companies select accounting procedures, not independently, but based upon their overall expected effects on income.

The actual objectives of income-smoothing with respect to the income statement have been interpreted in various ways. In the present study, the objective of income-smoothing has been taken as PBT

The present study modified the original Eckel's model and assumes a company as non-smoother if

logic behind this assumption is that if the income figure and sales figure of a company are taken over a period of time, then, the Coefficient of Variation of income i.e. the variation of change in income and the Coefficient of Variation of sales i.e. the variation of change in sales should be same.

$$CV_{\Delta I} = CV_{\Delta S}$$

So the company where the  $CV_{\Delta I} > CV_{\Delta S}$  or  $CV_{\Delta I} < CV_{\Delta S}$  it will be considered as a smoother company. In the present study, a company is considered as a non-smoother even if-

$$CV_{\Delta I} \approx CV_{\Delta S} \text{ i.e. } \frac{CV_{\Delta I}}{CV_{\Delta S}} \approx 1$$

In the study, the ratio of CV of PBT to CV of sales is used as Eckel's Index (Income-Smoothing Detector) to identify the sample of the company's as smoother and non-smoother.

## FINDINGS OF THE STUDY

### Descriptive Statistics

Eckel's Index has been calculated as an indicator of income smoothing practice using ratio of Profit before Tax and sales. Out of the total 40 sample companies only 14 companies are found to be smoother as in case of these 21 companies are non smoother. At the same time, out of the 40 companies, 14 companies are found to be smoother as Eckel's Index for these companies are either greater than 1 or equal to 1.

### Smoothing practice is not prevalent among the listed companies in India.

The first hypothesis of the study deals with the question of whether creative accounting in the form of income smoothing is prevalent among the listed companies in India. However, from the descriptive statistics, it has been found that 14 companies are involved in income smoothing activity whereas only 26 companies are proved to be non-smoothers. Many previous studies proved the presence of income smoothing among the companies.. The findings of the study showed that the number of smoothing firms are low as compared to non-smoothing firms The study concluded that smoothing is present among the companies but at a lower level. Thus it can be concluded that smoothing is prevalent among the listed companies in India at a higher level. Therefore, the null hypothesis can be rejected.

## CONCLUSION

The relation between corporate governance and creative accounting take place because of conflict between ownership and control i.e. Agency Theory and due to Information Asymmetrical. Creative Accounting makes for a half filled glass of water look like half full rather half empty. It is the process of manipulating accounting figures by taking advantage of the loopholes in accounting rules within the framework of law, it is not illegal. In this paper we examine the existence of creative accounting among listed companies in India. The findings of the study showed that the number of smoothing firms are low as compared to non-smoothing firms The study concluded that smoothing is present among the companies but at a lower level. *Audit committees, full disclosure, appropriate board structure play important role in discouraging creative accounting practices.* There is need of modification of corporate system to curb creative accounting practices in terms of various code of conducts, it is also important to carry out legislative changes, to harmonize accounting practices with the policies of the international specialized committees, and to cultivate a fair and transparent spirit in order to mitigate the discrepancies within companies and to eliminate the pressures on the managers so that the disastrous trail of big corporate failures(like Enron, WorldCom, Xerox, Satyam etc.) can be stopped. *Even though corporate governance mechanisms cannot prevent unethical activity in top management completely, but they can at least act as a means of detecting such activity before it is too late as seen in comparison analysis of scandals.*

## REFERENCES

- Sharma, J.P. (2014). “*Corporate Governance, Business Ethics and CSR*”, Ane Books Pvt. Ltd., New Delhi, India.
- Shah, S. Z. A. & Safdar B. (2011). “Creative Accounting: A Tool to Help Companies in a Crisis or a Practice to Land Them into Crises”, *International Conference on Business and Economics Research*, 16, 96-102.
- Rajput, M.S. (2014). “Creative Accounting: Some Aspects”, *International Journal of Business and Administration Research Review*, 2(4), 193-199.
- Shah, Atul K. (1998). “Exploring the influences and constraints on creative accounting in the United Kingdom”, *The European Accounting Review*, 7(1), 83–104.
- Omurgonulsen, M. & Ugur O., (2009). “Critical thinking about creative accounting in the face of a recent scandal in the Turkish banking sector”, *Critical Perspectives on Accounting*, 20, 651–673.
- Naser, Kamal H.M. (1993). “*Creative Financial Accounting. Its Nature and Use*”, Prentice-Hall International, London.
- Breton, G. & Richard J. Taffler (1995). “Creative Accounting and Investment Analyst Response”, *Accounting and Business Research*, 25(98), 81-92.
- Baralexis, S. (2004). “Creative accounting in small advancing countries: The Greek case”, *Managerial Auditing Journal*, 19(3), 440-461.
- Susmus, T. & Dilek D. (2013). “Creative Accounting: A Brief History and Conceptual Framework”, *3rd Balkans and Middle East Countries Conference on Accounting and Accounting History*.
- Amat, O., John B. & Jack D. (1999). “*The Ethics of Creative Accounting*”, Economics Working Paper, Universitat Pompeu Fabra.
- Balaciu, D. & Madalina, P. C. (2008). “Is creative accounting a forum of Manipulation? ”
- Salome, E. N. & Ogbonna M. I. (2012). “The effect of creative accounting on the job performance of Accountants (Auditors) in reporting financial statements in Nigeria”, *Arabian Journal of Business and Management Review*, 1(9), 1-30.
- Kamau, C. G., Agnes N.M. and Dorothy M. (2012). “Tax Avoidance and Evasion as a Factor Influencing ‘Creative Accounting Practice’ Among Companies in Kenya”, *Journal of Business Studies Quarterly*, 4(2), 77-84.
- Cosmin, L. L. (2010), “A Census of Creative Accounting Techniques”, *Romanian Economic Business Review*, 5(4), 104–108 .
- Smith, T. (1992). “*Accounting for growth*” Century Business, London.
- Griffiths, I. (1986). “*Creative accounting*” Sidgwick & Jackson, London .
- Okaro, S.C. & G.O. Okafor (2012). “Creative Accounting, Corporate Governance Watch dog Institutions and Systems - The Case of Cadbury (Nig.)”, available at: <http://ssrn.com/abstract=1946441>

- Xie, B., Wallace N.D. and Peter J.D. (2002). "Earnings management and corporate governance: the role of the board and the audit committee", *Journal of Corporate Finance*, 9, 295– 316.
- Marnet, O. (2005). "History repeats itself: The failure of rational choice models in corporate governance", *Critical Perspectives on Accounting*, 18, 191–210.
- Low, M., Howard D. & Keith H. (2008). "Accounting scandals, ethical dilemmas and educational challenges", *Critical Perspectives on Accounting*, 19, 222–254.
- Gherai, D.S. & Diana E. B. (2011). "From Creative Accounting Practices and Enron Phenomenon to the Current Financial Crisis", *Annales Universitatis Apulensis Series Oeconomica*, 1(13) 34–41.
- Vladus, A.B. & Damitru M. (2010). "Corporate Governance and Creative Accounting: Two Concepts Strongly Connected? Some Interesting Insights Highlighted by Constructing the Internal History of a Literature", *Annales Universitatis Apulensis Series Oeconomica*, 1(12), 332–346.
- Shil, N. C. (2008). "Accounting for good corporate Governance", *JOAAG*, 3(1), 22-31.
- Sharma, N. (2014). "Understanding Corporate Governance in a Comparative Context of India & New Zealand", *International Journal for Research in Management and Pharmacy*, 3(1), 36-43.  
(Mudel, 2016)
- Odia, J.O. & Ogiedu, K.O. (2013). "Corporate Governance, Regulatory Agency and Creative Accounting Practices in Nigeria", *Mediterranean Journal of Social Sciences*, 4(3), 55-66.
- Heiko, S. (2009). "The development of governance structures for corporate responsibility, Corporate Governance:", *The international journal of business in society*, 9(4), 495 – 505.
- Yusoff, W.F W & Idris A.A. (2012). "Insight of Corporate Governance Theories", *Journal of Business & Management*.
- Stolowy, H. & Garton B. (2000). "A Framework for the Classification of Accounts", 1–52.
- Romulus, B.S., Rachisan P.R. & Grosanu A. (2012). "Qualitative study regarding the relationship between corporate governance and creative accounting", 642-647.
- Brown, L. D., & M. L. Caylor. (2004). "Corporate governance and firm performance". Working Paper, Georgia State University, USA.
- Bebuczak, Ricardo. (2005). "Corporate Governance and Ownership: Measurement and Impact on corporate performance and dividend policies in Argentina", Research network working paper, 516.
- Mudel (2016). "A study to show the relation between Creative accounting and Corporate governance", *South Asian Academic Research Journal*, 58-78.

www.sciencedirect.com  
www.jstore.com  
www.emerald.com  
www.moneycontrol.com  
www.proquest.com

## INTERNATIONAL TRADE AND ITS EFFECTS ON ECONOMIC GROWTH IN TIMP COUNTRIES

**A.Anu Menon**

Assistant Professor

Department of B.COM (CA) & M.COM

PSGR Krishnammal College for Women

Peelamedu, Coimbatore (India)

---

### ABSTRACT

*International Trade could be defined as trade between the different Nations of the world. It is also called as International trade, External trade or Inter-Regional trade. It consists of Imports, Exports and Entrepot. The inflow of goods in a country is called Import trade whereas outflow of goods from a country is called Export trade. Relevant data were collected from the reports of International Monetary Fund data. The article purely based on the secondary data for the period of ten years from 2006-2007 to 2015-2016. The collected data were analyzed by using statistical tools namely Mean, Standard Deviation (SD), Co-efficient of Variation (CV), Compound Annual Growth Rate (CAGR), Trend Analysis, Average Annual Growth Rate (AAGR). The macro-economic variables used in the study are Exports, Imports, Interest rate, Exchange rate, Inflation rate, Gross Domestic Product, National Income, and Unemployment rate. It has been proven that exports have an improved performance of International trade. From the TIMP Nations, Indonesia and Mexico show a positive influence on International Trade.*

**KEYWORDS:** International Trade, Economic Welfare, TIMP.

### INTRODUCTION

International Trade is an imperative sector of a country's national economy and contributes substantially to the economic welfare of the people and the development of resources. It plays a considerable role in streamlining economic and social attributes of countries around the world, particularly the less developed countries. The growth rate and per capita income of an economy depends on the domestic production, consumption activities and in conjunction with International transaction of goods and services. International Trade is the potential weapons for developing an economy and plays an important role in achieving the country's socio-economic objectives. International Trade has been an area of interest to decision makers, policy makers as well as economists. It enables countries to sell their domestically produced goods to other countries of the world. International Trade has increased from 2.6 % in 1991 to 16.5% in 2016. The TIMP countries such as Turkey, Indonesia, Mexico and the Philippines are considered as the four newly industrialized countries which are quickly becoming world-class powerhouse economies. Economic Growth is one of the most important goals of International Trade in both developed and developing countries. But TIMP countries suffer from many

economic imbalances such as high rates of inflation, unemployment, chronic deficit in the balance of trade and balance of payment and others. The significance of International Trade appears by the role played in achieving Economic Development. According to policies of liberalization and openness to trade, the International Trade is not just a process of exchange of goods and services with the countries of the world; it is an indicator that reflects the level of the Economic Development and openness to world trade markets.

## OBJECTIVES OF THE STUDY

- To examine the trend and growth of International Trade and GDP in TIMP countries.

## METHODOLOGY

The study is based on secondary data and the data reliable for analysis are collected from various reports, publications, magazines, journals, websites and various articles. The collected data have been used for analysis with the help of statistical tools. The various statistical tools used are Mean, Standard Deviation (SD), and Co-efficient of Variation (CV), Compound Annual Growth Rate (CAGR), Trend Analysis, and Average Annual Growth Rate (AAGR). The study covers a period of 10 years from 2006-2007 to 2015-2016.

## ANALYSIS AND INTERPRETATION

### Annual Growth Rate of TIMP Countries

Table 1 and 2 presents the Annual Growth rate of International Trade and Gross Domestic Product in TIMP countries.

**Table 1**  
**Annual Growth Rate of International Trade in TIMP Countries from 2006-2007 to 2015-2016**  
**(In Percentage)**

YEAR	TURKEY	AAGR	INDONESIA	AAGR	MEXICO	AAGR	PHILIPPINES	AAGR
2006-2007	45.32	-----	61.94	-----	51.51	-----	51.94	-----
2007-2008	45.96	1.41	63.10	1.87	51.89	0.74	47.96	-7.66
2008-2009	44.12	-4.00	62.77	-0.52	51.64	-0.48	40.12	-16.35
2009-2010	47.95	8.68	61.43	-2.13	52.46	1.59	48.84	21.73
2010-2011	42.69	-10.97	63.01	2.57	51.67	-1.51	40.63	-16.81
2011-2012	46.97	10.03	62.87	-0.22	53.14	2.84	41.17	1.33
2012-2013	48.17	2.55	62.48	-0.62	51.98	-2.18	46.24	12.31
2013-2014	47.45	-1.49	61.97	-0.82	53.30	2.54	48.13	4.09
2014-2015	47.62	0.36	60.96	-1.63	52.51	-1.48	48.62	1.02
2015-2016	46.73	-1.87	61.55	0.97	51.40	-2.11	46.60	-4.15
2019-2020**	48.95	4.75	61.07	-0.78	53.26	3.62	45.46	-2.45
Mean	46.53		62.10		52.25		45.97	
SD	1.87		0.78		0.72		3.82	
CV	4.02		1.26		1.38		8.31	
CAGR	0.00		-0.00		-0.00		-0.01	

Source: Compiled and Calculated from IMF Data

\*\* Trend prediction values

**Table 2**  
**Annual Growth Rate of GDP in TIMP Countries from 2006-2007 to 2015-2016**  
**(In Percentage)**

YEAR	TURKEY	AAGR	INDONESIA	AAGR	MEXICO	AAGR	PHILIPPINES	AAGR
2005-2006	4.42	-----	3.45	-----	1.69	-----	3.13	-----
2006-2007	3.53	2.53	3.44	2.44	3.14	2.14	3.37	2.37
2007-2008	3.52	2.52	3.56	2.56	2.39	1.39	3.67	2.67
2008-2009	4.55	3.55	3.49	2.49	1.87	0.87	2.52	1.52
2009-2010	4.92	3.92	3.23	2.23	1.69	0.69	3.31	2.31
2010-2011	4.76	3.76	4.50	3.5	2.83	1.83	3.93	2.93
2011-2012	3.18	2.18	4.65	3.65	2.95	1.95	2.84	1.84
2012-2013	1.47	0.47	3.57	2.57	2.84	1.84	3.82	2.82
2013-2014	2.63	1.63	3.44	2.44	1.15	0.15	2.83	1.83
2014-2015	2.59	1.59	3.25	2.25	1.67	0.67	3.61	2.61
2019-2020**	1.47	0.47	5.37	4.37	1.84	0.84	5.01	4.01
Mean	3.37		3.81		2.18		3.45	
SD	1.24		0.69		0.67		0.68	
CV	36.72		18.33		30.43		19.66	
CAGR	-0.05		-0.00		-0.00		0.01	

Source: Calculated and Compiled from IMF Data

\*\* Trend prediction values

## SUGGESTIONS

The TIMP countries of Turkey and the Philippines should concentrate more on International Trade and Economic Growth which shows a negative impact. To achieve sustained Economic Growth, the countries should pay more attention to the proper and appropriate trade strategies and policies. It should develop strategies to promote Exports and high-tech trade. A proper balance of payment can be maintained to increase the Economic Growth of the countries.

## CONCLUSION

In the light of modernization and globalization, International Trade has become inherent for all the countries to prosper and to show their worthiness among other competitors. It has been proven that the Exports, as a component of International Trade, had a significant impact on the growth of countries' economy under review and it has been further proved that there is an improved performance of International Trade in relation to Economic Growth. From the TIMP countries, Indonesia and Mexico show a positive influence on International Trade and Economic Growth. Therefore, conscious efforts should be made by the government to modify the macro-economic variables in order to provide an enabling environment to kindle International Trade and Economic Growth.



## RELIGION, FOLKLORE AND ORAL TRADITIONS: SPECIAL REFERENCE TO EASTERN INDIA

**Kalyani Dutta**

*M.Phil. & Research Scholar*

*Department of History, University Of Delhi, Delhi (India)*

---

### ABSTRACT

*A large number of folk-lore related to religious groups, cults, personality based cults, exists these days in every region of the Indian sub continent. In India religious diversity is respected and encouraged. People from diverse cultures and backgrounds have always accommodated and amalgamated in Indian society. The growth of the folk-lore provides an interesting window to study the mixing of the legends, oral traditions, religious beliefs, culture and the actual history of the region. For instance in Eastern India there exists variety of folk-lore, folk literature Mangal - Kavyas (Panchali) that deals generally with the religious cults, sects, traditions and stories of gods and goddesses, various forms of worship, it's beliefs, rituals and variety of practices etc. The folk-lore also shows how and why we worship Trees, Sacred Animals, Birds, Emblems, Pictures, Signs, and Motifs etc. The main reason to worship these manifestations is to show devotions to god and goddesses. It symbolizes the religious and cultural practices of both Aryan and non-Aryan traditions. It shows cultural synthesis and ongoing process of socio - anthropological development of the society. Therefore an assessment of Indian culture is possible through a careful study of the religion and folk-lore.*

**KEYWORDS :** Mangal – Kavyas, Folk-Lore, Legends, Oral Traditions

### INTRODUCTION

Religion plays a vital role in the socio-cultural development of any region. The Aryanization introduced the codified religion, brahmanic rites, ritualism etc. whereas the non Aryanization traits show the growth of various cults, sects, set of beliefs, variety of rituals, folk-lore etc. Hence we find co-existence of several distinct types of beliefs and practices in religion. The continuous interactions between these two traditions made religion culturally more vital and rich. The development in religion shows a significant transformations and synthesis. The brahmanical texts generally represent the socio-cultural history of upper classes. The data, information collected from different sources and its methods, explanations and interpretations to construct the history of past reflects one sided picture of official views. Sometime it may not express emotions, sentiments, traditions, value, social and cultural integrations of the society or it may provides very little information of common people's beliefs, rites, rituals, practices, amusements, and other aspects of daily life. These silent socio-cultural gaps can be understood by the study of folk-lore, various religious sects, cult formations, its development and growth spread in different strata of society. The term Folk-lore was coined in 1846 by the English antiquarian William John Thomas in place of 'Popular

Antiquities'. Folk-lore is the collective memory of a social group which includes history, legends, religion, rituals, practices, beliefs, magic, myth, manners, customs, traditions, superstitions, folk songs, folk tales, fairy tales, ballads, riddles etc. It transmits spontaneously through words of mouth from one person to another or from one generation to the next.

### **FOLK - LORE AND ORAL TRADITIONS**

The oral history plays a significant role in folk-lore. The history of past is constructed by sources to understand the dynamics and processes for the various stages of evolution, formation and growth of the religion, folk-lore, cult and the legends in the historical context. These various sources are the gazetteers, chronicles, summary of the district records, travel documents, literary records, court files, religious scriptures, legends, hagiographical literature, public records compiled during British period, news papers, publication of the *ashrams* etc. These data are preserved in the archives, office records. However according to the historian Ranke "original narratives of eye witnesses and the strict presentation of facts, no matter how conditional and unattractive they might be"<sup>1</sup>, are not always effective. Therefore Oral history plays a significant role in transmitting Folk-lore, though it has certain limitations also.

According to the most distinguished supporter of oral history in Africa, Jan Vansina, "the oral data serve to check other sources as they serve to check it. They also can give minute detail which is otherwise inaccessible and may thus stimulate the historian to reanalyze other data in fresh ways"<sup>2</sup>. Hence it shows that "the study of folk culture and oral tradition is complementary to each other. One cannot be fully understood in the absence of the other"<sup>3</sup>. "Folk-lore also reconstructs a spiritual history, superstitions both its beliefs and practices of mankind by the inarticulate voices of the 'folk', and not by the external outstanding works of poets, writers and thinkers"<sup>4</sup>. Religious beliefs and practices have a large impact on the lives of the peoples thus it helps to understand Indian culture very minutely. It portrays contemporary life, documents, traditional behavior. It throws light on numerous aspects of social organizations thus helps in understanding the interplay between culture and personality development. Folk-lore uses common man's spoken language for communicating ideas. Thus it is very simple and easy to understand.

### **IMPORTANCE OF FOLK-LORE IN EVERYDAY LIFE**

There are modern techniques and new methods developed for checking various diseases, draughts, famine and recreations. Still the life of common people experiences lot of uncertainties with variety of problem. It is generally believed that the causes of various diseases are the result of sin and revenge of angry god, goddesses and local deities. Thus common people choose to worship in various ways to obtain mental peace, solace, less anxiety in life, kindness and benevolences of the gods, goddesses and local deities. Here, religion play a very important role in the life of a folk community and is connected with every moments of their life such as economy, social customs, culture of the people, their religious beliefs, practices, faiths, hopes, and frustrations, emotions, sentiments, tensions happiness are expressed through folk-lore. It also includes "wealth or poverty, prosperity or adversity, health, sickness, death, marriage, pregnancy, childbirth, fertility and barrenness of women, agricultural operations and its

protections from wild animals and pests, constructions of house or huts etc”<sup>5</sup>. The study of various aspects of folk culture signifies the importance of oral tradition in history. Folk-lore teaches us lessons that justice and truth will ultimately win. Its messages are religious toleration and universal brotherhood.

### VARIOUS FORMS OF FOLK –LORE IN EASTERN INDIA

A large number of folk-lore of every religious groups, cults, personality based cults exists these days in every region of the Indian sub-continent. The Eastern region of India consist of rich and varied folk literatures, *Mangal-Kavyas (Panchali)* folk tales, ballads, songs, proverbs, and riddles etc. There are numerous folktales scattered all over Bengal (especially in East Bengal now at Bangladesh). The folktale also narrates stories of many Muslim saints and *Pirs* who settled in various parts of Bengal and they largely helped in spreading their Muslim culture among the local people. The *Mangal-Kavyas (Panchali)* refers various forms of worship and stories of gods and goddesses such as of lord Siva, Vishnu, *Ma Shasthi, Lakshmi, Mangal-chandi, Sitala, Manasa*, and similar others legends, it’s beliefs, rituals and variety of practices”<sup>6</sup> etc. The word *Mangal* means auspicious or benign. Folk-lore of *Mangal-Kavyas (Panchali)* shows the grace of these deities helps in recovering lost treasures and the returns of long lost relatives. A large number of festivals observed in India throughout the whole year. In most of the festivals *Bratas* or *Vrats* are kept, vows taken and deities worshipped. People utter the names of gods, goddesses and local deities for good luck and prosperity when they start a new work like at the time of constructions of a new house, marriage ceremony, digging of a well etc.

The goddesses in folk-lore are the real *Grama-devatas* (Village deities) of India. “They perhaps belonged to the period prior to invasion of the Aryans”<sup>7</sup>. Goddesses *Shasthi* represents fertility cult and is worshipped during the month of *Jaistha*. Goddesses *Mangal Chandi* of heterogeneous natures (like *Natai Chandi, Basan Chandi, Rana Chandi, Olai chandi*) is worshipped every week in a particular month of a year. “The word ‘*Natai*’ has originated from Sanskrit word *Nritya*, meaning dance. Therefore, it seems that this deity is worshipped in her dancing or happy mood”<sup>8</sup>. Elaborate ritual paintings (*Alpana*) are drawn on special religious occasions (such as in the worship of goddesses *Lakshmi* and *Saraswati*), which originated from various local traditions. Thus we come to know about the various stages of growth and development of Indian art, paintings and sculptures through religion and folk-lore.

The deity of snake cult or Nag is called ‘*Ma Manasa*’. The festival of *Manasa* puja is celebrated in the month of *Savan* or *Sravan*. It is believed that the worships of goddesses *Manasa* protect whole family members of worshippers from the danger of Snake bites throughout the year. The deity of small-pox is called ‘*Sitala Mata*’. The festival of *Sitala Puja* is celebrated in the month of *Chaitra* to get rid of Small- Pox disease. It has been seen that people other than Hindu community also worships these deities in Eastern India. The local

deity of Cholera disease (Purging, vomiting and dysentery are symptoms) is worshipped as “*Olaatha* among Hindus and *Olabibi* among Muslims”<sup>9</sup>. Women sing songs in praise of the deities. Therefore the festivals and worship of these folk deities brings together different religious communities, sects, faiths, and beliefs. It preaches love and devotion to all, and shows religious and communal harmony to all sections of people. It can be regarded as the symbol of religious and cultural integration among different classes and castes of society. Hence it shows a social process. The Folk-lore does not show any role of communalism in religious practices, festivals and fairs in villages. These local deities and cults have developed some special features due to their own natural character and cultural background. These village deities in the region maintain social solidarity and cultural harmony through some specialized cults.

The impact of Hindu mythology is clearly visible in some folk tales and songs. The study of folk culture and religion can help in understanding the ongoing acculturation process in the society. Religion through folk-lore emphasis upon *Karma* (action) for obtaining God’s grace. *Karma* and morality are closely related to each other. Good results come from good deeds (actions) and bad results come from bad deeds. Thus it is related to our morality. It is believed that what we are today is due to our old *karma* or our past deeds. Simultaneously we are making our future *Karma* by our present activities. Hence it strengthens us for not committing any sin. It teaches us a good moral lesson of Purushartha. Folk dances show spiritual fervor and ecstasy at its highest point. For example in the region of Bengal, Jharkhand, Bihar and Orissa people of all classes, castes and ages participates in *Kirtan* dance. It thus shows *Vaishnavism* and community participation. Folk-lore reminds us about *Baul* songs and dances of united Bengal provinces of medieval period. *Baul* sect consists of a band of mystic religious practioners of Hindus and Muslims, belong to common peasant class in Bengal.

The festival of *Gajan* is held during the last half of the Bengali month of *Chaitra*. The participants (*Bhaktya* or *Sanyasi*) paints themselves as lord Siva, Goddesses *Parvati*, *Kali* and some other forms of village deities. They dance and sing folk songs in praise of lord Siva. All these aspects help in “understanding the local scene and the social life of the country where the poems were composed, customs of entertainment, food, dress, ornaments, festivals, trade and commerce, and many other aspects of the Indian society”<sup>10</sup>.

Folk-lore has a close link with nature and natural phenomena. We find the expressions of all the powers and manifestations of nature in the folk-lore. The mighty rivers and their tributaries, the flat alluvial plains, the flora and fauna, forest and agricultural lands, the floods and cyclones, the sea front and the heavy rains are reflected under various forms of folk-lore.

Rivers plays a significant role in all sphere of human life. River Ganga has developed an all India religious cult. People use holy river waters for purificatory baths, ceremonial worships. Fairs and festivals takes place along the riverside’s like ‘*Kumbha Mela*’, ‘auspicious baths at *Ganga sagar*’ during *Makar Sankranti* festival, *Chhat Puja* etc. Ganga river water (*Ganga jal*) is used in each and every religious occasion, rituals and for purifications ceremony. This religious sentiment of rivers helps in making river water clean, pollution free and its conservation in proper ways.

The worshipping of ancient cult of *Asvattha* (bo-tree), *Tulsi* (basil plants) is pan Indian in nature. It signifies the important figures in common man’s daily life. Folk-lore also describes

various kinds of unofficial forms of healing processes and magical practices etc. Thus it symbolizes the religious and cultural practices of both Aryan and non-Aryan traditions. It shows a cultural synthesis. It also shows an ongoing process of socio - anthropological development of the society. Therefore an assessment of Indian culture is possible through a careful study of the popular religious cults and folk-lore. It solves many difficult problems of Ethnology.

## CONCLUSION

There are rapid changes in technologies, discoveries, modernizations, in innovativeness, in religious events throughout the country. But there are no changes in religious beliefs in rural society. In spite of the considerable spread of literacy and modern education, use of electricity and modern equipment in numerous villages still people here worships hundreds of village deities in their own ways, without any connections of higher aspect of religion and philosophy. People here practices both Aryan and non Aryan traits altogether. It is very important to think and analyse that, no particular changes is noticed in the mind of rural people since medieval period. The reason for this is possibly that it is not easy for village community to give up their traditions, rituals, beliefs, value system and ancestral worship of various god, goddesses and village deities so easily. These are strongly rooted with their soul and life.

The study of folk-lore and oral traditions in India is basically the study of Indian traditions. These are our cultural heritage. These may motivate people to induce social change in the desired manner and ultimately help in various developmental programme. But in recent time it has been noticed that young educated youth loosing interests in folk-lore due to the effect of rapid industrialization and modernization. Thus time has come to incorporate all these folk-lore into our everyday life and educational system of the country. Sometimes some religious and cult practices accompanied by unnecessary beating of *Dhol*, *Drums* and *Dhaks* recklessly causes harms and create disturbances to neighbours and other families. Thus the malpractices of folk-lore must be sanitized.

## NOTES AND REFERENCES

1. Chakrabarty, Dipesh, *The Calling Of History Sir Jadunath Sarkar and His Empire Of Truth*, Permanent Black Publication in association with Ashoka Univ , Ranikhet, 2015, Passim.
2. Burke, Peter, (Ed.) , *New Perspectives On Historical Writing* , Polity Press Publication , Cambridge (U.K), 1991, PP.135.
3. Srivastava, Sahab Lal, *Folk Culture And Oral Tradition (A Comparative Study Of Religions In Rajasthan And Eastern UP.)*, Abhinav Publications, New Delhi, 1974, PP. 3.
4. Krappe, Alexander Haggerty, *Science Of Folk-lore* , Published by Methuen & Co. Ltd., 1930, Chapter- Introduction, PP. XV.
5. Srivastava, Sahab Lal, *Folk Culture And Oral Tradition (A Comparative Study Of Religions In Rajasthan And Eastern UP.)*, Abhinav Publications, New Delhi, 1974, PP. 200.
6. K. Ayyappa Paniker (Ed.), *Medieval India Literature: An Anthology*, (Vol-1) : Sahitya Akademi, New Delhi, 1999. PP. 60.

8. Bhattacharyya, Asutosh, *Folklore Of Bengal*, Published by National Book Trust, New Delhi, 1978. PP. 40.
9. Ibid., PP. 52.
10. Sarkar, R. M., *Regional Cults And Rural Traditions*, Inter India Publication, Calcutta, 1986.
11. Bhattacharyya, N.N., *Religious Culture of North - Eastern India*, Manohar Publishers & Distributors, New Delhi, 1995.
12. Curley, David L., *Poetry and History Bengali Mangal - Kabya and Social Change in Pre colonial Bengal*, D C Publishers, New Delhi, 2008.
13. Mahapatra, P.K., *The Folk Cult of Bengal*, Indian Publication, Calcutta, 1972.
14. Maity, Pradyot Kumar, *Historical Studies In The Cult Of The Goddess Manasa, (A Socio – Cultural Study)*, Punthi Pustak, Calcutta, 1966.

## CONCEPT OF SECULARISM UNDER INDIAN CONSTITUTION

**Kavita Chahal**

*Lecturer in Physics, Cosmos Public School, Hisar, Haryana (India)*

---

***“If I were a dictator, religion and state would be separate. I swear by my religion. I will die for it. But it is my personal affair. The state has nothing to do with it. The state would look after your secular welfare, health, communications, foreign relations, currency and so on, but not your or my religion. That is everybody’s personal concern!”<sup>1</sup>***

### ABSTRACT

*Though it is very impossible to explain the theory of secularism in such a short area, yet an attempt is made to define this theory with the light of Indian Constitution. Further in the present paper it is discussed the origin or may be said historical development the idea of secularism from its initiation to making it a Constitutional commitment under Constitution. Present paper will also examine the comparative study of the secularism between the Indian and western secularism. At the last in this study some suggestions are also made for the proper implementation of theory of secularism and to secure this fundamental right vis- a vis to promoting the social brotherhood in Indian society by making a balance between constitutional guarantee that state has no its owned religion, where most of population have faith in many religions.*

**KEYWORDS :** Constitution, Equality, Preamble, Religion, Secularism, Western Secularism

### INTRODUCTION

The Indian constitution from its inception expressed that its fundamental purpose is to secure to all its citizens ‘Justice’ social, economic and political, ‘Liberty’ of thoughts, expression, belief, faith and worship, ‘Equality’ of status and opportunity. These all fundamental ideas are guaranteed by the constitution in the part 3 namely Fundamental Rights from articles 12-35, a part which is called ‘the soul of Indian constitution’ by the framers of the constitution. Freedom of religion is also enshrined under Constitution’s Preamble and further secured from Article 25-28 of constitution.

Indian citizens are also guaranteed by the right to equality before the law and equal protection of laws. Indian Constitution further guaranteed that state shall not to discriminate against any citizens only on grounds of religion, race, caste, sex, place of birth etc. Such type of equality also guaranteed in public employment matters under article 16 of Indian

---

<sup>1</sup> Mahatma Gandhi, Dr. V.K. Maheshwari

constitution. So no religion/ religious faith are given any type of special advantage by the constitution.

### **MEANING OF SECULARISM AND RELIGION**

Secularism means that the state shall observe an attitude of neutrality towards religion. It shall be neither anti-religion nor pro-religion or anti-God; rather this matter will be a complete personal way of life as guaranteed to individual by the state. Oxford Advanced Learner's Dictionary defined the term secularism, as the Belief that religion should not be involved in the organization of society, education etc.<sup>2</sup> Further Secularism means religion less state. Now the question arises what is religion? Is it different from secularism?

Looking at the definition of religion given by Ogburn, "Religion is an attitude towards super human power, it may be submitted that religion explains the relation of man with god and also elaborate rules of conduct." Further Maxmuller defines, "Religion as a mental faculty or disposition which enables man to apprehend the infinite." Maxmuller has attempted to define religion as a matter of belief in supernatural forces<sup>3</sup>. So Religion is the belief which binds spiritual nature of man to super natural being. It includes worship, belief, faith, devotion and extent to rituals. It is not merely an opinion. Religion is something internal to individuals and that is manifest in his individual practices.

Whereas secularism though state of mind has a direct impact upon the others. It can be understood only by the outward behavior of any individual.

### **INDIAN AND WESTRAN SECULARISM**

Indian secularism has to be understood in the conditions indigenous to India as compare to western secularism. The purpose of secularism in India has not been only emancipation or separation of state from religion. In the west during the Dark Age there has been a complete control of church upon the state and human life, was considered to be with the purpose of only unification of God. The King was considered to be an agent of God and it has full command of divine wishes. Whatever the King would do, it was assumed that it would be a divine command and human life, did not have any other God than obeying the divine command.

Indian Secularism stipulates neutrality in the matter of religion. This is important as multi religious character has been constitutionally accepted in India and therefore it was a constitutional necessity to declare that the state will not have any religion of its own. The state will not interfere in religious matter of individuals and that it will not support or promote any specific religion by discriminating against the others. It is also declare that the all religion shall be treated equally and there shall not be any discrimination on the ground of religion i.e. Article 15(1), 16(2) and 29(2) of constitution of India. At the same time constitution of India also guarantees freedom of religion to every individual and such guarantee is equally given to all u/a 25 of Constitution of India. All the above aspects of secularism in India are restrictions upon the powers of state and therefore they are also called negative aspect of secularism.

However merely the above factors would not be sufficient to achieve the real purpose of secularism. Unity and fraternity shall be the ultimate object of constitution and particularly in the light of fact that Indian society is constitutionally accepted to be a multi religious society the role of the state become to conduct positive activities so as to provide assurance in the matter of religion, to all religious communities and at the same time to promote religious tolerance and also developed a feeling of mutual respect between the various religious groups and communities.

---

<sup>2</sup> OADL 7<sup>th</sup> Edition, OXFORD

<sup>3</sup> [www.legalserviceindia.com](http://www.legalserviceindia.com)



It was Gracious who gave the idea of secularism. According to him governance and God (religion) are separated as well as human life is freed from absolute control of religion with the achievement of above purpose. The purpose of secularism would be attained. There was no further requirement as to western society was an unreligious society and therefore there was no requirement of religious harmony as comparative to Indian society.

India never faces a situation like dark ages. Separation from religion or emancipation of human life from religion was never a necessity of Indian society. Rather religion has already been rooted in Indian society from ancient time. It is a part of Indian culture and of life.

The constitution of India never stipulated removal of a religion from an individual personality rather it accept the fact that religion is essential character of human personality and thus Indian secularism move on the basic foundation of religion, being essential to the individuals for smooth running of the constitution as well as for actual attainment of goal of personality apart from a security and assurance. There has to be complete absence of religious apathy originate from fear, isolation and identification. If a person belonging to one religion does not know his mind is not trained to accept the fact that all religion are essentially base on some principle and object, he will never feel one with the other religion.

### SECULARISM AND INDIAN JUDICARY

Though by the 42<sup>nd</sup> Constitutional Amendment Act 1976, this theory was specifically tries to make more expressly by adding the word ‘Secular’ in preamble of Constitution but it creates not so much difference because essence of secularism was already present from commencement of Indian constitution through the wording of article 25-28 under the head of ‘Right of freedom of religion’ in Indian constitution. Even before this Amendment Act the Supreme Court observed in the case of *Indira Nehru Gandhi v. Raj Narain*<sup>4</sup> that secularism is the basic feature of the Constitution. Further in the case of *Suresh Kumar v. secy. of Ministry of Human Resource and Development*<sup>5</sup> the apex court held that the preamble does not control the meaning of provisions of the constitution. The word secularism used in the preamble cannot override the expressed provisions which were prescribed u/a 25-30 and Article 351 of Indian Constitution. The idea of secularism is one of the basic features of the Indian constitution. The Supreme Court in his historical pronouncement in the case of *St. Xavier's College vs. State of Gujarat*<sup>6</sup> held that India is a secular state and secularism eliminates god from the matter of the state affairs, and it also ensures that none shall be discriminated against others only on the ground of religion. Further it was also held by the Supreme Court in the landmark judgment in the case of *S.R. Bommai v. union of India*<sup>7</sup> in which it was established that “Secularism is the basic structure of Indian Constitution which cannot be destroyed through amendment made by the parliament or legislature”. So not only due to this Constitutional Amendment Act, Secularism, takes birth under Indian Constitution but it has its deep root in Constitution much before this, even this theory was present in the constitution at the commencement of Constitution adopted from ancient Indian culture<sup>8</sup>.

### SECLURISM AND INDIAN SOCIETY

By thoroughly analysis of Indian constitution we can establish that India is a secular state. The various ideals of secular state have specially enshrined under the Indian Constitution and the provisions are being implemented in their substantial measure. But the circumstances

<sup>4</sup> AIR 1975 SC 2299

<sup>5</sup> AIR 1995 SC 293

<sup>6</sup> (1974) 1 SCC 717

<sup>7</sup> AIR 1994 SC 1918

<sup>8</sup> The Constitutional law of India, CLA, 45<sup>th</sup> edition, Dr. J.N.Pandey

after independence have posed a challenge before secularism in Indian society for a number of times. Sometimes it is also alleged that Uniform Civil Code the core idea expressed under article 44 of Constitution if adopted, the existence of minorities in India shall be in danger or it will be an assault on the existence of minorities. India being still a traditional society contains not one but many personal laws for various sects for governance / solving of their individual personal issues. Though India carries with it many religion sections in its territory still it has managed to retain its secular character of its polity, while in many countries especially from the third world, a secular authority has crumbled in face of conflicting traditions.

## **CONCLUSION AND SUGGESTIONS**

Mere religious tolerance would not be sufficient rather mutual respect is the actual requirement for the idea of secularism. The constitution of India aims at individuals respecting of another religion and at the same time retaining his own religious identity. Fraternity is the ultimate goal of secularism oneness as well as unity is also an important goal of secularism and constitution. State must play a pro active role to promote fraternity or religious tolerance, so that we can achieve the ultimate goal of secularism with protecting the constitutional ideals. In sum up, it may be submitted that it will be beyond the scope of this paper to outline the implications of the conceptual failings of secularism in India, yet we must attempt to raise issues and questions for continuing study to strengthen the basic character of Secularism. Though the Indian judiciary is trying to strike the balance in a harmonious way but the people of India should not forget the dream of framers of the constitution and the ancient philosophy of '**Sarva Dharma Sambhavah**' adopted by our ancient society. So everyone must respect all religions with their true spirit and adopting the idea **SABKA MALIK EK HAI**.

## HARD TIMES: REVISITING THE PARTITION HORROR IN MANTO'S "KHOL DO"

**Dr. (Mrs.) Dimple**

Associate Professor

Department of English

Govt. College for Women, Karnal, Haryana (India)

**Email:** professorcollege.knl@gmail.com

---

*It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way – in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only. (Dickens, 1)*

How apt are these lines by Dickens to describe any situation when faith in basic human values is shattered; human dignity is violated; sensibility is blunted; mutual trust is breached and all finer shades of human behaviour are dissipated unleashing of animal instincts in human beings; anarchy is let loose and survival becomes the primary concern; innate violence comes to the fore to govern all human actions. Dickens may have used this description to refer to the times of uncertainty and horror emanating from the French Revolution but the same description may perfectly be applied to times of partition of the Indian subcontinent in the mid twentieth century – the times when all such characteristics as mentioned above were in abundance and had gained in prominence.

Partition of British India in 1947 was indeed one of the bloodiest and most brutal upheavals in human history that left millions of people dead, mutilated, amputated and injured. It left an indelible scar on the psyche of individuals bruising badly the creative sensibility of various writers who have endeavoured to respond and react to this situation. They, in their own individualistic manner, have tried to delve into the factors; the terrifying, ghastly reality as also the aftereffects of partition. Khushwant Singh in *Train to Pakistan*, Chaman Nahal in *Azadi*, Manohar Malgonkar in *A Bend in the Ganges*, Bhishma Sahni in *Tamas*, Amrita Pritam in *Pinjar* – to name a few – have investigated the theme of partition from various angles and tried to come to terms with the circumstances which led to the mad fury of partition. According to Khushwant Singh, partition was the major catastrophe that divided the Indian literature in pre-partition and post-partition categories. All scholars would more or less agree to 1947 being the defining point in the history not only of India and Pakistan, but also of narratives speaking of

nation and national identity. It was such a major event in history that compelled common lives to rethink about their own existence and identity.

One such name in the glorious list of writers is Saadat Hasan Manto whose treatment of the theme has always been considered volatile and yet authentic. In his own flamboyant, dare-all bare-all style, Manto goes on to rip through the veneer of sophistication and civilization in human behaviour by portraying characters in real-life situation. Unmindful of the charges of obscenity leveled against him, he almost revisits the horror of partition in one story after the other bringing to the fore the essential animal instinct in man. He blatantly refuted the charges and maintained that he was portraying what he saw in the society itself. As such, the naked and horrifying reality of his stories was in fact the dark, unpalatable truth and the writer was holding the mirror to the society: "If you cannot bear these stories then the society is unbearable. Who am I to remove the clothes of this society, which itself is naked. I don't even try to cover it, because it is not my job, that's the job of dressmakers." "Toba Tek Singh", his masterpiece, remains even today, one of the finest portrayals of the aftereffects of the tragedy.

Manto once said that "a writer picks up his pen only when his sensibility is hurt." Obviously, Manto, as a sensitive writer, was deeply influenced and traumatized by political turmoil during 1947 and beyond. He once recorded his fierce reaction to the tragedy of partition without any mincing of words: "Hindustan had become free. Pakistan had become independent soon after its inception but man was still slave in both these countries – slave of prejudice ... slave of religious fanaticism ... slave of barbarity and inhumanity." Therefore, his stories reflect his repeated attempts to come to terms with this cataclysmic event especially for millions in North India. For Manto, partition remained a mystery but he did not keep himself in a state of denial about it. He always used the word 'batwara', never partition. Manto felt that it was the ripping apart of one whole and would lead to greater divisions among the people of the subcontinent. This coming to terms with the 'batwara', is experienced in his works by unusual characters driven by plain ambitions, mixed emotions and above all sheer humanity.

Manto's short stories open the façade of the consequences of partition to make us understand the terror-like situations and also compel us to feel how violence affects language by working as a barrier to prevent the medium through which human beings express agony and ecstasy. Manto chronicled the chaos that prevailed, during and after the Partition of India in 1947. It not only showed the influence of his own demons, but also that of the collective madness that he saw in the ensuing decade of his life.

Saadat Hasan Manto is often compared with D. H. Lawrence, partly because he wrote about taboos of Indo-Pakistani Society. His concerns on the socio-political issues, from local to global are revealed in his series, Letters to Uncle Sam, and those to Pandit Nehru. On his writing he often commented, "If you find my stories dirty, the society you are living in is dirty. With my stories, I only expose the truth".

Ismat Chughtai wrote in the memoir "Kaghazi Hai Pairahan" that Saadat Hasan Manto's "flinging it (dirt) about makes it visible and one's attention can be called to the need of cleaning it." She further says that his stories unsettle us because they take us to the darker corner of our psyche, to desires repressed and to the ugliness that results.

The present paper takes up for critical scrutiny "Khol Do" – another celebrated story by Manto that depicts with utmost intensity and faithful brutality the impact of partition on the hapless girl and her helpless father. It is one of the masterpieces depicting the effects of violence during the partition of India on the people of the land. But unlike many others, Manto

does not see the perpetrators as Hindu or Muslim, Hindustanis or Pakistanis; he just sees and depicts them as human beings with all their wilderness and barbarity. That partition provoked inhuman approaches and evoked the eagerness of satiating one's basest pleasure irrespective of any religious sentiments has been rendered beautifully through this short story.

The story starts with Sirajuddin finding himself on the railway platform of Mughalpura, Lahore. After the dreadful journey from Amritsar to Lahore in which hundreds were killed and injured; lost and raped, he just lay down for hours on the platform of Mughalpura. He wakes up from his unconsciousness only to find that his wife and daughter are not with him. As he is still in daze, the image of his wife, about to die, with ripped open stomach comes dancing before his eyes, just telling him to leave her alone and run away with Sakina, his daughter. All of a sudden, he realizes that Sakina is not with him, nowhere. Sakina, his daughter whom he cared for so much that he could not even leave her *dupatta* there in all that chaos when it slipped off her shoulders. He still finds the *dupatta* in his pocket, but where is Sakina? He tries to find her everywhere, still can't find her and finally thinks he should ask someone for help. After a few days, he finds that some young boys are doing a great job of bringing back the daughters and women remained on that side of the border. With a new ray of hope to see his daughter, he gives her description to those boys. "She is fair, very pretty. No, she doesn't look like me, but her mother. About seventeen. Big eyes, black hair, a mole on the left cheek. Find my daughter. May God bless you." Sirajuddin prays daily for their success and after a few days they find out Sakina.

Here we can see the vision and capability of Manto to see the naked truth. Those boys were out to find out Sakina and they have now found her... She was the daughter of their land, from their side of the border. She had already gone through a lot. The boys behave very kindly to her and make her feel at ease but they tell nothing about her to her father even when he asks about it. Manto tells nothing about what is done to her, what the boys do... Only when Sirajuddin asks them about her, they just say "we will find her soon, we will!" and Sirajuddin just prays for their success. A few days later, people find a female body, half dead, near the railway track. In hopes of finding Sakina, Sirajuddin goes behind them to the hospital. The end is the most shocking part of the story where Manto's skills for presenting the naked reality in all its vividness touch the high-water mark:

He stood outside the hospital for some time, and then went in. In one of the rooms, he found a stretcher with someone lying on it.

A light was switched on. It was a young woman with a mole on her left cheek.

"Sakina!" Sirajuddin screamed.

The doctor, who had switched on the light, stared at Sirajuddin.

"I am her father," he stammered. The doctor looked at the prostrate body and felt for the pulse. Then he said to the old man, "Open the window."

The young woman on the stretcher moved slightly. Her hands groped for the cord which kept her salwar tied around her waist. With painful slowness, she unfastened it, pulled the garment down and opened her thighs.

"She is alive. My daughter is alive," Sirajuddin shouted with joy. The doctor broke into a cold sweat. ( )

The end of the story is really appalling leaving us shocked. Shocked... to think of what would have happened to a girl of 17, who even in a semi-conscious state, just opens down her salwar in spontaneous reflex on hearing "Khol Do". Shocked... with Manto's capacity to see, perceive, and depict the truth as naked as it is. Shocked... with the courage of a writer to write

such a self-critical thing as those boys were from his side of the border. Manto once said: “We have been hearing this for some time now-save India from this save it from that. The fact is that India needs to be saved from the people who say it should be saved.” This could be well applied to the case in “Khol Do” where perhaps Sakina’s ‘saviours’ posed a greater threat to her modesty and chastity than any other ravisher.

Here it is pertinent to note that unlike other writers on Partition, Manto does not see the perpetrators as Hindu or Muslim, Hindustanis or Pakistanis; he just sees and depicts them as human beings with all their wilderness and barbarity. Somehow he seems to believe that human beings are essentially and by nature violent and brutal and are ready to shed their mask of humanity and turn to barbarism at the first available opportunity. His views are in consonance with those of Manohar Malgonkar who in *A Bend in the Ganges* puts the same theory when he comments: “It seemed that the moment the grip of British power was loosened, the population of the subcontinent had discarded non-violence overnight and *were now spending themselves on the orgies of violence which seemed to fulfil some basic urge*” (emphasis mine) (333).

Thus, “Khol Do” is saga of the wrath of partition towards common and simple people. It traces, with pitiless precision, the journey of a girl who loses the sight of her father during the partition and ends up being raped and gang raped again and again by the people of her own religion. That partition provoked inhuman approaches and evoked the eagerness of satiating one’s basest pleasure irrespective of any religious sentiments has been rendered beautifully through this short story. What makes the story really touching and engaging is the honesty and candor of the narration. Clearly Manto indicts the inhuman behaviour of the perpetrators of violence and advocates a humanism which connects man with man and helps them learn to live in mutual peace and harmony.

### WORKS CITED

Dickens, Charles. *A Tale of Two Cities*. 20 December 2015.  
<[http://dickens.stanford.edu/dickens/archive/tale/pdf/tale\\_01.pdf](http://dickens.stanford.edu/dickens/archive/tale/pdf/tale_01.pdf)>

Malgonkar, Manohar. *A Bend in the Ganges*. New Delhi: Orient Paperback, 1964. Print.

Manto, Saadat Hasan. *Black Margins*. Oxford University Press, 2001. Print.  
<[https://www.goodreads.com/author/quotes/263878.Saadat\\_Hasan\\_Manto](https://www.goodreads.com/author/quotes/263878.Saadat_Hasan_Manto)>

<<http://www.indiatoday.intoday.in> › Lifestyle › Culture>

## ANTI-EPILEPTIC ACTIVITY OF CLAVICEPS PERPUREA

**G. Sandhya Rani\*, Thirupathi Gorre**

*\*Pharmacology Research Division, Vaagdevi Institute of Pharmaceutical Sciences,  
Bollikunta, Warangal, A.P., India.*

**Corresponding Author:** sandhyaguggilla9@gmail.com

---

### ABSTRACT

*The present report is an investigation of anti seizure activity of Claviceps perpurea is a well known plant which is being used in Indian Traditional Medicines for epilepsy, nervous disorders, bronchitis and liver ailments. The methanolic (90%) extract of Claviceps perpurea was subjected to acute toxicity and then screened for antiepileptic activity on Maximal Electroshock (MES) and Pentylentetrazole (PTZ) induced seizures models in albino wistar rats. Acute toxicity of extract was non toxic up to the recommended dose 2000mg/kg body weight orally as per OECD guidelines No.423. Animals were pretreated with MEBA at the doses of 250 and 500mg/kg body weight. The study reported the significant delay in clonic seizure induced by PTZ and dose dependent decrease in duration of hindleg extensor phase in MES model. In MES model, MEBA showed significant reduction in duration of hindleg extension with 250 mg/kg dose and effect was dramatically reduced with 500mg/kg. Similar dose dependent results were obtained in PTZ model by delayed the onset of clonic convulsions. The complete protective effect against mortality was reported in both the tests. This study predicted possible mechanism of the formulation mediated through chloride channel of the GABA or benzodiazepine receptor complex. However, the exact mechanism of action is not clear, but attributed to its antiepileptic effect. The methanolic extract of Claviceps perpurea deserves further investigation for detailed elucidation of active constituents and the mechanisms of action.*

**KEYWORDS:** Antiseizure activity, Traditional Medicine, Claviceps perpurea  
Maximal Electroshock, Pentylentetrazole

### INTRODUCTION

Epilepsy is among the most prevalent of the serious neurological disorders, affecting from 0.5 to 1.0% of the world's population [1]. In India, studies have reported the prevalence rate of epilepsy varying from 1710 to 9780 cases per million populations [2]. Despite the optimal use of available antiepileptic drugs (AEDs), many patients with epilepsy fail to experience seizure control. Moreover, many patients suffer with the strong side effects of

chronic treatment, which may include chronic toxicity, cognitive impairment, sedation and teratogenesis [3]. The increasing knowledge on the basic mechanisms of epilepsy, the most important convulsive disorder, has led to the rational development of compounds that block seizure onset or spread targeting specific neuronal substrates [4,5].

There is still a great demand for new anticonvulsant drugs, as the existing drugs fail to treat all types of convulsive disorders [6]. Medicinal plants used for the therapy of epilepsy in traditional medicine have been shown to possess promising anticonvulsant activities in animal models and can be invaluable sources of new antiepileptic compounds.

*Claviceps perpurea* is a tree to 25 m tall with glossy alternate, petiolate, entire bark, obovate, 12-40 cm long, 10-20 cm broad. Flowers are large and showy, petals white, calyx green, with pinkish filaments with yellow anthers. Fruit a large fibrous drupe (up to 12 cm long), shiny green, quadrangular (square in cross section), containing a large single seed. This tree usually forms large spreading branches as well as a large, spreading buttress root system. It is common along the sea shore, edges of mangroves, lowland river margins and coastal forests. It is widespread throughout the tropical Pacific and Indian Oceans and widely cultivated in tropical areas. Gallic acid, saponins (including barrinin A1), hydrocyanic acid, monosaccharides, triterpenoids (bartogenic acid, 19-epibartogenic acid, and anhydrobartogenic acid) [7]. Traditional used In the Cook Islands, the seed is grated, mixed with coconut cream and rubbed onto burns and wounds. In Fiji, a decoction of the bark is used to treat hernia. A decoction of the bark is used to treat constipation and epilepsy. In Samoa, the fruit or bark is used to treat yaws, seed to treat ringworm and the bark is used in treating tuberculosis. In Solomon Islands and Samoa it is used to stun fish [8,9]. Hence, the present study was designed to verify the claims of the native practitioners.

## MATERIALS AND METHODS

### Plant collection

The bark of *Claviceps perpurea* was collected from abirami botanicals of Tuticorin, Tamilnadu, India. It was identified and authenticated by Prof. Jayaraman, Taxonomist, Tambaram, Chennai, Tamilnadu, India. The voucher specimen of the plant was deposited at the college for further reference.

### Preparation of extracts

The bark of plants were dried in shade, separated and made to dry powder. It was then passed through the 40 mesh sieve. A weighed quantity (220gm) of the powder was subjected to continuous hot extraction in Soxhlet Apparatus. The extract was evaporated under reduced pressure using rotary evaporator until all the solvent has been removed to give an extract sample. The methanolic extract of *Claviceps perpurea* yielded thick violet semi-solid residues. Percentage yield of *Claviceps perpurea* was found to be 16.4% w/w.



### **Preliminary phytochemical screening Phytochemical Screening**

The phytochemical examination of the methanolic extract of *Claviceps perpurea* was performed by the standard methods [10]. Further investigation was carried out using the ethanol extract suspended in 1% w/v Sodium carboxy methylcellulose (SCMC).

### **Animals used**

Albino wistar rats (150-200g) of either sex were obtained from the animal house in Vaagdevi Institute of Pharmaceutical Sciences, Bollikunta, Warangal. The animals were maintained in a well-ventilated room with 12:12 hour light/dark cycle in polypropylene cages. The animals were fed with standard pellet feed (Hindustan Lever Limited., Bangalore) and water was given ad libitum. Ethical committee clearance was obtained from IAEC (Institutional Animal Ethics Committee) of CPCSEA.

### **Acute Toxicity Study**

The acute toxicity of 90% methanolic extract of *Claviceps perpurea* was determined as per the OECD guideline no. 423 (Acute Toxic Class Method). It was observed that the test extract was not mortal even at 2000mg/kg dose. Hence, 1/8th (250mg/kg) and 1/4th (500mg/kg) of this dose were selected for further study [11].

### **Antiepileptic Activity**

#### **Effect on Maximal electroshock (MES) induced seizures**

Albino wistar rats of either sex weighing 150 to 230 gm were divided into four groups of six animals each. The first group received vehicle control (1% w/v SCMC, 1ml/100 g) whereas Group-II received standard drug (Phenytoin, 25mg/kg) intraperitoneally, Group-III and IV, received methanolic extract of the *Claviceps perpurea* (250 and 500 mg/kg body weight) p.o respectively for 14 days. On the 14th day, Seizures are induced to all the groups by using an Electro convulsimeter. Maximal electroshock seizures were elicited by a 60 Hz alternating current of 150 mA intensity for 0.2 sec. A drop of electrolyte solution (0.9% NaCl) with lignocaine was applied to the corneal electrodes prior to application to the rats. This increases the contact and reduces the incidence of fatalities. The duration of various phases of epilepsy were observed. The percentage protection was estimated by observing the number of animals showing abolition of Hindleg Tonic Extension (or) extension not greater than 90° [12].

#### **Effect on Pentylentetrazole (PTZ) induced seizures**

Albino wistar rats of either sex weighing 150 to 230 gm were divided into four groups of six animals each. The first group received vehicle control (1% w/v SCMC, 1ml/100 g) whereas Group-II received standard drug (Diazepam, 4mg/kg) intraperitoneally, Group-III and

IV, received methanolic extract of *Claviceps purpurea* (500 and 250 mg/kg/body weight) p.o respectively for 14 days. On the 14th day, Pentylene tetrazole (PTZ) (90mg/kg body weight, s.c) was administered to all the groups to induce clonic convulsions. Animals were observed for a period of 30mins post – PTZ administration. The parameters noted were mean onset time of convulsions, duration of convulsion and recovery/Death (% recovery or % of survival) due to PTZ [13].

## STATISTICAL ANALYSIS

The data were expressed as mean  $\pm$  standard error mean (S.E.M). The Significance of differences among the groups was assessed using one way and multiple way analysis of variance (ANOVA). The test followed by Dunnett's test P values less than 0.05 were considered as significance.

## RESULTS

### Phytochemical screening

The results of preliminary phytochemical screening of the methanolic extract of *Claviceps purpurea* revealed that presence of alkaloids, flavonoids, carbohydrates, glycosides, tannins, terpenoids, phenols and absence of saponins and steroids.

### Effects of MEBA on MES Induced Epilepsy

The duration of tonic hindleg extension in rats treated with vehicle was  $13 \pm 0.36$  seconds. The MEBA at doses of 250 mg/kg and 500 mg/kg were protect animals from seizures and significantly ( $p < 0.001$ ) reduced the duration of tonic hindleg extension. Whereas, the standard drug phenytoin treated animals exhibits abolished tonic hindleg extension. Phenytoin treated animals have shown 100% protection against MES induced seizures where as MEBA 250 mg/kg and 500 mg/kg have shown 71.73 % and 81.47 % protection respectively (Table-1).

### Effect of MEBA on PTZ Induced epilepsy

In rats treated with vehicle, clonic convulsion appeared for  $176.21 \pm 2.57$  seconds after PTZ and all rats died after seizures. The MEBA at doses of 250 mg/kg and 500 mg/kg significantly delayed the onset of clonic convulsions for  $478.67 \pm 4.05$  ( $p < 0.001$ ) and  $568.10 \pm 3.36$  ( $p < 0.001$ ) seconds respectively in dose dependent manner. Whereas, the standard drug diazepam (4mg/kg, i.p) delayed the onset of clonic convulsions for  $698.42 \pm 1.54$  ( $p < 0.001$ ) seconds. Diazepam treated animals have shown 100% protection against PTZ induced seizures where as MEBA 250 mg/kg and 500 mg/kg have shown 61.94% and 73.45% protection of convulsion and 83.33% and 100% protection of mortality respectively (Table-2).

**Table: 1. Effect of methanolic extract of *Claviceps perpurea* on Maximum electroconvulsive shock (MES)- induced seizures in rats.**

Group	Design of Treatment	Flexion (seconds)	Extensor ( seconds)	Clonus (seconds)	Stupor (seconds)	Recovery (seconds)	% Protection
I	Vehicle control  (SCMC,1ml/100g)	8.42±0.21	15±0.22	19.67±0.27	44 ±0.13	182.69	0
II	Phenytoin  25mg/kg, <i>i.p</i>	4.45±0.68**	0	9.57±0.36**	15.34±0.79**	90.54	100
III	MEBA  250mg/kg, <i>p.o</i>	6.14±0.48 <sup>ns</sup>	4.24 ±0.5***	14.92 ±0.4*	32.24±1.36*	132.57	71.73
IV	MEBA  500 mg/kg, <i>p.o</i>	5.52±0.15**	2.78±0.13***	13.21 ±1.2*	16 ±0.41***	113.64	81.47

Values are expressed as mean ± SEM of six observations

Comparison between Group I Vs Group II, Group II Vs Group III & Group IV

Statistical significant test for comparison was done by ANOVA, followed by Dunnet's test

\* $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; ns-non significant.

**Table: 2. Effect of methanolic extract of *Claviceps purpurea* on Pentylentetrazole (PTZ) induced seizures in rats.**

Group	Design of Treatment	Onset of clonic convulsions (seconds)	Duration of convulsion (Seconds)	Protection convulsion %	% Protection mortality
I	Vehicle control(SCMC,1ml/100g)	176.21±2.57	76.24±1.34	0	50
II	Diazepam (4mg/kg, <i>i.p</i> )	698.42±1.54***	12.87±0.52***	83.11	100
III	MEBA (250 mg/kg, <i>p.o</i> )	478.67±4.05***	29.02±1.13***	61.94	83.33
IV	MEBA (500mg/kg, <i>p.o</i> )	568.10±3.36***	20.24±1.17***	73.45	100

Values are expressed as mean ± SEM of six observations

Comparison between Group I Vs Group II, Group II Vs Group III & Group IV

Statistical significant test for comparison was done by ANOVA, followed by Dunnet's test

\*p<0.05; \*\* p<0.01; \*\*\*p<0.001; ns-non significant.

## DISCUSSIONS AND CONCLUSIONS

The most popular and widely used animal seizure models are the traditional MES and PTZ tests. The MES test is the most frequently used as an animal model for identification of anticonvulsant activity of drugs for the generalized tonic-clonic seizures "grand mal"[14,15]. This model based on observation of the stimulation by repeated electrical pulses induce in different neuronal structures one characteristic standard of epileptic activity [16]. PTZ-induced seizures test is considered as an experimental model for the "generalized absence seizures" [15] and also a valid model for human generalized myoclonic seizures and generalized seizures of the petitmal type [14].

In our present study, it is found that treatment with MEBA on rats significantly reduces in tonic hindleg extensor stage in MES induced epilepsy. The MES test – to identify compounds which prevent seizure spread, corresponding to generalized tonic-clonic seizures in humans [17,18]. Currently used anticonvulsant drugs (e.g. phenytoin, carbamazepines) effective in therapy of generalized tonic-clonic and partial seizures have been found to show strong anticonvulsant action in MES test [19,20]. Since, MEBA significantly inhibited generalized tonic-clonic seizures in MES test; it suggests the presence of anticonvulsant compounds.

Similarly, we found that treatment with *Claviceps perpurea* on PTZ induced rats significantly reduce the duration of convulsion and delayed the onset of clonic convulsion. PTZ may cause seizures by inhibiting chloride ion channel associated with GABAA receptors [14,21,22]. Since PTZ has been shown to interact with the GABA neurotransmission [14,23] and PTZ induced seizures can be prevented by drugs that enhance gamma amino butyric acid type A (GABAA) receptor-mediated inhibitory neurotransmission such as benzodiazepines and phenobarbital [24-26], the antagonism of PTZ- induced seizures suggests the interaction of the methanolic extract of *Claviceps perpurea* with the GABA-ergic neurotransmission. The effect of the MEBA in the PTZ test could therefore suggest antiepileptic efficacy against the above mentioned seizures type in man.

Preliminary phytochemical analysis performed in this study shows that alkaloids and flavonoids are the major components of *Claviceps perpurea*. Hence, these properties could be mediated by several compounds present in the extract and could explain the use of this plant in traditional medicine in the treatment of epilepsy. The study concluded with significant antiepileptic activity of methanolic extract of *Claviceps perpurea* against various models of epilepsy but was unable to reveal the exact mechanism of its action.

## REFERENCES

- Rapp PR, Bachevalier J. Cognitive development and aging. In: Squire LR, Bloom FE, McConnell SK, Roberts JL, Spitzer NC, Zigmond M.J. *Fundamental Neuroscience*, Academic Press., USA, (2), 2003, 1167– 1199.
- Gupta YK, Malhotra. J. *Indian J. Physiol. Pharmacol.*, 2000, 44; 8.
- Raza M, Shaheen F, Choudhary MI, Sombati S, Rafiq A, Suria, A, Rahman AU, De Lorenzo RJ. Anticonvulsant activities of ethanolic extract and aqueous fraction isolated from *Delphinium denudatum*. *J. Ethnopharmacol.*, 78, 2001, 73– 78.
- Dichter MA. Basic mechanisms of epilepsy: targets for therapeutic intervention. *Epilepsia.*, 38 (9), 1997, S2–S6.
- Lo" scher W. New visions in the pharmacology of anticonvulsion. *Eur. J. Pharmacol.*, 342, 1998, 1– 13.
- Meldrum B. Identification and preclinical testing of novel antiepileptic compounds. *Epilepsia.*, 38 (9), 1997, S7–S15.
- Cambie RC and Ash J. *Fijian Medicinal Plants.*, CSIRO, Australia, 1994, 102-103.
- Subba Rao GSR et al., *Indian J. Chem. Sec. B.*, 25 (2), 1986, 113-122.
- Whistler WA. *J. Ethnopharmacol.*, 13 (3), 1985, 239-280.
- Harbone JP, *Phytochemical methods, a guide to modern technique of plant analysis* Chapman and Hall, London. 1973, 1-271.
- OECD, 2002. Acute oral toxicity. Acute oral toxic class method guideline 423 adopted 23.03.1996. In: Eleventh Addendum to the, OECD, guidelines for the testing of chemicals organisation for economical co-operation and development, Paris, June, 2000.

- Balakrishnan S, Pandhi P, Bhargava VK. Effects of Nimodipine on the efficacy of commonly used anti-epileptic drugs in rats. *Ind J Exp Biol.*, 36, 1998, 51-54.
- Kulkarni SK and George B. Significance of long term potentiation in cognitive functions and epilepsy. *Ind J Pharmacol.*, 31, 1999, 14-22.
- Loscher W and Schmidt D. Which animal models should be used in the search for new antiepileptic drugs? A proposal based on experimental and clinical considerations. *Epilepsy Res.*, 2, 1988, 145-181.
- Oliveira FA, Almeida RN, Sousa MFV, Barbosa-Filho JM, Diniz SA, Medeiros IA. Anticonvulsant properties of N-salicyloyltryptamine in mice. *Pharmacol Biochem Behav.*, 68, 2001, 199-202.
- Quintans-Júnior LJ, Almeida RN, Falcão ACGM, Agra MF, Sousa MFV, Barbosa-Filho JM. Avaliação da Atividade anticonvulsivante de plantas do Nordeste Brasileiro. *Acta Farm Bonaerense.*, 21, 2002, 179-184.
- Kupferberg HJ. Antiepileptic drug development program: a cooperative effort of government and industry. *Epilepsia.*, 30(1), 1989, S51–S56.
- Stables JP, Kupferberg HJ. The NIH Anticonvulsant Drug Development (ADD) Program: Preclinical Anticonvulsant Screening project. In: *Antiepileptic Drugs*, Levy RH, Mattson RH, Meldrum BS, Raven Press., New York. (4), 1995, 4– 17.
- White H S. Clinical significance of animal seizure models and mechanism of action studies of potential antiepileptic drugs. *Epilepsia.*, 38 (1), 1997, 9.
- McDonald RL, Kelly KM. Antiepileptic drugs: Mechanisms of action. *Epilepsia.*, 34, 1993, S1-S8.
- Almeida RN, Navarro DS, Assis TA, Medeiros A, Thomas G. Antidepressant effect of an ethanolic extract of the bark of *Claviceps purpurea* in rats and mice. *J Ethnopharmacol.*, 63, 1998, 247-252.
- Ngo Bum E, Schmutz M, Meyer C, Rakotonirina A, Bopelet M, Portet C, Jeker A, Rakotonirina SV, Olpe HR and Herrling P. Anticonvulsant properties of the methanolic extract of *Cyperus articulatus* (Cyperaceae). *J Ethnopharmacol.*, 76, 2001, 145-150.
- De Deyn PP, D’Hooge R, Marescau B and Pei YQ. Chemical model of epilepsy with some reference to their applicability in the development of anticonvulsant. *Epilepsy Res.*, 12, 1992, 87-110.
- Coulter DA, Huganard JR and Prince DA. Characterization of the ethosuximide reduction of low-threshold calcium current in thalamic neurons. *Ann. Neurol.*, 25, 1989, 582-593.
- Rogawski MA and Porter RJ. Antiepileptic drugs and pharmacological mechanisms and clinical efficacy with consideration of promising developmental stage compounds. *Pharmacol Rev.*, 42, 1995, 223-286.
- Macdonald RL and Kelly KM. Antiepileptic drug mechanisms of action. *Epilapsia.*, 36, 1995, S2-S12.

## **AN EFFECTIVENESS OF CONCEPT ATTAINMENT MODEL**

**Dr. Samar Bahadur Singh**  
H.O.D.  
Department of Teacher Education  
T.D College, Jaunpur, Uttar Pradesh (India)

---

### **ABSTRACT**

*Present study has carried out the experimental design on B.ED trainees at VBSPU Jaunpur sample size 25 which was selected randomly for data collection researcher has constructed tools and analyse with 't' test. Finding were the Concept Attainment model was effective than traditional model of teaching.*

**KEYWORDS:** Teaching Model, Concept, Experiment, Population, TBT, EBT, Lesson Plan.

### **INTRODUCTION**

There are many kinds of 'good' teaching and that the concept 'good' when applied to teaching is better stated "good for what ?" and "good for whom?"

The teaching practice programme, organized for Student – Teachers in most of the teacher education colleges and departments, seems vague and does not give the Student – Teachers a precise idea of what is to be achieved by teaching practice. The teacher – educators on their part are more eager to assess the overall effectiveness of a Student – Teacher than help him to develop an effective teacher. It is recognized that each bit of teacher behaviour in the classroom has considerable influence on the student's mind. The practice teaching programmes of the teacher training colleges have so far laid emphasis on the content and methodology aspects of teaching. Effectiveness of teaching is to be judged to the extent, it has caused learning in child.

A number of teaching techniques are being used currently in India as well as in other countries for the modification of human behaviour. Some of these techniques include T-Group, Role-Play, Programmed learning Achievement-Motivation Training, Interaction-Analysis, Micro-Teaching etc. These techniques have become the educational innovation in the training of teachers.

We think teaching as a process by which teacher and students create a shared environment including sets of values and beliefs ( agreements about what is important ) which in turn color their view of reality. The 'Models of Teaching' that we choose have much to say about the kinds of realities admitted to the classroom and the kinds of life-views likely to be generated as teacher and learner work together.

We begin by challenging the idea that there is any such thing as a perfect model. We should not limit our methods to any single model, however attractive it may seem at first glance, because no 'Model of Teaching' is designed to accomplish all type of learning or to work for all learning styles. We make the assumption that there are many kinds of learning , for the most part requiring different method of instruction. We also assume that our students come to us with different learning styles, calling for different approaches if each one is to become a productive and effective learner.

The communication process of the teacher in the classroom has been found to be mainly responsible for the proper educational growth of the child, although he is also expected to direct the pupils in activities outside the classroom in order to enable them to make changes in their ways of thinking and acting. Whatever may be the effort to change the school practices, ultimately it comes down to the teacher's classroom behavior, his teaching and the teacher-pupil interaction. The verbal interaction between the teacher and the pupil creates the climate of freedom or restriction for the pupils in the classroom. Not much attention has been paid on studying and analyzing teachers' verbal behavior. Since the teacher exerts a great deal of influences, in terms of changes in pupil behaviors. Pupils have common implication of both these facts that the teacher should use different strategies of teaching matching the objectives of teaching and pupil's learning styles and personality dimensions. The teacher education programme in India, however, prepares the teachers for one or a few ways of teaching such as Herbartian method or so.

The reason for this is that an array of different teaching strategies was not available till this time which can be incorporated in training programme and thereafter in schools by teachers. Although a great deal of work was done about how pupil and man learns in areas of Education Psychology, Social Psychology, Anthropology and other many disciplines. There was big gap between theoretical knowledge and actual teaching practices in the schools.

Bruce Joyce and Marsha Weil (1980) have transformed prevailing theories and theoretical knowledge into different 'Models of Teaching' which can be readily used by teachers in school settings. There is a need of time that teacher education programmes in India today should incorporate a component of training for the variety of models of teaching so that tomorrow's teachers would be more rational and flexible in selection and use of teaching strategies suitable for pupils and needs.

The innovation, therefore, has to be first introduced at teacher educator's level and then at teacher-trainees level so that it would disseminate in teacher training in colleges and schools in India. Simultaneously there is need to conduct research to test the work-ability, feasibility, efficacy of these models so that certain modifications in them can also be brought about the experience with the innovations like micro-teaching etc. Therefore the present research is planned to see the effectiveness of 'Concept Attainment Model (C.A.M)' and 'Advance Organizer Model (A.O.M)' in respect of student's Achievement and their studies.

Education plays an important role in the advancement of the country. The school tries to provide students with learning experiences to realize the educational objectives through teaching. But much depends upon the effective use of teaching. For this, such instructional strategies are used that enable to realize the instructional as well as nurturant objectives of education. In this connection Mitra (1972) has rightly stated that 'the aims, processes and evaluation of education and primarily associated with teaching and therefore, the vital problems in education cannot be solved unless we look into the problems and processes of teaching.'

Teaching has been used from the very inception of the formal system of education. The concept of teaching was determined by philosophers and teachers of that time. Teaching had been looked upon as the process of imparting knowledge and skills to the learner. Success for teachers and students had been measured in terms of the student's ability to answer the teacher's questions. Such a conception of teaching, however, fails to encapsulate the complex and fluid transactions of featuring class room teaching. Gage (1963) has emphasized on three main questions to be answered in order to know the nature of teaching. Three questions are: How do teachers behave; why do they behave as they do; and what are the effects? It should consider the behavior of the teacher, the cause, and the learning of the students, the effect. Further, it should explain, predict and control the way in which the behavior of the teacher affects the learning of the students.

Hough and Duncan (1970) remark the teaching is a highly complex activity comprising four phases- curriculum planning phase, an instructing phase, a measuring phase, and an evaluation phase. To sensibly create a curriculum for teaching, one should have both some understanding of the goals of education and a clear formulation of more specific objectives. Actual instruction involves creating, using and modifying instructional strategies and tactics to help children learn. To measure learning outcomes, one must select or create appropriate measurement devices and then organize and analyze the resulting data.



Finally to make an evaluation of the whole teaching episode or some selected part of it, one must stand back with the measurement data in hand and make rational human judgements. These include judgements about the appropriateness of objectives and subject matter, the effectiveness of actual instruction, and the validity the reliability of the measuring devices used to test learning. The activity of teaching, of course, does not always proceed step by step through the four phases. Defining teaching a four phase activity, each of which has distinguishable characteristics, is a means by which order can be brought to this highly complex activity.

Teaching is an activity to induce learning and such activities lead to ‘ reciprocal contact’ between the teachers and the student, and the ‘interchange’ itself is called teaching (Flander’s, 1970). This interchange brings some changes in student’s behavior, and he, thus, understands his potentials and behavior implications. In the words of Joyee and Weil (1980) “teaching is a process by which teacher and students create a shared environment including sets of values and beliefs (agreement about what is improvement), which in turn color their view of reality.”

In other words, teaching is a series of events where in teacher attempts to change the behavior of the student along the intended direction. In the process of teaching, the teacher and the student, acting at two poles, interact with each other on the path of curriculum to achieve the predetermined objectives. The objectives of teaching may be to import knowledge, to provide some skills, or to change the attitude of the students.

### **ASSUMPTIONS UNDERLYING MODELS OF TEACHING**

Models of teaching are based upon the following assumptions:-

- i. Teaching is a mean for generating an environment of learning . It involves independent variables.
- ii. The content and skills function as an instruction through which student and teacher interact to each other. Thus, it provides to develop social and physical efficiency.
- iii. Different types of teaching goals are realized by organizing teaching elements in various ways.
- iv. Models provide the learning experiences by creating conductive environment for real behavioral goals.
- v. There is no way to teach.

### **PURPOSE OF MODELS OF TEACHING**

Models of teaching serves the following purposes:

- i. It can help teacher to develop his capability to teach more children and create appropriate environment for them.
- ii. It can help curriculum makers to plan learning centres and curriculums which provide a variety of educational experiences to children.
- iii. It can help material makers to create more interesting and effective instructional material and learning sources.
- iv. It can help to formulate a theory of teaching.
- v. It can improve the capacity of the learner through intervention in the personal domain(as through an attempt to increase student’s self-direction).
- vi. It can reach the learners through academic domain by teaching academic skills and ways of dealing intellectually with the complexity of the world.
- vii. It can attempt to enter the social domain to change he learner at the point of interaction with his fellows.
- viii. It makes teaching scientifically controlled and goal oriented in nature.
- ix. It can exemplify how the teaching and learning conditions and situations are interdependent and, thus, help the teacher to determine which of the teaching model is useful for whom and when.

Phase One : Presentation of data and identification of concept	Phase Two: Testing Attainment of the Concept
i. Teacher presents labeled examples. Students compare attributes in positive, negative examples, ii. Students generate and test hypothesis iii. Students state a definition according to the essential attributes.	i. Students identify additional unlabeled examples as yes or no. ii. Teacher confirms hypotheses, names concepts and restates definition according to essential attributes. iii. Students generate examples.
Phase Three: Analysis of Thinking Strategy	
i. Students describe thoughts. ii. Students discuss role of hypotheses and attributes. iii. Students discuss type and number of hypotheses.	

### OBJECTIVES OF THE STUDY

- i. To study the effect of Concept Attainment Model on the opinion (Reaction) of Student-Teachers.
- ii. To study the effect of Concept Attainment Model on Student-Teachers in respect of their Teaching Effectiveness.

### HYPOTHESIS OF THE STUDY

- i. The Student-Teachers trained through Concept Attainment Model do not change their Opinion(Reaction) towards the model as measured through concerning Reaction Scale.
- ii. Student-Teachers, trained through Concept Attainment Model (C.A.M) do not improve their teaching effectiveness as measured through Teacher Rating Scale (T.R.S).

### METHODOLOGY

In the present study researcher has used experimental method of research and selected sample from VBSPU Jaunpur B.Ed trainees in size of 25. Statistical technique was used the ‘t’ test. The Data has collected from IBT & TBT which was self constructed.

### ANALYSIS & INTERPRETATION

As per experimental design the Pre-Test of Experimental Group – I on Theory Check-up of Concept Attainment Model was administered before the Orientation of Concept Attainment Model. After the Orientation phase of Concept Attainment Model, the Post – Test of Experimental Group—I was done by the same Theory Check-up. The results are presented in tabular form as below :

**TABLE - 1**

**Showing the Means, Pooled S.D., S.E<sub>D</sub> and 't' value of Experimental Group – I ( C.A.M. Group) on Theory Check-up at Pre and Post-Orientation tests :**

Values – ↓Treatment	N	Mean	Pooled S.D.	S.E <sub>D</sub>	't'	Significance
Pre – test	8	8.25	2.796	1.398	5.543**	P< 0.01
Post – test	8	16.0				

\*\* = Significant at 0.01 level

The above table shows that the mean scores of Experimental Group – II on Theory Check- up at Pre and Post Orientation tests are 8.125 and 15.625 respectively whereas pooled S.D. value is found to be 2.341. The table also shows that the calculate 't' value of scores at Pre and Post level test is 6.407. The table value of 't' with df = 15 is reported to be 2.95 at 0.01 level. It implies that there is significant difference in the mean scores of Experimental Group- II on Theory Check-up of A.O.M. at Pre and Post tests. It means that the Experimental Group—II ( A.O.M. Group ) has gained significantly much about the content and theory of Advance Organizer Model.

#### **EFFECT OF CONCEPT ATTAINMENT MODEL ( AS TEACHING STRATEGY ) ON OPINIONS ( REACTIONS ) OF STUDENT – TEACHERS :**

Before the treatment phase the researcher has administered the concerning Reaction Scale ( prepared by Passi and Sansanwal ) on Experimental Group—I to find out the opinion about Concept Attainment Model. After the Pre-test the Student-Teachers of Experimental Group—I were subjected to treatment. During the Treatment phase, the researcher demonstrated the three lessons of Chemistry subsequently through Concept Attainment Strategy before the Experimental Group – I. After demonstration, all the Student-Teachers were given opportunity to practice ten lessons in peer group follows by feed-back by their peer student-teachers. After the treatment phase (i.e. training of C.A.M. ), administration of respective Reaction Scale was done on Experimental Group—I ( C.A.M. Group). The mean scores pooled S.D., S.E<sub>D</sub> and 't' value of the scores at Pre and Post levels were computed. The results are given in the following table :

**TABLE -2**

**Showing Means, Pooled S.D., S.E<sub>D</sub> and 't' value of Experimental Group – I ( C.A.M. Group) on Reaction Scale at Pre and Post-treatment level.**

Values-> ↓Treatment	N	Mean	Pooled S.D.	S.E <sub>D</sub>	't'	Significance
Pre-treatment level	8	22.0	4.031			
Post-treatment level	8	30.25		2.015	4.094**	P<0.01

\*\*=Significance at 0.01 level

The above table shows that the mean scores of Experimental Group-I on Reaction are 22.0 and 30.25 at Pre and Post level tests respectively. Whereas Pooled S.D. value is found to be 4.031. The table also shows that calculated 't' value is 4.094. The table value with df-15 is reported to be 2.95 at 0.01 level. It implies that there is significant difference in the mean scores of Experimental Group-I on Reaction Scale at Pre and Post-treatment stage. Hence, the hypotheses No. 1 that the 'Student-Teachers trained through Concept Attainment Model do not change their opinion towards the model as measured through concerning Reaction Scale is rejected and hence the alternate hypotheses is established. It means that the Experimental Group-I (C.A.M Group) have changed their opinion favourably regarding the Concept Attainment Model.

Passi, Singh and Sansanwal (1985) also found that, training in Concept Attainment model did bring significant favourable change in Student-Teacher's reaction towards Concept Attainment Model and Inquiry Training Model. Thus, the findings of the present experiment has been supported by the research findings of the experiment conducted previously. Hence it has been proved that Concept Attainment Model is an affective teaching strategy which is liked by most of the teachers.

#### **FINDINGS: Major Findings were:**

- 1) The Student-Teachers of Experimental Group I, who have received the training in Concept Attainment Model, have significantly favourable Opinions towards the Model.
- 2) The Student-Teachers of Experimental Group I trained by Concept Attainment Model gained significantly in regard to teaching effectiveness as measured through Teacher Rating Scale.

#### **CONCLUSION**

The present study has helped to seek the answers to the questions put as objectives of the study. The answers have educational implications to the classroom teaching-learning process. Concept Attainment Model and Advance Organizer Model were found more effective in terms of their effect on pupil's achievement in the Chemistry. The models approach to teaching may be recommended for the teachers in Indian schools to enhance the student's achievement in the subject.

The pupil's favourable attitude towards Concept Attainment Model and Advance Organizer Model implies that teaching models may be used in teaching Chemistry in Indian schools to secure students interest and attention in the classroom.

#### **REFERENCES**

- Beery, J.R. : Professional Preparation and Effectiveness of Beginning Teachers. Florida; University of Miami, 1960.
- Deva, R. C. : Prediction of Student Teaching Success, Unpublished Doctoral Dissertation, Aligarh Muslim University, 1967
- Flanagan, J.C. : 'Critical Incidents Technique' 51; Psychological Bulletin, Vol. 51, 327-358, 1954.
- Lawrence, H.S.S. : 'Rating Scale for Teacher', Practicable and Valid Educational Measures',
- Reeder, W.G. : The Fundamentals of Public School Administration, New York: The Macmillan Company, 1941.
- Ryans, D.G. : Characteristics of Teachers; Washington: American Council on Education, 1960.
- Symonds; P.M. : 'Diagnosing Personality and Conduct'; New York : Appleton Century Crafts; Inc' 1931.
- Thorndike; R.L. : Personal Selection; New York: John Wiley & Sons; Inc.; 1949; p. 124.
- Wrightstone; J.W. : 'Rating Methods' Encyclopaedia of Educational Research (Monera; W.S.; Editor): New York: The Macmillan Company; 1950.

## GROWTH PATTERN CLASSIFICATION OF SELECTED INDIAN MANUFACTURING INDUSTRIAL SECTORS

**Baishali Bagchi<sup>1</sup>, Malabika Roy<sup>2</sup> and Ajitava Raychaudhuri<sup>3</sup>**

<sup>1</sup>Research Scholar in Economics, Dept. of Economics, Jadavpur University, Kolkata, WB (India)

<sup>2</sup> Professor, Dept. of Economics, Jadavpur University, Kolkata, WB (India)

<sup>3</sup> Professor, Dept. of Economics, Jadavpur University, Kolkata, WB (India)

**Corresponding Author:** Baishali Bagchi **Email :** moubag1@gmail.com

---

### ABSTRACT

*Using the data published by Annual Survey of Industries (ASI), Govt. of India, this paper attempts to study the growth patterns of selected different Indian manufacturing industries classified by ASI into different industrial sectors. In the process, this paper also highlights some anomalies in the classification system of ASI and provides a solution to it for time series analysis of data covering from 1959 to 2012. The paper classifies the industrial sectors into High growth, Medium growth and Low growth groups and then checks there consistency during the period of study. For this purpose, the period of study is subdivided into smaller time periods and growth wise classification is again done. CUSUMSQ test is done over the growth rates of different industrial sectors to check for structural breaks.*

**KEYWORDS:** Industrial Sector Classification, Growth Pattern, Rank Correlation, CUSUMSQ test

### 1. INTRODUCTION

This paper involves a research effort that studies growth pattern of Indian Manufacturing Industries using data published by Annual Survey of Industries (ASI) under the Ministry of Commerce, Govt. of India. As a matter of fact, ASI data bank is the most authentic and detailed data source on the performance of organized industrial sectors related to Indian economy. Incidentally, industrial sectors in India are divided into factory (organizations registered under Factory's act of 1948) and non-factory (others) units. These registered factories fall under the organized industrial sector.

Annual Survey of Industries (ASI) follows the International Standard Industrial Classification (ISIC) of United Nations to classify the industrial sectors in India. While this approach has the advantage that Indian data conforms to International standard, never the less, ASI has to revise its classification whenever ISIC incorporates any revision in its classification of industries. Unfortunately this process of reclassification has introduced some ambiguity in codification of industrial sectors among different revisions of ASI data. Details of such problem and its solution have been covered later in this paper. The ASI data is systematically kept and made available from 1959. Present research effort has studied the growth of Indian industries from 1959-2012. During this period, ASI classification of industrial sectors has been done six times (NIC59 in 1959, NIC70 in 1970, NIC87 in 1987, NIC98 in 1998, NIC04 in 2004 and NIC08 in 2008). However, though a new classification was published in 2004, no new codification scheme was announced, rather the 1998 scheme was retained. Though we know that the effort is not academically rewarding, we had to undertake the huge effort to remove ambiguities of codification among different ASI classifications in order to make a time series study of growth pattern

in Indian industrial sectors between 1959 and 2012. We plan to publish our data output later so that any future researcher does not have to go through such toiling again.

Achieving the concordance of data, we then study the growth pattern of different industrial sectors over the period 1959-2012 and classify them as High, Medium and Low. In order to study the consistency among such growth patterns, the entire time period is then divided into five periods of 10 years each (last one is of 13 years) and similar classification for each industrial sector is done for all the five periods. Class memberships of all industrial sectors were not same for all the time periods. According to such consistency study, the industrial sectors were ranked.

So the major contributions of the paper can be enumerated as:

1. Removal of ambiguity of codification in ASI classification and to provide a consistent classification of industrial sectors in India since 1959.
2. For the period 1959-2012 Industrial sectors have been classified into High, Medium and Low growth patterns. Output values of the industries have been obtained from the ASI data.
3. To check consistency of growth, entire period of study has been divided into five sub-periods of 10 years each (last one is of 13 years) and the data of such sub-periods are again classified for each industrial sector. It provides us the facility to check whether any industrial sector has any change in its class in any of the sub-periods and differ from the overall class obtained earlier for the entire time period 1959-2012.
4. The industrial sectors are then ranked according to their average growth rates. Pair wise rank correlations over the five sub-periods and the overall period of 53 years (1959-2012) taken together, are calculated for comparison.
5. We then run a CUSUMSQ test over the growth rates obtained in order to check for structural breaks.

Following the Introduction, Section-2 provides a survey of relevant literatures related to the research area. Section-3 discusses in detail the problems associated with the ASI data classification and codification of industrial sectors. The process of arriving at the concordance of data against such anomalies has also been discussed. Section 4 analyses the data for different industrial areas for the period 1959-2012 and classifies the industrial areas into High, Medium and Low growth sectors. We then divide the total dataset into five temporal subdivisions of 10 years each (last one is of 13 years) and check for any change in classification for any industrial sector within these subdivisions with respect to the global classification made for the whole period 1959-2012. In Section 5 industrial sectors are ranked according to their average growth rates and rank correlations over the five temporal subdivisions are calculated for comparison. We then run the CUSUMSQ test over the growth rate data and check for structural breaks. Section 6 draws the conclusion with indication for future research work.

## **2. LITERATURE SURVEY**

Different researchers studying ASI data have discussed its structure in detail and also identified the limitations present there. As mentioned earlier, ASI data mainly covers organized sectors of industries. National Sample Survey Organization (NSSO), Govt. of India occasionally conducts survey on unorganized sectors as well. While Nagaraj (1999) and Manna (2010) in the process of describing the ASI method of data collection, points out the limitations in the process. Main objection is in the process of data collection during sample survey. Bedi (2007) et al has also pointed out a major deficiency in annual industrial data compilation by ASI. They primarily pointed out that ASI data collected in each year may not include all the new industrial units set up during the year. Situation is even worse when some old non-functional industrial units are not discarded during the survey. Suto (2010), Saluja (1998) et al and Saluja (2008) et al on the other hand discussed about the details of data available from ASI. However, the best way to study ASI data is to consult the ASI manuals. Central Statistical Organization (CSO), Govt. of India has also published a comprehensive report on Indian Manufacturing Industries in 2005. However, none of the earlier studies have tried to remove the ambiguities present in ASI dataset collected over a long period in order to make it conducive to time series analysis. For the purpose of studying the growth patterns in different industrial sectors we had to remove the ambiguities in ASI data. Next section will discuss the process in detail.

ASI dataset in general covers many items related to individual industrial sector. During last classification in 2008, NIC08 covered 27 items during survey of each industrial sector. For example, the items are:

(Number of Factories, Fixed Capital, Working Capital, Invested Capital, Outstanding Loans, Number of Workers, Wages to Workers, Total Emoluments, Prov. Fund and Other Welfare Exp., Fuels Consumed, Materials Consumed, Total Inputs, Products & By-products, Value of Output etc.). For our study of growth pattern, we have used the value of output as our control variable.

Efforts have already been made to study growth rates for industrial sectors using ASI classification. CSO (2005) and Bhat (2014) are two such studies though they used two different classification structure of ASI. However we will show later in this paper, what problem we may face by following the ASI classification strictly for such studies. Some interesting studies have also been made on the effect of post-liberalization reform on the growth rate of different industrial sectors. However such studies are not within the purview of this paper, though future research efforts will definitely cover them and such indications have been given in Section 7 of this paper.

### 3. ASI CLASSIFICATION AND CODIFICATION OF INDUSTRIAL SECTORS

The Annual Survey of Industries (ASI) is considered to be the principal source of Industrial Statistics in India. Whereas ASI makes classification of industries defining different industrial sectors following International Standard Industrial Classification (ISIC) of United Nations and provides year wise consolidated data for each such sector, Centre for Monitoring of Indian Economy (CMIE) under the Ministry of commerce, Govt. of India publishes unit level data of industries covering their capacity, production, sales, etc. However, such data is available only from 1989. So in order to obtain data for time series analysis and to study the growth pattern in different Indian industrial sectors covering both pre-reform and post-reform periods, we have to rely on ASI data.

Though ASI publishes data with a very systematic classification of Indian industrial sectors conforming to ISIC standard, it has to alter the classification as and when it is globally changed by United Nations. In the process of classification, the industrial sectors are codified to index them during storage and retrieval of data. The index structure is:

- Single digit code to classify sectors as Agriculture, Mining, Manufacturing and Repairing, Finance, etc.
- Two digit code to provide major second level classification of industrial sectors below one digit classification. For example, agricultural production, fishing, forestry, etc. fall under Agriculture, whereas food items, beverages, textiles, furniture, machineries, etc. fall under Manufacturing and so on.
- A three digit code represents the subsectors of an industrial sector denoted by its first two digits.
- Four digit code for further classification under the subsectors represented by three digit codes if available.
- Five digit classification, which contains the subdivisions of four digit classification, again if available.

The data set published by ASI generally covers industries at three digit classification level. Data related to four and five digit classifications, if available, are provided by ASI on request. However most of the analysis work, done so far by others as well by us, is on the data consolidated at two digit level code representing different industrial sectors. So consolidation of data under each such two digit code is done by adding up the data for all the three digit codes covered by the two digit code under study. It is the place where errors creep in the analysis. Because of periodic reclassification of industrial sectors to match the international standard ISIC, a subsector under one industrial sector may get transferred to another industrial sector in one classification to the other. For example, classification made in 1970 (NIC70) considered *Tobacco and Alcoholic Beverages* together as a different industrial sector separated from *Food*, whereas classification in 1998 (NIC98) considered *Food and Beverages* together in one industrial sector and *Tobacco* in a different sector. So any analysis strictly following ASI classifications of industrial sectors consolidated at two digit codes may consider different items at three digit level in different classifications and thus would get wrong data collected and consolidated when any time series analysis is done between 1959 (NIC59) and 2008 (NIC08), when the last classification was done. As a

result of this classification anomaly, the number of industrial sectors represented by two digit codes differs from one classification period to the other as shown in Table 1.

**Table 1:** Number of Industrial Sectors at each Classification Period

Classifications	NIC59	NIC70	NIC87	NIC98	NIC04	NIC08
No. of Industrial Sectors	20	19	19	22	No Change	23

In order to avoid the anomaly of classification and corresponding codification, we have reclassified the industrial sectors based on different ASI classifications themselves. We have consolidated all such three digit codes under one two digit code where such three digit codes have appeared at least once under such two digit classification. For example, *Wood and Wooden Furniture* were kept under same two digit code in NIC59, NIC70 and NIC87. However from NIC98 onwards, *Wood* and *Furniture* have been placed under different industrial sectors. As a result from 1959 to 1998, value of output under the sector *Wood* will include output of *Furniture* as well but it will not be included beyond 1998. So, two sets of data are not strictly representing same industrial sectors. We therefore, formed a concordance table where those subsectors (three digit codes) which are once inside an industrial sector (two digit code), have been kept within it for consolidation of data over the period 1959 to 2012, our overall period of study. In the process, we have generated 17 industrial sectors including a class named *Others*. In all ASI classifications, such a class is called *NEC (Not Elsewhere Classified)* covering products that not been included under any other specific industrial sector. Two sample rows of our concordance table are shown in Table 2.

**Table 2:** Concordance table to consolidate three digit codes of ASI data

Sectors	NIC59	NIC70	NIC87	NIC98	NIC04	NIC08
<b>Food products</b>	201+202+203+204+205+206+207+208+209	200+201+202+203+204+205+206+207+208+209+210+211+212+213+214+215+216+217+218+219	200+201+202+203+204+205+206+207+208+209+210+211+212+213+214+215+216+217+218+219	151+152+153+154	No Change	101+102+103+104+105+106+107+108
<b>Basic Chemical and Chemical Products</b>	311+312+313+319	303+310+311+312+313+314+315+316+317+318+319	300+301+302+303+304+305+306+307+308+309+313	241+242+243+252	No Change	201+202+203+222

As discussed earlier, consolidation of all possible three digit codes for *Food* sector has been done for all classification periods so that the data for all such classification periods refer to same set of products and thus can be used for a time series analysis. Second row in Table 2 representing the sector *Basic Chemical and Chemical Products* have been considered to establish that transfer of subsectors from one industrial sector to another in different classification periods is not the only problem in ASI dataset. It shows that three digit codes 201, 202, 203 are used in *Food* sector from 1959 (NIC59) to 1987 (NIC87) but in 2008 (NIC08) the same codes are used in *Basic Chemical and Chemical Products* sector. Since these codes are used as index values, anyone searching the data by using index values will get totally different set of data representing different industrial sectors. Though generation of the concordance table is a very laborious process, we believe it is worth doing since consolidation of data will now be unambiguous and error free not only for our study but also for others who will use ASI dataset later for analysis.



#### 4. IDENTIFICATION OF GROWTH PATTERNS IN DIFFERENT INDUSTRIAL SECTORS

In this section we have calculated growth rates of the Value of Output for 17 industrial sectors from 1959 to 2012 against our classification of industries mentioned in the earlier section. Since price indices of different industrial products are different in different years, values of output of different industrial sectors have been normalized against price of 2012. For this purpose, we have used industrial sector wise Wholesale Price Indices for the period 1959-2012 published by the Ministry of Commerce, Government of India. The *Others* sector has been kept outside the analysis as no specific price rate can be defined for that sector.

Though it is customary to compute geometric mean of the growth rates of different industrial sectors as the average growth rate, for our analysis we have considered the arithmetic mean. Since values of output for different industrial sectors have been calculated at 2012 constant price, a fall in value of output for an industrial sector in certain year will indicate negative growth rate thereby making the computation of geometric mean impossible. For this reason we have taken the arithmetic mean as the average growth rate. To find the central tendency of the average growth rates for different industrial sectors, median of these average growth rates have been taken as the pivotal point. So, the industrial sectors having mean growth rates higher than the median growth rate are identified as High Growth industries. Similarly, if the mean growth rate for an industrial sector is found to be lower than the median value, it is identified as of Low Growth rate. In case the mean growth rate is equal to the median value, the corresponding industrial sector is having a Medium Growth. Table 3 shows the classification of the industrial sectors by growth rate with mean growth rates and the median growth rate taken with precision of two places after decimal point.

**Table 3:** Classification of Industrial Sectors by Growth Rate

Industrial Sectors	Mean growth	Classification by Growth Rate
Basic Chemical	0.112245 (0.11)	Medium
Basic Metal	0.119523 (0.12)	High
Bev & Tobacco	0.068251 (0.07)	Low
Coke and fuel	0.142422 (0.14)	High
Electric Machinery	0.104751 (0.10)	Low
Food	0.100008 (0.10)	Low
Leather	0.107931 (0.11)	Medium
Metal products	0.098658 (0.10)	Low
Non Electric Machinery	0.121513 (0.12)	High
Non-metallic mineral products	0.085576 (0.09)	Low
Paper	0.070959 (0.07)	Low
Prof Tools	0.20354 (0.20)	High
Rubber	0.168381 (0.17)	High
Textiles	0.069948 (0.07)	Low
Transport equipment	0.106012 (0.11)	Medium
Wood	0.217373 (0.22)	High

Median of Mean growth rates = 0.11

It is needless to mention that following the same method if anyone else does this classification of industrial sectors by growth rate but uses strictly the ASI classification of dataset, he may get different growth class values for some of the industrial sectors.

In order to check the consistency in growth pattern for different industrial sectors over the period 1959-2012, we now break the overall time period into four sub-periods of 10 years each with a fifth one having 13 years. Computing the same way we found that all the industrial sectors are not showing a consistent growth pattern in all the five periods along with the one for the overall period of 1959-2012. Table 4 shows the result.

**Table 4:** Growth Rates of different Industrial Sectors in Five Sub-Periods within 1959-2012

Industrial Sectors	Classification for '60-'69	Classification for '70-'79	Classification for '80-'89	Classification for '90-'99	Classification for '00-'12
Basic Chemical	High	High	Low	High	Low
Basic Metal	High	High	High	Medium	High
Bev & Tobacco	Low	Low	Low	Low	Low
Coke and fuel	High	High	High	Low	High
Electric Machinery	High	Medium	High	Low	Medium
Food	Low	Low	Low	High	Low
Leather	High	Medium	High	High	Low
Metal products	High	Medium	Low	High	Low
Non Electric Machinery	High	High	Low	High	High
Non-metallic mineral products	Low	Low	High	Low	Low
Paper	Low	Low	Low	Medium	Low
Prof Tools	High	High	High	High	High
Rubber	Low	High	High	Low	High
Textiles	Low	Low	Low	Medium	Medium
Transport equipment	Low	Low	High	Low	High
Wood	Low	High	Low	Low	High

Out of the different industrial sectors, *Beverages and Tobacco* has been found to have consistently Low growth and *Professional Tools* has consistently High growth. For all other sectors there is variation in growth pattern within the period of study. So, above result demands that possible changes in growth trajectories of different industrial sectors over the years be studied to find out whether there has been any significant structural break in the growth rate of the industrial sectors. The main aim is to find out whether growth rate is following a specific trend or not.

## 5. RANKING OF INDUSTRIAL SECTORS AND TEST FOR STRUCTURAL BREAKS

Initially, we rank each of the industries according to their mean growth levels. This has been done for the entire time period of 53 years as well as for the 5 sub-periods. Next effort is to check whether the industrial sectors maintain their ranks. So, these ranks are compared to each other along with a calculation of Spearman's rank correlation coefficient between each pair of time periods. In other words, rank correlation coefficients are calculated between each of the segmented time periods and the total 53 years period. Table 5 shows the relative ranks of different industrial sectors for the entire period of 53 years as well as for each of the five sub-periods.

**Table 5:** Relative Ranks of Industrial Sectors for Overall Period and Five Sub-Periods

Industrial Sectors	Rank 1960 to 2012 (53 years)	Rank 1960 to 1969	Rank 1970 to 1979	Rank 1980 to 1989	Rank 1990 to 1999	Rank 2000 to 2012
Basic Chemical	6	3	2	8	3	12
Basic Metal	5	6	3	5	6	6
Bev & Tobacco	9	9	8	10	7	9
Coke and fuel	4	3	4	2	11	3
Electric Machinery	7	3	6	6	10	7

<b>Food</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>7</b>	<b>2</b>	<b>10</b>
<b>Leather</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>10</b>
<b>Metal products</b>	<b>7</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>3</b>	<b>11</b>
<b>Non Electric Machinery</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>6</b>
<b>Non-metallic mineral products</b>	<b>8</b>	<b>7</b>	<b>10</b>	<b>3</b>	<b>8</b>	<b>8</b>
<b>Paper</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>9</b>
<b>Prof Tools</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>5</b>
<b>Rubber</b>	<b>3</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>1</b>
<b>Textiles</b>	<b>9</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>6</b>	<b>7</b>
<b>Transport</b>	<b>6</b>	<b>8</b>	<b>11</b>	<b>4</b>	<b>9</b>	<b>2</b>
<b>Wood</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>7</b>	<b>9</b>	<b>4</b>

Table 6 shows pair wise Spearman's Rank Correlation Coefficients for overall time period and the five sub-periods.

**Table 6:** Spearman's Rank Correlation Coefficients

		Rank '60to'12	Rank '60to'69	Rank '70to'79	Rank '80to'89	Rank '90to'99	Rank '00to'12
Rank '60to'12	Correlation Coefficient	1.000	.378	.780(**)	.513(*)	-.039	.614(*)
	Sig. (2-tailed)	.	.149	.000	.042	.887	.011
	N	16	16	16	16	16	16
Rank '60to'69	Correlation Coefficient	.378	1.000	.463	.425	.178	-.007
	Sig. (2-tailed)	.149	.	.071	.101	.508	.978
	N	16	16	16	16	16	16
Rank '70to'79	Correlation Coefficient	.780(**)	.463	1.000	.130	.163	.174
	Sig. (2-tailed)	.000	.071	.	.631	.547	.519
	N	16	16	16	16	16	16
Rank '80to'89	Correlation Coefficient	.513(*)	.425	.130	1.000	-.167	.475
	Sig. (2-tailed)	.042	.101	.631	.	.537	.063
	N	16	16	16	16	16	16
Rank '90to'99	Correlation Coefficient	-.039	.178	.163	-.167	1.000	-.561(*)
	Sig. (2-tailed)	.887	.508	.547	.537	.	.024
	N	16	16	16	16	16	16
Rank '00to'12	Correlation Coefficient	.614(*)	-.007	.174	.475	-.561(*)	1.000
	Sig. (2-tailed)	.011	.978	.519	.063	.024	.
	N	16	16	16	16	16	16

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

As the comparisons of Ranks are concerned, it is clear that the industries cannot maintain their ranks of growth over the years. The ranks based on the 53 years (1960 to 2012) average growth rate are also very different from the ranks deduced from the segmented periods' growth rates. As is evident from Table 6, rank correlation coefficients between different periods of time are mostly not significant. Only the rank correlation between 1990-'99 and 2000-'12 is negative and significant among the

segmented periods. Also, the 53 years rank has a significant positive rank correlation with 1970-'79, 1980-'89 and 2000-'12 periods only. The remaining rank correlations are all insignificant. Thus, it gives a clear idea that the growth rates of the industries may be experiencing structural breaks and the same need to be checked.

For this purpose, using the data for entire 53 years, a CUSUM test (as proposed by Brown (1975) et al) is performed for each of the industrial sectors in order to identify any possible structural break. The test takes a general approach by not referring to a structural change at some specific time point. In fact it tries to identify the time point when a structural change happens. Here, the null hypothesis is that the coefficient vector  $\beta$  is the same in every period, with the alternative hypothesis simply being otherwise. The test considers recursive regressors of a time series. If a sample contains a total of  $T$  observations, then the  $r$ th recursive residual using the first  $t-1$  observations is:

$$e_t = y_t - x_t' b_{t-1}$$

where  $x_t$  is the vector of regressors and  $b_{t-1}$  is the least square coefficients computed using first  $t-1$  observations. The forecast variance of the residual is

$$\sigma_{ft}^2 = \sigma^2 [1 + x_t' (X_{t-1}' X_{t-1})^{-1} x_t]$$

Let the  $r$ th scaled residual be

$$w_r = e_r / [1 + x_r' (X_{r-1}' X_{r-1})^{-1} x_r]$$

Under the hypothesis that the coefficient remains constant over time,  $w_r$  follows  $N[0, \sigma^2]$

The CUSUM test is based on the cumulative sum of residuals:

$$W_t = \sum_{r=K+1}^t (w_r / \sigma^2), \text{ where } \sigma^2 = \sum_{r=K+1}^T (w_r - \bar{w})^2 / T - K - 1$$

$$\text{And } \bar{w} = \sum_{r=K+1}^T w_r / T - K$$

Under the null hypothesis,  $W_t$  has a zero mean and a variance of approximately the number of residuals being summed. The test is performed by plotting  $W_t$  against  $t$ . Confidence bounds are obtained by plotting the two lines connecting the points  $[K, \pm a(T-K)^{1/2}]$  and  $[T, \pm 3a(T-K)^{1/2}]$ , which basically depict the standard error lines. The values of  $W_t$  corresponding to various significance levels can be found in the paper of Brown (1975) et al. The hypothesis is rejected if  $W_t$  strays outside the boundaries of Standard Errors.

However, when this methodology was applied on the data related to industrial growth of 17 industrial sectors in the manufacturing area of Indian industries (1960 to 2012), none of the sectors showed inconsistency. This is because this test restricts itself to systematic deviations of observed data from the zero mean and does not hold good when the deviations are haphazard. Moreover, since CUSUM considers the cumulative sum of recursive residuals, the positive and the negative fluctuations may cancel out each other, thus reducing the total amount of fluctuation.

Next, we opt for the CUSUMSQ test formulated again by Brown (1975) et al. The CUSUMSQ test uses the statistics

$$S_t = \sum_{r=K+1}^t w_r^2 / \sum_{r=K+1}^T w_r^2$$

Confidence bounds for  $E[S_t]$  at different values of  $t$  are constructed and values of  $S_t$  are plotted against  $t$ . Here the hypothesis is rejected if the cumulative sum strays outside the confidence bounds.

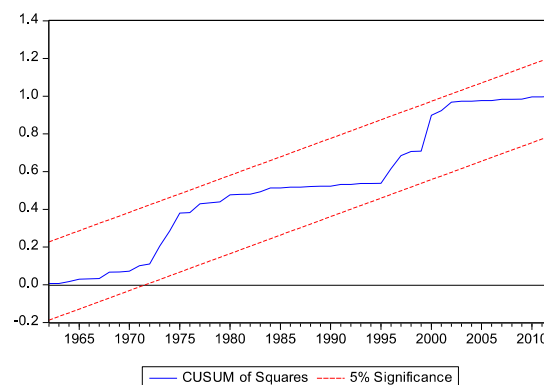
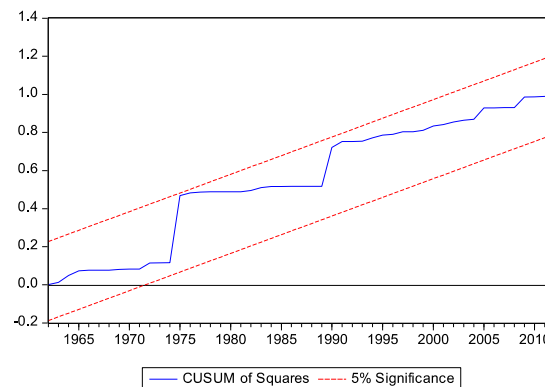


Figure 1: Beverages and Tobacco

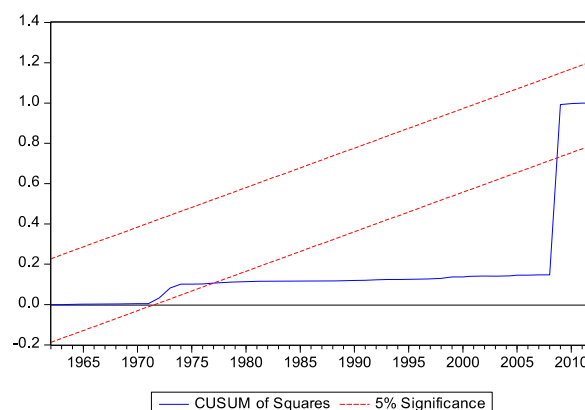
Now, interestingly, the CUSUMSQ test does show structural breaks in case of quite a few industries. In this respect, we can refer to the graphs of CUSUMSQ for different industries and compare them with the growth patterns of the industrial sectors as calculated.

We begin with the two sectors showing consistent growth patterns all along. *Beverages & Tobacco* sector in Figure 1 shows consistent Low Growth, whereas the *Professional Tools* sector in Figure 2 shows a consistent High Growth and CUSUMSQ plot doesn't show any structural break. .



**Figure 2: Professional Tools**

As the third industrial sector *Rubber* has been considered. Table 3 shows its growth rate over the entire period of 53 years (1959-2012) as High. On the other hand, when the same study was done for five sub-periods, *Rubber* sector had Low growth rate in two sub-periods as shown in Table 4.



**Figure 3: Rubber**

CUSUMSQ plot for *Rubber* sector is shown in Figure 3. It shifts from Low to High growth during the '70s. This is followed by another fluctuation to Low growth during the '90s. The industry shifts back to High growth thereafter. In support, the CUSUMSQ plot shows a large structural break since the 1970s.

Similar graphs can be drawn for other industrial sectors as well to study their growth patterns.

## 6. CONCLUSION

The present paper attempts to study the growth patterns of different Indian industries over a period of 53 years starting from the days when collection of industrial statistical data started in India. Most reliable source of data for Indian industries is the one published by Annual Survey of Industries (ASI) under the Ministry of Commerce, Govt. of India. ASI follows the International Standard Industrial Classification (ISIC) of United Nations to classify the industrial sectors in India. Though ASI provides data about Indian industries in great detail and publishes it regularly every year. Ambiguity creeps in when industrial sectors are reclassified to cope up with the ISIC standard. Starting in 1959, so far classification of industries has been done six times.

First contribution of this paper is to identify the problems in ASI data for reclassification and to generate a concordance table to resolve any anomaly of representation.

Next attempt is to measure the growth patterns of different industrial sectors in India starting from 1959 to 2012 and to classify them as High growth, Medium growth and Low growth sectors. In order to check the consistency in growth pattern, the total time period of 53 years is then divided into five sub-periods and growth wise classification for each industrial sector for each sub-period is done. The industrial sectors are then ranked according to their average growth rates and pair wise rank correlations over the five periods and the overall period of 53 years (1959-2012) are calculated for comparison.

Since most of the industrial sectors do not exhibit uniform growth in all sub-periods, CUSUMSQ test was done over the growth rates of different industrial sectors in order to check for structural breaks.

Next research effort will study the relationship of market concentration with growth.

## REFERENCES

- ASI manuals 2003, 2008, 2009.
- Bedi J.S., Banerjee P.K., "Discrepancies and Validation of Indian Manufacturing Data," *Economic and Political Weekly*, Vol. - 42, No. – 10, pp 883-891, March 10-16, 2007.
- Bhat T. P. "INDIA, Structural Changes in the Manufacturing Sector and Growth Prospect," Institute for Studies in Industrial Development, Working Paper, December 2014.
- Brown, R.L., Durbin, J., Evans J.M., "Techniques for testing the constancy of regression relationships over time," *Journal of the Royal Statistical Society, Series B (Methodological)*, vol.37, No. 2, pp.149-192, 1975.
- CSO report, "Indian Manufacturing Industry, Technology and prospects," 2005.
- Manna G.C., "Current Status of Industrial Statistics in India: Strengths and Weaknesses," *Economic and Political Weekly*, Special Article, Vol. – XLV, No. – 46, November 13, 2010.
- Nagaraj R., "How Good are India's Industrial Statistics? An Explanatory Note," *Economic and Political Weekly*, Special Article, Vol. - 34, No. 06, February 06, 1999.
- Saluja M.R., Pradhan B. K., "Industrial Statistics in India," *Economic and Political Weekly*, Vol. - 33, No. – 21, pp 1263-1270, May 23-29, 1998.
- Saluja M.R., Yadav B., "Industrial Statistics in India, Sources, Limitations and Data Gaps," *Economic and Political Weekly*, Special Article, Vol. – 39, No. – 48, November 27, 2004
- Suto T. "A Note on the India's Annual Survey of Industries," Kyoto University December 19, 2010.

# संवेदनशीलानि सस्यानि

**Dr. ShreeKrishna. H Kakhandaki**

Associate Professor

SECAB's A R S Inamdar Arts, Science & Commerce College for Women,  
Jalanagar. Bijapur

डा. श्रीकृष्ण. हेच. काखण्डकि.

सहप्राध्यापकः, सिक्काब संस्था,

ए आर एस आय महिलामहाविद्यालयः, और स्नातकोत्तर अध्ययन विभाग,

जलनगर. विजयपुरम ५८६१०९.

“भारतस्य प्रतिष्ठे द्वे संस्कृतिः संस्कृतस्तथा” इत्युक्तिः नः जागरयति यत् सनातनीयविद्या अस्मदीया इति । तत्र प्रधानकारणं तावत् संस्कृतिः । रक्षयन् सम्मानयन् अस्ति इति तु सर्वेषां विदितविषयः । इयं संस्कृतिः संस्कृतभाषायां निबद्धमस्ति । अस्याः मूलं तु श्रुतिरेव । वेदो हि धर्म, ज्ञान, विज्ञानमूलं । वेदानुसारिणी पुराणेतिहासकाव्यस्मृत्यादयः संस्कृतिविषयांशान् प्रकटीकुर्वन्तः सन्ति । आचैत्रात् वा आवसन्तात् अस्माकं उत्सवानां सरणिः प्रारभ्यते । चूतवृक्षं, दूर्वा, शमी, औदुम्बर, अपामार्ग, बिल्व, आमलकी, तुलसीत्यादयः सस्यान् सेवन्त एव अर्चयामः । सस्यानां विषये अस्माकं प्राचीनाः विज्ञानिनः एव । अतः सम्प्रदायाचरणपद्धत्या संरक्षणेन सह तेषां महत्त्वं प्रतिपादयन्तः एव नैमित्तिकाचरणेषु उपयुज्यमानाः आसन् । तेषां अर्वाचीनानां भावं अनेकेषु ग्रन्थेषु निबद्धमस्ति । सम्प्रति पक्षिवीक्षणरूपेण किञ्चित् ज्ञातुं प्रयतेम । अर्वाचीनग्रन्थेषु भागवतं पराशरसत्यवतीतनयेन कृष्णद्वैपायनेन वेदव्यासनामक भगवता विष्णुना आक्रिस्तात् पंचसहस्रवर्षात् पूर्वमेव लिखितमस्ति । तत्र तृतीयस्कन्धे मैत्रेय विदुरयोः सूत्रविषयकवर्णनं संवादे सप्तमसर्गविषये एवं उल्लिखितम् –

सप्तमो मुख्यसर्गस्तु षड्विधस्तस्थुषां च यः ।

वनस्पत्योषधिलतात्वक्सारवीरुधो द्रुमाः ।

उत्प्लोतसस्तमः प्राया अन्तःस्पर्शाः विशेषिणः । भाग३/१०/१८,१९.

अत्र मुख्यसर्गः, उत्प्लोतसः, अन्तःस्पर्शाः, विशेषिणः पदेषु अवधानं दातव्यम् । रशियादेशस्य प्रख्यातः विज्ञानी लिखति – सस्यानि परिसरं अवगच्छन्ति । अयं अंशः आ सूत्रे ज्ञातं सत्यम् । संवेदनेन विना तानि यथा सन्निवेशं परिसरानुसरणं व्यवहारं न कुर्युः इति । {रिपोर्ट् आफ् अकाडेमि आफ् सैन्स १९५९} इतः पूर्वादेव सस्येषु जैविकसंवेदनं शतशैः प्रायोगिकविधानैः दृढीकृतं आसीत् । “ ब्याक्स्टर्” नामकः अन्यः सस्यशास्त्रज्ञः अस्मिन् क्षेत्रे अधिकप्रसिद्धिं गतः वर्तते । सः प्रयोगमुखेन सस्यानां विविधानां प्रतिक्रियाणां अध्ययनं कृत्वा अभिप्रेतवान् यत् तानि मनुष्याणां मनः

अपि विज्ञानन्ति इति । अस्य महाशयस्य संशोधनं 'सस्येषु जैविकसम्पर्कः' इति प्रसिद्धम् । यच्च ब्याक्स्टर् परिणामः इति कथ्यते । { एविडेन्स आफ् ए प्रैमरि पर्सेप्शन् इन् प्लान्ट् लैफ् वाल्युम् १०, नं ४, १९६८, पिपि३२९, ३४८ }

क्रिस्तशक १९८१ तमे संवत्सरे अमेरिकदेशीयायाः संस्थायाः सदस्याः रशियादेशं अगच्छन् । तेषु चत्वारः वैद्याः, द्वौ मनोविज्ञानिनौ, एकः भौतशास्त्रज्ञः, द्वौ उपाध्यायौ च आसन् । { ए आर् ई = असोशियेशन फार् रिसर्च अन्ड एन्लैठमेन्ट } 'प्यानिष्कन्' नामकः विज्ञानी तेभ्यः चलचित्रं एकं प्रदर्शितवान् । तस्य चित्रस्य नाम आसीत् – 'सस्यानि संवेदनशीलानि किम् ?' इति । अस्मिन् चलचित्रे सूर्यस्य प्रकाशे, वाते, मेघाच्छन्नायां प्रतिक्रियाः प्रदर्शिताः आसन् । एतत् प्रदर्शनं अद्भुतं परिणामं अजनयत् ।

प्रसिद्धः तत्त्वशास्त्रज्ञः अरिस्टाटल् महोदयः 'जीवशास्त्रस्य जनकः' इत्यपि प्रसिद्धः । { बि सी ३८४-३२२ } सः 'सस्यानां आत्मा अस्ति, किन्तु न तानि संवेदनशीलानि' इति अभिप्रेतवान् । अ<sup>१</sup>दशशतकपर्यन्तं विज्ञानिनः एतस्मिन् विषये संशयग्रस्ताः एव आसन् । 'सस्यशास्त्रपितामहः' इति ख्यातः 'केरोलास् लिनायस्' नामकः विज्ञानी { १७०७-१७७८ } सस्यप्राणिनोः मध्ये स्थितः एकः एव व्यत्यासः 'चलनराहित्यम्' इति स्पीकृतवान् । किन्तु सुप्रसिद्धः 'डार्विन् महाशयः' एतं सिद्धान्तं खण्डयन्, सस्यानां अपि केचन भागाः स्वातन्त्र्येण चलन्ति इति प्रतिपादितवान् । सः प्रतानानां { टेन्ड्रिल् } चलनसामर्थ्यं उदाहृतवान् । अस्मिन् विषये प्रगतिपराः आलोचनाः भारतदेशादेव आगताः, यत्र जगदीशचन्द्रबोस् महाशयस्य नाम सुप्रसिद्धं वर्तते । { १८५८-१९३७ } एषः सस्यानां वर्धनस्य स्वभावस्य च विषये बहून् प्रयोगान् अकरोत् । तदर्थं 'क्रेस्कोग्राफ' नामकं यन्त्रमपि सः अन्वि<sup>१</sup>वान् आसीत् । तस्य प्रयोगफलितानां महत्त्वं वैदेशिकाः पंचाशतः संवत्सराणां अनन्तरं ज्ञातवन्तः ।

इतः पूर्वकालादपि भारतीयाः सस्यानां संवेदनाशक्तिः ज्ञातवन्तः आसन् एव । महाभारतस्य शान्तिपर्वणि अस्य उल्लेखः लभ्यते । भरद्वाजस्य गुरुः भृगुमुनिः । तयोः सम्भाषणं तु सस्यानां स्वभावं वैज्ञानिकविधानेन विवृणोति । इदानीं समग्रे विश्वे एतस्य सत्यासत्यतां ज्ञातुं प्रयत्नः आरब्धः अस्ति ।

चे<sup>१</sup>वायुः खमाकाशं ऊष्माग्निः सलिलं द्रवः । पृथिवी चात्रसङ्गातः शरीरं पांचभौतिकम् ।

इत्येतैः पंचभिर्भूतैः युक्तं स्थावरजंगमं श्रोत्रं घ्राणं रसः स्पर्शो दृष्टिश्चेन्द्रियसंज्ञिताः ॥ महा, शान्ति १८२/४.

एतस्मिन् श्लोकयुगले स्प<sup>१</sup> उच्यते – सर्वे स्थावरजंगमप्रभृतयः पंचभिः भूतैः विनिर्मिताः इति । वायुः जीवस्य प्रमुखं अंगं इति तस्य अभिप्रायः । सर्वेषु शरीरेषु यः अवकाशः वर्तते सः आकाशः, शक्तिजनकः अग्निः, सर्वत्र व्याप्ताः द्रवरूपिण्यः आपः, घनरूपेण वर्तमाना पृथिवी च सर्वेषु स्थावरजंगमेषु सन्ति एव । नासिकारसनानेत्रचर्मश्रोत्ररूपाणि पंचेन्द्रियाणि क्रमशः पृथिव्यप् तेजोवाय्वाकाशसम्बन्धीनि । एवं सर्वे स्थावरजंगमाः अपि पंच भौतिकाः । वामनपुराणमपि एतेषां पंचभूतानां लक्षणानि विशदयति अस्मिन् प्रातः स्तोत्रे –

पृथ्वी सुगन्धा सरसास्तथापः सस्पर्शवायुर्ज्वलनं सुतेजः ।

नभः सशब्दं महता सहैव यच्छन्तु सर्वे मम सुप्रभातम् ॥ २४/२४.

एतत् पांचभौतिकं विवरणं गुरोः मुखात् श्रुत्वा भरद्वाजः

सस्यानां पांचभौतिकत्वविषये संशयग्रस्तो भवति । अनुष्मणामचे<sup>१</sup>ानां घनानां चैव तत्त्वतः ।

वृक्षाणां नोपलभ्यन्ते शरीरे पंच धातवः ॥

सस्यानि अचेतनवत् दृश्यन्ते । जीविनामिव तेषां शरीरेषु उष्णता न दृश्यते । ते न चलन्ति ।

न श्रुण्वन्ति न पश्यन्ति न गन्धरसवेदिनः । न च स्पर्शं विज्ञानन्ति ते कथं पांचभौतिकाः ॥ तेषु शब्दरसगन्धस्पर्शदर्शनानि इन्द्रियकर्माणि न विद्यन्ते । एवं स्थावरजंगमे प्रपंचे बहवः व्यत्यासाः सन्ति । अतः भरद्वाजस्य मतं तु –

अद्रवत्वादनित्वाद्भूमित्वादवायुतः । आकाशस्याप्रमेयत्वात् वृक्षाणां नास्ति भौतिकम् ॥

प्रश्नस्यास्य उत्तरं गुरुः सुदीर्घतया विवृणोति । बाह्यान् विषयान् उद्दिश्य सस्यानां प्रतिक्रियाः अत्र सुस्प<sup>१</sup> विवृताः –



तेषां स्वरक्षणविधाः अपि स्पर्शीकृताः । ऊष्मतो म्लायते वर्णः त्वक्फलं पुष्पमेव च ।  
म्लायते शीर्यते चापिस्पर्शस्तेनात्र विद्यते । वाय्वग्न्यग्निष्वेषैः फलं पुष्पं विशीर्यते ।  
श्रोत्रेण गृह्यते शब्दः तस्मात् शृण्वन्ति पादपाः ॥

वातावरणस्य तापव्यत्ययेन एव वृक्षेषु, फल पुष्पाणि उद्भवन्ति । काले एव ते फलन्ति इति विषयः एव तेषु स्पर्शगुणः विद्यते इत्यस्य प्रमाणं भवति । वायुः, अग्निः, अशनिश्च सस्यानां पर्णानि पातयन्ति । अतः एतानि सस्यानि अशन्यादीनां शब्दानां विषये स्पन्दनं दर्शयन्ति इति वक्तुं शक्यते । एतत् सस्यानां श्रोत्रत्वविषये प्रमाणं भवति ।

विषयस्य अस्य वैज्ञानिकं विवरणं एवं दातुं शक्यते । यद्यपि सस्यानां नाडीमण्डलं न वर्तते, तथापि एकदेशे अनुभूतस्य विषयस्य सन्देशः तेषां शरीरे सर्वत्र प्रसरति । पत्ररन्ध्राणां संकोचविकासादयः अस्यकारणं स्यादिति पूर्वं भाव्यते स्म । इदानीं तु आमूलाग्रं सर्वत्र चलनस्य अस्तित्वं परीक्षितमस्ति । जलाभावप्रदेशेषु पत्ररन्ध्राणि संकुच्य जलव्ययं तनूकुर्वन्ति इति तु सर्वविदितः विषयः । यदा मूलस्य अग्रभागः जलाभावं अनुभवति तदा अयं सन्देशः पत्रेभ्यः तत्क्षणे एव सस्यस्य शरीरद्वारा दीयते । पत्राणि विषयं गृहीत्वा यथानुरूपं कार्यं प्रवृत्तानि भवन्ति । एवं सस्यानि स्पर्शशक्तिः प्रमाणीकृता ।

सस्यानां श्रवणशक्ति विषये मद्रासप्रदेशस्य ‘अण्णामलै’ विश्वविद्यालयस्य प्राध्यापकः टी. सी. एन् सिंगनामकः विज्ञानी कांश्चन प्रयोगान् कृतवान् । सः विद्युच्चालितं श्रुत्युपकरणं उपयुज्य {ट्युनिग् फोर्क} सस्यानां समीपे शब्दं जनयामास । अनेन पत्रेषु स्थितः द्रवः वेगेन स्पन्दति इति सः अन्वि<sup>1</sup>वान् । सूक्ष्मदर्शकसाहाय्येन १९८९ तमे संवत्सरे ‘हार् पर्’ नामकः ‘रो’ नामकश्च विज्ञानिनौ सस्यानां उपरि संगीतस्य प्रभावं प्रमाणीकृतवन्तौ । गान्धर्ववेदस्यास्य प्रसरणात् सस्यानि ध्वनिवर्धकस्य दिशायां नमन्ति इति तौ प्रतिपादितवन्तौ । तथैव कठोरशब्दस्य जननेन सस्यानि विरुद्धायां दिशायां वलन्ति इत्यपि प्रयोगसिद्धमस्ति । अतः सस्यानि आकर्णयन्ति इति तु स्प<sup>1</sup>म् ।

तेषां दर्शनशक्ति विषये शान्तिपर्वणि उच्यते –

वल्ली वे<sup>1</sup>यते वृक्षं सर्वतश्चैव गच्छति । न हि अदृ<sup>1</sup>श्च मार्गोऽस्ति तस्मात् पश्यन्ति पादपाः ॥ इति

लतावृक्षं आधारीकृत्य सर्वतः परिरभ्य ऊर्ध्वमुखं रोहति । एवं सा मार्गं पश्यति । एतदेव सस्यानां दर्शनशक्तिं प्रमाणीकुरुते ।

वैज्ञानिकरीत्या अपि सस्यानां ज्योतिः प्रति परिस्पन्दनं प्रमाणीकर्तुं शक्यम् । कीटानां आक्रमणेऽपि ते परस्परं सन्देशं प्रेषयन्ति । प्राणिनां शरीरे याः याः चे<sup>1</sup>यः भवन्ति, ताः सर्वाः सस्यानां शरीरे अपि दृश्यन्ते । तानि सूक्ष्मातिसूक्ष्मं व्यत्यासं अपि विदन्ति । तेषां शरीरेषु ज्योतिः प्रति प्रतिक्रियार्थं रासायनिकवस्तूनि विद्यन्ते । तानि एव दर्शनसामर्थ्यं सस्येभ्यः यच्छन्ति । यथा – ‘फैटोक्रोम’ इति रासायनिकवस्तु रक्तवर्णकं ज्योतिः, तस्य सामीप्यं दूरं च ग्राहयति । अनेन तानि सस्यानि स्वस्मीपस्थानां हरिद्वर्णकानां सस्यानां परिचयं प्राप्नुवन्ति । ‘रैबोप्लेविन्’ नाम वस्तु अपि सस्येषु वर्तते । तदपि ज्योतिः प्रतिस्पन्दनं प्रकटयति । यदि सस्यं तस्य भागः वा ‘पोटसियम् अयोडैड्’ द्रवे प्रक्षिप्येत तर्हि एतत् ‘रैबोप्लेविन्’ रासायनिकं निष्क्रियं भवति । तदा सस्यस्य तद्भागस्य च ज्योतिः प्रति स्पन्दनशक्तिः नश्यति । एतत् रासायनिकवस्तु मनुष्येषु अपि अवश्यं भवेत् । इदं ‘बी १२’ इति नाम्ना ‘विटामिन्’ नाम्ना च प्रसिद्धं अस्ति । यदि एतत् वस्तु देहे पर्याप्तं न स्यात् तर्हि अक्षिणी शक्तिहीने भवेताम् । तादृशाः पुरुषाः दिवान्धाः भवन्ति । एषः विषयः अपि अस्माकं अन्वेषणे पु<sup>1</sup> ददाति ।

इदानीं सस्यानां घ्राणेन्द्रियसामर्थ्यं विचारयाम । शान्तिपर्वणि उच्यते –

पुण्यापुण्यैः तथा गन्धैः धूपैश्च विविधैरपि ।

अरोगाः पुष्पिताः सन्ति तस्माज्जिघ्रन्ति पादपाः । इति ।

प्राकृतिकैः प्रकोपैः आत्मानं रक्षितुं स्वावलम्बितया अरोगत्वेन स्थातुं च तेषां गन्धग्रहणं अत्यावश्यकम् । तानि सुगन्धं दुर्गन्धं वा आत्मरक्षणार्थं उत्पादयन्ति । विविधानां गन्धानां तु तानि एव मातृस्वरूपाणि ।

पादपानां रसना अपि विद्यते इति शान्तिपर्वणः अयं श्लोकः समर्थयति –

पादैः सलिलपानाच्च व्याधीनां चापि दर्शनात् ।  
व्यथिप्रतिक्रियत्वाच्च विद्यते रसनं दुमे ॥

पादपाः मूलात् सलिलं पिबन्ति । ते भूम्याः आवश्यकानि धातूनि चित्वा स्वास्थ्यं रक्षन्ति । एतत् कार्यं तैः कर्तुं शक्यं इति अंशः एव तेषां रुचिग्रहणसामर्थ्यस्य निदर्शनम् । जलेन साकं ते आवश्यकानि लवणानि खनिजांशान् च यथापेक्षं स्वीकुर्वन्ति एव । तेषां मूलानां रचनाविधानमपि रसनावत् दृश्यते ।

वक्त्रेण उत्पलनालेन यथोर्ध्वं जलमाददेत् । तथा पवनसंयुक्तः  
पादैः पिबन्ति पादपः ॥

इत्ययं श्लोकः ज्ञापयति – पादपेषु आहारयुक्तं जलं वायुसाहाय्येन ऊर्ध्वं यत् गच्छति तस्य वैज्ञानिकताम् । एवं सर्वविधैरपि अपि पादपाः जंगमजीवराशिसमाः सन्ति एव । तेषामपि सुखं दुःखं च विद्येते । सुखदुःखयोश्च ग्रहणात् छिन्नस्य च विरोहणात् । जीवं पश्यामि वृक्षाणां अचैतन्यं न विद्यते । सर्वथा जीविनः इव एव स्पन्दन्ते तानि । यथा आहारात् मनुष्याणां बुद्धिः जायते तथा वृक्षाणामपि भवति तेन तज्जलमादत्तं जरयत्यग्निमारुतौ । आहारपरिणामाच्च स्नेहो वृद्धिश्च जायते ॥ यथा अस्मद्देहे अग्निमारुतसाहाय्येन पचनक्रिया सम्भवति, शक्तिश्च जायते, तथा वृक्षेषु अपि सूर्यरश्मिवायुसाहाय्येन परिणामः सम्भवति । अनेन ते वर्धन्ते । तेषां पत्राणि वातावरणस्य अनुसारं वृक्षस्य कार्यक्षमत्वं नियमयन्ति । यदि परिसरः अरोग्यकरः न स्यात्, तर्हि सस्यानि अपि क्षयं यान्ति । पत्ररन्धाणां साहाय्येन तानि पश्यन्ति । जिघ्रन्ति च । इदानीं विज्ञानिनः अपि एतत् अङ्गीकुर्वन्ति । ‘लंकास्टर्’ विश्व विद्यालयस्य ‘टेरीम्यान्स फील्ड’ महाशयस्य कथनं अस्ति यत् वृक्षेषु सर्वे इन्द्रियव्यवहारः विद्यन्ते इति ।

एवं सस्यानि बहुविधानि स्पन्दनानि दर्शयन्ति । तेषां शरीरस्य अन्तः प्रदेशे अविच्छिन्नक्रियाः दृश्यन्ते । सूक्ष्माः कणाः ज्योतिः संग्रहीतुं निरन्तरं मधुमक्षिकाः इव कर्म कुर्वन्ति । जीवद्रवः इतस्ततः संचार्य देहस्य सर्वेषु अपि भागेषु सम्पर्कं स्थापयति । जलं ऊर्ध्वमुखं प्रवहति, आहारः पत्रेभ्यः अधोमुखं गच्छति । एतत् रक्तप्रवाहस्य समानतां वहति । अत एव बहुदारण्यके –

यथा वृक्षो वनस्पतिः तथैव पुरुषोऽमृषा । तस्य लोमानि पर्णानि त्वगस्योत्पाटिका बहिः ।  
त्वच एवास्य रुधिरं प्रस्यन्दि त्वच उत्पटः तस्मात् तदातृण्णात्प्रैति रसो वृक्षादिवाहतात् ।  
मांसान्यस्य शकराणि किनाटं स्नावतत्स्थिरम् । अस्थीन्यन्तरतो दारूणि मज्जा मज्जोपमा कृ

सस्यानां संवेदनाशक्तिमत्त्वविषये मनुस्मृतौ –

तमसा बहुरूपेण वेत्तिताः कर्महेतुना । अन्तः संज्ञां भवन्त्येते सुखदुःखसमन्विताः ॥ १/४/७.

कुल्लकभट्टः मन्वर्थमुक्तावल्याम् लिखति – एते वृक्षादयस्तमोगुणेन विचित्रं दुःखफलेनार्धकर्महेतुकेन व्याप्ता अन्तश्चैतन्याः भवन्ति । यद्यपि सर्वे चान्तरेव चेतयन्ते तथापि बहिर्व्यापारादिकार्यविरहात्तथा व्यपदिश्यन्ते । विगुणारब्धत्वे अपि च एषां तमोगुणबाहुल्यात् तथा व्यपदेशः । अतः एव सुखदुःखसमन्विताः । सत्त्वस्यापि भावात् कदाचित् सुखलेशो अपि जलधरजनितजलसम्पर्कात् एषां जायते इति । मेधातिथिः कथयति – वृक्षादयः निद्रामदमूर्च्छावस्थगताः मनुष्याः इव भवन्ति । तेषु चैतन्यं निगूढतया तिष्ठति । तेषां अपि सुखदुःखसंवेदनाः सन्ति एव । इति ।

चरकसंहितायां {बि सी ३००} उच्यते – वृक्षादीनां चेतनत्वं बोद्धव्यम् । तथा हि सूर्यभक्त्या सूर्यभ्रमणादिवसारिभ्रमणेन दिक् इति । सूर्यप्रकाशस्य अनुगुणं वृक्षेषु या गतिः दृश्येत तां अवलम्ब्य तेषां सचेतनत्वं अवगन्तव्यम् इति ।

सेन्द्रियं चेतनं द्रव्यं निरिन्द्रियमचेतनम् {१/१/४८} इति तु चरक संहितायाः अपरं वचनं । एतस्य व्याख्यानम् कुर्वन् आयुर्वेददीपिकायां चक्रपाणिदत्तः वदति –“ अत्र सेन्द्रियत्वेन वृक्षादीनां अपि चेतनत्वं बोद्धव्यम् । तथा हि सूर्य भक्तायाः यथा यथा सूर्यो भ्रमति तथा तथा भ्रमणात् दृग् अनुभूयते । तथा लवली मेघस्तनित श्रवणात् पल्लवती भवति । बीजपूरकं अपि श्रुगालादिवसागन्धेन अतीव फलवद् भवति । चूतानां च मत्स्यावसेकात् फलाद्यतया रसनं अनुमीयते । अशोकस्य च कामिनीपादतलाहितसुखिनः स्तबिकतस्य स्पर्शनमनुमानम् इति ।

योगवासिष्ठे {६/१/१०} उच्यते –

यथा बीजेषु पुष्पादि मृदो राशौ घटोयथा । तथान्तः संस्थिता साधो स्थावरेषु स्ववासना ।

चिच्छक्तिर्वासनाबीजरूपिणी स्वापधर्मिणी । स्थिता रसतया नित्यं स्थावरादिषु वस्तुषु ॥

बीजेषु पुष्पादय यथा भवन्ति तथा स्थावराणां वासना तेषां अन्तः भवति । चिच्छक्तिः एव वासनारूपेण स्थावरादिषु वस्तुषु तिष्ठति ।

वृक्षपुरुषयोः समानता अत्र संकीर्तता । पुरुषस्य लोमानि इव वृक्षस्य पर्णानि । सस्यानां जीवरसः रक्त समानः । तस्यापि मज्जामांसादीनि विद्यन्ते । यथा क्षतात् रुधिरं स्रवति तथा वृक्षात् छिन्नात् द्रवः स्रवति । अतः जीविषु सर्वेषु समानः विन्यासः वर्तते । अत्रैव विज्ञानं तत्त्वशास्त्रं च मेलनं प्राप्नुतः । तयोः आशयः प्राकृतिक विषयाणां ज्ञानप्राप्तिः एव । यथा विज्ञानं प्रायोगिकविधिना प्रकृतिं वेत्ति तथैव करोति तत्त्वशास्त्रं अपि आलोचनया । एतदेव तपः अस्मद् ऋषीणाम् ॥ अतः एव वेदो हि धर्म, ज्ञान, विज्ञानमूलम् इति निश्चयः ॥

## मत्स्यपुराणे प्रयुक्तानि अपाणिनीय-धातुरूपाणि

डा. सुरेन्द्र पाल वत्स

एफ़. 25 अनंत पुरम कॉलोनी

जींद बाई पास रोहतक

मत्स्य पुराणे विकरण-प्रयोगकाले, इटागमकाले, अटागमकाले, ह्रस्वकाले, वृद्धिं कुर्वन् कृदन्त-प्रत्ययानां च प्रयोग-विषयेऽपि पाणिनिः मुनेः भिन्नतां द्रष्टुं शक्यते। मया तान् उदाहरणान् दृश्यते येषां सिद्धिकाले पाणिनीय-नियमानां पालनं न अभवत्। यथा

**एकाधिक-विकरण-सम्बन्धी-अनियमितता :-** लौकिकसंस्कृते धातोः पश्चात् एकस्यैव विकरणस्य प्रयोगः भवति। विकरणेन अभिप्रायम् अस्ति विशिष्टकरणं। मत्स्य पुराणेऽपि एकस्मिन् प्रयोगे विकरणद्वयोः प्रयोगः द्रष्टव्यः। यथा ‘बांधन्ते’<sup>1</sup> अस्मिन् क्रियारूपे शनम् शप् च इति विकरण-द्वयोः प्रयोगोऽभवत्।

**इटागम-सम्बन्धी-अनियमिताः-**पाणिनिः मुनिः इकारध्वनेः आधारे निज-कृति-अष्टाध्याय्यां सर्वेषां धातूनां सेट्-अनिट्-वेट् इति व्यवस्था कृतास्ति। अर्थात् येभ्यः धातुभ्यः इटागमः भवति ते धातवः सेट् कथ्यन्ते येभ्यः च इटागमः न भवति ते अनिट्कथ्यन्ते। येभ्यः धातुभ्यः किवल्पेन इटागमः भवति ते वेट् कथ्यन्ते, परन्तु मत्स्य पुराणे केचित् एतादृशाः प्रयोगाः

<sup>1</sup> नवांभः पूरितं कृत्वा बांधन्तेऽस्मांस्मरुद्राणां। मु.पु. - 137.18

अपि मिलन्ति। यत्र नियमानां पालनं अकृत्वा अनिट् धातूनां सेट् प्रयोगः अक्रियत। यथा इदम् उदाहरणं द्रष्टव्यमस्ति।

अत्र ‘निदहिष्यामि’<sup>1</sup> इति क्रियारूपस्य प्रयोगोऽभवत्। अस्य स्थाने ‘निर्धक्ष्यामि’ इति क्रियारूपस्य प्रयोगः भवितव्यः। यतः ‘दह्-भस्मीकरणे’ धातुः मूलधातुपाठे अनिट् अपठत्, परन्तु अत्र इमं धातुं सेट् मत्वा अस्यक्रियारूपस्य प्रयोगः अक्रियत। अपि च – ‘भजिष्यामि’, ‘विभजिष्यति’<sup>2</sup> च एतयोः द्वयोः क्रियारूपयोः ‘भज्’ धातुं सेट् अमन्यत्, परन्तु पाणिनेः धातुपाठे अयं धातुः अनिट् अमन्यत। अतः ‘भजिष्यामि’ इति क्रियारूपस्य स्थाने ‘भक्ष्यामि’ क्रियारूपस्य प्रयोगः भवेत् ‘विभजिष्यति’ च स्थाने ‘विभक्ष्यति’ क्रियारूपस्य प्रयोगः भवितव्यः। अतः एतौ पयोगौ अपाणिनीयः स्तः। एवं ‘नी-प्रापणे’ धातोः प्रयोगोऽपि मिलति। यथा –

‘नयिष्यति’ ‘नयिष्ये’<sup>3</sup> च एतयोः द्वयोः क्रियारूपयोः इटागमस्य प्रयोगोऽभवत्। अपितु अयं धातुः पाणिनेः मूलधातुपाठे अनिट् अपठत्। पाणिनेः अनुसारं तु ‘नयिष्यति’ इति क्रियारूपस्य स्थाने

<sup>1</sup> तदेतन्निर्दहिष्यामि शरेणैकेन वासव। म.पु. – 135.12

<sup>2</sup> वयं युवा भजिष्यामः सह जित्वा तु दानवान्। म.पु. – 47.230

स वेदमेकं बहुधा विभजिष्यति ते सुतः। म.पु. – 14.16

<sup>3</sup> यस्तद् व्रतानि दिव्यानि नयिष्यति समापनम्। म.पु. – 154.420

मां त्वं प्रविश भद्रं ते नयिष्ये त्वां सुरोत्तम। म.पु. – 47.98

‘नेष्यति’ क्रियारूपस्य प्रयोगः भवति ‘नयिष्ये’ च क्रियारूपस्य स्थाने ‘नेष्ये’ क्रियारूपस्य प्रयोगः भवति।

**अटाटागम-सम्बन्धी-अनियमितता :-** पाणिनेः अनुसारं लुङ्-लङ्-लङ्लकारेषु हलादि-धातूनां अंगस्य पूर्वे अट्आमगः भवति तथा अजादि-धातुभ्यः पूर्वं आटागमः भवति। वेदेऽपि अट्-आटागम-सम्बन्धी-धातुरूपाणि मिलन्ति। यथा ‘वस्त’<sup>1</sup>, ‘जुषत’<sup>2</sup> च।

रामायणोत्तवर्ती-लौकिक-साहित्ये ‘अट्’ या ‘आट्’ आगम-सम्बन्धे पाणिनेः एव अनुकरणं अक्रियत, परन्तु मत्स्य पुराणे अस्य नियमस्य सम्बन्धी अनियमिततापि प्राप्यते। यथा इदम् उदाहरणं द्रष्टव्यमस्ति।

‘ब्रुवन्’<sup>3</sup> अस्मिन् क्रियारूपे अट् आगमस्य अभावः अभवत्। यस्यार्थः ‘कहने लगे’ अर्थात् भूतकालार्थं अयं पयोगः प्रयुक्तोऽभवत्। इदं क्रियारूपं ‘ब्रू-व्यक्तायांवाचि’ धातुना लङ्लकार-प्रथम-पुरुष-एकवचने सिद्धिरभवत्। पाणिनेः अनुसारं तु लुङ्-लङ्-लृङ्-लकारे “लुङ् लङ् लृङ् क्ष्वडुदात्तः” इति सूत्रेण<sup>4</sup> अटामगः भवेत्। अस्य क्रियारूपस्य स्थाने ‘अब्रुवन्’ क्रियारूपस्य प्रयोगः भवितव्यः। अन्यानि उदाहरणानि द्रष्टुं शक्यते। यथा ‘परिहरत्’ अस्मिन्

<sup>1</sup> ऋग्वेद – 1.25.13

<sup>2</sup> ऋग्वेद – 1.25.18

<sup>3</sup> अवापुर्महतीं चिन्तां कथं कार्यमिति ब्रुवन्। म.पु. 133.48

<sup>4</sup> प. अष्टा. – 6.4.71

क्रियारूपे अटागमस्य अभावः अभवत्। अटागमं कृत्वा ‘पर्याहरत्’<sup>1</sup> पाणिनेः अनुसारं भवेत्। यतः  
 इदं क्रियारूपं ‘ह-हरणे’ धातोः लङ् लकारे निष्पन्नोऽभवत्। अपि च अत्र ‘प्रचोदयत्’ इदं  
 क्रियारूपं ‘चुद्’ धातुना निष्पन्नोऽभवत्। अस्मिन् प्रयोगेऽपि अटागमस्य अभावोऽभवत्। अतः  
 पाणिनेः अनुसारं तु ‘प्राचोदयत्’<sup>2</sup> क्रियारूपस्य प्रयोगः भवेत्। अग्रिमे उदाहरणेऽपि अटागमस्य  
 अभावः दृश्यते। यथा

‘प्रस्फुरत्’ अस्मिन् क्रियारूपे अटागमस्य अभावः अभवत्। अटागम-पक्षे तु ‘प्रास्फुरत्’<sup>3</sup>  
 क्रियारूपस्य प्रयोगः भवेत्। यत् पाणिनेः अनुसारं सिद्धयति। अपि च ‘ज्ञा’ धातुना ‘वि’ उपसर्ग  
 पूर्वकं ‘ज्ञा’ धातोः लङ्लकारे प्रथमपुरुष-एकवचने ‘विज्ञापयत्’<sup>4</sup> इदं रूपं सिद्धम् अभवत्।  
 अस्मिन् प्रयोगे पाणिनेः “लुङ् लङ्.....” अनेन सूत्रेण अटागमः भवेत्। अतः अत्र अटागमस्य  
 अभावः अभवत्। अटागपक्षे तु ‘व्यज्ञापयत्’ क्रियारूपं सिद्धयति। अतः अयम् अपाणिनीयः  
 प्रयोगोऽस्ति। ‘भू’ धातोऽपि एकम् उदाहरणं द्रष्टव्यमस्ति। यथा – ‘भवत्’<sup>5</sup> इति क्रियारूपस्य

<sup>1</sup> तस्य साऽपानमासाद्य देवी परिहरत्तदा। म.पु. – 48.7

<sup>2</sup> तस्य हरो हिमगिरि कन्दराकृतिं सितं कशामृदुहतिभिः प्रचोदयत्। म.पु. – 154.452

<sup>3</sup> कोपकम्पितमूर्धा च प्रस्फुद्दशनच्छदा। म.पु. – 155.20

<sup>4</sup> इति विज्ञापयद् देवं शङ्कुकर्णो महेश्वरम्। म.पु. 136.51

<sup>5</sup> चम्पस्य तु परी चम्पा पूर्वं या मालिनी भवत्। म.पु. 48.97

प्रयोगः मत्स्यपुराणेऽभवत्। यत् ‘भू’ धातुना लङ्लकारे प्रथमपुरुष-एकवचने सिद्धं अभवत्।

अस्मिन् क्रियारूपे पाणिनेः सूत्रेण अटागमः भवेत्। अतः अयम् अपाणिनीयः प्रयोगोऽस्ति।

‘गम्लृ-गतौ’ धातोः उदाहरणमपि द्रष्टव्यमस्ति यथा – मत्स्यपुराणे ‘निर्गच्छत्’ इति क्रियारूपस्य प्रयोगोऽभवत्। यस्मिन् अटागमस्य अभावः दृश्यते। अटागमस्य अभावस्तु “न माङ्योगे”<sup>1</sup> इति सूत्रेण केवलं ‘माङ्’ इत्यस्मिन् योगे एव भवति, परन्तु उपर्युक्तेषु उदाहरणेषु ‘माङ्’ इत्यस्य प्रयोगः नाभवत् त्वपि अटागमस्य अभावोऽभवत्। पाणिनेः अनुसारं तु अस्य प्रयोगस्य स्थाने ‘निरागच्छत्’<sup>2</sup> क्रियारूपस्य प्रयोगः भवेत्। अपि च – ‘प्रकम्पयन्’ अस्य क्रियारूपस्य स्थाने अटागमं कृत्वा ‘प्राकम्पयन्’<sup>3</sup> क्रियारूपस्य प्रयोगः भवेत्।

अद्युना मया एकं एतादृशं उदाहरणं दीयते यत् यत्र पाणिनेः अनुसारं तु अटागमस्य अभावः भवेत्, परन्तु पुनरपि अटागमस्य विधानं अक्रियत। यथा –

‘व्यगमत्’<sup>4</sup> इदं धातुरूपं ‘गम्’ धातुना माङ्पूर्वकं ‘वि’ उपसर्गपूर्वकं लुङ्लकारे-प्रथम पुरुष-एकवचने निष्पन्नोऽभवत्। अतः अस्मिन् क्रियारूपे अटागमं अकरोत्, परन्तु पाणिनेः

<sup>1</sup> पा. अष्टा. – 6.4.74

<sup>2</sup> निर्गच्छन्मन्त्रि सहितः सभार्यो वृद्धमग्रतः। म.पु. 21.27

<sup>3</sup> महावृषं गणतुमुलाहिते क्षणं स भूधरानशनिरिव प्रकम्पयन्। म.पु.

<sup>4</sup> श्रद्धा च नो मा व्यगमद् बहु देयं च नोऽस्त्विति। म.पु. – 16.50



अनुसारं तर्हि माङ् उपपद-पूर्वे धातोः अटागमः न भवेत्, किंतु अस्मिन् उदाहरणे पाणिनेः नियमस्य पालनं न अक्रियत। अतः अयं अपाणिनीयः प्रयोगोऽस्ति।

**ह्रस्व-सम्बन्धी अनियमितता :-** पाणिनिः दीर्घवर्णं ह्रस्व-विधानार्थं सूत्राणां निर्माणं अकरोत्, परन्तु मत्स्यपुराणे एतादृशानां क्रियारूपाणां प्रयोगोऽपि प्राप्यते। यत्र ह्रस्व-विधायक-सूत्राणां परिपालनं नाक्रियत। यथा ‘निपुज्यते’ इदं क्रियारूपं ‘नि’ उपसर्ग पूर्वकं ‘पूज्’ धातुना भाववाच्यं सिद्धम् अभवत्। अस्मिन् क्रियारूपे ऊकारस्य ह्रस्वं कृत्वा ‘निपुज्यते’<sup>1</sup> क्रियारूपस्य प्रयोगं अकरोत्। पाणिनेः अनुसारं तु अस्यस्थाने ‘निपूज्यते’ क्रियारूपस्य प्रयोगः भवेत्।

**गुण-सम्बन्धी-अनियमितता :-** पाणिनिः गित्-कित्-डित् प्रत्ययपरे सति वृद्धिगुणयोः ‘ग्विडतिच’<sup>2</sup> इति सूत्रेण निषेधं क्रियते। अद्युना मया एतादृशः क्रियारूपस्य प्रयोगः क्रियते यत्र गुणः भवेत्, परन्तु तत्र गुणस्य अभावं अक्रियत। यथा -

‘अब्रुवम्’<sup>3</sup> इदं क्रियारूपं ‘ब्रू’ धातुना लङ्-लकार-उत्तमपुरुष-एकवचने निष्पन्नोऽभवत्। पाणिनेः अनुसारं तु “सार्वधातुकार्धधातुकयोः”<sup>1</sup> इति सूत्रेण गुणं भूत्वा ‘अब्रुवम्’ क्रियारूपस्य

<sup>1</sup> भवत्प्रसादामलवारिसेकतः फलेन काचित्तपसा निपुज्यते। म.पु. - 154.397

<sup>2</sup> पा. अष्टा. - 1.1.5

<sup>3</sup> प्रकृत्यनुमते पुरुं राज्ये कृत्वेदमब्रुवम्। म.पु. 36.5

प्रयोगः भवेत्। परन्तु अस्मिन् क्रियारूपे गुणनिषेधं कृत्वा अस्य स्थाने ‘उवङ्’ आदेशः अक्रियत।

यत् आर्षरूपं प्रतीयते। अग्रिमे उदाहरणे गुण-निषेधं भवेत्, परन्तु गुणम् अक्रियत। यथा – ‘ब्रवीहि’

इदं क्रियारूपं ‘ब्रू-व्यक्तायां वाचि’ धातुना लोट्लकार-मध्यमपुरुष-एकवचनं मत्वा प्रयोगः

अक्रियत। किंतु लोट्-लकारे तु यः ‘सि’ स्थाने ‘हि’ आदेशः भवति स “‘सेह्यपिच्च’”<sup>12</sup> इति सूत्रेण

अपित् भवति। अपित्-कारणाच्च “‘सार्वधातुक.....’” इति सूत्रेण पित्-भिन्न-प्रत्ययः डितत्वात्

गुणस्य निषेधः भवेत्, परन्तु अस्मिन् प्रयोगे उकारं गुणः-अक्रियत। अपि च अस्मिन् क्रिया रूपे

“‘ब्रुवईट्’”<sup>3</sup> इति सूत्रेण हलादि-पितमेव अटागमः भवेत्। किंतु अस्मिन् उदाहरणे

अपित्-कारणादपि ईट् आगमस्य विधानः अक्रियत। अतः अस्य स्थाने ‘ब्रूहि’ इति क्रियारूपस्य

प्रयोगः भवितव्यः। अतः अयं अपाणिनीयः प्रयोगोऽस्ति।

---

<sup>1</sup> तान् ब्रुवं पतमानस्तदाऽहं सतां मध्ये निपतेयं कथं नु। म.पु. – 38.21

<sup>2</sup> पा. अष्टा. – 3.4.87

<sup>3</sup> पा. अष्टा. – 7.3.93

## **CLASS CONFLICT IN ADIGA'S THE WHITE TIGER**

***Dr. Vikram Singh***

*Assistant Professor*

*Department of English*

*Kurukshetra University, Kurukshetra*

*Haryana (India)*

---

Arvind Adiga's *The White Tiger* (2008) may be taken as a social criticism of our society targeting on misery, poverty and various forms of conflicts in Indian society. It is a common point in all literary works from time to time to deal with the various aspects of society from economic, cultural, political and social angles through different genres of literature. Here, in the novel, the poor, have-nots and the people belonging to lower strata of society are voiceless. Their voice has been curbed by the same evil forces which snatch away from them their right to live. Adiga presents the detailed account of the Indian society with its various evils. The major evil forces that constitute the basic structure of Indian society which largely forms the Dark image of India include superstitions, poverty, caste and culture conflict, illiteracy, unemployment, economic disparity, naxalism, dowry system, corrupt education system, zamindari system, exploitation of farmers and labourers, prostitution, poor health services, and weakening family structure, etc. The novel, from its very beginning, exposes the corruption when we see some children selling books and magazines on highways in India where child labour is banned by law. But the powerful people throw the laws to the winds. It seems that law and order has become their keep. Every day the police and other government officials see all this but do not take any notice of such kind of incidents. Balram, a 'Half-Baked Indian', couldn't get sufficient formal education in any school, which throws a flood of light on the hollow education system of India.

Political system and bureaucratic setup, which refer to India's darkest aspect, seems to be responsible for "rottenness and corruption" (White 50) in the country and prove to be a hurdle in all kind of development as well as the welfare schemes. The main drawback of Indian social and political system is that a small minority prosper on the expense of the silent majority. It creates the possibilities for "half- baked" ones to hold the higher and executive positions restricting half of this country from achieving its potential. Balram is taught in the school of life with full of misery, poverty, hunger, and depravity. But ultimately he has to adopt the evil means in order to earn money and becomes a successful businessman. Most of our politicians and policy makers are "half- baked" and "That's the whole tragedy of this country" (10). This also shows another facet of corruption where fully educated and capable candidates take orders from an uneducated and untrained boss. But untrained persons, greasing the palms of the higher officials, become the boss and the higher authority. He proves himself a real white tiger when he becomes a powerful entrepreneur after murdering his own master, which indicates the future of our socio- political system. He says:

But pay attention, Mr Premier! Fully formed follows, after twelve years of school and three years of university, wear nice suits, join companies, and take orders from other men for the rest of their lives. Entrepreneurs are made from half-baked clay. (11)

The humiliation faced by the poor is revealed through a satire on the death of Balram's mother. We see that the poor do not get medicine for their treatment and have to suffer throughout their lives but after their death their dead bodies are covered with ornaments and costly items. The lack of basic needs, in the lives of the poor, and the humiliation is clear from Balram's words when he says that "I don't think she had ever had such a fine thing to wear in her life" (16). The area, where Balram was born, is known as Darkness, where the poor are forced to submit to the four landlords and the lives of these poor villagers are full of humiliation. These landlords keep the law and order in their pockets and they are corrupt every inch. By law the natural resources like rivers are government property and every citizen has equal right to use them. But the Stork, one of the four landlords of the area, owned the river illegally and "took a cut of every catch of fish caught by every fisherman in the river, and a toll from every boatman who crossed the river to come to our village" (24-25).

The Wild Boar, the Stork's brother, owned all the good agriculture land around Laxmngarh. The men who wanted to work on those lands, "had to bow down to his feet and touch the dust under his slippers, and agree to swallow his day wages (25). The Raven, another landlord, owned the worst land which was dry, rocky hillside around the fort, and "took a cut from the goatherds who went up there to graze with their flocks. If they didn't have their money, he liked to dip his beak into their backsides" (25). Buffalo, the fourth landlord, was the greediest of the lot. He had "eaten up the rickshaws and the roads. So, if you ran a rickshaw, or used the road, you had to pay him his feed- one- third of whatever you earned, no less" (25). Thus, by showing the callous attitude of these four landlords, Adiga becomes the voice of the underdogs.

India is a free country governed by equal law but these four landlords rule over the poor illegally due to corruption. These villagers are so poor that they have neither jobs nor income and they live only on the mercy of these cruel landlords. At the beginning of rainy season, every year, they would go out to the fields begging one landlord or the other for some work. The villagers are humiliated at every step and the male members have to leave for the cities for jobs to make both ends meet. The novel is the story of the unprivileged people who beg for food, sleep under concrete flyovers and on the roadsides, shivering in the cold, and struggling for their freedom even in the 21st century. Extreme poverty creates darkness in the lives of underclass people making sufferings their destiny. It is this extreme poverty in Laxmangarh due to which there is flood of jobless youth of the area, travelling in dangerous conditions, towards the big cities for work:

So the rest of the village left Laxmangarh for food. Each year, all the men in the village waited in a big group outside the tea shop. When the buses came, they got on- packing the inside, hanging from the railings, climbing onto the roofs- and went to Gaya; there they went to the station and rushed into the trains- packing the inside, hanging from the railings, climbing onto the roofs- and went to Delhi, Calcutta, and Dhanbad to find work. (26)

Poverty plays a vital role in the lives of these underclass people because it is only poverty which compels Balram to leave his school and to work in a tea shop in his childhood. Another aspect of poverty is that the children in this section of society are not given any name but they are just called "Munna". Same thing happens in the novel where poor Balram is not given any name by his poor parents as they have to tackle with other problem more important than giving a name to their child. His mother remains ill all the time and his father is a poor rickshaw puller and they have no spare time to name their son. The poor parents leave this work for the school teacher to be done as is seen in the case of the protagonist of the novel. Vikram Halwai, Balram's father is hit by poverty and tough manual work. His body tells the history of his life and the chain of his sufferings. Balram states:

A rich man's body is like a premium cotton pillow, white and soft and blank. Ours are different. My father's spine was knotted rope, the kind that women use in villages to pull water from wells; the clavicle curved around his neck in high relief, like a dog's collar; cuts and nicks and scars, like little

whip marks in his flesh, ran down his chest and waist, reaching down below his hipbones into his buttocks. The story of a poor man's life is written on his body, in a sharp pen. (26-27)

We Indians today boast of an emerging entrepreneur power in the world. No doubt, India's image is characterized by the advancement in the field of space, hotel industry, science and technology, real estate, transportation, tourism, outsourcing, and mall culture. All these advancements are possible due to the poor's hard work but it is too much ironic that though they took India to these present heights yet they are forced to live a miserable life. On the other hand the upper class enjoys the life on the cost of the miseries of the underclass. As Adiga expresses their miserable and deprived lives: "Thousands of people live on the sides of the road in Delhi. They have come from the Darkness too- you can tell by their thin bodies, filthy faces, by the animal-like way they live under the huge bridges and overpasses, making fires and washing and taking lice out of their hair while the cars roar past them" (119-120).

Then Adiga shifts the scene to Delhi but this humiliation and corruption reign there also. Every government announces various plans to check poverty but these announcements are only to get votes and have nothing to do with poverty eradication. This is shown in the case of rickshaw-pullers who are not allowed to enter the posh areas in Delhi in order to show the foreigners that India has no rickshaw-pullers. The areas where the foreigners do not come usually are full of these poor rickshaw-pullers. This shows that our corrupt politicians are not serious to improve the life standard of these poor but they usurp the money announced for the same. Balram proves this when he says, "Rickshaws are not allowed inside the posh parts of Delhi, where foreigners might see them and gape" (27). These poor underclass people are not considered as a common human being and they are forced to feel like aliens in their own motherland. They are banned to access most of the places as they are reserved for the rich, which reminds us about those days when India was under the British rule. The novel shows that the poor people are not allowed to enter the shopping malls as they cannot afford to wear shoes. "But everyone who was allowed into the mall had shoes on their feet" (148).

Caste system is a device to keep the poor under the rich's heels. They have to face indifference and discrimination everywhere due to their caste. People from the so called lower castes do not get adequate chances to flourish in life. They are thrown away from the places or jobs the rich like. Adiga also shows the pain of this humiliation when the Stork asks Balram about his Caste: "Halwai.... What caste is that, top or bottom?" (62). He wants to know about Balram's social status or caste before providing him the job of his family driver. Similar question is asked to Balram by the old driver of Stork: "What caste are you?" (56). It is more humiliating for a poor person like Balram to hide his caste as he cannot get a job if he tells his low caste birth. The same kind of humiliation is seen in case of the chief driver of the Stork family because the prejudiced landlord doesn't like Muslims. He is a Muslim but he knows that it is impossible for him to get a job for his being a Muslim. That's why he has to hide his religion and pretend to be a Hindu and he assumes a Hindu name Ram Prasad. Roshan, the grandson of Stork, hits the ball and calls himself Azharuddin, the captain of India, while playing cricket. At this the Stork at once reacts "Call yourself Gavaskar. Azharuddin is a Muslim" (70). Balram comments about the chief driver's humiliation:

Now, this Mohammad Mohammad was a poor, honest, hardworking Muslim, but he wanted a job at the home of an evil, prejudiced landlord who didn't like Muslims- so, just to get a job and feed his starving family, he claimed to be a Hindu! And took the name of Ram Persad. (109)

But this caste system is subject to one's economic condition, as Munoo thought in Coolie that "Money is, indeed, everything" (55), and finds "differences between himself, the poor boy, and his masters, the rich people, between all the poor people in his village and Jay Singh's father, the landlord" (55). The White Tiger also depicts the hollowness of this caste system as it depends on money and position. The novel shows that Vijay, Balram's childhood hero, is also from a lower caste but his caste doesn't matter now as he is a politician as well as a rich person now. The novel also shows the double

mindfulness of our society through the character of the Stork who don't like people from the lower castes yet bows down to Vijay in spite of his low caste only because of his richness and his political status that cover his caste in the eyes of society. Balram comments, "I waited by the gate and watched. The Stork himself came out to see Vijay, and bowed down before him- a landlord bowing before a pigherd's son! The marvels of democracy!" (103).

Just notice the degree of exploitation how the rich snatch away the poor's identity. Moreover, the caste ridden society doesn't appreciate the marriage of Ashok and Pinky as Pinky is not a Hindu and that's why this marriage doesn't survive for a long period. Maladministration, citizens being deprived of liberty and equality, prevalence of injustice and widespread of corruption are the drawbacks of the Indian democracy and society. After Independence the British left India but the rich and the powerful dominated each and every field of life depriving the underclass of everything. They eliminated the chances to grow up for the other sections of the society grabbing everything for themselves. It is this rotten system that is responsible to create new distinction and classes because in the old days there were two thousand castes and destinies in India but now it is reduced only to two castes. As Balram says, "To sum up- in the old days there were one thousand castes and destinies in India. These days, there are only two castes: Men with Big Bellies, and Men with Small Bellies. And only two destinies: eat – or get eaten up" (64). This metaphor of "bellies" reminds us of the metaphor of 'Laltain' and 'Mombatti' by Arundhati Roy in her debut novel, *The God of Small Things*. These two metaphors are the true representations of Adiga's men with Big Bellies and the men with Small Bellies. Roy opines that the society can go ahead smoothly towards success only when there is no conflict between the 'Laltain' and the 'Mombatti'.

Adiga charts out the India of Light in the novel that means the upper class in the big cities but it also has dark areas like prostitution. It is poverty that forces the poor girls and women to sell their bodies. There are red light areas in Delhi, Dhanbad and Bangalore, where prostitution is seen in full swing. Jayant Mahapatra's poem "Hunger" also depicts the same deteriorated condition of the poor where their poverty forced them to send their underage daughters in prostitution in order to fill their bellies:

I heard him say: My daughter, she's just turned fifteen...Feel her. I'll be back soon, your bus leaves at nine. The sky fell on me, and a father's exhausted wile. Long and lean, her years were cold as rubber. She opened her wormy legs wide. I felt the hunger there, The other one, the fish slithering, turning inside. (16-21)

But the underclass people are humiliated there because the rate, here, depends on "High -class or low-class? Virgin or non-virgin?" (228), and all pleasure is reserved for the rich because the poor cannot afford such a high amount. In big cities, rich people like the golden-haired girls who charge very high rates for the same. The poor are also humiliated on the name of golden-haired girls. They are charged huge money for a local girl dyed in golden hair. When they come to know the reality they are asked: "What do you expect, for seven thousand? The real thing costs forty, fifty" (235). The poor are subject to great humiliation everywhere. Balram cannot understand "how the rich always get the best things in life, and all that we get is their leftovers" (233).

Normally, in India, votes are made before the age of eighteen in order to get favour of these voters in elections. In the novel, we see that almost all fields and officials are corrupt, and how votes are made before the adult age. Balram was given the right to vote before the age of eighteen. The great Socialist bribes the shopkeepers who sell all the tea-boys to the Great Socialist to make their votes before the legal age of eighteen so that the party may use their votes in the election. The politicians are considered above the law and order, and the policeman writing a slogan on the wall outside the temple in favour of the Great Socialist is a solid proof of it. The landlords' power to influence an election's course reflects the condition of political inequality in India. The fate of millions of poor Indians is

decided by a very small handful of wealthy people. The election fever, in the novel, shows how the political parties befool the illiterate and the innocent voters. The Great Socialist, on the one hand, and the four animals on the other hand, are rivals in the election. People are divided, accordingly. Some are in support of one party and others are in support of the other one. Voters are divided on the name of caste and religion in small segments. But near the election, these parties make a compromise and unite as a single party befooling the poor voters. Adiga shows that the law is only to protect the rich in our country. The novel shows that there are many cases pending against the politicians but they are free to participate in elections. They win the election by using power and money along with foul tricks, and all their cases are resolved in their favour. Ministers remain on their designations even if they are sentenced to jail. It is also shown how our politicians collect and grab money from our poor voters by sucking their blood and transfer that money to foreign as a black money. Balram says:

You see, a total of ninety-three criminal cases- for murder, rape, grand larceny, gun-smuggling, pimping, and many other such minor offences - are pending against the Socialist and his ministers at the present moment. Not easy to get convictions when the judges are judging in the Darkness, yet three convictions have been delivered, and three of the ministers are currently in jail, but continue to be ministers. The Great Socialist himself is said to have embezzled one billion rupees from the Darkness, and transferred that money into a bank account in a small, beautiful country in Europe full of white people and black money. (97-98)

The chain of corruption is securely operating in foreign embassies also. We see in the novel that there is an embassy scam. The wine comes from foreign for the use of the embassy officials, but these officials sell it in the black market to have an extra income. In another event, the Stork family, like all the rich, bribes the officials and tries to make Balram responsible for the accident. It is a different face of humiliation that he is forced to take the responsibility of his master's crime on his innocent shoulders. They use Balram as a tool in order to save their own family from going to jail as is usual in most of the cases in India. Such type of injustice is very common with the drivers in Delhi and the jail becomes their destiny for serving their rich masters. As Balram says, "The jails of Delhi are full of drivers who are there behind the bars because they are taking the blame for their good, solid middle-class masters. We have left the villages, but the masters still own us, body, soul, and arse" (169).

Politics is the easy refuge for the dominating forces. Every corrupt person has to befriend a minister to fulfill their evil interests. In the present novel, Balram's masters, Mukesh and Ashok, bribe a minister to settle income tax accounts. Politicians' hunger for money is clearly shown in the novel when Mukesh tells Ashok that the minister wants more money as the elections are drawing near. The businessmen, in India, have to give huge amount of bribe to the politicians of both the parties before elections so that the government can favour these corrupt businessmen after winning the elections. A true and honest person never bribes to anyone, so if these businessmen offer bribe to these politicians it is clear that they will make money more than what they have given. From where will they earn? They will eat away the poor's say. To raise such issues, to give voice to the poor, is Adiga's strategy by narrating different tales of corruption. Mukesh is going to bribe a fixer to settle his income tax case. Had they not stolen this income tax, it would have gone for the betterment of needy. But who cares for the needy! His words to Ashok reveal the corrupt Indian system as well as the compulsion for the poor:

You don't have a choice in the Darkness. And don't panic, we can deal with this income tax charge. This is India, not America. There's always a way out here. I told you, we have someone here who works for us - Ramanathan. He's a good fixer. (121)

This black money is used to buy votes and for other expenditures during the election. The Great Socialist is a corrupt politician but his party wins the election through corrupt ways. His statements and his rally show how they befool and torture the poor through encouraging slogans of patriotism to snatch away

their votes. But after winning the elections, they never show their faces to these voters and the life goes on in the same manner.

The novel exposes the shamelessness of bureaucracy in elections where our police also help and protect these corrupt politicians to beat and kill the poor voters. These custodians of law break laws. Though we boast of our glorious democracy where power transfers from one hand to another but the common man's fate remains unchanged. Adiga says that there are "three main diseases of this country, sir: typhoid, cholera, and election fever. This last one is the worst" (98). Balram himself expresses a satirical view about the Election because he has seen that the votes of the servants are sold by their masters. If the servants are not ready to this, they are warned by their masters against losing their jobs. We can see the same warning by the owner in Adiga's *Last Man in Tower* also, where Mr. Shah threatens the poor workers of losing their jobs saying that no man who does not work for Shah in the summer will work for him when it is cool. Balram says that there was an election coming up, and "the tea shop owner had already sold us. He had sold our fingerprints - the inky fingerprints which the illiterate person makes on the ballot paper to indicate his vote" (97).

In a common tradition, our politicians buy votes and the original voters are not allowed to cast their votes because their musclemen cast almost all the votes themselves. Such a man deprived of his vote declares himself a citizen of the democracy of India and wants to cast his vote where forgery in voting is the chief weapon for politicians. When this man makes a noise and doesn't follow the instruction given by the political leaders, and claims to cast his vote himself, the supporters of the Great Socialist beat him mercilessly and the police assist them in this cruel act. Balram's father is also a victim of such injustice and humiliation who was not allowed to cast his vote ever in his life. He says, "I've seen twelve elections - five general, five state, two local - and someone else has voted for me twelve times. I've heard that people in the other India get to vote for themselves - isn't that something?" (100).

When Balram goes to Bangalore, there are a number of taxi drivers who are driving without any valid licence and the police don't take any action against them. We see the corrupt police inspector accepting bribe from Balram in order to help him. Not only this but they are corrupt morally also. They insult our freedom fighters as Gandhiji's poster is hanging in the police station and all the corrupt activities are done under the shadow of this poster, which is a symbol of truth and honesty. Raising a question on the working of our police organization the wanted poster of Balram is also placed on the wall of a police station with a photo but the police inspector or any other policeman is unable to recognize Balram when he is present before them. The lack in police investigation is also clear because Balram could not be caught for his master's murder. The police cannot lay hand on Balram as he is such a rich man now who cannot be arrested. Mohammad Asif accidentally kills a child while taking his clients to home. Balram settles the matter with the help of the corrupt police officials and succeeds in creating a chance for Asif to slip away from the scene. Balram gets the benefit of being a rich man. He gives bribe to the corrupt assistant commissioner, who saves him in this case. It is very shameful on the part of our police officials how they change everything for the sake of bribe and the rich. They themselves break the law in order to get more and more money and to save their feeders.

The novel shows how entrepreneur success and modern city culture alter our life. When an innocent man enters this section of money and success, he becomes corrupt and hence a serious threat to the society. His master, Ashok, was a simple and kind hearted man when he came from America but now in India in his rich family, he is also a corrupt person like other rich people. Balram, now corrupt, was a simple fellow before his success when he came from his village. It is his poverty and humiliation which force him to adopt and exercise these evil ways. He justifies his position blaming the rich and the system in the society:



All these changes happened in me because they happened first in Mr Ashok. He returned from America an innocent man, but life in Delhi corrupted him - and once the master of the Honda City becomes corrupted, how can the driver stay innocent? (197)

The police commissioner tells Balram that “the number plates will be changed tomorrow” (309) and it will be shown as a hit- and- run case. Another car will be substituted for this purpose because they keep battered cars for this purpose in their custody. He tells Balram that he is very lucky because his Qualis hit a man on bicycle. It is clear that the police have no care for the law and order. Even the F.I.R. is not lodged for the poor and they are denied their legal rights. It is shown how the law saves the rich only and crushes the poor denying them everything. “While I kept the brother engaged by pleading to his reason and human decency, Mohammad Asif and all the girls got into my van and slipped away” (307). The poor don’t know the law and their legal rights. Moreover, these poor have no good approaches and money to bribe the corrupt police and the politicians. Balram’s statement proves this injustice:

A man on a bicycle getting killed - the police don’t even have to register the case. A man on a motor bike getting killed - they would have to register that. A man in a car getting killed - they would have thrown me in jail. (309)

The novel shows that the value of a person and his status depends on the vehicle he uses where the death of a man on bicycle doesn’t matter for anyone. “You’re very lucky that your Qualis hit a man on a bicycle” (309). All this evil business is maintained through bribe as is shown in the novel: “He counted the money - ten thousand rupees - heard what I wanted, and asked for double. I gave him a bit more, and he was happy” (300). Adiga, in the present novel, created two different Indias: “an India of Light and an India of Darkness” (14). The novelist eyes at the India of Darkness articulating the voice of silent majority and the novel can also be taken as a socialist manifesto trying to reject the difference between the “Big Bellies and the Small Bellies” and form a society based on the principle of liberty, equality and justice. So the novel is a social commentary dealing with injustice and humiliation in the form of class struggle in India where the anti- hero Balram represents the downtrodden people of Indian society against the rich.

Balram Halwai is a typical voice of underclass, that includes laborers, farmers, drivers, beggars, prostitutes, servants, and unprivileged who constitute the Dark India. He is struggling to set himself free from this old- age humiliation, slavery and exploitation; and his activities and expressions like prostitution, protest, anger, indulgence in criminal activities, fair and foul means, adoption of a new moral code of conduct to succeed in life, his drinking habit, and murder of Ashok by Balram, all are the result of this deep-rooted frustration of underclass experiencing the polarities between the upper class and the lower class. These qualities of Balram alarm clearly that the silent voice of the underclass cannot be silenced for long. Balram’s transformation from Munna to Ashok Sharma, via Balram Halwai and White Tiger, is the clear blue print of the emergence of the underclass. Balram justifies his action of killing Ashok giving the examples of our politicians. Our politicians kill people psychologically, physically and mentally in order to get name and fame, because they run after glory. But Balram is not running after any glory, name or fame. The more people these politicians kill, the more glory they have. But Balram just wants to be a man and hence one murder is enough for this. He justifies his action says:

But isn’t it likely that everyone who counts in this world, including our prime minister (including you, Mr Jiabao), has killed someone or other on their way to the top? Kill enough people and they will put up bronze statues to you near Parliament House in Delhi - but that is glory, and not what I am after. All I wanted was the chance to be a man - and for that, one murder was enough. (318)

Though Adiga portrays both the images of India- India of Light and India of Darkness, yet he focuses mainly on its darker side and tries to give it a literary voice. Deirdre Donahue says that the novel is one of the most powerful books he has read in the decade with “No hyperbole... an amazing and angry novel about injustice and power” (web). Adiga becomes a strong voice of the underclass and

the deprived who are struggling for their future. Balram works to rob everything from the oppressors what they robbed of them. That's why he takes the biased law in his hand to improve the condition of his section. He plans to have a school full of White Tigers unleashed on Bangalore. Sudheer Apte, in an interview with the author says:

Balram Halwai is a composite of various men I've met when travelling through India. I spend a lot of my time loitering about train stations, or bus stands, or servants' quarters and slums, and I listen and talk to the people around me. There is a kind of continuous murmur of growl beneath middleclass life in India, and this noise never gets recorded, Balram is what you'd hear if one day the drain and faucets in your house started talking. (web)

The last section of the novel sums up the secret of success in a modern globalized world. Balram justifies his murder, bribery, malpractices, opportunism, and greasing the palms of the police and the judicial system in order to get success in life. The novel reminds us about Francis Bacon's teaching that how an ambitious person, denied of his desires and chances, can be very dangerous, if he is not kept in control. The novel again seems to be influenced by Bacon's "Of Great Place" because Balram first adopts the malpractices to gain such a position which is necessary to bring a change and to check the evil forces from the society. That's why he is planning to start a typical school to execute his plan when he states:

A school where you won't be allowed to corrupt anyone's head with prayers and stories about God or Gandhi - nothing but the facts of life for these kids. A school full of White Tigers, unleashed on Bangalore! We'd have this city at our knees, I tell you. I could become the Boss of Bangalore. I'd fix that assistant commissioner of police at once. I'd put him on a bicycle and have Asif knock him over with the Qualis. (319)

Thus, it can be said that the novel chiefly justifies every kind of trick to be successful in life which is quite clear from Balram's story. Adiga exposes the dark areas in Indian society which can be taken positively to eliminate the evil forces responsible for India's dark image. We can have a new and perfect India only if we focus these dark areas and work sincerely to cure these areas.

#### **WORKS CITED AND CONSULTED**

Adiga, Aravind. *The White Tiger*. 2008. New Delhi: Harper Collins Publishers, 2009. Print.

- - -. *Last Man in Tower*. London: Atlantic Books, 2011. Print.

Agrawal, B.R. and M.P. Sinha. *Major Trends in the Post-Independence Indian-English Fiction*. New Delhi: Atlantic Publishers, 2003. Print.

Anand, Mulk Raj. *Untouchable*. 1935. New Delhi: Penguin Books, 2001. Print.

- - -. *Coolie*. 1936. New Delhi: Penguin Books, 1993. Print.

<https://en.m.wikipedia.org/wiki/Aravind-Adiga>. DOA.27/09/2016. Web.

## **A STUDY OF CONSUMER BEHAVIOUR IN E-TOURISM**

**Mrs. Monika Arya**

*(Author)*

*Research Scholar*

*Faculty of Commerce And Management*

*BPS Mahila Vishwavidyalaya*

*Khanpur Kalan, Sonapat, Haryana (India)*

**Dr. Meenakshi Godara**

*(Co-Author)*

*Assistant Professor*

*Institute Of Management Studies*

*Kurukshetra University, Kurukshetra, Haryana (India)*

---

### **ABSTRACT**

**Introduction:** During the last decades tourism has been strongly affected by the changes in the technology, especially the internet. One of the major results is the changing in the travellers behaviour. Therefore the challenge of identifying, attracting and retaining customers in the online market as well as the issue of understanding consumers perceptions is becoming a critical success factor.

**Purpose:** The purpose of this paper is to identify the determinants that influence potential travellers to use the internet for travel planning.

**Methodology:** A structured questionnaire is to be used for data collection and a suitable statistical technique will be adopted for the analysis of the data.

**Result:** A major result of these findings is a casual model of e-tourism usage constructs such as attitude, self efficacy and internet affinity prove to have a major impact on the actual use of the internet for travel planning. Whereas moderating variables such as gender or customer involvement prove to be important as well.

**Limitation:** Limited accessibility of internet and lack of knowledge and reliability about e-tourism.

**KEYWORDS :** E-Tourism, Online Travel Planning, Consumer Behaviour.

## INTRODUCTION

### *What Is Tourism?*

*"Tourism is the temporary, short-term movement of people to destination outside the places where they normally live and work and their activities during the stay at each destination".* In 1981, the International association of scientific experts in Tourism defined tourism in terms of *"particular activities selected by choice and undertaken outside the home"*. There is an evolution between each of them. Indeed, at the beginning the tourism was considered only like leisure period, but now tourism can be associated to business activities. The tourism market can be divided in five main sectors:

- The hospitality sector
- The attraction and event sector
- The transport sector
- The travel organizer and intermediaries sector
- The destination organisation sector.

The tourism market has known a success in the mid of 1990's. Several factors must be taking into account. First, the emerging of global economy allowed to develop tourism opportunities worldwide and offered a lot of tourism employment. Secondly, the democratization of transport means allowed people to travel cheaper and worldwide. Thirdly, the improvement of new technologies and more particular Internet has allowed to companies to launch their tourism business online.

### *What Is E-Tourism?*

E-tourism can be defined by all industry operations online; the "E" represents the state of electronic. With the involvement of new technologies and the failure of traditional way to promote tourism product (travel agencies...), tourism industry online has been boom.

Mainly, Internet allowed creating a new marketplace online. This concept was born to the transformation of the economic structure and also in response to people needs. The involvement of electronic commerce allows agencies to expand their business. The Information Communications technology (ICT) has a major role in the improvement of e-tourism. The application of ICTs on the tourism industry, Buhalis (2003) suggests that e-tourism reflects the digitisation of all processes and value chains in the tourism, travel, hospitality and catering industries. It allows people to find regional, national and worldwide information 24 hours a day, 7 days a week about intangible holiday and travel packages.

### **Computer Reservation System (CRS):**

A database which enables a tourism organisation to manage its inventory and make it accessible to its partners. CRSs often charge competitive commission rates while enabling flexible pricing and capacity alterations, to adjust supply to demand fluctuations.

### **Global Distribution Systems (GDSs):**

Since the mid 1980s, airline CRSs developed into GDSs by gradually expanding their geographical coverage as well as by integrating both horizontally, with other airline systems, and vertically by incorporating the entire range of principles, such as accommodation, car rentals, train ticketing, entertainment and other provisions.

**Intermediaries:**

Intermediaries (brokers) play an important role in commerce by providing value-added activities and services to buyers and sellers (Turban et al.,2008). the most well known intermediaries in the physical world are wholesalers and retailers. Traditionally, intermediaries of the travel industry have been outbound and inbound travel agencies and tour operators (Egger & Buhalis,2008)

**Benefits of the Internet and ICTs**

The development of the Internet and ICTs has made many significant impacts on the operation, structure and strategy of organisations, as well as communication with consumers.

**BENEFITS TO ORGANIZATIONS**

- Locating customers and/or suppliers worldwide, at reasonable cost and fast
- Reduce cost of information processing, storage, distribution
- Reduce delays, inventories, and cost through supply chain improvements
- Business always open (24/7/365); no over time or other cost
- Customization/personalization at a reasonable cost
- Rapid time-to-market and increased speed
- Lower communication cost
- Improve customer service and relationship through direct interactions with customers
- Reduce distributing cost by deliver online

**BENEFITS TO CUSTOMERS**

- Can shop anytime from any place
- Large selection to choose from a variety of channels
- Can customize many products and/or services
- Can compare and shop for lowest prices
- Digitalized products can be downloaded immediately upon payment
- Easy finding what you need, with details demos, etc.
- Can socialize online in communities yet be at home
- Can find unique products/items

**Limitations of the Internet And ICTs**

- Lack of universal standards for quality, security , and reliability
- Special web servers are needed in addition to the network servers, which add to the cost of e-commerce
- Internet accessibility is still expensive and/or inconvenient
- Security and privacy concerns deter customers from buying
- Lack of trust in e-commerce and in unknown sellers hinders buying
- People do not yet sufficiently trust paperless, faceless transactions

**CONSUMER MOTIVATION STIMULI**

Before an online purchase, the consumer received certain stimuli, either is due to the **marketing strategies** and others result to **the consumer environment**. The stimuli represent

all the knowledge and information about touristic product or service. This is one of the elements which can influence an internet user to buy online.

## MARKETING STIMULI

Marketing stimuli are all company strategies which attract people to sell a product. Marketing strategies are based on elements of marketing Mix, also called the 8 P's: Product, Price, Place, Promotion, People, Process, Physical environment and Productivity/quality. There are a lot of companies which share themselves the e-tourism market. As a result to this higher competition, the role of tourism business is to attract the traveller's attention. It can be the way to promote a tourist package, to do promotions or even to inform people. Internet users have a lot of choice between all the companies so in a first time, they used all the formal sources (advertising, brochures, sales promotions techniques, Public relation...)

According to Lin and Ding (2006), the tourism agents based their efforts on the design, state-of-the-art facilities and also on the promotion. Crosby et al. (1990) and previous studies considered that it is not the only determinant. Indeed, the company image must be taken into account and several factors allows to impulse purchasing:

- ***The service that offered:*** according to Perroud et al. (2006), the interactivity allows to satisfy consumers and mechanically improve their brand image.
- ***The quality service of company*** before, during and after the stay vacant.
- ***The ease of purchasing and the easy-to-use a website*** (Chiu, 2007)

## OTHER STIMULI

**The others stimuli** also influenced consumer purchases intention. Indeed, these kinds of stimuli depend on the external environment lifestyles of each person. All these stimuli have an indirect impact on tourist's consciousness. To these other stimuli, consumers used Informal sources. These sources are given by the *reference groups* that is to say by friends, family or others travellers. According to Crotts (1999), the informal channels of information, word of mouth, friends and other reference groups are at least as influential on purchase decisions as the formal channels. People tend to trust easily to opinions of their family, friends or groups whose interact directly with him. Indeed, they have a great influence on them especially during the purchase decision. Subjective norms have significant effects on behavioural intention (Klein and Hirshchheim (1989) and Mathieson (1991).

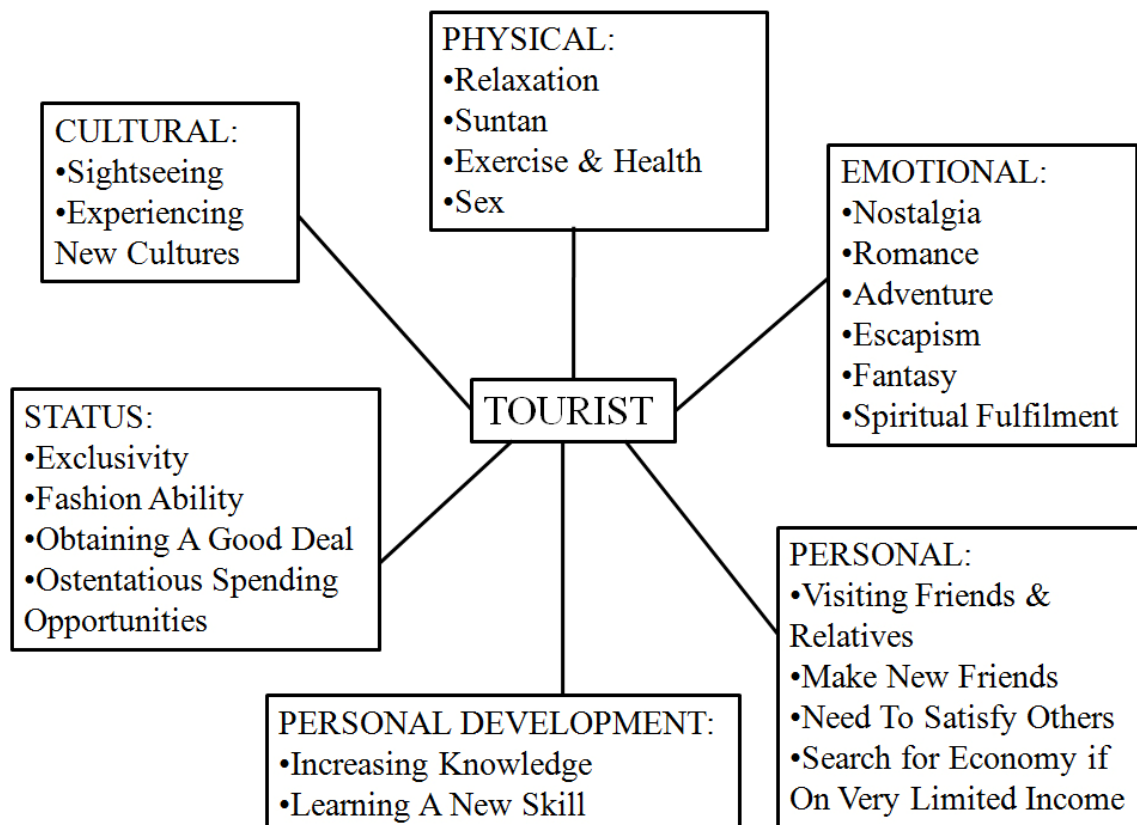
Today, potential consumers are more influenced by the *consumer-generated sites* than professional advice (Dellarocas, 2003). Today, consumers are less confident about marketers and advertising. The image that a company sells can be different that the reality. In contrary, positive experience of reference groups are more real and therefore more influential. The researcher Henning- Thureau (2004) defined the E-Word-of-Mouth (eWOM) as any positive or negative statement by potential, actual or former customers about product or company which is made available to a multiple of people and institutions via Internet. Consumers prefer based their choice on real experiences of their relatives online or not.

Motivators According to Flemming and Domegan (2007), the purchase intention is influenced by psychological, personal, social and cultural factors. In the stimulus-response model of buying behaviour, the stimuli are not the only factor which influences the online intention. It must take into account a lot of motivators.

## CONSUMER DIVERSITY FACTORS

Certain aspects influence the consumer behaviour:

- **Age:** is the main factor which has effects on consumer behaviour because in a same age range people have similar life experiences.
- **Gender:** A difference exists between men and women with respect to the manner in which they shop online for holiday type purchase. Moreover, men and women are different in the information-processing styles, in decision-making styles and consumption patterns.
- **Sexual orientation:** influenced on the preference of particular kind of service for example.
- **Regional differences:** people don't consume in the same way in the different geographic locations.
- **Ethnic and religious differences:** because people share a common heritage, values, beliefs and experiences

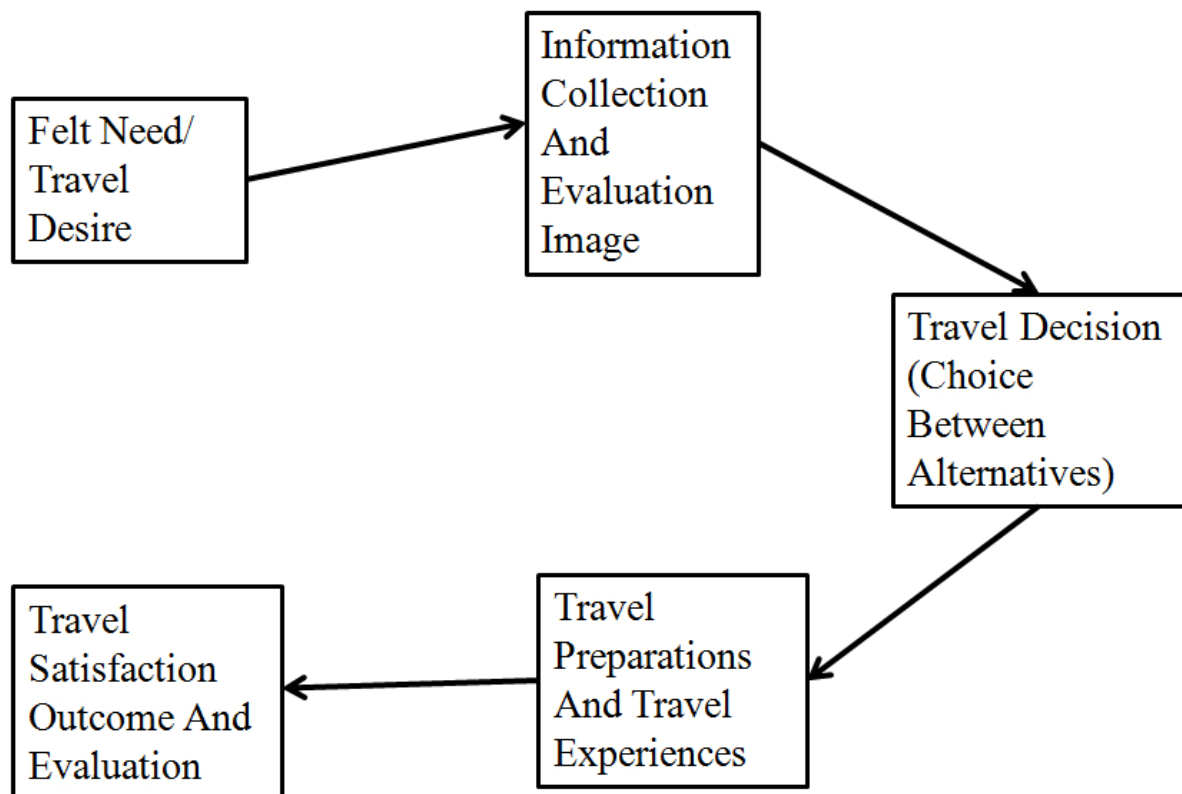


Source: Swarbrooke, J., Horner, S.: Consumer Behaviour in Tourism, Butterworth Heinemann, Oxford, 1999., p.87

## CONSUMER BEHAVIOUR IN TOURISM

According to Blackwell et al. (2001), consumer behaviour is defined as the activities directly involved in obtaining, consuming and disposing of products and services including the decisions processes that precedes and follows these actions.

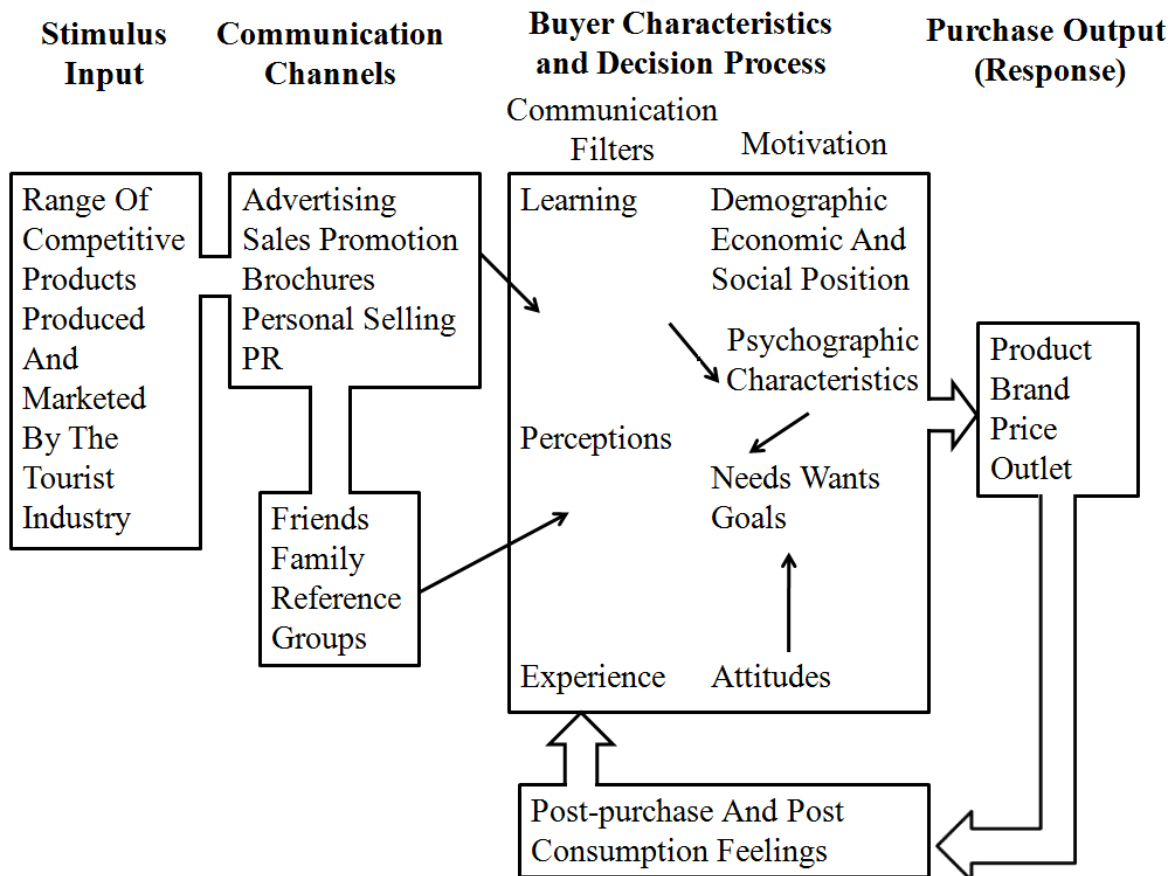
The research will focus on two main theories. The first one is suggested by Mathieson and Wall (1982) and is called Model of Travel-Buying Behaviour. It is the process between the desire to travel and the respond to that need. During this process, people gather a lot of information which allow them to choose a company in particular.



**Source: Mathieson and Wall (1982)**

The second one is defined by Middleton and Clarke (2001) presented a stimulus response model of buyer behaviour for tourism. The model can be divided in four main components. The stimuli are the trigger element of the process. Then, the buyer characteristics and motivators affected the decision making process. All these factors lead to the consumer response.





Source: Adapted from Middleton and Clarke (2001)

The researcher will focus on the consumer buying decision process, it can be divided in 5 main points.

### 1) Problem Recognition/ Need Recognition

The problem recognition is the perceived difference between ideal and the desires of the consumer. Consumer decision making process is leading into action the development of ideal state. All elements of psychological core react during this step.

### 2) Information Search/ Internal Search

The decision process begins to solve the problem. In response to that, the consumer tried to gather all information that he remember. That is correspond to all information or feelings stored by the consumer during his past experience. The main types of internal information are:

- **Recall of brands:** when they are easy to remember, when the consumer has a consideration to a specific brand or when is loyal for a brand.
- **Recall of attributes:** when the consumer remember about a specific details of a product or service.
- **Recall of evaluations:** when a consumer like or dislike a thing, brand, product or service
- **Recall of experiences:** when the consumer remember about his own experience or that of person who lives with.

### 3) Evaluation of Alternatives

The potential tourist can evaluate the alternatives offered by the e-tourism market. Firstly, he has to choose between different attributes (transport facilities, activities...). The

confidence about a certain company is also important. So the consumer likes to feel reassured with a well-known brand.

#### **4) Purchase Decision**

The next step of the decision making process online is the choice of purchase. People are very influenced by the design of tourism website, prices, promotional package holiday and the easy-on-line booking.

#### **5) Evaluation of Post Purchase Decision**

The end of process is the evaluation of people decision, they can be pleased or not. When the tourism consumer is satisfied by a service, his future attitudes toward this company will be positive. In another side, it may put into action that he wanted in the beginning. But also, the tourism consumer could be totally disappointed. In this case, the consumer can develop regret about his online purchase and it may never buy that product again. These positive or negative feedbacks will be spread with the word-of-mouth to his reference. According to Bansal & Voyer 2000; Brown and Reingen 1987; Duhan, Johnson, Wilcox & Harrell 1997) the word of mouth is a major influence on consumer decision making.

### **METHODOLOGY AND OBJECTIVES**

The research objectives of this study are as follows:

1. To understand behaviours of consumers faced this market of e-tourism.
2. To investigate factors those influence the purchasing decisions of consumers on the tourism products online.

### **RESEARCH DESIGN**

For this research the most appropriate is the exploratory research. Firstly because the aim of the research is to understand and chart the consumer behaviour faced the tourism product online. Secondly, because the writer has the aim is to understand habits and the behaviour of customers.

### **DATA COLLECTION**

Data was collected through a structured questionnaire from various customers using internet for purchasing tourism products.

### **ANALYSIS AND INTERPRETATION**

In this part the researcher analyses and answers to the objective 1 which is as follow:

#### **To understand behaviours of consumers faced to this market of e-tourism**

To respond to that objective, the researcher analysed the discussion, and she can observed behaviours when people surf on tourism websites. The participants paid attention into main themes: special offers, design, security, trust and risks.

In this part the researcher analyses and answers to the objective 2 which is as follow:

***To investigate factors those influence the purchasing decision of consumers on the tourism product online.*** To respond to that objective, the researcher analysed factors which influence people to buy travel products online. The participants paid attention into main themes: Price, experience and the service-quality.

### **CONCLUSION**

The first objective of this research was to understand consumers behaviours faced to this market of e-tourism. In general, young people prefer focus on the price than quality. Certain persons pay attention to the structure of a website, like the ease to use, the ease to find

information and ease to pay, in certain case, it can be a motivators to buy online. Again, the author has shown that people are conscious about the risk-taking when they travel with low costs companies.

The second objective of this research is to investigate factors that influence the purchasing decisions. It has been found that young people attach a major importance to prices and promotional offers. The main goal of them is to minimize costs. The author highlights also on the own past experiences or that of his relatives. It plays a major role on the purchase decision. Companies have to promote a well brand image and a good quality service, because people choose their companies in relation to word-of mouth and to their past experiences.

## **RECOMMENDATIONS**

For the future researches, the author recommends to compare the expectations of older people and to know if the web satisfied every generation of population. Companies have to give a well brand image of them and assure their quality service because young adults are the consumers of tomorrow.

Internet can offers a lot of opportunities, but companies have to be innovative and adapt themselves to young adult needs and more particular in terms of publicity for example. Indeed, this generation are not very influential, so companies have to create different manners to promote their brand, no with traditional ways.

## **REFERENCES**

1. Bansal, H. S. and Voyer, P. A. (2000) "Word-of-Mouth Processes Within a Services Purchase Decision Context," *Journal of Service Research*, 3(2), 166-177.
2. Buhalis, D. (2003). *eTourism: Information Technology for Strategic Tourism Management*. London, UK: Pearson (Financial Times/Prentice Hall).(ISBN: 0582357403) Comprehensive coverage of eTourism from a strategic perspective.
3. Blackwell, R.D., Miniard, P.W. and Engel, J.F. (2006) *Consumer behavior*. 10th International Student edn. Mason, Ohio: Thomson South-Western.
4. Chiu, C-K, (2007). *Understanding relationship quality and online purchase intention in e-tourism: a qualitative application*. Springer Science & Business Media, pp 169-174, Taiwan.
5. Crosby, Lawrence A., Kenneth R. Evans, and Deborah Cowles (1990), "Relationship quality in services selling: An Interpersonal Influence perspective," *Journal of Marketing*, (July), 54-68.
6. Crotts, J. (1999). *Consumer decision making and prepurchase information search. Consumer behavior in travel and tourism*. Y. Mansfield and A. Pizam. Binghamton, N. Y., Haworth Press: 149-168.
7. Dellarocas, C., 2003a, *The Digitization of Word-of-Mouth: Promise and Challenges of Online Feedback Mechanisms*, *Management Science* 49 (10), 1407-1424.
8. Domegan, C. and Fleming, D. (2007) *Marketing Research in Ireland: Theory and Practice*. 3rd edition. Dublin: Gill & MacMillan.
9. Duhan, D. F., Johnson, S. D., Wilcox, J. B. and Harrell, G. D. (1997). "Influences on Consumer Use of Word-of-Mouth Recommendation Sources." *Journal of the Academy of Marketing Science* 25 (4): 283-295.
10. Egger, R., and Buhalis, D. (2008). *eTourism Case Studies: Management and Marketing Issues*. Burlington, MA: Elsevier Ltd. (ISBN: 9780750686679) Comprehensive coverage of eTourism case studies.

11. Hennig-Thurau T., Gwinner K.P., Walsh G., Gremler D.D. (2004) Electronic Word-of-Mouth via Consumer-Opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet? *Journal of Interactive Marketing* 18 (1), 38-52.
12. Hirschheim, R. and Klein, H. K., 1989. Four Paradigms of Information Systems Development. *Communications of the ACM*, 32, 1199-1216.
13. Lin, C. P. & Ding, C. G. (2006). Evaluating group difference in gender during the formation of relationship quality and loyalty in ISP service. *Journal of organizational and end user computing*, 18(2), 38-62.
14. Mathieson, Kieran, " Predicting user intentions: Comparing the technology acceptance model with the theory of planned behaviour, " *Information system Research*, 2,3 (september, 1991), 173-191.
15. Perroud, D., Ray D. and Friedrichsen, C. (2006). Improving the Travel experience – greater profits through effective satisfaction measures. *ESOMAR - Leisure Conference*. Rome.
16. Peter H. Reingen (1987) , "A Word-Of-Mouth Network", in *NA - Advances in Consumer Research Volume 14*, eds. Melanie Wallendorf and Paul Anderson, Provo, UT : Association for Consumer Research, Pages: 213-217.
17. Turban, E., King, D., McKay, J., Marshall, P., Lee, J., and Viehland, D. (2008). *Electronic Commerce: A Managerial Perspective*. Upper Saddle River, NJ: Pearson-Prentice Hall. (ISBN: 0132243318) Comprehensive coverage of e-commerce from a managerial perspective.

## EFFECT OF URANIUM AND PESTICIDES ON THE HEALTH OF PEOPLE OF MALWA REGION, PUNJAB

**Monika**

*Alumina, Department of Chemistry  
Panjab University, Chandigarh, Punjab (India)*

---

### ABSTRACT

*The problems like excessive and unsafe use of pesticides, fertilizers and poor ground water quality are faced by the people of Malwa region of Punjab which is known as the 'Cancer Capital' or 'Cancer Belt'. The Malwa region of Punjab, India, is less than 15% of the total area of Punjab, but it consumes nearly 75% of the total pesticides used in Punjab. The high concentration of pesticides along with cancer is also responsible for the neurological disorder, reproductive disorder etc. Guru Nanak Dev University released a report in 1995 showing the presence of uranium and other heavy metals beyond permissible limits in water samples collected from Bathinda and Amritsar districts. As the region's groundwater and food chain was gradually contaminated by industrial effluents flowing into fresh water sources used both for irrigation and drinking purpose, the region showed a rise in neurological diseases and a sharp increase in cancer cases and kidney ailments.*

**KEYWORDS :** Mangal – Kavyas, Folk-Lore, Legends, Oral Traditions

### INTRODUCTION

Punjab is the agriculture heartland. Punjab is one of the leading food grain producing states in India. It is also known as 'Cancer Capital'. The cancer prevalence (per million per year) in the Malwa region is indicated to be 1089 (DHFV, 2013).<sup>[1]</sup> This is much higher than in two other regions of Punjab, Majha (647/million/year) and Doaba (881/million/year). The national average cancer prevalence in India is 800/million/year.<sup>[1]</sup> Four of the 11 districts in the Malwa region are most afflicted by various cancers: Muktsar, followed in order by Mansa, Faridkot, and Bathinda.<sup>[1]</sup>

The studies indicate that excessive use of mineral fertilizers and pesticides has led to water and soil contamination, affecting farming communities. In the Malwa region, cancer mortality is directly correlated with gender and farming (Singh, 2008).<sup>[2]</sup> The indiscriminate use of pesticides and fertilizers, as well as poor groundwater quality, are considered to be among the main reasons for the high incidence of several diseases in the Malwa belt.<sup>[3]</sup> Farming communities have higher cancer rates.<sup>[4]</sup>

There are at least 90 cancer patients for every 100,000 population in Punjab. Cancer incidence in the state is higher than the national average of 80 per 100,000 populations, reveals a survey by the Punjab government. The survey results were released on January 28.<sup>[5]</sup>

Though several studies in the past decade had showed that Punjab has higher incidence of cancer than the rest of the country, this is for the first time the state government conducted a comprehensive door-to-door survey to quantify the problem.

The survey, which also aimed at carrying out mass awareness campaign and early detection of cancer based on warning signs and symptoms, screened about 265,000 people in the Malwa, Doaba and Majha regions. It found that about 24,000 of them were suffering from cancer. Worse, more than thrice the number—84,453—were suspected to be suffering from the deadly disease.

The study underscores that the Malwa region, already infamed as the cancer belt, has the highest number of cancer patients—107 in 100,000 population. Four districts that topped the cancer incidence list are from this region. With 136 cancer cases per 100,000 population,

Muktsar district fares the worst. It is closely followed by Mansa, Bathinda and Ferozepur districts. Tarn Taran district in the Majha region has the least number of cancer patients—41 per 100,000 people.

## **URANIUM POISONING**

Uranium poisoning in Punjab first made news in March 2009, when a South African Board Certified Candidate Clinical Metal Toxicologist, Carin Smit, visiting Faridkotcity in Punjab, India, instrumental in having hair and urine samples taken (2008/09) of 149/53 children respectively, who were affected with birth abnormalities including physical deformities, neurological and mental disorders. These samples were shipped to Microtrace Mineral Lab, Germany.

A study, carried out amongst mentally retarded children in the Malwa region of Punjab, revealed 87% of children below 12 years and 82% beyond that age having uranium levels high enough to cause diseases, also uranium levels in samples of three kids from Kotkapura and Faridkot were 62, 44 and 27 times higher than normal.<sup>[6,7]</sup>

Since 2009, Micro Trace Minerals of Germany has continued testing cancer patients, living in the Malwa Region of Punjab, the area known for having the highest cancer rate in India. Patient evaluation and the collection of nail samples were carried out with the help of Prof. Chander Parkash of the Technical University of Punjab. As with previous studies, high uranium was found in nearly all test persons. The work was published in the British Journal of Medicine and Medical Research in 2015.

Subsequent tests, carried out on the ground water displayed levels of uranium as high as 224 micrograms per litre ( $\mu\text{g/l}$ ). However, samples taken in the vicinity of the around the coal-fired power plants were up to 15 times above the World Health Organisation's maximum safe limits. It was found that the contamination included a large parts of the state of Punjab, home to 24 million people.<sup>[8]</sup> In 2010, water samples taken from Buddha Nullah, a highly polluted water canal, which merges into the Sutlej River, showed heavy metal content as quite high and the presence of uranium 1½ times the reference range,<sup>[9]</sup> and together with other forms of pollution, like ammonia, phosphate, chloride, chromium, arsenic and chlorpyrifos pesticides, the rivulet, is now being termed as "Other Bhopal" in the making.

An investigation carried out *The Observer* newspaper, in 2009, revealed the possible cause of contamination of soil and ground water in Malwa region of Punjab, to be the fly ash from coal burnt at thermal power plants, which contains high levels of uranium and ash as the region has state's two biggest coal-fired power stations.<sup>[8]</sup>

Tests on ground water carried out by Dr Chander Parkash, a wetland ecologist and Dr Surinder Singh, also at Guru Nanak Dev University, Amritsar, found the highest average concentration of uranium 56.95 µg/l, in the town of Bhuchio Mandi in Bathinda district, a short distance from the ash pond of Lehra Mohabat thermal power plant. At village Jai Singh Wala, close to the Bathinda ash pond, similar test results showed an average level of 52.79 µg/l.<sup>[8]</sup>

Of the 2,462 samples of water collected from tube wells across Punjab, 1,140 samples had tested positive for the presence of uranium and arsenic.

The effect of all this can be seen in the growing number of patients in the Malwa belt with cancer and other diseases and children being born with abnormalities. In fact, a train that connects Bathinda with Bikaner in neighbouring Rajasthan is known as the 'Cancer Express' as it ferries a large number of cancer patients from Punjab to Bikaner for treatment at a cancer hospital.

The Bhabha Atomic Research Centre has tested groundwater samples from four districts of the Malwa region of Punjab (Bathinda, Mansa, Faridkot and Ferozpur) in collaboration with Guru Nanak Dev University of Amritsar, and the results indicated that about 42% of total samples have uranium concentration above the Atomic Energy Regulatory Board (AERB) permissible limit of 60 µg/L for drinking water.<sup>[10]</sup> The World Health Organization has set the recommended level for uranium in drinking water to <15 µg/L. The Federal Environment Agency (Umweltbundesamt) in Germany has lowered the acceptable level for U in drinking water to <10 µg/L. The debate about the source of the apparent uranium contamination continues. Some authors speculate that industries like thermal power plants, fertilizer factories, chemical factories, cement factories etc. have an impact. Others predict that

uranium could have originated from the Tosham hills in Haryana state of India, where granite rocks are found. Geochemical studies suggest that high salinity and total dissolved solids (TDS) influence the mobility of uranium in the groundwater of these districts.<sup>[11]</sup>

Excessive uranium intake and exposure affects human health. However, ingested insoluble compounds are poorly absorbed from the gastrointestinal tract and are only retained in the body for a short time, thus they generally are of low toxicity. The main chemical effect associated with exposure to high doses of U and its compounds is renal toxicity.<sup>[12]</sup>

Once in the bloodstream, the U compounds are filtered by the kidneys, where they can cause damage to the kidney cells. Both functional and histological damage to the proximal tubulus has been demonstrated, but little is known about the effects of long-term environmental uranium exposure in humans. Only two small studies with 50–100 subjects have been published on the kidney toxicity of natural uranium from drinking water. They have shown an association of uranium exposure with increased urinary glucose, alkaline phosphatase, and β-2-microglobulin excretion, as well as increased urinary albumin levels.<sup>[13]</sup> None of the participants in the present study had listed kidney dysfunction as a health problem.

The union government, Which has promised to give Punjab Rs.525 crore to make its water uranium free, has already sanctioned a water laboratory at Mohali, 10 km from here.

The union government has sought technical help from Bhabha Atomic Research Centre (BARC) to tackle the growing problem of uranium in groundwater.

The former chief minister Prakash Singh Badal said that BARC team was trying to locate the source of uranium contamination and the Punjab government was taking all possible measures to provide a reverse osmosis(RO) system for the supply of safe drinking water in the affected areas.



## EFFECT OF PESTICIDES

The Malwa region topped the cancer list, with 14,682 of the 33,318 deaths. The unusually high incidence, especially in the cotton growing districts of south – western Punjab, has been linked to the use of pesticides by cotton farmers, among others factors. Malwa consumes 75% of the pesticides used in Punjab, shows the State Council for Science and Technology's State of Environment Report 2007.<sup>[14]</sup>

In 2005, a study of high cancer among the agriculture community of PGIMER Chandigarh held 'multiple factors' responsible for cancer cases in Talwandi Sabo, including pesticide use, alcohol consumption and smoking. "PGI is currently studying the correlation between breast cancer and pesticide use. The results are being analysed," said Dr JS Thakur, community medicine department, PGIMER, who did the 2005 study.<sup>[14]</sup>

That same year, centre for Science and Environment (CSE), found pesticide content in blood from 20 samples drawn from random persons in different villages in Bathinda and Ropar. CSE's new State of India's Health report, released this week, found that 12.5% of the food samples tested contained non- approved pesticides, though the evidence to show that pesticide can increase the risk of acquiring cancer is scare.

Malwa, which is also Punjab's cotton belt, requires the use of a startling amount of pesticides. Reportedly, farmers in this region use 15 different pesticide sprays and the unregulated and excessive use of chemical fertilizers and pesticides have resulted in farmers and their families living in a cesspool of toxicity. In 2011, it was also found that Punjab's farmers use of pesticides is 923 grams per hectare was way above the national average of 570g/ha. Even worse is the fact that farmers also end up using the empty pesticide cans to store not only water but also food, which get contaminated with high heavy-metal toxicity.<sup>[14]</sup>

The residents have little choice than to drink highly polluted water or bathe in tap water that are sourced from canals where industrial effluents are discharged with impunity. Many of the farmers blame the success of the 1970's Green Revolution for their sorry state right now. It was during then that the farmers had switched to a combo formula of high yield seeds-fertilizers-pesticide-water from traditional farming methods. Though, a few years ago, the Punjab government set up water purifiers in villages prone to cancer cases, but it was of little help as those were not cleaned properly.

Environmentalists blame the rampant use of pesticides, fertiliser and other chemicals- as Punjab took the lead in the Green Revolution and became the country's No.1 state in food grain production – for the contaminated groundwater. According to the Umendra Dutt, director of the Kheti Virasat Mission, an NGO that works for the agriculture and environments causes, an immediate plan is needed to tackle the multiple environment toxicity in Punjab's water. "The rampant use of pesticides and agro-chemicals to achieve the green revolution is responsible for this situation," Mr. Dutt said. Some other environmentalists blame the pollution and waste from thermal plants and explosives used in past wars for the contamination of the water.

Pesticide	Application	Possible impact on health
DDT	Killing insects, mosquitoes	Liver damage, chronic hepatitis, cirrhosis, endocrine and reproductive disorders, immuno-suppression, nerve damage, breast cancer, lymphoma (cancer of the immune system)
Endosulfan	Killing crop pests	DNA mutation, raised risk of testicular, prostate and breast cancers
Aldrin	Against wireworms and termites	Lung cancer, liver disease
Dieldrin	Used to rid cattle and sheep of parasites	Liver diseases, Parkinson's and Alzheimer's
Heptachlor	Controls soil-inhibiting pests	Reproductive disorders, blood abnormalities

Illustration: SHRIKRISHNA



## CONCLUSION

Metal intake can be via air, water and food. Hair tissue reflects long-term, chronic exposure and its validity have been confirmed. People living in geological areas where potentially toxic metals are found in excess are more prone to chronic metal overexposure. High U concentration has also been found in soil samples from the Malwa region around Faridkot. Agrochemical processes are responsible for mobilizing U that is present in soil; U contamination of ground water can be expected.

Phosphate fertilizers are a source of U, and Punjab has the highest use of phosphate fertilizers in India. Water, soil, and phosphate fertilizers all seem to play a potential role in causing an increased metal burden in Punjabi people living in the Malwa region. The metal burden of multiple toxic metals as found in all groups can be reduced with precautionary measures, including a change in agricultural approaches and detoxification treatments for those already burdened. A reduction in total metal burden, however achieved, can only improve health. To benefit the people of Punjab and elsewhere, we would hope that governmental agencies, medical institutions and other groups fund a larger study that will either confirm or disprove the association as suggested by our data.

## REFERENCES

1. Dept. of Health and Family Welfare. State Wide Door to Door Campaign, Cancer Awareness and Symptom Based Early Detection. Government of Punjab; Chandigarh, India:2013
2. Singh BP. Cancer deaths in agricultural heartland: a study in Malwa region of Indian Punjab. Enschede: International Institute for Geo-Information Science and Earth Observation (ITC), University of Twente; 2008. [Master thesis].
3. Mittal S, Kaur G, Vishwakarma GS. Effects of environmental pesticides on the health of rural communities in the Malwa region of Punjab (India): a review. Human and Ecological Risk Assessment: An International Journal. 2013 in press.
4. Koutros S, Alavanja MC, Lubin JH, et al. An update of cancer incidence in the Agricultural Health Study. J Occup Environ Med. 2010; 52:1098–105. [PMC free article] [PubMed]
5. Singh J (Feb. 2, 2013). "Punjab Cancer Capital Of India". Down to Earth. Environment and Health 25 years.
6. Garg B (Jun 14, 2010). "Uranium levels 62 times higher than normal". The Times of India.
7. Garg B (Jun 15, 2010). "Anti-pollution laws on paper in Punjab". The Times of India.
8. Chamberlin, Gelthin (30 August 2009). "India's generation of children crippled by uranium waste". The Telegraph London.
9. Singh, IP (Jun 16, 2010). "Parts of Raj, Malwa drinking poison?" The times of India.
10. Sabha R. Gov. of India, Dept. Atomic Energy Statement. Aug 30, 2012. Uranium in Ground Water.
11. Kumar A, Rout S, Narayanan U, et al. Geochemical modeling of uranium speciation in the subsurface aquatic environment of Punjab State in India. J of Geo Min Res. 2011; 3(5):137–46.
12. Busch E B, Busch Y M, Friedle A, Buerner H, Parkash C, Kaur A, Comparing the Metal Concentration in the Hair of Cancer Patients and Healthy People Living in the Malwa Region of Punjab, India. Clin Med Insights Oncol, 2014, 8, 1-13.
13. Kurtio P, Auvinen A, Salonen L, et al. Renal Effects of Uranium in Drinking Water. Environm Health Perspectives. 2002;110(4):337–42. [PMC free article] [PubMed]
14. Sethi C K, Singh N, (Dec 20, 2015). "How pesticides use have led to high cases of cancer in Punjab". Fitness and Health. Hindustan times

## वैश्विक निशस्त्रीकरण हेतु : राजीव गांधी का योगदान

रमेश कुमार राय

प्रवक्ता, श्री मुरली मनोहर टाउन महाविद्यालय, बलिया

**प्रस्तावना:** सैन्य प्रौद्योगिकी में नवीनतम एवं महत्वपूर्ण विकास के कारण अस्त्रों की दौड़ पर राजनीतिक नियंत्रण कम होता जा रहा है। यह होड़ ऐसी प्रौद्योगिकी के विकास पर अंकुश लगाए बिना रोक नहीं जा सकती। हमें ऐसी प्रणाली की आवश्यकता है जिसमें प्रौद्योगिकीय विकास को सहारा मिले परंतु सैन्य प्रयोजनों में इस प्रौद्योगिकी का अनुचित प्रयोग न हो। अस्त्र नियंत्रण दृष्टिकोण में आयुधागारों की गुणात्मक वृद्धि पर ध्यान केंद्रित है। निरस्त्रीकरण दृष्टिकोण में परमाणु और पारंपरिक अस्त्रों के गुणात्मक उन्नयन पर नियंत्रण रखने की व्यवस्थाओं का पता लगाया जा रहा है। इस प्रयोजन की पूर्ति की दिशा में अनिवार्य आवश्यकता इस बात की है कि सैन्य अनुप्रयोगों के साथ इस महत्वपूर्ण प्रौद्योगिकी के अनुसंधान एवं विकास में पारदर्शिता हो। इसके लिए ऐसे विकास के व्यवस्थाबद्ध, अंतरराष्ट्रीय सुरक्षा के संबंध में इनके निहितार्थों के आकलन एवं प्राप्त जानकारी का व्यापक स्तर पर प्रसार होना आवश्यक है। मानव उपलब्धि के नए क्षेत्रों के द्वार खोलने के लिए ऐसी प्रौद्योगिकी से संबंधित नई तथा उदीयमान प्रौद्योगिकी में अनुसंधान कार्य के लिए अंतरराष्ट्रीय सहयोग होना आवश्यक है। इस संबंध में हमारे समय के प्रमुख और अग्रणी वैज्ञानिक नील बोहर द्वारा व्यक्त एक उदार विश्व संबंधी विजन दोहराने की आवश्यकता है। 9 जून 1980 को उन्होंने संयुक्त राष्ट्र के नाम लिखे पत्र में खुले रूप से कहा था— यह एक तथ्य है कि ज्ञान सभ्यता का आधार है। इसके स्पष्ट रूप से संकेत मिलता है कि वर्तमान संकट से उबरने के लिए उदारता-स्पष्टता का होना जरूरी है।

**राजीव गांधी की विदेश नीति में गुटनिरपेक्ष आन्दोलन का निशस्त्रीकरण के लिए भी गम्भीर प्रयास :** आजादी के बाद से ही भारत वैश्विक निशस्त्रीकरण का समाधान की तलाश सार्वभौमिकता गैर भेदभाव और प्रभावी अनुपालन के आधार पर किया है (Yadav 2009) साथ ही देश का मानना था कि पारम्परिक तथा परमाणु हथियारों के निःशस्त्रीकरण का मामला केवल परमाणु शक्ति सम्पन्न देशों से ही सम्बद्ध नहीं है क्योंकि यह मुद्दा पूरी मानवता के अस्तित्व से जुड़ा है। इसलिए उपरोक्त सम्मेलन में परमाणु युद्ध तथा परमाणु हथियारों के निर्माण को रोकने के लिए तुरंत कदम उठाये जाने की जरूरत व्यक्त की गयी थी।

**हमारे सम्मेलन और निशस्त्रीकरण हेतु प्रयास :** यह सम्मेलन में शांति सुरक्षा निशस्त्रीकरण और मानवाधिकारों पर केन्द्रित रहा (Ray 2011)। साथ ही इस सम्मेलन में द0 अफ्रीका नामीबिया तथा निशस्त्रीकरण का मुद्दा छाया रहा। यद्यपि अन्य अनेक विषयों पर भी वार्तायें तथा विचार हुआ। लीबिया के मुद्दों पर यद्यपि गुटनिरपेक्ष देशों में विभाजन की स्थिति आ गयी थी क्योंकि लीबिया सीरिया तथा ईरान अपने मुद्दों को सामने लाने का प्रयास कर रहे थे। सम्मेलन के अन्तिम घोषणा पत्र में लीबिया पर अमरीकी आक्रमण का उल्लेख किया गया। सम्मेलन में ईरान तथा ईराक के बीच शुत्रता का मामला भी आया। सम्मेलन में दोनों के बीच संघर्षों पर अफसोस प्रकट किया गया। यह सर्वमान्य विचार था कि इस संघर्ष से गुटनिरपेक्षता आन्दोलन की एकता प्रभावित हो रही है। संगठन ने सम्मेलन में इस संघर्ष के

समाधान का भी प्रयास किया। संगठन के मंत्री स्तर के प्रतिनिधिमंडल दोनों देश कई बार गये। राजीव गांधी ने तथा स्मरण रहे श्रीमती गांधी ने भी अपने व्यक्तिगत दूत दोनों देशों भेजे लेकिन कोई ठोस समाधान नहीं निकला। इस धटना से गुटनिरपेक्ष आन्दोलन की अपनी सदस्यों के बीच संघर्ष सुलझाने में अपनी सीमितता भी प्रकट हुई। राजीव गांधी का ही प्रयास था हरारे सम्मेलन में हिन्द महासागर में बड़ी शक्तियों द्वारा अपनी सैनिक क्षमता के निरन्तर विकास पर चिन्ता प्रकट की गयी। सम्मेलन में हिन्द महासागर को शक्ति क्षेत्र बनाने की दिशा में संयुक्त राष्ट्र संघ के प्रस्तावित सम्मेलन को बुलाने में देरी की भी आलोचना की गयी। सम्मेलन के अन्त में राजीव गांधी ने संयुक्त राष्ट्र संघ को शाक्तिशाली बनाने पर जोर दिया।

**बेलग्रेड सम्मेलन और निशस्त्रीकरण हेतु प्रयास :** बेलग्रेड में 4 से 7 सितम्बर, 1989 को नौवा गुटनिरपेक्ष राष्ट्रों का सम्मेलन हुआ। जिसमें 102 देशों ने भाग लिया। उस समय अमरीका तथा सोवियत संघ के बीच तनाव शैथिल्य का दौर चल रहा था राजीव गांधी ने गुटनिरपेक्ष संगठन के औचित्य तथा वर्तमान प्रासंगिकता का समर्थन किया। उनका कहना था कि अमरीका तथा सोवियत संघ की परस्पर वार्ता तथा अपेक्षाकृत शान्ति के बाद भी निशस्त्रीकरण गरीबी तथा विश्व के अनेक स्थान पर संघर्ष की स्थिति समाप्त नहीं हुई है। ये परिस्थितियाँ अभी भी विश्व के लिए संकट तथा खतरा बनी हुई हैं। राजीव गांधी ने स्पष्ट कहा कि इस संदर्भ में मुख्य दायित्व अमरीका तथा सोवियत संघ के नेताओं का है। उन्होंने सोवियत संघ की प्रशंसा की जिसने स्वयं परमाणु परीक्षण रोकने की घोषणा थी। राजीव गांधी ने अपने उद्बोधन में कहा कि विश्व में 60 हजार परमाणु हथियार हैं जिनके स्रोत को मानवता के विकास तथा हित के लिए प्रयोग किया जा सकता था। उनका कहना था कि मानवता के अस्तित्व के लिए पूर्ण निशस्त्रीकरण तथा शान्तिपूर्ण सह-अस्तित्व ही एकमात्र रास्ता है। उन्होंने अन्तरराष्ट्रीय स्तर पर वैज्ञानिक तकनीक तथा सहयोग के माध्यम से हथियारों के निषेध की दिशा में कार्य करने को कहा। परमाणु हथियारों के निर्माण को रोकने के लिए क्षेत्रीय आधार पर कार्य करने की आवश्यकता पर राजीव गांधी ने जोर दिया। इसी का परिणाम था कि अफ्रीका में टोगों में शान्ति तथा निशस्त्रीकरण का क्षेत्रीय केन्द्र स्थापित किया गया। द0 अफ्रीका में इसी तरह का दूसरा केन्द्र खोलने के लिए पेरू ने भी पेशकश की थी।

**दिल्ली घोषणा पत्र:** यह वह समय था जब निरस्त्रीकरण और परमाणु युद्ध के टालने की कोशिश वास्तविकता बन चुकी थी। निशस्त्रीकरण के प्रस्ताव पर राजीव गांधी तथा भारत का प्रभाव स्पष्ट दिखायी पड़ा क्योंकि दिल्ली घोषणा पत्र में ही भारत ने कहा था कि परमाणु शस्त्रों से स्थायी शांति प्राप्त नहीं की जा सकती है (Sahani 1990)। रुस और भारत विश्व में शांति और निशस्त्रीकरण के लिए प्रतिबद्ध थे दोनों ने परमाणु अस्त्रों में कमी लाने की प्रक्रिया में विश्व के सभी देशों से सहयोग की अपेक्षा की (Sahani 1990)। विश्व से भूख बीमारी, निरक्षरता, गरीबी, तथा शोषण को समाप्त करके ही यह प्राप्त किया जा सकता है। राजीव गांधी ने सम्मेलन में कहा था कि ऐसे विश्व में जो गरीब देशों तथा अमीर देशों के बीच बंटा है जो विकसित एवं विकासशील, उत्तर तथा दक्षिण देशों में बंटा है स्थायी शांति नहीं प्राप्त की जा सकती। सम्मेलन के घोषणा पत्र में भी कहा गया कि अन्तरराष्ट्रीय समुदाय के आर्थिक एवं सामाजिक विकास के बिना विश्वव्यापी शांति तथा सुरक्षा को स्थापित नहीं किया हमने सर्वसम्मति से व्यावहारिकता तथा पहल शक्ति (स्वतःप्रेरणा) के साथ दक्षिण एशियाई क्षेत्र में सहयोग की भावना पर बल दिया। परिणामस्वरूप भारत ने संस्कृति, पर्यटन, व्यापार और प्रौद्योगिकी तथा सूचना के क्षेत्रों में पड़ोसी देशों के साथ सहयोग की नीति का अनुसरण किया। नई दिल्ली ने इस ओर भी संकेत दिया कि पाकिस्तान द्वारा राजनीतिक बाधाएँ खड़ी करने के बावजूद भारत क्षेत्रीय स्तर पर बेहतर के लिए 'दक्षेस' में पूर्णतः सक्रिय रहा। इसी के साथ साथ भारत दृढ़ता से सुनिश्चित करता रहा कि 'दक्षेस' का पड़ोसी देशों के साथ विवादों को सुलझाने की प्रक्रिया में दबाव डालने के लिए इस्तेमाल नहीं किया जाएगा, क्योंकि इससे क्षेत्रीय अखंडता या रक्षा संबंधी हितों पर प्रभाव पड़ेगा।

राजीव गांधी ने निरस्त्रीकरण और अप्रसार के क्षेत्र में दो बार पहल की। पहली बार सन् 1985-86 में तथा दूसरी बार सन् 1988 में। सन् 1985-86 में निरस्त्रीकरण पर छह देशों की कॉन्फ्रेंस हुई जिसकी संकल्पना मई 1984 में इंदिरा गांधी तथा स्वीडन के प्रधानमंत्री ओलाफ पाल्मे ने तैयार की थी। भारत और स्वीडन के अलावा मेक्सिको ने भी प्रमुख भूमिका निभाई। इस कॉन्फ्रेंस का लक्ष्य निश्चित समय-सीमा के भीतर पूर्ण रूप से परमाणु अस्त्रों तथा जनसंहारक अस्त्रों को नष्ट करने की दिशा में राष्ट्रीय और

बहुराष्ट्रीय स्तर पर अंतरराष्ट्रीय समुदाय को प्रेरित करना था (Shukla 2007)। इसके माध्यम से प्राप्त अनुभव को जून 1988 में संयुक्त राष्ट्र की महासभा के निरस्त्रीकरण पर आयोजित विशेष अधिवेशन में राजीव गांधी द्वारा प्रस्तावित परमाणुमुक्त, अहिंसक विश्व व्यवस्था की कार्ययोजना में स्थान दिया गया (Sethi 2012)। इस कार्ययोजना में ऐसे बाध्यकारी समझौते पर बातचीत करने तथा उसे अंतिम रूप देने की दिशा में अंतरराष्ट्रीय समुदाय का आह्वान किया गया जिसपर सभी देशों की सामान्य तथा संपूर्ण रूप से निरस्त्रीकरण के संबंध में सम्मति हो तथा किसी को कोई आपत्ति न हो। इनके इस प्रस्ताव में सन् 2010 तक चरणबद्ध रूप से सभी परमाणु अस्त्र की महासभा के तीसरे निरस्त्रीकरण अधिवेशन में भाषण देते समय राजीव गांधी के परमाणु, जैविक तथा रासायनिक अस्त्रों नष्ट करने की इच्छा व्यक्त की गयी। जून, 1988 को न्यूयार्क में संयुक्त राष्ट्र और मिसाइलों एवं अन्य जनसंहारक अस्त्रों ने शामिल करते हुए सामान्य तथा पूर्ण रूप में निष्पक्ष रूप से निरस्त्रीकरण का विशद प्रस्ताव रखा (UNO 1988)। इस प्रस्ताव का विवरण निम्नवत है :

हमारी कार्ययोजना का प्रमुख भाग तीन चरणों में परमाणु अस्त्रों को नष्ट करना है। यह अब प्रारम्भ होकर अगले बाइस वर्ष तक चलेगी। हमने संयुक्त राष्ट्र संघ के सामने यह योजना पेश की है जिसे तुरन्त आरम्भ किया जाना है। यद्यपि परमाणु निरस्त्रीकरण में इस योजना का हर चरण केन्द्रबिन्दु है परन्तु निरस्त्रीकरण की प्रक्रिया को आगे बढ़ाने के लिए और अधिक उपाय किए जाने आवश्यक हैं। हमने जनसंहारक अस्त्रों पर प्रतिबंध लगाने का प्रस्ताव रखा था। हमने उदीयमान प्रौद्योगिकी के आधार पर नई परमाणु अस्त्र प्रणालियों के विकास पर रोक लगाने के लिए उपायों का सुझाव दिया था। स्वयं भी पारंपरिक अस्त्रों तथा सेनाओं को रक्षात्मक प्रयोजनार्थ अपेक्षित न्यूनतम स्तरों तक घटाने का विचार किया। इसके अलावा परमाणु अस्त्र मुक्त विश्व में अंतरराष्ट्रीय संबंध बनाए रखने के लिए विचार प्रस्तुत किए हैं। इस कार्ययोजना की अनिवार्य विशेषताएँ इस प्रकार हैं—

**पहला:** सन् 2010 तक चरणबद्ध रूप में परमाणु अस्त्र नष्ट करने के लिए सभी देशों को वचनबद्ध होना चाहिए।

**दूसरा:** सभी परमाणु अस्त्र-संपन्न राष्ट्र इस परमाणु निरस्त्रीकरण की प्रक्रिया में भाग लें; सभी अन्य देश भी इस प्रक्रिया में भाग लें।

**तीसरा:** सद्भाव तथा अपेक्षित विश्वास उत्पन्न करते हुए लक्ष्य प्राप्ति के लिए प्रत्येक अवस्था पर मूर्त रूप में प्रगति होनी चाहिए।

**चौथा:** परमाणु अस्त्रमुक्त विश्व बनाए रखने के लिए सिद्धांतों, नीतियों और संस्थाओं में परिवर्तन लाना आवश्यक है। संयुक्त राष्ट्र संघ की छत्रछाया में “विशद ग्लोबल सुरक्षा प्रणाली” स्थापित करने के लिए बातचीत की जानी चाहिए। समेकित रूप में उपायों के संबंध में एक-साथ बातचीत करने का प्रस्ताव रखा गया था परन्तु भारत ने यह भी स्वीकार किया है कि कुछ उपायों को चरणबद्ध रूप में रखने के संबंध में थोड़ा लचीलापन होना आवश्यक है।

पहले चरण में आई.एन.एफ. संधि के अनुसार सोवियत संघ तथा अमेरिका के सामरिक आयुधागार में साठ प्रतिशत की कमी करना जरूरी है। परमाणु अस्त्रों के उत्पादन कार्य तथा अस्त्र ग्रेड की विखंडनीय सामग्री तुरन्त खत्म कर दी जानी चाहिए। विशद परीक्षण निषेध संधि पर बातचीत के लिए समय-सीमा निर्धारित करने के आशय से परमाणु अस्त्र परीक्षण स्थगित कर दिया जाना चाहिए।

राजीव गाँधी का मानना था कि पहले से ही यह व्यापक स्तर पर स्वीकार किया जा चुका है कि परमाणु युद्ध न तो लड़ा जाना चाहिए, न ही वह जीता जा सकता है। फिर भी देश परमाणु युद्ध की धमकी देते रहते हैं। यह परमाणु अस्त्र नष्ट करने की वचनबद्धता के प्रतिकूल है। इसलिए भारत का सुझाव है कि अंतरराष्ट्रीय समझौते पर बातचीत करते हुए सभी परमाणु अस्त्रों की वैधता समाप्त कर दी जानी चाहिए। इस प्रकार के समझौते से परमाणु निरस्त्रीकरण की प्रक्रिया को बल मिलेगा। परमाणु राष्ट्रों द्वारा ऐसी वचनबद्धता के अनुरूप जो राष्ट्र परमाणु अस्त्रों की सीमा पार करने में सक्षम हैं, उन्हें अपने पर

संयम तथा नियंत्रण रखने का प्रयास करना चाहिए। परमाणु अस्त्र प्राप्त करने के इच्छुक राष्ट्रों को दी जा रही प्रत्यक्ष तथा परोक्ष सहायता बंद करने के लिए कड़ी कार्यवाही की जानी चाहिए।

अंतरराष्ट्रीय विधि के तहत जैविक अस्त्रों का प्रयोग निषिद्ध है। इसी प्रकार से रसायनिक और रेडियोधर्मी अस्त्रों के प्रयोग पर भी प्रतिषेध लगाया जाना चाहिए। अन्तरराष्ट्रीय समुदाय एकमत से अंतरिक्ष क्षेत्र को मानव जाति की धरोहर मानता है। हमें अंतरिक्ष में शांतिपूर्ण प्रयोजनों से अंतरराष्ट्रीय सहयोग को बढ़ावा देना चाहिए। इसके लिए आवश्यक शर्त यही है कि अंतरिक्ष क्षेत्र को अस्त्रों से मुक्त रखा जाए। परंतु वस्तु-स्थिति यह है कि अंतरिक्ष अस्त्र प्रणालियों के विकास, परीक्षण और तैनाती की योजनाएँ बनाई जा रही हैं। संबंधित गतिविधियों को स्थगित किए बिना परमाणु अस्त्रों की होड़ समाप्त नहीं की जा सकती। इसके बाद अंतरिक्ष के सैन्यकरण पर रोक लगाने के लिए समझौता किया जाना चाहिए। परमाणु अस्त्रमुक्त अहिंसक विश्व व्यवस्था के आधार पर विशद ग्लोबल सुरक्षा से संबंधित लक्ष्य प्राप्ति में भी यह अनिवार्य शर्त है।

परमाणु निरस्त्रीकरण पारंपरिक युद्ध सामग्री तथा सेना पक्ष में की जाने वाली कमी पर निर्भर करता है। इसलिए अंतरराष्ट्रीय समुदाय का प्रमुख कार्य पारंपरिक बचाव के निम्नतर स्तरों पर सुरक्षा सुनिश्चित करना है। निश्चय ही ऐसे क्षेत्र से अस्त्रों में कमी की प्रक्रिया प्रारंभ की जानी चाहिए, जहाँ विश्व में पारंपरिक अस्त्रों तथा सेना का पूरा अंबार लगा है। फिर भी अन्य देशों को भी देरी किए बिना इस प्रक्रिया में शामिल हो जाना चाहिए। इसके लिए जरूरी है कि केवल रक्षात्मक प्रयोजन से ही सेनाओं का पुनर्गठन किया जाए। हमारा लक्ष्य बचाव की न्यूनतम आवश्यकता को देखते हुए पूरे विश्व में पारंपरिक अस्त्रों में कटौती होना चाहिए। इस प्रक्रिया के लिए अपेक्षित है कि आकस्मिक हमले को रोकने तथा आक्रमण करने की क्षमता में यथेष्ट रूप से कमी की जाए। संयुक्त राष्ट्र संघ को सर्वसम्मति से बचाव का नया सामरिक सिद्धांत तैयार करना चाहिए यद्यपि संयुक्त राष्ट्र संघ विभिन्न देशों या दो देशों के बीच निरस्त्रीकरण के द्वारा शांति के लिए प्रयासरत है (UNO 1988)। आमूल तथा विशद निरस्त्रीकरण की योजना के साथ-साथ विशद ग्लोबल सुरक्षा की नई व्यवस्था का भी निर्माण किया जाना चाहिए। ऐसी व्यवस्था के घटकों पर परस्पर पोषक तत्व चाहिए। इस व्यवस्था में सार्वभौमिक स्तर पर भागीदारी होनी चाहिए।

**उपसंहार:** विश्व व्यवस्था की संरचना अहिंसा पर आधारित होनी चाहिए। जब हम परमाणु अस्त्र नष्ट करेंगे तथा न्यूनतम स्तर तक पारंपरिक सेनाओं/ताकतों को कम कर देंगे, तब अहिंसावादी विश्व व्यवस्था कायम होगी। अतीत की असंगत तथा अविवेकपूर्ण व्यवस्था को दूर करने का यही एकमात्र रास्ता है। अंतरराष्ट्रीय संबंधों में अहिंसा कोई कल्पना मात्र नहीं है बल्कि सम्य उत्तर-जीविता, शांतिपूर्ण सह-अस्तित्व के माध्यम से शांति बनाए रखने, एक नई न्यायपूर्ण, समान तथा लोकतांत्रिक विश्व व्यवस्था का सही एक मात्र आधार है। राजीव गाँधी की इस योजना को समूचे विश्व के जनमत के साथ-साथ संयुक्त राष्ट्र के अधिकांश सदस्य देशों का समर्थन मिला। इस प्रस्ताव से विश्व की महाशक्तियों को सामरिक अस्त्रों में कटौती करने तथा अस्त्र नियंत्रण पर बातचीत करने की प्रेरणा मिली। फिर भी सत्ता के समीकरणों ने इस कार्ययोजना को लागू करने में किसी न किसी बहाने से विलंब किया। परंतु इसके बावजूद कहा जा सकता है कि सामान्य रूप से निरस्त्रीकरण के लक्ष्य की प्राप्ति में यह योजना एक 'मॉडल' होने के साथ-साथ प्रक्रियामूलक रूपरेखा भी है।

## AN ANALYSIS OF THE PRACTICE OF TRIPLE TALAQ AMONG MUSLIMS IN INDIA

**Ms. Praveen**

**Advocate**

**District Bar Association, Bhiwani.**

**R/O- H.No.1380, Vidya Nagar, Bhiwani-127021**

---

### INTRODUCTION

There is no place for celibacy in Islam (as per Prophet). Here the institution of marriage operates in the forms of *Nikah* an Arabic term means “contract” i.e. a legal contract between the spouse to establish family and fulfill other socio-cultural and religious obligations. The Holy Quran explains marriage as “mithaqun Ghalithun,” means “a strong agreement”. Though the firm bond of the husband and wife is required for a happy family life. And for that the subsistence of a marriage necessary. The Quran prescribes that breach of contract of marriage should be avoided. Primarily, no marriage to be dissolved but in under certain circumstances the contract of marriage is revoked.

### NATURE OF TRIPLE TALAQ

Triple-talaq is a form of *Talaq-ul-bidat* in which the husband may pronounce the three formulae at one time and it is irrelevant that wife is in state of *tuhr* or not. It is denoted in Arabic as *Mugallazah* means very hard- divorce which is most disapproved and which does not conform to *talaq-ul-sunnat* the separation then effectively after the woman has fulfilled her *iddat* or period of probation.

### ORIGIN OF TRIPLE TALAQ

Asghar Ali Engineer says that the Islamic Shariah which was formed more than hundred years after the demise of the Prophet and had grown under impacts of different civilizations and took away what was given to women by the prophet and the *Quran* the issue of triple divorce in one sitting illustrates this very well. It was put in practice during the *jahiliyah* age i.e. before the advent of Islam.

The triple divorce was not permitted during the prophet’s lifetime. Later on it was allowed on the situation when the Arabs won Syria, Egypt, Persia etc. They tempted towards women there which were much more beautiful than their own women but those women did not understand about Islam’s rule of triple *talaq* in one sitting, and therefore emphasized

that before marrying them the men should pronounce *talaq* thrice to their existing wife which they readily accepted to do so as they knew that Islam has abolished triple *talaq* and that would not be effective and even after marrying with the Syrian or Egyptian women they would also retain their earlier wives. When the Egyptian and Syrian women found that they had been deceived, after their complaint to Umar, the triple *talaq* was enforced again in order to prevent its misuse by the Arabs and later on jurists also called this form of divorce as valid one.

### ***Talaq al –bidah (disapproved forms)***

This form of divorce considered from legal point of view, is *talaq al- bidai* or *talaq al-bidah*, unorthodox divorce. It is the most approved form of divorce and it is highly condemned and even declared sinful but nevertheless it is considered legally effective. It is affected in any of the ways such as repetition of three pronouncements of divorce either at the same time or in the same sitting or on different occasions in the same period of tuhr<sup>1</sup> or in a period of purity in which the husband has had sexual intercourse with his wife<sup>2</sup> or pronouncement of divorce in one single sentence (this disapproved form of divorce is called *talaq al-bain* and may be given in writing and comes in operation immediately & severs the marital tie).<sup>3</sup>

The most prevalent method of exercising *talaq al-bidah* under the Sunni law today is to call three *talaqs* at the same time. It is not necessary that the husband should repeat pronouncement three times in order to constitute an irrevocable divorce. In the *talaq al –bidah*, the divorce is effective from the moment of pronouncement or the execution of the writing of divorce (*talaq-naamah*).<sup>4</sup>

### **TALAQ AL- BAIN ( IRREVOKABLE DIVORCE)**

It is formed the following six ways;

- (a) Divorce a wife with whom there has been no intimacy.
- (b) Divorce a wife who is past child bearing age.
- (c) Divorce a wife of such a tender age that she is not subject to menstrual courses. This age is fixed at nine years.
- (d) Divorce a wife who has obtained a khula divorce for consideration.
- (e) Divorce against a wife who has been thrice repudiated with two intermediate revocations.

### **DIVORCE CONSIDERED WITH REGARD TO EFFECT**

Divorce with regard to its effect can be classified into the following two main category:

- (a) *Rajai* (revocable): The divorce is such as does not immediately dissolve the marriage but leaves within the power of the husband to revoke it within the prescribed period of *iddah*

<sup>1</sup> Al Marghinaaee, Alibin Bee Baker, 2<sup>nd</sup> al-hidaayah 355 (delhi nd) al nasafee, kanz al daqaaiq 120 (1368a.h)

<sup>2</sup> ibid

<sup>3</sup> Mohammad ali vs faridunisa begum ,air 1970 p 298

<sup>4</sup> Wilson r.k.;anglo- Mohammadon law ss 61 &63 (1908)

and thus to maintain the marriage.<sup>5</sup> *Talaq al hasan* amount to revocable divorce. It is only on the expiry of the period of *iddat* such a divorce becomes an irrevocable divorce.<sup>6</sup>

(b) *Baain* (irrevocable): This type of divorce is such that it immediately dissolves the marriage on the very pronouncement of divorce.<sup>7</sup> It does not leave any discretion with the husband to cancel it.

*Talaq al-baain* or irrevocable divorce is further divided into two classes, namely,

(a) *Al-talaq al –Mughallazah*

(b) *Al –talaq al –khafeef* or *Ghair –Mughallazah*

The word *Mughallazah* means” very hard” but here it gives the thought of finality of divorce under the Muslim law, a husband can’t remarry his wife after the third pronouncement of divorce and the expiration of period of *iddah*. but he can only remarry her unless and until she marries another person is dissolved after consummation. The *Mughallazah* divorce shall become effective as soon as the third pronouncement of *talaq* is made.<sup>8</sup>

Three pronouncements are made in a single tuhr (state of purity) either in one sentence e.g. I divorce thee thrice; or three sentences , e.g., I divorce thee, I divorce thee, I divorce thee, this is called *al talaq al baain*. *Hidayyah*, an authoritative source of Sunni schools defines this divorce ‘where he repeats the sentence ,separately thrice within tuhr (state of purity).’<sup>9</sup>

## **NATURE AND EFFECTS OF TRIPLE TALAQ IN VARIOUS SCHOOLS**

Nature and effects of triple *talaq* pronouncement of *talaq* on a single occasion according to various schools of jurisprudence.

### **SUNNI SCHOOLS**

There exists no material difference in the classical schools of Sunni in Muslims have with regard to the procedure and effects of triple *talaq*

### **HANAFEE SCHOOL**

Abu Haneefah described that the three pronouncements shall amount to three separate divorces so that they shall result in a *Mughallazah* or final *talaq*. The explanation that the husband has used three pronouncement simply for the sake of emphasis cannot change the

<sup>5</sup> An analytical study of triple talaq (By Furqan Ahamad)

<sup>6</sup> Ibid.

<sup>7</sup> *al –kaasaane* supravol.2<sup>nd</sup> p. 180

<sup>8</sup> *burhauddi marghiaane, the hedaya* (trans) Charles Hamilton 73 (1979)



nature of divorce *Mughallazah talaq* . This would be good in law though it may be bad in religion <sup>9</sup>.

### **MAALIKEE SCHOOL**

Under this school the divorce may affecting by using the words by husband in the pronouncement of the divorce as when says , I divorce you and divorce you and divorce you'', <sup>10</sup>

### **SHAFABEE SCHOOL**

Shafabee school believes that if a marriage has been consummated and the husband repeats three pronouncement of *talaq* against his wife whether using or without using a conjunctive word like and but without intending three divorces and merely to lay emphasis on the first pronouncement, a single *talaq* shall be effected . <sup>11</sup> If the marriage has not been consummated then only one *talaq* shall be effected under such circumstances. <sup>12</sup>

### **HANBALEE SCHOOL**

Imam Ahmad Ibn –Hanbal has explained the following rules;

(a) If the husband does not use the word and in the repetitions as when he says ,*talaq, talaq, talaq* or 'divorce you, divorce you, divorce you and the second and third pronouncements are used simply for emphasis then only one *talaq* shall be effected if the marriage has not been consummated . If it has been consummated then three *talaqs* shall be effected. <sup>13</sup>

(b) If the husband uses the word and when he says you are divorced and divorced and divorced, then if he used the second and third repetitions to emphasis the first pronouncement then only one divorce shall be effected irrespective of the fact whether the marriage has or has not been consummated. <sup>14</sup>

### **Salafee School (Ahl-Hadith)**

The followers of Sunni sects Salafee school accept three *talaqs* at a single sitting as only one and the progressive group of Muslim jurists like the Ibn Tymiah etc. also suggest that three *talaqs* should legally be taken as one of the same ground. <sup>15</sup>

### **Shiah Schools**

---

<sup>9</sup> Ahmad K.N, Muslim law of divorce 86 (1978)

<sup>10</sup> Mohammad Bin Ahmad, 2<sup>nd</sup> jawaahir al uqud 134(1955)

<sup>11</sup> Mohammad Bin Ahmad note 12 at 134; al sharani, note 138

<sup>12</sup> ibid

<sup>13</sup> ibid

<sup>14</sup> Ibn tymiyah, 3<sup>rd</sup> fataawaa 14(1328a.h)

<sup>15</sup> Wasilat al najaat, 371(1364)a.h

Under the Shiah school (both Ithanaa Ashree and Fatimid law) the pronouncement of three *talaqs* whether by one sentence or one after another when there is no intermediate revocation constitutes a bidai *talaq* which is considered to be irregular.

#### Judicial decisions on triple *talaq*

(A) In the case of **Sarabai v Rabia Bai** the court recognizing the triple *talaq* as irrevocable divorce and held that the divorce should have been pronounced three times in one sitting.

(B) In another case of **Aneesa Khatoon v Rasheed Ahmad** that one Ghiyasuddin pronounced triple *talaq* to his wife Aneesa Khatoon in the presence of witness, the wife being absent and four days later he executed a deed of divorce. In this case the high court observed that the divorce was sham as the actual intention was not present.

(C) Jammu and Kashmir high court in **Ahmad Giri v Megha**<sup>16</sup> held that the triple *talaq* becomes effective and irrevocable, the moment it is given. *talaq* –i- biddat form had been pronounced by the husband in the presence of two witness on 12 Kartik 2009 and it was sent to the wife under a registered cover addressed to her, though she refused to take delivery of it the fact that she had been divorced came to knowledge of the wife before she put in her application for maintenance. In this case the court went to the extent of saying that even the pronouncement of triple *talaq* is not necessary, if the intention to make divorce effective and irrevocable at once apparent.

(D) Revocation of divorce is not permissible except when the divorce is rajai (revocable). where a husband pronounces a divorce to the wife at the same time in three separate sentences the divorce is in the form *baain* and here he has no right to revoke it as it was laid down by the Allahabad high court in **Ammiruddin v Khatoon Bibi**<sup>17</sup>.

(e) Learned judges referred a short but fruit ful judgement of Bombay high court in Re- Abdul Ismailji and his wife Husenbii<sup>18</sup> which is as follows;

“*talaq* al-bidah or irregular divorce, which is effected by three repudiations at the same time, appears from the authorities to be sinful, but valid and it was recognized as valid by the court in re Kaalsam Pirbhai And his wife Hirabai.<sup>19</sup>”

(f) In the case of **Saliha Bi v Sheikh Gulla**, Madhya Pradesh high court in restoring the decree passed by the learned trial judge held that *talaq-a-bain* is a recognized form of divorce among the Hanafee’s effected by clear words of marriage dissolution intent address to wife. Triple repetition is not a necessary condition for irrevocability effect.

(g) Even in the absence or presence of wife does not effect irrevocability of triple *talaq* as held in **Aisha Bibi v Qadir Ibrahim**<sup>20</sup> the court observed

<sup>16</sup> AIR 1955J&K

<sup>17</sup> AIR 1917 ALL 343

<sup>18</sup> (1883)ILR 7 BOM,180

<sup>19</sup> (1871)8 BOM H.C REP 95 CR CA

<sup>20</sup> (1910) ILR 33 MAD 22

(h) Venkatasubba Rao J stated in *Kathuyamma vs Marakkar*<sup>21</sup>

It is not necessary for the wife to be present when the *talaq* is pronounced.

(i) madras high court held in **Abdul Khader v Azeeza Bee**<sup>22</sup> that a *talaq* given in the absence of wife would be effective only when it becomes known to her. the facts the case were azeeza bee was legally married with M.M Abdul Khader and they were living as husband and wife for two and half years. after that her husband neglected her and divorced and *talaq* naamah was written and executed in the presence of qadi attested by two witness. but the divorce had not been communicated to the wife. The learned judge Kuppuswami Ayyar held that it is not necessary for the husband to divorce in the presence of his wife but essential thing is that it should come to her knowledge.

(i) In 1931 the madras high court took another view in **Kathiyumma v Urathel Marakkar** and said that there could be a valid *talaq* in the absence of wife but it come into operation only from the date on which the comes to of it. The learned judge referred a passage from Ameer Ali's book-

*"It is not necessary for the husband himself to pronounce the talaq in the presence of the wife but it is necessary it should come to her knowledge. if a talaq is given by a letter, it will take effect on the receipt of the letter by the wife. if the letter reaches father and he tears it into pieces there will be no talaq unless the father transacts all her business, is in fact her agent, and resides in the same house with her. if the father should inform the wife of the receipt of the letter and deliver to her the torn pieces thereof, the talaq will take effect only if the letter can be read and understood."*

Courts have till now recognized 'triple *talaq*' as an irrevocable divorce, if pronounced in a single birth therefore, it is lawful for a man who has divorced his wife to marry her again after she had followed the procedure of halaalah. It means the she divorced wife may marry another man, who divorced her or died after actual consummation of the marriage.

## CONCLUSION

It brings to the conclusion that the nature of Muslim marriage is purely a civil contract rather a religious sacrament. It can be repudiated or revoked under certain unfortunate circumstances. The institution of marriage is primarily governed by the religious texts like Quran, Hadis and like other etc. There are two legislations which mainly govern the divorce related aspects i.e. The Muslim Personal Law (Shariat) Application Act, 1937, Dissolution of Muslim Marriage Act, 1939 and The Muslim Women (Protection of Right on Divorce) Act 1986 but uncodified law based on customs and traditions prevails so far. The courts are taking a liberal view on the subject of *talaq al-bidah* and effect of triple *talaq* and the courts are inclining towards the view taken by the progressive scholars that the triple pronouncement in a single breath amounts to one divorce. In our opinion the correct law of *talaq* as ordained by holy Quran is that *talaq* must be for a reasonable cause. It must be preceded by an attempt at reconciliation between the husband and wife by two arbiters, one chosen by the wife from her

<sup>21</sup> AIR 1931 MAD 647

<sup>22</sup> AIR 1944 MAD 227

family and the other by the husband and from his family if their attempts fail, *talaq* may be effected. In Islam though divorce is permissible it is detestable, and should be resorted to only in extreme circumstances which is permitted by the irretrievable breakdown theory of the modern world. Because the relationship between the husband and wife is pious and private and as far as possible it may not conducive to bring it outside the home.

## **REFERENCES**

- Aqil Ahmad, Mohammedan Law, Central Agency, 24th Edition, 2013
- Dissolution of Muslim Marriage Act, 1939
- Furqan Ahmed, Triple Talaq: An Analytical Study with Emphasis on Socio-Legal Aspect, Regency Publication, New Delhi, 1994.
- K.N. Ahmad, Muslim Law of Divorce, Kitab Bhawan, 2006.
- The Constitution of India, 1950
- The Muslim Personal Law (Shariat) Application Act, 1937
- The Muslim Women (Protection of Right on Divorce) Act 1986
- R.K. Sinha,, Muslim Law as applied in India, Jain Book Agency, Delhi , 2012(Rep).
- Seema Durray, "Muslim Law of Divorce in India: A legal Reflection", in Imtiaz Ahmad (ed.) Divorce and Remarriage Among Muslim, 397 (Manohar, New Delhi, 2003).
- Manoj Nair, "Two Women recall 'triple Talaq trauma'", Mid Day, July 21, 2004.
- Max Rheinstein, Marriage Stability, Divorce, and the Law, Stanford Law Review, Vol. 26, No. 1 (Nov., 1973), pp. 175-228
- Dealing with Divorce Made Easy- The Essential Hand Book, Roli Books Pvt. Ltd., 2007.