

# Recent Advances in Humanities, Commerce, Management, Engineering, Science & Technology

## Editors

Dr. Walunj Mahadeo  
Dr. A. A. Keste  
Dr. Sharad Karne  
Santosh P. Mane

Dr. Ranjan Kalita  
Dr. Prashant Chavare,  
Dr. Deka R. M



# **Recent Advances in Humanities, Commerce, Management, Engineering, Science & Technology**

## **Editors**

---

**Dr. Walunj Mahadeo**  
Principal  
College of Arts, Bhigwan ,  
Tal. Indapur Dist. Pune

**Dr. Ranjan Kalita**  
Principal  
Rangapara College, Amaribari  
Assam

**Dr. A. A. Keste**  
Principal  
Dattakala Group of  
Institutions  
Faculty of Engineering

**Dr. Prashant Chavare**  
IQAC Co-ordinator  
College of Arts, Bhigwan,  
Maharashtra

**Dr. Sharad Karne**  
Director.  
Dattakala Group of Institutions,  
Maharashtra

**Dr. Deka R. M.**  
Convener  
Vice- Principal  
Rangapara College

**Santosh P. Mane**  
Assistant Professor  
IQAC Coordinator & Head Department of Geography,  
Sameer Gandhi Kala Mahavidyalaya (Commerce & Science College) Malshiras,  
Solapur, Maharashtra, India

---

|                          |  |
|--------------------------|--|
| <b>Title</b>             | : Recent Advances in Humanities, Commerce,<br>Management, Engineering, Science & Technology  |
| <b>Editors Name</b>      | : Dr. Walunj Mahadeo, Dr. Ranjan Kalita,<br>Dr. A. A. Keste, Dr. Prashant Chavare,<br>Dr. Sharad Karne, Dr. Deka R. M., Santosh P. Mane  |
| <b>Publishing Agency</b> | : Jyotikiran Publication, Pune<br>: Santosh Pandurang Mane   |
| <b>Publisher Address</b> | Sr. No. 204, Sahajeevan Society,<br>Bhekrinagar, Hadpsar, Pune-8<br>Mob- 8888454089<br>Email- <a href="mailto:jyotikiranpublicationpune@gmail.com">jyotikiranpublicationpune@gmail.com</a> |
| <b>Printed By</b>        | : Amitsons Digital Copier 106, Paras<br>Chamber, 1st Floor, Above Bank Of<br>India, Near Laxminarayan Theatre,<br>Swargate, Pune- 411009   |
| <b>Edition Details</b>   | : I <sup>st</sup>  |
| <b>ISBN</b>              | : 978-9-39-481914-6  |
| <b>Copyright</b>         | : Dr. Walunj Mahadeo, Dr. Ranjan Kalita,<br>Dr. A. A. Keste, Dr. Prashant Chavare,<br>Dr. Sharad Karne, Dr. Deka R. M., Santosh P. Mane  |
| <b>Publication Date</b>  | : 30/09/2022   |

**CONTENTS**

| <b>Sr. No.</b> | <b>Paper Title</b>   | <b>Page No.</b> |
|----------------|--|-----------------|
| 1              | Theatrical Innovation In Indian English Drama: Reference To Hayavadana By Girish Kaenad<br><b>Prof. D. M Gaikwad</b>   | 1-3             |
| 2              | “Relationship Between Women's Health, Education And Development”<br><b>Rekhaben Atmaram Maheshwari, Dr. Pradeep Prajapati</b>  | 4-6             |
| 3              | Detection Of Stator Inter-Turns Fault Using Discrete Wavelets Transform<br><b>Prof. Bhosale S. S., Prof. Avchat H. S.</b>  | 7-11            |
| 4              | Converter Topology And Dual Input Converter Topology For Renewable Energy Sources: A Review<br><b>Chirag Gupta, Vikas Kumar Aharwal</b>  | 12-15           |
| 5              | Water Pollution And Health Hazards (Reference To Water Borne Diseases)<br><b>Dr. Sangeeta Shukla, Dr. Deepak Shukla</b>  | 16-19           |
| 6              | “ Impact Of Demonetisation On Indian’s Socio - Economic ”<br><b>Vaghela Neela S.</b>   | 20-22           |
| 7              | Illustrating The Marginalization: A Literary Analysis Of Meena Kandhwami’s The Gypsy Goddess<br><b>Jubinarosa S. S</b>   | 23-25           |
| 8              | A Study On Women’s Buying Behaviour And Satisfaction Towards Gold Jewellery<br><b>Dr. R. Jayasathya, Megha. J, Monika. R, Mridula. R</b>   | 26-29           |
| 9              | Impacts Of Technology In Environment<br><b>Mrs. Rini Mercy, Ms. Shree Vaishnavi, Ms. Nidharshanaa Ms. Subiksha L</b>   | 30-33           |
| 10             | A Study On Student’s Levels Of Awareness About Consumer Rights<br><b>Dr. A. Meenakshi, Ms K. S. Harini, Ms. M. Priyanka, Ms. S. Suvetha</b>  | 34-38           |
| 11             | Land Use Change And Agriculture Of 24 Parganas (S): A Case Study<br><b>Madhuchhanda Dhole</b>  | 39-43           |
| 12             | A Theoretical Analysis Of Factors Affecting Bitcoin Price<br><b>Ms. Anshul Agrawal, Dr. Mukta Mani, Dr. Sakshi Varshney</b>  | 44-47           |
| 13             | A Comparative Study Of Personality Factors Of Male And Female Physical Education Students<br><b>Dr. Manohar Mahadeo Mane</b>   | 48-51           |
| 14             | Effect Of Postnatal Exercises On Pulmonary Function And Quality Of Life In Immediate Postpartum Mothers<br><b>Dr. Nensi V. Gandhi, Dr. Jagdish Gohil</b>   | 52-60           |
| 15             | Study Of The Bivalve Resources Of Kali Estuary, Karwar, Karnataka State, India<br><b>Sambhaji H. Bhosale, Rajendra V. Salunkhe</b>   | 61-64           |
| 16             | Achievements Of Indian Politics With Respect To Foreign Policy<br><b>Dr. S. N. Salwade, Mr. Gajanan B. Jadhav</b>  | 65-68           |
| 17             | Different Morphs Of Hood Of Indian Cobra Naja Naja From Tahsil Indapur, Dist. Pune, Maharashtra, India<br><b>Rajendra V. Salunkhe, Sambhajirao H. Bhosale, Sanjay K. Gaikwad</b>                                     | 69-71           |
| 18             | Experimental Investigation On Manufactured Sand Concrete-Filled Steel Tubular Columns<br><b>K. M. Sharma, A.B.Shendge , V.A.Rupnawar, A.D.Gaikwad</b>  | 72-74           |
| 19             | “Unbottling The Future” - Exhaustive Rollout Of A Extensive Quality Management System Of Pilfer-Proof Caps Towards Kaivalya Technologies Puducherry.<br><b>Dr. K. Bhuvanewari, Mr. M. Prasanth</b>                   | 75-78           |
| 20             | Problem Of Salt Intrusion In Agriculture Of Porbandar District<br><b>Kajal D. Khunti</b>   | 79-80           |
| 21             | Green Synthesis And Characterization Of Metallic Nanoparticles Using Caesalpinia Bonducella Extract And Their Invitro Antimicrobial Properties<br><b>Ms. B. Mohanapriya, A.Sri Sarika, M. Snehakala, E. Subitsha</b> | 81-84           |
| 22             | “Impact Of Covid-19 On Agriculture Sector : Case Study Of Kutch”<br><b>Avani Pravin Thakkar, Pradeep Prajapati</b>   | 85-88           |
| 23             | Social Media And Women Empowerment<br><b>Dr. Munde Sanjeevani Dashrathrao</b>  | 89-92           |
| 24             | Pediatric Asthma: causes and treatment<br><b>Dr.U.Srineetha, Dr.D.Veera Nagendra Kumar, Dr.C.Narasimha Rao</b>   | 93-97           |
| 25             | Management of hazardous solid waste in India: A Review<br><b>Hema Digambarrao Makne</b>  | 98-100          |
| 26             | Characteristic Properties Of BU-PPQ<br><b>Dr. Pratima V. Damre</b>   | 101-103         |
| 27             | Sustainability In Process Industries<br><b>Asst. Prof. M. M. Chavan</b>  | 104-106         |
| 28             | Recognition and Diminution of abnormal textual content from video by automatic in-painting<br><b>Prof. Punde Amruta Arun</b>   | 107-112         |

|    |   |         |
|----|---|---------|
| 29 | Impact of the COVID-19 Pandemic on the Service Quality of the Healthcare System<br><b>Anil Kumar Bhardwaj, Dr. Preeti Shukla</b>  | 113-118 |
| 30 | Modern Life Style – Fatal Attraction, Woe to Human Health<br><b>J Venkata Lakshmi, B Vaishnavi, Y Savithri, P Ravi Sekhar, B Sreekanth</b>  | 119-122 |
| 31 | Role of the Mode of Travels in Tourism Development<br><b>Dr. Sandipan Gavhale, Mrs. Deepali Ashok Pathrabe</b>  | 123-124 |
| 32 | Nature And Man-Made Disasters<br><b>Dr. Nithya Ramadass, Ms. S. Jayasri, Ms. S. Amsaleka, Ms. A. Lakshmi Harshitha</b>  | 125-126 |
| 33 | Post Pandemic Recovery of the Tourism Industry in India<br><b>Kiran Pandurang Yemul</b>   | 127-129 |
| 34 | Impact of Stress and Coping Strategies of Allopathic Medical Practitioners<br><b>Shruti N. Sarda, Dr. Radheshyam. D. Sikchi</b>   | 130-132 |
| 35 | Impact of Recent advances of humans on Health and Environment<br><b>Dr. Y. Savithri, Dr. P. Ravi Sekhar, J. Venkata Lakshmi, Dr. B. Sreekanth</b>   | 133-138 |
| 36 | Assessment of Groundwater Quality in the Northeastern part of Sandur Taluk, Ballari District, India.<br><b>Ramesh K, Venkataiah C</b>   | 139-143 |
| 37 | N-List: E-Information Literacy Demo Packages<br><b>Anil Changdeo Bansode</b>  | 144-148 |
| 38 | A Study on Significance of Industrial Training with Special Reference to the Hospitality and Tourism Students<br><b>Dr. Dhanraj Kalgi, Mr. Pranavkumar Shete, Mr. Sarang Mulawekar</b>                        | 149-155 |
| 39 | A Study on the Significance of Academic Research in Hospitality and Tourism Education in India<br><b>Dr. Dhanraj Kalgi, Mrs. Ashwini Talaulikar, Mr. Pralhad Botre</b>  | 156-164 |
| 40 | A Study on the Significance of Work Life Balance of the Employees in the Sector of Hospitality and Tourism<br><b>Dr. Dhanraj Kalgi, Dr. Vijaykumar Dhole, Dr. Akhilesh Kumar Pandey</b>                       | 165-174 |
| 41 | Significance of Faculty Development Programmes on the Development of Proficiency and Competency of Faculty of Hospitality and Tourism<br><b>Dr. Dhanraj Kalgi, Mrs. Asmita Patil, Mrs. Ashwini Talaulikar</b> | 175-183 |
| 42 | To Study the Role of Social Media Marketing on the Hospitality and Tourism industry of India.<br><b>Dr. Dhanraj Kalgi, Dr. Vijaykumar Dhole, Mr. Sandeep Naik</b>   | 184-191 |
| 43 | Oridonin: A Review Of Its Scope In Anticancer Therapy<br><b>Fatema Safri, Sanjay Gaikwad, Rajendra V. Salunkhe</b>  | 192-198 |
| 44 | Performance Of Financial Literacy And Credit Counselling Centres Of Canara Bank<br><b>Ms. Vidya Bhat, Mr. Shrihari Karanth</b>  | 199-202 |
| 45 | Financial Literacy – Glimpse Of Shift<br><b>Kulkarni Bhagyashree, Dr. D. B. Bharati</b>   | 203-205 |
| 46 | The Use Ict Tools In Teaching, Learning And Evaluation<br><b>Dr. Prashant Tanaji Chavare, Prof. Tanaji Sambhaji Deokule</b>   | 206-208 |
| 47 | Emerging Trends and Practices in English Literature<br><b>Dr. Prashant Tanaji Chavare, Dr. Manisha Tanaji Chavare</b>   | 209-211 |
| 48 | Healthy Water for Healthy Life<br><b>Dr. Sunita R. Mukkawar</b>   | 212-216 |
| 49 | A Study Of Reasons And Categories Of Code- Mixing<br><b>Mr. Bapuso. S. Savase, Dr. I. M. Khairdi</b>  | 217-219 |
| 50 | Study Of Three Trace Metals In Some Fishes Of Kali Estuary, Karwar, Karnataka, India<br><b>Sambhaji H. Bhosale, Rajendra V. Salunkhe</b>  | 220-222 |
| 51 | Web Based Library Services In 21st Century For Sustainable Development<br><b>Gaikwad Manisha Khandu</b>   | 223-226 |
| 52 | Institutional Development: To Create Excellence In Education For The 21st Century<br><b>Dr. Anjana Sinha</b>  | 227-230 |
| 53 | Assessing the prevalence of overweight among Yemeni students in Aurangabad, India, using fuzzy C-mean Clustering.<br><b>Ahmed M. AL-Hammadi, Dr Chhaya D. Sonar</b>   | 231-235 |
| 54 | Screening Of Mungbean Genotypes For Resistance Against Leaf Spot Under Field Conditions<br><b>Rahul Singh Raghuvanshi, Subhash Chandra</b>  | 236-238 |
| 55 | A Study Of Motor Fitness Components Of Runners And Swimmers Of Himachal Pardesh State<br><b>Dr. Ajay Kumar</b>  | 239-240 |
| 56 | Effects Of A Noise Pollution And Responsibility Of Every Indian<br><b>Sathe Sandip Vasantrao</b>  | 241-243 |
| 57 | Impact Of Workplace Spirituality On Employee Performance In Superspecialty Hospitals In Bilaspur City<br><b>Devendra Kumar Sinha, Dr. Rahul Sharma</b>  | 244-250 |

|    |   |                             |         |
|----|---|-----------------------------|---------|
| 58 | Video Retrieval Using Textual Queries And Spoken Text | <b>Bere Sachin Sukhadeo</b> | 251-257 |
|----|---|-----------------------------|---------|

**THEATRICAL INNOVATION IN INDIAN ENGLISH DRAMA: REFERENCE  
TO HAYAVADANA BY GIRISH KAENAD**

**Prof. D. M Gaikwad**

Associate Professor, Head of Department English, Shri Pundlik Maharaj Mahavidyalaya  
Nandura (Rly)

**Corresponding Author- Prof. D. M Gaikwad**

**Email : [dadaraogaikwad@gmail.com](mailto:dadaraogaikwad@gmail.com)**

**DOI- 10.5281/zenodo.7264658**

**Abstract:**

*Natyashastra, which was written by Bharata, is the most important work on Indian poetry and drama. It gives a lot of information about different kinds of drama, stage equipment, production, and music, as well as how they were written, put on, and enjoyed. The gods among them, led by Lord Indra, went to God Brahma and asked for something that would not only teach us something but also look and sound nice. Bharata thought that drama came from God and that it was the fifth Veda. Girish Karnad used modern ideas to explain how things worked in old stories. Under the influence of existential alienation, even though there is violence and cruelty, the idea of god and religion is only a sign of a mind that is helpless and neurotic. He updated the technology and used conflicts from the past to show what was going on in politics, religion, and society at the time.*

**Introduction**

The Natyashastra, which is the oldest text about drama theory, is where Indian drama got its start. This play says that the drama has a divine origin and is very close to the sacred Vedas. In the past, all writing was called Sanskrit literature. This literature is divided into Drishya, which can be seen or shown, and Sravya, which can be heard or read. This group includes all kinds of poetry, while the first group includes plays. Drama in Sanskrit literature is called "rupaka," which is a broad term for how actors take on different roles to show how life is in all its different parts. A "rupaka" has ten types, but the most important one is "Nataka," which means "drama." This has come to mean all dramatic presentations. The three main parts of a Sanskrit drama are the Vastu (the plot), the Neta (the hero), and the Rasa (sentiment). The plot could be either the main thing (adhikarika) or something else (prasangika).

In the style of Natyashastra, the drama uses the eight basic emotions of love, joy, laughter, anger, sadness, pride, fear, aversion, and wonder to try to bring about a ninth, more complete emotion: peace. So, once the art of drama was well understood, the Natyaveda was put on to celebrate Lord Indra's victory over the Asuras and danavas. As an example, in the sixth chapter of the

Natyashastra, there is a verse that can be used to explain Bharata Muni's theory of drama. Kalidasa, who is often called the "Shakespeare of India," is the best example of Indian drama. Sanskrit drama was at its best in India until the 12th century, when the arrival of Muslims changed the Sanskrit stage.

**Innovations in Indian Drama:**

When the British Empire got stronger in India in the 18th century, the modern drama began to grow. Krishna Kriplani says, "The foreign grafting gave the modern Indian drama its first flowering." The influence of western culture on Indian life led to a new renaissance in Indian arts, such as drama. Also, learning English sped up and gave momentum to the critical study of both Western and Indian classical drama. English and Italian theatre groups came to India and put on plays, mostly by Shakespeare, in cities like Bombay and Madras. The Portuguese brought to the west coast a type of dance drama. At the end of the 18th century, a Russian music director named Rebedoff is said to have put on the first modern play in Calcutta. So, the western influence woke up the country's dormant, critical side, exposing Indians to new ways of living and writing and making it possible for ideas and ways of expressing yourself to mix and grow. Bharatendu Harishchandra, who is known as

the father of Hindi drama, also wrote plays that helped the growth of amateur theatre. The first Indian English drama was written by Krishna Mohan Banerji in 1837. It was called *The Persecuted*. The real journey of Indian English Drama begins with Michael Madhusudan Dutt's "Is this called civilisation," which came out in 1871. People consider Rabindranath Tagore and Sri Aurobindo to be the first Indian playwrights to write in English. Most of what Rabindranath Tagore wrote was in Bengali, but almost all of his Bengali plays can be read in English. His most famous plays are *Chitra*, *The Post Office*, *Sacrifice*, *Red Olenders*, *Chandalika*, *Muktadhara*, *Natir Puja*, *The King of the Dark Chamber*, *The Cycle of Spring*, *Sanyasi*, and *The Mother's Prayer*, among others. In terms of themes, characters, and style, these plays are deeply rooted in Indian culture.

R.K. Ramaswamy loves his dramatic art more than anything else because of the depth and weight of his plays. He showed the way, both in terms of ideas and ways of doing things, so that the soul of India could be brought to life and shown in the world of making and showing drama. The second well-known dramatist in Indian English is Sri Aurobindo. He also wrote six unfinished black verse plays and five complete ones. *Perseus the Deliverer*, *Vasavadutta*,

*Rodoguna*, *The Viziers of Bassora*, and *Eric* are all of his complete plays. Each of these plays has five acts. *The Witch of Ilni*, *Achab and Esarhaddon*, *The Maid and the Mill*, *The House of Brut*, *The Birth of Sin*, and *Prince of Edur* are all plays that he never finished. The characters, moods, and feelings in Sri Aurobindo's plays come from many different places and times and come from many different cultures. In fact, this is one of the most interesting things about Sri Aurobindo's plays. For example, *Perseus the Deliverer* is based on the ancient Greek myth of *Perseus*. *Vasavadutta* is a romantic story from ancient India. *Rodoguna* is a Syrian romance set in Scandinavia about the love and war between the children of *Odin* and *Thor*. In Aurobindo's plays, readers can see all the shades and types of drama, as well as basic ideas like romance, heroism, tragedy,

comedy, and farce, that we expect to see in Indian English plays. Dr.K.R.S. Iyengar says, "But all five plays are steeped in poetry romance, calling to mind the spirit and flavour of the unique dramatic type shown by Bhasa, Kalidas, and Bhavabhuti in different ways." As a modern playwright, he has to find a way to use the incomparable and inexplicable. This means he has to figure out how to use characters, organise events, and show them in a dramatic way. In order to make the form he wants, he looks at tools from his own country as well as those from the west.

He takes risks with both folk and classical instruments. The supernatural elements of *sutradhara* or *bhagavata*, such as *play-within-the-play*, masks, mime, songs, and half-curtains, are combined with modern tools like light and sound. Because he tries out traditional techniques, he is sometimes similar to traditional Karnataka theatre and sometimes similar to Brecht in that he breaks the illusion of theatre and tries to get people to think rather than feel. Karnad is very similar to modern playwrights like Bernard Shaw in that he uses a prologue and an epilogue. Tradition is important to Karnad in more ways than just the themes he chooses. Even in his technique, his connection to tradition is clear. On the canvas of mythology, he draws the outline of modern life. Irony and things that don't make sense are introduced in the prologue itself. In the beginning, *Parvasu*, *Arvasu*, and *Nittilai*, the king, the actor, and *Nittilai's* brother, are shown. In the prologue, there is a lot of talk about fair sacrifice versus theatre, which is an important theme in the play. When we put the prologue and the epilogue together, we get a new story that has more meaning because it is connected to the rest of the play.

In this way, Hayavadana is an interesting experiment in combining traditional and modern theatre techniques. For example, the fire and the rain is a great example of how music, light, and masks can work well together. After *Parvasu* lets the theatre group put on a play in the prologue, *Arvasu* is seen wearing a mask. The actor manager and his brother with a limp are

joined by two women who will play music. The stage goes dark as soon as the actor manager starts singing the benedictory verse, leaving only Arvasu in a "pool of light." When the scene with Arvasu, Nittilai, and Andhika is over, the stage goes dark again to make a contrast. Now, a light comes on in a different part of the stage, which is supposed to be the hermitage of Raibya. Vishakha is seen putting water in a pot. Vishakha and Yavakri's long scene, in which he woos her while standing in her way, is also played out in the light. But when Raibya calls for Brahaman-Rakshasa and he runs toward Yavakri, the lights start to go out. When the Brahaman-Rakshasa kills Yavakri and Andhika cries over her dead body, the stage is completely dark. When the epilogue begins and Arvasu puts on the mask, drums can be heard in the background. In the same way, light and music are sometimes used together. Before Indra comes on stage, there is beautiful music and "soft and gentle light."

This careful use of light and dark makes a big difference on stage. Modern tools like the sound-light effect and music are still very important to a playwright. The show Yayati starts with the stage slowly getting brighter. As the night starts to get lighter, slow music plays in the background and gets louder over time. Before Sutradhara shows up, the music plays for two minutes. As he raises his hands to tell the audience who he is and what will happen in the story, the music starts to slow down and stops. Before he leaves the stage at the end of his speech, the stage slowly gets darker. Again, it gets gradually brighter, and Devyani is seen sitting on a bed with Swarnalata by her bedpost.

### **Conclusion**

So, the use of light does more than just change the scene; it also makes the over better. His play Hayavadana is known for its use of light, mime, freezing, and quick scene changes. At the beginning of the play, it is night, and the moonlight comes in through cracks in the walls and roof. Mime is always used to show someone taking a bath. The use of the spectacular is something that makes karnad's plays stand out. Spectacle refers to all the things that can be seen, like the set,

lighting, costumes, make-up, and the way the action moves. If the father's youth and the son's old age are a major spectacle in Yayati, then Appanna's double role in Nagamandala, Devadatta and Kapila killing each other and then coming back to life in Hayavadana, Bijjala's death scene in Tale-Danda, and the play-within-the-play in the fire and the rain are also spectacles.

### **References:**

1. M K Naik, The Development of Indian Drama in English, DSP Publishing House, 1986.
2. Bhatta, S. Krishnan, Indian English Drama: A Critical Study, New Delhi: Sterling, 1987.
3. Geeta Sharma, "Man of Many Parts", in Graphti, 1998. Joshipura, Pranav. "Tale-Danda: A Problem Play" *Indian English Drama: Critical Perspectives*. Eds. Dondiya & Sunderan. New Delhi: Sarup & Sons, 2000.
4. Karnad, Girish. "Author's Introduction" Three Plays: Naga- Mandala, Hayavadana, Tughlaq. (Eighth impression) New Delhi: Oxford University Press, 2002.
5. Samskrati S, Gulvady, "Playing with the Past". The Deccan Herald, 8 August 1992.

**“RELATIONSHIP BETWEEN WOMEN'S HEALTH, EDUCATION AND  
DEVELOPMENT”**

**Rekhaben Atmaram Maheshwari<sup>1</sup> Dr. Pradeep Prajapati<sup>2</sup>**

<sup>1</sup>Research Scholars

<sup>2</sup>Guide

**Corresponding Author- Rekhaben Atmaram Maheshwari**

Email- [rekhadhua92@gmail.com](mailto:rekhadhua92@gmail.com)

DOI- 10.5281/zenodo.7264661

**Abstract:**

*This present study was in the context of women's health and education. The study examined women's education and women's health. Education plays an important role in health. Health can be maintained through education. If a woman is given education, she will be able to take good care of herself as well as every member of the household. She can get the knowledge about healthy life with the help of education. If she herself is healthy, then she will be able to do anything, take care of his child. She can get information about what is good for children, elders and every member of the family also what food to eat, how much to eat, what the body needs and what it doesn't need through studies. Thus, education becomes essential for building a healthy society. When women are healthy, the country will be healthy.*

**Key words:** *Education, Health, Development, Awareness, Sanitation, Nutrition, Ideas*

**Introduction:**

In ancient times women were not given education, so that women get education some people advocated to give education to women and thus the scope of education increased with time, thus gradually women got education. By taking education, they have become aware and are contributing to development by becoming aware. Through the medium of education, they have also become aware of their health. It is necessary for us to be healthy for the good development of the country. And for that education becomes necessary.

**Health:**

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

**Education:**

Education is a lifelong process. According to which human being keep learning something. Awareness comes through education.

**Development:**

“Equal and equitable sharing of the benefits resulting from economic growth in terms of development.” According to Hemankshi Rao (2009:36:37) if development is seen in a broad sense in the above definition, it includes not one sector but all sectors. It includes income, health, education, value etc.

**Purpose of Study:**

To examine the role of women's education in the development of the country.

To examine the role of women's health in the development of the country.

**Review of literature:**

According to an article, women's literacy is a major contribution to India's development. As female literacy has increased, India has progressed towards development. Female literacy has not only boosted girl-child education but also boosted the health and overall development of children. Infant mortality rate is also decreasing due to female literacy. And population control is also getting a boost. Awareness is needed for equality between men and women.

According to one article “**Health Literacy and Women's Health: Challenges and Opportunities**” Health literacy is a complex issue that affects many women and can adversely affect women's knowledge, ability to adhere to clinical plans of care, and health outcomes for women and their children. It is estimated that 36% of adults in the United States possess limited health literacy skills. Effective strategies can be used by health care providers to address this serious problem, including clear and effective communication, development of health education materials, professional education, and development of community partnerships.

According to one article “Towards a framework for women's health” The health of women involves their emotional, social, cultural, spiritual and physical well-being and is influenced by social, political and economic factors, as well as by a woman's biology. This definition of women's health provides the conceptual framework for a relevant and effective approach to patient education, health promotion and disease prevention activities in women. Such activities must focus not only on diseases that are more common, more prevalent or more serious in women, but also on priority health issues identified by women themselves, the diversity of women, the determinants of health and above all, the impact of gender on health. These programs must also be based on knowledge resulting from gender sensitive, bias-free health research. The traditional oppression and disempowerment of women must also be addressed at both personal

**The relationship between education, health and development:**

Today, the rate of education is constantly increasing, but in some rural areas, women are not given education, there are many reasons behind it, like because there is no school in one village, another village is not allowed to go to school, do not put If the school does not have a bathroom facility, it should not be placed in the school. Due to poverty, young girls are sent to the workplace, while parents go to work somewhere, then they have to stay at home to take care of their younger brothers and sisters and the household. Due to many such reasons, women are deprived of education.

Educated women are more health conscious. Because she is educated about health. She knows what is necessary for health, what should be eaten and what should not be eaten, what kind of food to eat, how much water to drink, what vitamins the body needs. Educated women can understand illness. If she gets sick, she takes precautionary measures quickly. So it can eradicate the disease quickly. If she is healthy, she will be able to take good care of every member of the household. A large proportion of anemia is observed in women due to lack of menstrual and nutritional

information. Due to which she gets tired soon and feels weak throughout the day due to which she experiences difficulty in daily life. In which one often has to face many difficulties even at home, often there are quarrels in the work matters at this time at home, while women need rest during this time. Even today sanitary pads are not used in many parts of India, cloth is still used due to which infection occurs. As a result Pelvic inflammatory disease and urinary tract infection occurs. If a woman is educated then she will be more conscious about her health. And will be able to know what is necessary for their health. Being healthy is a personal achievement for everyone. Human beings are a resource for economic development, including women. If she is sick, it will directly affect her family. A large portion of income will go to the hospital for medicine, as a result of which the need cannot be met due to low income.

Ill health can be a form of income loss for poor families living on daily incomes. which leads such families to hunger and malnutrition and increases the family's debt burden and ultimately results in the sale of their assets. Improvements or enhancements generally increase the productivity of workers. A healthy worker can work more efficiently and increase family income as well as gross national product. For good health, it is necessary to have a nutritious diet.

If a woman does not get a nutritious diet, her child will be born malnourished due to nutritional deficiency. Children are the wealth of our country. So it is necessary that the mother should be healthy to keep the child healthy. Many diseases are caused due to lack of nutrition. A healthy woman can contribute well to the development of the country. Along with education, health also plays an important role in the development of a country. Along with physical health, mental health is also necessary in building a healthy country. Mental health and physical health are interdependent. If she is physically healthy and not mentally healthy, she will not be able to perform any work well. If she is mentally disturbed, its direct effect will be seen on her health.

Women are deprived of their right to health due to discrimination against them

since birth. Due to the practice of child marriage, girls go through pregnancy before their bodies are mature. Due to which one has to face a dangerous sleep. Which is dangerous for their child and them selves. Even today, the main duty of women in our society is to give birth to children and raise them. Due to this, even in your government health services special emphasis is given on mother and child health. According to a World Bank report, the burden of disease in India is higher on women than on men. Most of the pregnant women are deficient in protein, iron and calories.

Many women are afraid of getting enough food while the baby is in the womb due to lack of knowledge. They are afraid that a heavy baby will disturb the bed. Health plays an important part for the development of a country and if women understand health well If given education, one can take better care of it Economic development and personal development leads to women getting education. There are strong links between women's education and health. According to Earth Trends, between 1975 and 1995, women's education contributed significantly to the reduction of malnutrition in 63 different countries. Better education for women also has a direct (positive) effect on HIV infection rates.

**Conclusion:**

A happy life is a sign of good health. If women is not healthy then no work can be

done well, so it is necessary to become healthy. For health to be healthy, it becomes necessary that we get education and through this means we understand health well, so that we stay healthy and build a healthy country. Health is the key to life success. In order to achieve anything in life, every person must be completely healthy. Work cannot be done without health and without work the necessities of life such as nutritious food, proper shelter, medicine and many other important things required for living cannot be obtained. Thus there is a direct relationship between a happy life and health.

**Reference:**

1. <https://www.medicalnewstoday.com/articles/150999>
2. <https://globalvolunteers.org/global-role-of-women/>
3. <https://www.pravakta.com/contribution-of-women-in-nation-building/>
4. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jmwh.12018>
5. <https://www.sciencedirect.com/science/article/abs/pii/S0738399198000184>
6. <http://www.mediaforrights.org/women-rights/hindi-articles/255->
7. <https://gu.vikaspedia.in/health>
8. <https://developmenteducation.ie/feature/women-development/>
9. <https://www.sciencedirect.com/science/article/abs/pii/S0738399198000184>

## DETECTION OF STATOR INTER-TURNS FAULT USING DISCRETE WAVELETS TRANSFORM

Prof. Bhosale S. S.<sup>1</sup> Prof. Avchat H. S.<sup>2</sup>

<sup>1</sup>Assistant Professor, Electrical Engineering Department Dattakala Group of Institutions, Pune, India

<sup>2</sup>Assistant Professor, Electrical Engineering Department Dattakala Group of Institutions, Pune India

**Corresponding Author- Prof. Bhosale S. S**

Email d: [bhosales.foe@dattakala.edu.in](mailto:bhosales.foe@dattakala.edu.in)

DOI- 10.5281/zenodo.7264669

### **Abstract**

*the goal of this article is to describe detecting stator faults in induction machines in the presence of stator inter-turn short circuit, both of which are effective solutions for the diagnosis of defects. They are based on the signature analysis of the stator current performed by the fast Fourier transform (FFT) in the stationary regime and the analysis performed by the discrete wavelet transform (DWT) in the no stationary regime. The proposed technique compares the current in healthy and faulty condition to produce accurate results. The proposed technique uses discrete Fourier transform for signal processing and produces more accurate results as compared to traditional waveform analysis technique.*

**Keywords:** *Induction motor, inter-turns short circuit, discrete wavelet transform*

### **Introduction**

Induction machines were created specifically for electric drives and play a major part in production. Early detection of ITSC problems can prevent serious faults that could result in the stator core being destroyed. Shorted turns can be rewound and machine failure avoided if they are found early enough before the insulation fails. Rewinding a motor is usually faster than replacing the machine. On-line motor condition monitoring records the machine's operational characteristics so that its present state can be determined. The monitored signal's changes and trends can be utilized to predict the need for maintenance before a failure or substantial deterioration occurs. As a result, on-line status monitoring approaches for electrical equipment, namely transformers, generators, and induction motors in power plants, are gaining popularity. Several approaches for diagnosing induction motor faults have been developed in recent decades. The Park's vector approach is one of the easiest approaches for predicting the motor state and detecting the presence of a malfunction by monitoring the deviation of the current Park's vector. The creation of optimal control techniques for induction motors has advanced significantly over the last three decades. When a malfunction occurs, however, established algorithms

become inefficient and potentially hazardous to the environment, necessitating industrials to develop predictive maintenance of induction machines. Many proposed methodologies in the literature are based on spectrum analysis of stator currents, voltage, and electromagnetic torque.

A novel model has recently been suggested that enables for the diagnosis of stator failures in induction machines operating at different speeds. With this extremely simple model, a single short circuit element can be used to describe the defect in one phase. On the other hand, it is ineffective when multiple stator phases have defects at the same time. As a result, in this study, we suggest a generalization of this model using a separate short circuit element for each phase. Each short-circuit element permits the identification and localization of inter turn short circuits in the appropriate phase in the presence of defects in many phases. The Output-Error technique was used to identify the parameters of this model, which was combined with suitable physical knowledge to perform parameter estimate for diagnosis purposes. To replicate actual inter turn short-circuit at multiple levels, a customized 1.1 KW squirrel cage induction motor was conceived and built. The experimental results show a high level of agreement, indicating that stator defects may be diagnosed.

The suggested system can detect four types of motor problems and analyse an induction motor's failure state. In this project, a new fault finding technique is used to diagnose and detect stator and rotor problems in induction machines in the presence of a broken bar fault at the rotor level and a stator inter-turn short circuit using two techniques, which is an effective solution for defect diagnosis. They are based on the fast Fourier transform (FFT) in regime stationary and the discrete wavelet transform analysis of the stator current signature (DWT).

**Literature Survey**

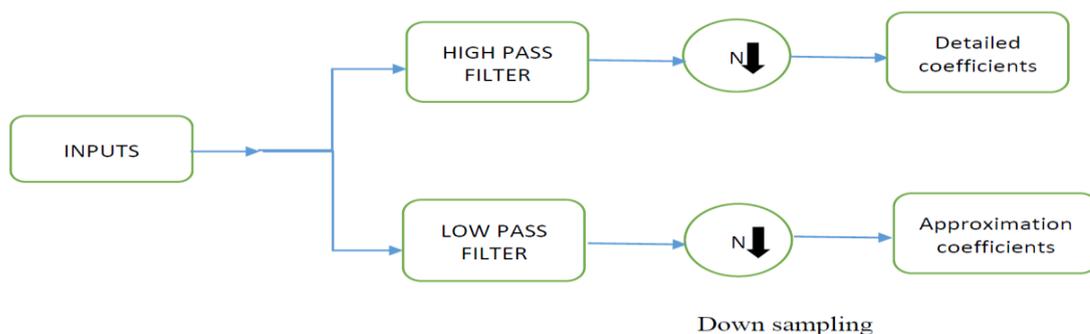
This research proposes an online induction motor diagnosis system that employs motor current signature analysis (MCSA) and custom signal-and-data-processing algorithms. MCSA is a stator-current signal-based approach for motor diagnosis. The suggested system detects four types of problems in induction motors: rotor bar and end ring breaking, stator winding short-circuits, bearing cracks, and air-gap eccentricity. Although MCSA is one of the most powerful online methods for diagnosing motor defects, it has significant flaws that diminish a motor-diagnosis system's performance and accuracy. As a result, advanced signal-processing and data-processing techniques are proposed. For achieving MCSA efficiently, they are made up of an optimal-slip-estimation method, a proper-sample-selection strategy, and a frequency auto search algorithm. The suggested system can detect four types of

motor problems and analyse an induction motor's failure state.

The main goal of this research is to describe a discrete wavelet transform (DWT) that may be used to identify stator inter-turn defects in three induction motors. This method is based on the examination of stator current in both normal and abnormal situations. It was feasible to resolve the problem of confusion between the sorts of defects above the short-circuit defect by using the energy stored in each decomposition generated by wavelet analysis. The discrete wavelet transform is used to diagnose faults in induction machines in this paper. The wavelet decomposition can be used to derive information about a system's health from a signal over a wide range of frequencies. This investigation is carried out in both the temporal and frequency domains. For the stator current analysis, the Daubechies wavelet is chosen. Wavelet components tend to be effective in identifying a variety of electrical issues. We shall look at the issue of damaged rotor bars, end-ring segment, and stator phase loss during operation in this paper.

**Proposed Methodology**

The neural network is then fed the down sampled values, and the detailed and approximation coefficients are calculated. When the samples are allowed to pass through the high pass and low pass filters, detailed coefficients and approximation coefficients are obtained, as illustrated



in Fig 1.

Fig 1: Block diagram of discrete wavelet transforms (DWT)

A fast Fourier transform (FFT) is an algorithm that computes the discrete Fourier transform (DFT) of a sequence, or its inverse (IDFT). Fourier analysis converts a

signal from its original domain (often time or space) to a representation in the frequency domain and vice versa. The DFT is obtained by decomposing a sequence of values into

components of different frequencies. This operation is useful in many fields, but computing it directly from the definition is often too slow to be practical. An FFT rapidly computes such transformations.

**Mathematical Modelling**

Fig 1, Where  $N=2$  which specify the down sampling of the coefficients, Block diagram of discrete wavelet transform (DWT) As in the pyramid algorithm proposed by Mallat , the DWT coefficients at an arbitrary level  $j$  can be computed from the DWT coefficients of its previous level  $j+1$ , which is expressed as follows :

$$c_j(k) = \sum h_0(m-2k) c_{j+1}(m) \tag{1}$$

$$d_j(k) = \sum h_1(m-2k) c_{j+1}(m) \tag{2}$$

Where  $c_j$  and  $d_j$  are the scaling coefficient and the wavelet coefficient of level  $j$  respectively, whereas  $h_0(n)$  and  $h_1(n)$  are the dilation coefficients corresponding to the scaling and wavelet functions respectively. The dilation

**Simulation Results**

coefficients  $h_0(n)$  and  $h_1(n)$  are also the coefficients of a low pass and a high pass filter respectively. As a result, the scaling and wavelet coefficients at level  $j$  are obtained by filtering the scaling coefficients at level  $j+1$  using an analysis quadrature mirror filter bank (QMF). Scaling coefficients at level  $j+1$  is obtained by combining the scaling and wavelet coefficients at level  $j$ :

$$c_{j+1}(k) = \sum c_j(m) h_0'(k-2m) + \sum d_j(m) h_1'(k-2m) \tag{3}$$

Each level of the 2-D DWT operation requires two stages of 1-D DWT operations. First, 1-D DWT is performed on the row data, producing high pass and low pass outputs. A second stage 1-D DWT is executed on the columns of the high pass and low passes outputs of the first stage to obtain four sub-images. Further decomposition can be made on the sub-image in a similar way. In this way, an image is decomposed into a set of sub-images with various resolutions corresponding to the different scales.

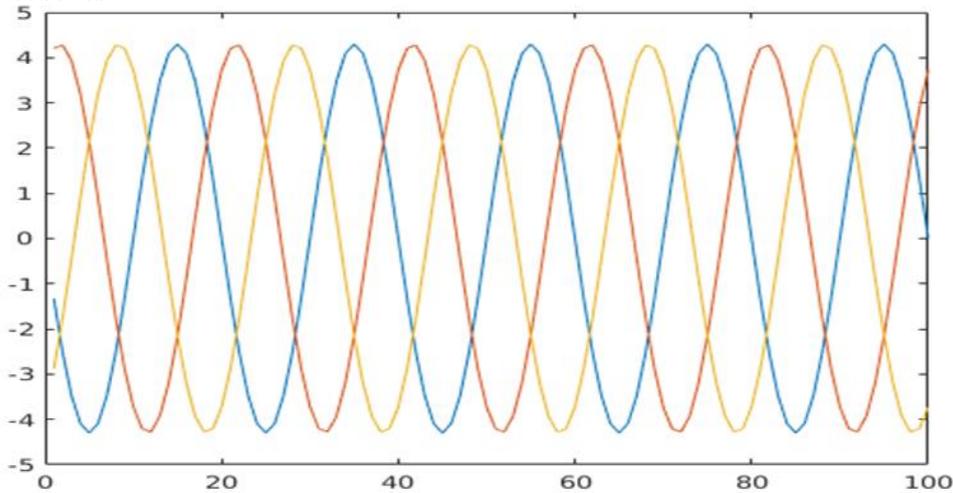


Fig.5.1. shows stator current under healthy condition.

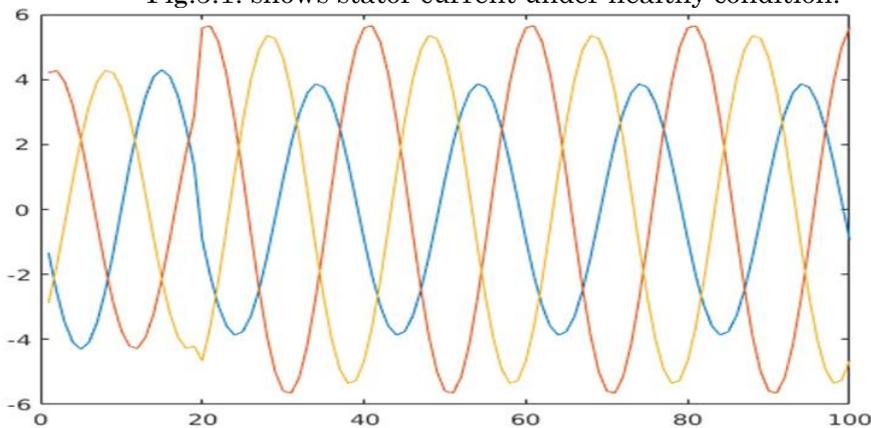


Fig 5.2 shows stator current under fault condition, 3 turns shorted.

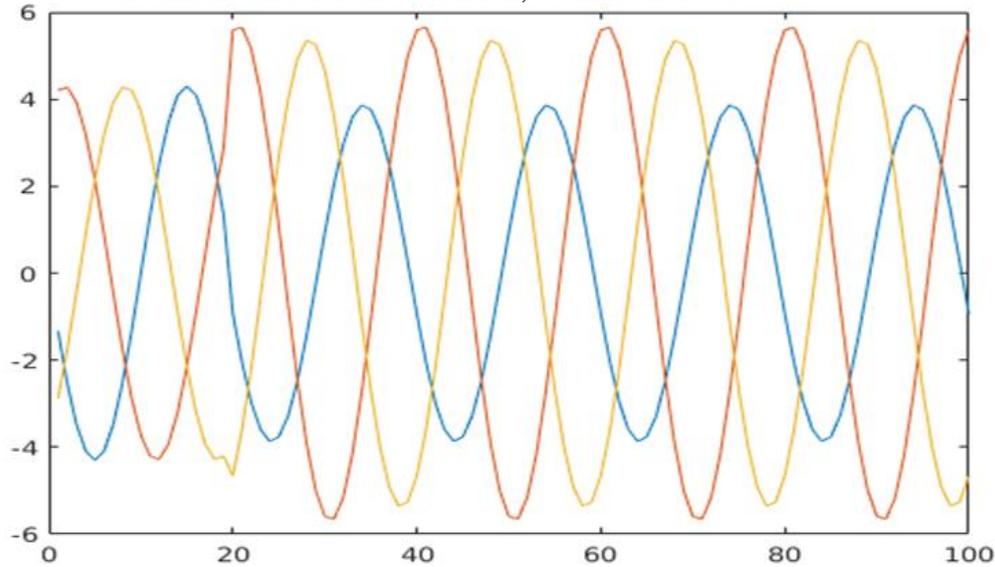


Fig 5.3. shows stator current under fault condition, 10 turns shorted.

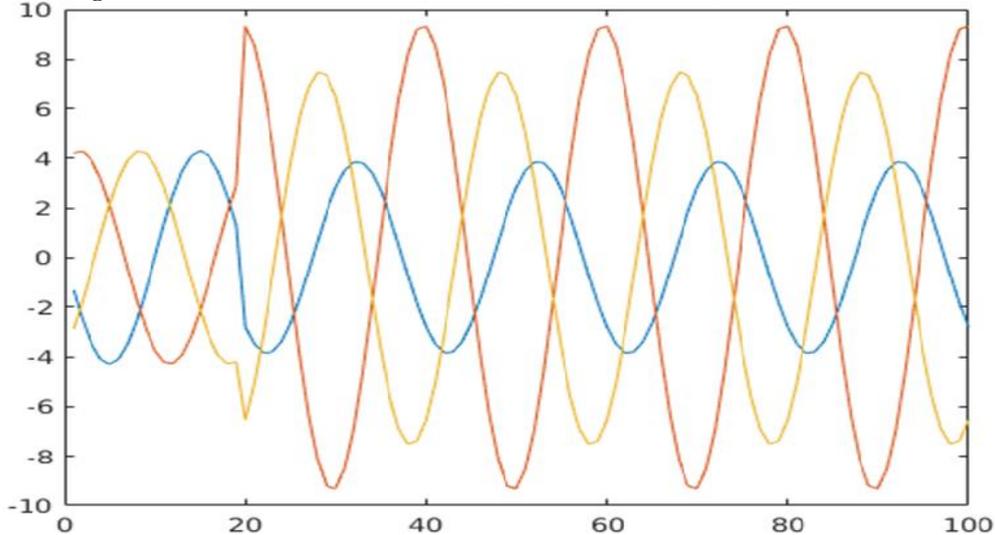


Fig.5.4. shows stator current under fault condition, 30 turns shorted.

### **Conclusion**

We may say the following things after examining all of the chapters addressed in the report and comparing the simulation results: A new approach of fault detection and control for induction motors was presented in this paper. This method can identify, this work shows a performance of the approach used for the inter turns short circuit faults at the non-stationary state in induction motor. The detection is based on using the discrete wavelet decomposition method for the stator current. The results show the effectiveness of the proposed method for this kind of fault. From obtained result it is evident that, project demonstrated on a simulation

platform could be used for industrial application. This approach is mainly developed to inter turn faults of the stator in rotating condition. The work is accomplished with the help of discrete wavelet transform. Obtained results shows effectiveness of the simulated system for early fault detection. The proposed approach is appropriate for induction motor safety-critical applications because it keeps the system functioning even when catastrophic failures occur.

### **References**

1. Thomson WT, Rankin D. Case histories of rotor winding fault diagnosis in induction motors. Proceedings of the 2nd International Conference on Condition

- Monitoring, University of Swansea 1987; 798–819.
2. Manolas SJ. Analysis of squirrel cage induction motors with broken bars and rings. *IEEE Transactions on Energy Conversion* 1999; 14:1300–1305. DOI: 10.1109/60.815063
  3. Joksimovic GM, Penman J. The detection of inter turn short circuits in the stator windings of operating motors. *IEEE Transactions on Industrial Electronics* 2000; 47:1078–1084.
  4. Chen S, Zivanovic R. A novel high-resolution technique for induction machine broken bar detection. *AUPEC'07, Perth, Australia, 9–12 December 2007*; 1–5. DOI: 10.1109/AUPEC.2007.4548040.
  5. Bangura JF, Demerdash NA. Diagnosis and characterization of effects of broken bars and connectors in squirrel-cage induction motors by a time-stepping coupled finite element-state space modeling approach. *IEEE Transactions on Energy Conversion* 1999; 14:1167–1176. DOI: 10.1109/60.815043
  6. Jiang J, Cai Z. Study of the large induction motor modeling to simulate squirrel cage broken bars and rings based on atp. *Proceedings 6th International Conference Advances in Power System Control, Operation and Management, APSCOM 2003; Hong Kong, 2003*; 210–214.
  7. Toliyat HA, Lipo TA. Transient analysis of cage induction machines under stator, rotor bar and end ring faults. *IEEE Transactions on Energy Conversion* 1995; 10:241–247. DOI: 10.1109/60.391888
  8. Munoz AR, Lipo TA. Complex vector model of the squirrel-cage induction machine including instantaneous rotor bar currents. *IEEE Transactions on Industry Applications* 1999; 35:1332–1340. DOI: 10.1109/28.806047
  9. Liang B, Ball AD, Iwnicki SD. Simulation and fault detection of three-phase induction motors. *Proceedings TENCON'02 IEEE* 2002; 3:1813–1817. DOI: 10.1109/TENCON.2002.1182688
  10. Benbouzid MEH. A review of induction motors signature analysis as a medium for faults detection. *IEEE Transactions on Industrial Electronics* 2000; 47:984–993. DOI: 10.1109/41.873206
  11. Marple SL. A tutorial overview of modern spectral estimation. *International Conference on Acoustics, Speech and Signal Processing (ICASSP)* 1989; 4: 2152– 2157. DOI: 10.1109/ICASSP.1989.266889
  12. Thomson WT, Fenger M. Current signature analysis to detect induction motor faults. *Industry Application Magazine, IEEE* 2001; 7:26–34. DOI: 10.1109/2943.930988
  13. Hargis C, Gaydon BG, Kamash K. The detection of rotor defects in induction motors. *Proceedings of IEEE Conference on Electrical Machines Design and Application* 1982; 216–220.
  14. Sen PC. *Principles of Electric Machines and Power Electronics*. John Wiley and Sons: New York, 1989.

## CONVERTER TOPOLOGY AND DUAL INPUT CONVERTER TOPOLOGY FOR RENEWABLE ENERGY SOURCES: A REVIEW

Chirag Gupta<sup>1</sup>, Vikas Kumar Aharwal<sup>2</sup>

<sup>1,2</sup>Dr. A.P.J. Abdul Kalam University, Indore, India

**Corresponding Author- Chirag Gupta**

Email- [cgupta.011@gmail.com](mailto:cgupta.011@gmail.com)

DOI- 10.5281/zenodo.7264673

### **Abstract:**

*This paper presents review of power generation systems suitable for remote places. Hybrid power systems are required for generating in rural locations. The system is made up of various combinations of battery-powered energy storage units and renewable energy sources like solar and wind (BES). The various models have been developed to offer hybrid renewable energy systems with high-quality power. According to numerous writers, diverse renewable and alternative energy sources, energy storage, and their relevance in terms of performance and total harmonic distortion for various inverters are all discussed. A renewable or alternative energy source is suggested as a replacement for traditional energy sources and as a workable option for the distribution of electricity for stand-alone applications at remote and far-off sites based on the simulation findings that have been published. In order to enhance the harmonic profile of the load voltage and current on the load side, the multilayer inverter will also replace the standard inverter.*

**Keywords:** Hybrid Energy system (HES); Battery Storage system (BES); Power quantity; THD.

### **Introduction**

There is a need to look for an alternate source of power generation due to the rise in electrical energy demand as the supply of traditional energy sources is beginning to run out. The concept of renewable energy sources, such as solar, wind, and hydropower, among others, is the answer to this issue [1]. Problems with stability, reliability, and power quality are brought on by the growing usage of renewable energy sources (RES) and the sporadic nature of the electricity they produce. Electricity generation and transmission will shift from a relatively small number of large, traditional generation facilities to more varied and distributed facilities.

When many energy conversion devices are utilized in tandem to meet an energy need, it is referred to as a hybrid energy system. These systems typically have at least one renewable energy source in their setup and are frequently employed in isolated applications [2]. Alternatives to more traditional systems, which are often based on a single fossil fuel source, include hybrid energy systems. In the traditional electrical grid, distributed generation applications utilizing hybrid energy systems are also possible.

When combined, two or more energy conversion devices (such as electricity generators or storage devices) or two or more

fuels for the same equipment can overcome any inherent restrictions. This definition is helpful since it covers a wide range of scenarios and the crucial aspect of energy conversion diversity. There is now a substantial interest in combined or "hybrid" energy systems. This phrase refers to a situation in which a number of energy conversion devices are combined to meet a need for energy [3]. Performance of the system can be enhanced by the intermittent nature of many renewable energy sources (such as wind, solar, and ocean wave energy), hybrid combinations of two or more of their applicable power generating technologies, together with storage and/or alternative energy power generation.

The functioning of a photovoltaic (PV) system with a safe and dependable grid link relies heavily on inverter technology [4]. It is also necessary to produce high-quality electricity for AC utility systems at an affordable price. High efficiency conversion with enhanced power factor and low harmonic distortion power can be produced by using high frequency switching of semiconductor devices with (PWM) Pulse Width Modulation technologies.

### **Literature Survey**

The MLI is preferred for high and medium power applications because it can provide high-quality voltage waveforms with low

switching frequency operation [5]. Power supply (PSs), renewable energy systems (RESs), such as photovoltaic (PV) systems, wind energy conversion systems (WECS), and fuel cells (FC), electric vehicles (EV), induction heating (IH), and countless other industries have all made extensive use of MLIs. In grid-connected systems, many MLI topologies have been combined with RESs to add the electricity produced by the RESs to the grid [6].

Multilevel converter topologies are classified into following three categories:

- 1 Multilevel configuration with diode clamps;

- 2 Multilevel configuration with flying capacitors;
- 3 Multilevel configuration with cascaded single-phase H-bridge inverters.

Multilevel inverters can be modulated and controlled using a variety of methods. The reduction of harmonic content is the goal of modulation techniques. This study examines various solo and hybrid renewable energy system models, reporting and analysing their performance. Following a performance analysis, the effectiveness of each Simulink model is examined based on the various results. The reported work in this area is shown in Table 1.

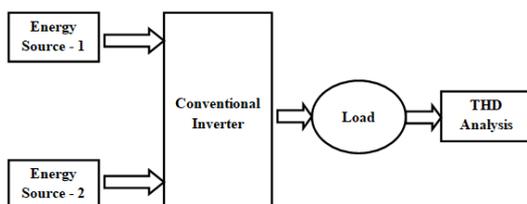
**Table 1- A comparison of recent MLIs for different combination of energy sources reported in literature**

| Reference | Energy Sources | Inverter Type                                | No. of Switches | Voltage Levels | Load Current THD |
|-----------|----------------|--|-----------------|----------------|------------------|
| [7]       | PV and Wind    | Conventional                                 | 4               | 3              | 23.1%            |
| [8]       | PV alone       | Voltage Level Boost (VLB) MLI                | 10              | 15             | 5.54%            |
| [9]       | PV, Fuel Cell  | Cascaded Multilevel Inverter (CHB)           | 11              | 5              | 4.61%            |
| [10]      | PV, Wind       | Diode Clamped Multilevel Inverter            | 6               | 5              | 2.5%             |
| [11]      | PV alone       | Cascade H Bridge Multilevel Inverter         | 8               | 5              | 3.2%             |
| [12]      | PV alone       | Modified Cascade Multilevel Inverter         | 6               | 7              | 3.1%             |
| [13]      | PV, Hydrogen   | Modular Cascade H bridge Multilevel Inverter | 12              | 7              | 4.2%             |

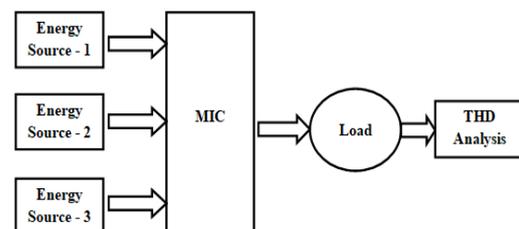
### Proposed System

The multilayer inverter may eventually replace the standard inverter, according to the literature review. Only a few number of multilayer inverters are mentioned in the literature to be created for hybrid energy systems. The multilevel inverter must be designed for the hybrid energy system as

well, and the THD analysis must be compared to that of the conventional inverter. The suggested system, as depicted in figure 2, is made up of three distinct energy systems. The three various energy sources can all be accommodated by the multilayer inverter.



**Figure-1 Block Diagram of Two Different Energy Sources with Conventional Inverter Topology**



**Figure-2 Proposed Block Diagram of Multi Input Converter**

### Conclusion

In order to emphasise the necessity for

additional research, this work has briefly reviewed the features of multilayer inverters. In order to emphasise the importance of creating new inverters or modified combinations of inverters for hybrid energy systems, this study has briefly discussed the elements of multilevel inverters. MLIs have been described in detail in a number of areas, including classifications and their capacity to improve energy conversion in contemporary energy systems. This review suggests that a modified method that uses standard MLIs for various levels should use them to decrease the switching count. In terms of size, price, decreased THD, and high efficiency energy conversion, modified MLIs are potential alternatives for PV and other renewable energy systems. In addition, this paper emphasised the most modern MLIs grid-connected PV systems and the strategies for decreasing current leakage suppression. Last but not least, the difficulties and sensible suggestions for creating an effective system were emphasised to encourage and direct society to concentrate on creating an effective and affordable MLIs grid-connected system that combines the majority of the used and reported inverters' capabilities. To accommodate the power from various energy sources with reduced THD, device count, and required voltage levels, a multilevel inverter structure must be proposed.

#### **References**

1. Nema, P.; Nema, R.; Rangnekar, S. A current and future state of art development of hybrid energy system using wind and PV-solar: A review. *Renew. Sustain. Energy Rev.* 2009, 13, 2096–2103.
2. Haque, A. Research on Solar Photovoltaic (PV) Energy Conversion System: An Overview. In *Proceedings of the Third International Conference on Computational Intelligence and Information Technology (CIIT 2013)*, Mumbai, India, 18–19 October 2013; pp. 605–611.
3. Panwar, N.; Kaushik, S.; Kothari, S. Role of renewable energy sources in environmental protection: A review. *Renew. Sustain. Energy Rev.* 2011, 15, 1513–1524.
4. Alhafadhi, L.; Teh, J.; Lai, C.M.; Salem, M. Predictive Adaptive Filter for Reducing Total Harmonics Distortion in PV Systems. *Energies* 2020, 13, 3286.
5. Ibrahim, A.; Fudholi, A.; Sopian, K.; Othman, M.Y.; Ruslan, M.H. Efficiencies and improvement potential of building integrated photovoltaic thermal (BIPVT) system. *Energy Convers. Manag.* 2014, 77, 527–534.
6. Saeedian, M.; Adabi, J.; Hosseini, S.M. Cascaded multilevel inverter based on symmetric–asymmetric DC sources with reduced number of components. *IET Power Electron.* 2017, 10, 1468–1478.
7. Bana, P.R.; Panda, K.P.; Padmanaban, S.; Mihet-Popa, L.; Panda, G.; Wu, J. Closed-loop control and performance evaluation of reduced part count multilevel inverter interfacing grid-connected PV system. *IEEE Access* 2020, 8, 75691–75701.
8. Taghvaie, A.; Haque, M.E.; Saha, S.; Mahmud, M.A. A new step-up switched-capacitor voltage balancing converter for NPC multilevel inverter-based solar PV system. *IEEE Access* 2020, 8, 83940–83952.
9. Tayari, M.; Guermazi, A.; Ghariani, M. Cascaded Multilevel Inverter for PV-Active Power Filter Combination into the Grid-Tied Solar System. *Int. J. Renew. Energy Res.* 2020, 10, 1810–1819.
10. Keddar, M.; Doumbia, M.L.; Della, M.; Belmokhtar, K.; Midoun, A. Interconnection Performance Analysis of Single Phase Neural Network Based NPC and CHB Multilevel Inverters for Grid-connected PV Systems. *Int. J. Renew. Energy Res.* 2019, 9, 1451–1461.
11. Sharma, B.; Nakka, J. Single-phase cascaded multilevel inverter topology addressed with the problem of unequal photovoltaic power distribution in isolated dc links. *IET Power Electron.*

- 2018, 12, 284–294.
12. Xiao, B.; Hang, L.; Mei, J.; Riley, C.; Tolbert, L.M.; Ozpineci, B. Modular cascaded H-bridge multilevel PV inverter with distributed MPPT for grid-connected applications. *IEEE Trans. Ind. Appl.* 2014, 51, 1722–1731.
  13. Karthikeyan, D.; Vijayakumar, K.; Sathik, J. Generalized cascaded symmetric and level doubling multilevel converter topology with reduced THD for photovoltaic applications. *Electronics* 2019, 8, 161.

## **WATER POLLUTION AND HEALTH HAZARDS (REFERENCE TO WATER BORNE DISEASES)**

**Dr. Sangeeta Shukla<sup>1</sup> Dr. Deepak Shukla<sup>2</sup>**

<sup>1</sup>Asstt. Professor, Geography, Govt. Bilasa Girls P.G. College Bilaspur (C.G.)

<sup>2</sup>Asstt. Professor, Commerce, Govt. Mata Sabri Naveen Girls P.G. College Bilaspur (G.G.)

**Corresponding Author- Dr. Sangeeta Shukla**

Email : [sangeetashukla91166@gmail.com](mailto:sangeetashukla91166@gmail.com)

DOI- 10.5281/zenodo.7264675

### **Abstract**

*Water is an important ingredient for life. Water is required for the maintenance of plants and animals. Standard of health also depends on the quality, quantity and purity of water. Supply of fresh water provides organisms with dissolved oxygen and certain minerals and nutrients, making it most vital element of life. Lack of availability of fresh water for drinking causes water borne diseases which can wipe out entire population of the cities in these days. At present, the menace of water borne diseases and epidemics is still large in all the developing countries. Polluted water is the culprit for such diseases. Water can get contaminated with a number of impurities like dust particles, dissolved gases, minerals and microorganisms. Waterborne diseases, due to presence of infectious agents are caused by bacterial, viral, protozoal and worms. Similarly, presence of chemical agents like fluorides and nitrates is also responsible for causing human diseases.*

**Keywords:** *Water borne diseases, Water pollution, Health hazards.*

### **1) Introduction :-**

Water-borne diseases are infectious diseases spread primarily through contaminated water. Though these diseases are spread either directly or through files or filth, water is the chief medium for spread of these diseases and hence they are terminated as water-borne diseases. Most intestinal (enteric) diseases are infectious and are transmitted through faecal waste. Pathogens - which include virus, bacteria, Protozoa, and parasitic worms - are disease - producing agents found in the faces of infected persons. These diseases are most prevalent in areas with poor sanitary conditions. These pathogens travel through water sources and interfuses directly through persons handling food and water. Since these diseases are highly infectious, extreme cares are hygiene should be maintained by people looking after an infected patient. Hepatitis, cholera, dysentery, and typhoid are the more common waterborne diseases that affect large populations in the tropical regions.

### **2) Water pollution :-**

Pollution of water is defined as the presence of some foreign organic, inorganic, biological, radiological, and physical substance or property in the water that tends to degrade its quality of water that tends to degrade its quality of water.

### **Sources of water Pollution :-**

The water pollution mainly occurs due to sewerage, industrial and trade waste, agricultural pollutants and physical pollutants like heat and radioactive materials. The sources of water pollution can be classified controllable and uncontrollable depending upon their nature. The sources of water pollution can be divided in to two types -

1) Natural sources (2) Man-made sources

#### **1) Natural Sources :-**

Sometimes water pollution takes place naturally in the form soil erosion, deposition of animal wastes, and fallen leaves, solution of minerals in water etc. Nature plays an important role to pollute the water. Some of the major pollutants of natural sources of water pollution are as given under:

#### **Aerial Contaminants :-**

The aerial contaminants like gases and dust get transferred to a body of water in the form of rainfall, soil silt stripped from the land due to heavy rainfall or melting snow, leached from the earth by surface streams. These contaminants pollute the water to considerable extent which effects the health adversely.

#### **Rain water :-**

Rain water is itself a source of polluted water. Natural rain water has an approximate pH of 5.6. The surveys and

analysis reports in many developed countries reveal that rain water consists of higher acidity. Acid rain has eliminated fish life in the lakes in large quantity.

#### **Organic Matter :-**

The decay of large quantities of organic matter, decaying bodies of plants and animals in swamps or deep ponds also introduces considerable quantities of micro-organisms in the water. This organic matter pollutes the water which has adverse effects on the health of man and other living organisms.

#### **Earthquakes and Storms :-**

Earthquakes and storms all over the world have created havoc on this earth. These are natural calamities and uncontrollable sources of water pollution.

#### **Thermal Power :-**

In the modern age, thermal pollution of water has become a major problem. The production of electricity by nuclear power requires billions of gallons of cold water for removal of waste heat. The hot water thrown into the waterways adversely affects the aquatic organisms. Entire aquatic ecosystem is affected by changes in temperature which disturbs the food chain and upset the balance among the living organisms.

#### **Radio-active Source :-**

Radio-active heat is assuming dangerous proportion to aggravate the problem of water pollution.

### **2) Man-made Sources of Water Pollution :-**

Undoubtedly, the natural sources of water pollution are in abundance but most of water pollution is the direct result of human activities. The man carries out various agricultural, industrial and other activities to meet its requirements and survival on the earth. These activities are directly or indirectly contributing to the pollution. Man made sources of water pollution are mainly form of waste water. The major sources of polluted water due to human activities are as under :

#### **Industries :-**

In the fast changing industrial scenario, the industries, have also become a major source of water pollution. The industries engaged in manufacture of chemical, primary metals, paper, food articles, pulp mills, and units like leather tanneries, oil and sugar refineries

jute, coal, petroleum etc., are creating environment most conducive to water pollution.

#### **Agriculture :-**

Agricultural activities are major source of water pollution. Live stock and agricultural practices for production and use of chemical fertilizers, pesticides and herbicides are the main source of pollution

#### **Wastes :-**

The frequent discharge of municipal and household wastes into the rivers and canals is one of the major sources of pollution of our water bodies. Most of the sewerage systems contain human and animal wastes. The domestic sewerage like discharges from toilets, bathrooms, kitchens and similar areas around dwellings, institutions, commercial and industrial undertakings is the main source of water pollution. The higher standard of living in the modern era is responsible for such increasing pollution. This is adversely affecting health of man and animals. Most of the epidemics in the cities and urban areas are caused through water borne diseases, for example cholera, dysentery, jaundice, typhoid, and some other viral bacterial diseases.

#### **3) Water -Borne Diseases :-**

These diseases are caused due to drinking of contaminated water. These may be caused by the presence of an infective agent in water or due to the presence of an aquatic host which carries some pathogens.

##### **i) Cholera :-**

It is diarrheal disease caused by a comma-shaped motile bacteria called vibrio cholera. These bacteria live in the intestine. Infection occurs by contaminated water/food.

##### **ii) Hepatitis :-**

Infectious hepatitis also called epidemic jaundice is the inflammation of liver due to infections by two viruses - (i) Infectious hepatitis virus and (ii) serum hepatitis virus. Infection period is usually 20-35 Days. Infection spreads from infected person to healthy person by faecal-oral route. Contamination of water/ food may cause the disease in epidemic form.

##### **iii) Typhoid :-**

Causal agent of the disease is a bacterium salmonella typhi. Germs of the disease are

present in stool or they may be also be present in urine. They are carried by water and contaminated food. Diseases causing organisms spread through water and can give rise to server epidemics.

**iv) Polio :-**

It is a viral disease caused by polio virus called enter virus. It was considered to be a disease of children hence it was called infantile paralysis. Now it is clear that the disease may occure at any stage. It spreads mainly through intestinal discharges. It spreads through contaminated food as drink and by flies or other insects that can contaminate food or drink.

**v) Dysentery :-**

This in not a diseases but a symptom complex. It consists of passage of mucus and blood accompanied by diarrheas abdominal pain fever etc.

Dysentery is of two types -(i) Bacillary and (ii) Amoebic. Bacillary dysentery is spread through files whereas amoebic dysentery spread through water.

**vi) Ascariasis :-**

The causal organism of This disease is *Ascaris Lumbricoides* (Round worm) which is end parasite of the small intestine of human beings. This type patient also gets the problems like impairing of digestion , diarrheas and remitting, mental efficiency is affected and growth of body may be retender in children.

**4) Health Hazards :-**

Survival of man without water is impossible. In many areas, there is paucity of water but in others water sources have been degraded beyond use by pollution resulting from natural resource or man's activities. The major hazards to public health from pollute streams are mainly due to the presence of pathogenic bacteria from domestic sewerage, toxic material and industrial wastes. The health problem may be due to direct as well as indirect consumption of contaminated water. Communicable diseases are transmitted by the use of contaminated water for drinking, ablution and preparation of food. The improper disposal of human wastes is the chief cause of contamination of the water.

The water borne diseases includes typhoid and paratyphoid fevers, cholera,

dysentery, and infectious hepatitis. The microorganisms causing these diseases are found in the intestinal and urinary discharges of infected persons. Food may be another means for the spread of infectious diseases on several ways. For example, fish in the polluted water absorbs many poisonous substances and eating of fish there from may be more dangerous than drinking the polluted water. Food also acts as a medium for the growth of disease organisms, producing large number of bacteria. Hence, water pollution not only affects health of human beings but also animals.

**5) Prevention of Water Borne Diseases :-**

Proper community sanitation, personal cleanliness taking boiled water and heated food. vaccine provides during epidemic periods to peoples. During & pandemic boiled or chlorinated water should be taken o, control of flies, Prevention of contamination of water and food. others prevention of water Borne Diseases as – (i) Water Treatment, (ii) Water supply, (iii) Personal Hygiene, (iv) Protected water in public places.

**Conclusion :-**

Water-borne epidemics and health hazards in the aquatic environment are mainly due to improper management of water resources. Proper management of water resources has become the need of the hour as this would ultimately lead to a cleaner and healthier environment. In order to prevent the spread of water-borne infectious diseases, people should take adequate precautions. The city water supply should be properly checked and necessary steps taken to disinfect it. Water pipes should be regularly checked for leaks and cracks. At home, the water should be boiled, filtered, or other methods and necessary steps taken to ensure that it is free from infection.

**References :-**

1. CPCB, 1995. Pollution Control Acts. Rules and Notifications issued there under central pollution control board. New Delhi.
2. Docdens, I.H., 1984. Dairy sludges. Int. Dairy Fed. Bull. No. 184: 16-22.
3. Tabakov, D. Dimitrov, R. and Gruev. P., 1979. Treatment of industrial effluent from milk processing by combination of

elctroflotation coagulation and other methods. Nauchi Trudove, Vissh Inst po Khranitelnai, Vkusova Prom. 25: 360-372, cited from Dairy Science Abstract. 44: 1519.

4. Ordolfe, D.,1995. Treatment of dairy effluent with chitosan. Kieler Milchwiri. Forsch. 47:339-346, cited from Dairy Science Abstract. 58:2289.

## **IMPACT OF DEMONETISATION ON INDIAN'S SOCIO - ECONOMIC**

**Vaghela Neela S.**

Ph.D. scholar, Bhakta Kavi Narsinha Mehta University District: Junagadh, (Gujarat)

**Corresponding Author- Vaghela Neela S.**

Email- [Neelavaghela96@gmail.com](mailto:Neelavaghela96@gmail.com)

DOI- 10.5281/zenodo.7264682

### **Abstract**

*The present theme paper is conducted on socio-economic effects of demonetisation. Through this research, the researcher obtained information about the economic-socio effects of demonetisation. Through which it was found that economic and socio good and bad effects of demonetisation have been seen. People are using technology in their socio-economic activities. However, a very small section of the society still can't use technology in socio-economic activities.*

**Key Words :** *Demonetisation, economic, socio, effects*

### **Introduction**

Since paper and coin currency came into existence. Since then demonetisation has been seen in many countries. When in the country where demonetisation has taken place. At that time its effect has been seen in that country. However, when the country needed demonetisation. Then there is demonetisation in the country. In the country where demonetisation takes place. It affects every region of the country. Demonetisation has both good and bad effects. Which affects every citizen of the country and its economic and social activity. To examine the effects of demonetisation what is demonetisation? It is necessary to check its history. How demonetisation affects the economy and social activities of the country. The details of the study are as follows.

#### **Demonetisation:**

When demonetisation is required in a country, the currency of that country is stopped by the government. It is called demonetisation. There can be many reasons for demonetisation in a country. To know these reasons it is necessary to check the demonetisation history.

#### **History of Demonetisation:**

If we look at the countries in the world where demonetisation was done, some of the countries have seen significant results. So there have been bad results in some countries. In 1971, note ban was done in Britain. The reason for this was the devaluation of printing. In 1982, the 50-set notes were demonetized to prevent tax evasion and corruption. In 1984, the Nigerian government also changed the colors of bank notes to prevent corruption. In the Soviet

Union, the 50 and 100 rubles were withdrawn from the currency for the black money system. In 2010 in North Korea To control the economy and eliminate the art market, the North Korean government removed the 00 from the old 100 note, which became the 1 note.

In India too, after independence, the Nehru government imposed demonetisation in 1954 to curb inflation. Subsequently 5000 and 10000 notes were introduced by different governments at different times. Due to these large notes, corruption, inflation increased in the country and the country became economically weak. 1978 Again Morarji Desai's government stopped the currency of 500, 5000, 10000 notes. After that for 22 years only 100 note was running in the economy. 500 and 1000 notes were again introduced in 2000. In 2016, Narendrabhai Modi's government announced that the currency of 500 and 1000 notes will be stopped from midnight on November 8. This demonetisation had an impact on the country's economy and society.

#### **Objective**

1. To examine the Indian's economic effects of demonetisation.
2. To examine the Indian's socio effects of demonetisation.

#### **Reviewe Of Litreture**

1. Sandhi Ayush (2016) The titled was 'Impact of demonetisation'. It has been found that the effect of demonetisation has fallen on all sectors of the country, according to Sandhi Aayush, economic and social effects of demonetisation are seen in the country. Short-term as well as long-term effects of demonetisation have

also been known. Good and bad effects of demonetisation have also been seen. It is revealed in its epilogue. If demonetisation is done methodically then demonetisation is a blessing for the country.

2. Chaabi (2016) The titled 'Impact of demonetisation'. As per the chaabi demonetisation has had an impact on GDP. The impact of demonetisation on the agriculture sector has been seen for a short period of time. Demonetisation has an impact on inflation The effect of singing high was seen in the country of Zimbabwe. The effect of demonetisation has been seen in the price of gold. Demonetisation has also had an impact on transport Demonetisation has had an impact on banking transactions Demonetisation has had an impact on illegal activities.
3. Pankaj news18 (2018) The title 'One and a half year post note ban situation'. According to Pankaj, after one and a half years, it has been seen that a situation like demonetisation has been created, a shortage of cash has been created. Despite having their own rupees, people were seen suffering without rupees. ATM machines were seen shut down in many states. Due to lack of cash, people looked helpless.
4. Dhruv Radhe (2017) The title "Demonetisation : Final Analysis" Dhruv Radhe stated the pros and cons of demonetisation. He Said how black money turned into white money Said demonetization was a surgical strike. After demonetisation, the case stated whether transactions have increased or decreased. Told how the number of people paying tech has increased.
5. Surbhi Sharma (2016) Surbhi Sharma said in the report that How did so many new notes reach the black money holders despite the severe scarcity of cash? With the seizure of 2000 notes, the government's first eye was on the functioning of the banks. Seals of many banks were broken. No one was allowed to get more than the cash limit, so where did some people get crores of rupees? The notes are caught, the holders of the notes

are also caught, but the names of the note debtors do not come out.

6. RBI Annual Report (2017-19) The title "99.33 percent of money was deposited in demonetisation""RBI completes counting of Rs 500 and Rs 1000 notes: Out of Rs 15.41 lakh crore, Rs 15.33 lakh crore deposited in banks. The notes received by the banks were counted through a high speed currency verification and processing system. Only Rs 10,720 crore was not returned but Rs 7,965 crore was spent on printing new notes. After this report of RBI, once again the decision of demonetization seems to be heavy for the Modi government. Allegations and questions had also started for him. A review of this report can be useful in this research study.
7. Nilay Upadhyaya (2017) "Cases of Fraud in E-Payment Increase" The incidence of cyber fraud has increased in the bid to create a cashless economy. 13,083 cases of fraud were reported in 2014-15. In 2015-16 it increased to 16,486 government books. There are many incidents which are not in the government book. Despite the availability of facilities such as email verification in addition to OTP and password in India, cases of fraud have increased. This information can be useful in this research study.

#### **Analysis**

According obtained information about the socio - economic effects of demonetisation.

#### **Socio Good Effects of Demonetisation:**

After demonetisation people are using technology in their activities. Learn to take knowledge of technology and use it. People who were in the business of buying and selling boys and girls. The fear and dread of such people has reduced many people in the society. Illegal activities of doctors, police stopped. The social standing of the people is being maintained as tax evasion is stopped. The social fear of Naxalites has subsided.

#### **Socio bad effects of demonetisation:**

Demonetisation has had social effects on every people like urban, rural, poor, backward classes. Demonetisation has seen family conflicts in the society, conflicts between bank employees and people, conflicts at petrol pumps, hospitals. There have been

cases of suicide. The amount of theft had increased. People have died. The elderly and the poor have suffered. Many families have become destitute. Social family relations of people have deteriorated. Social activities like marriage were lost. Cremation rituals were lost in the cremation. The social standing among the social elites was shaken. Tourists were upset. A lot of people lost their jobs, which led to resentment towards them.

#### **Economic Good Effects of Demonetisation:**

Demonetisation was aimed at cashless economy. The least of these will be cash transactions and the majority will be cashless transactions. This increased the savings account. People turned to online money transactions. Demonetisation has had the best economic impact. People who were in the business of buyer and seller boys and girls. Due to shortage of cash due to demonetisation, such businesses closed which can be considered as a good effect of demonetisation. As much black money has been caught. That government has kept donation boxes in temples. For people who are not able to live their own life, the government will help them by giving charity. Demonetisation can be said to be good for the very poor. Hard money was very difficult to handle. Demonetisation has made handling soft money easier. There has been a good improvement in taxes after demonetisation.

#### **Economic Bad Effects of Demonetisation**

A sudden shortage of money disrupted the entire economy. Because ATMs were empty, people could not buy essential items. Standing in long queues at banks has led to economic losses due to the deterioration of people's working hours. People who earn very small income have been hurt by demonetisation. 2000 notes were easily available but 500 or its fractional notes were not easily available. Valuable money of the country was wasted.

#### **Conclusion:-**

Thus, the study shows that economic and socio good and bad effects of demonetisation have been seen. the use of technologies in socio-economic activities is the need of the hour Which is beneficial for everyone's socio-economic activities. But due to the low socio-economic level of the very small class of people, difficulties arise.

#### **Reference**

1. <https://www.allindiagk.com>
2. KBC NEWS KATI HAR
3. YouTube's All India GK.
4. YouTube Adda247
5. YouTube's news18
6. Youtub
7. India TV
8. Phulchab- 30-8-2018 Thursday
9. Kachchmitra -Vyaparbhumi -Bhuj.Page no. -3

**ILLUSTRATING THE MARGINALIZATION: A LITERARY ANALYSIS OF  
MEENA KANDHSWAMI'S *THE GYPSY GODDESS***

**Jubinarosa S. S**

Research Scholar, Department of Tribal Studies Central University of Jharkhand, India, Cheri-  
Manatu- 835222

**Corresponding Author- Jubinarosa S. S**

Email- [jubinarosass@gmail.com](mailto:jubinarosass@gmail.com)

DOI- 10.5281/zenodo.7264684

**Abstract:**

*Meena Kandhaswami is one among the most popular writers and activists who focused on the Dalit people and their daily life. Her novel, The Gypsy Goddess is based on the experiences and struggles of the Dalit people. Indian Dalit literature began as a rigorous movement in the 1960s, though exclusive elements were visible as early in the 11th century. It began in Marathi literature and later on permeated to Hindi, Kannada, Telugu, Malayalam and Tamil literatures. Dalit writers initiated a realistic experience based and authentic literature which threatened the upper class hegemony in society and in literature. The anger, sorrow and the unconquerable will and hope of Dalit protagonist were offered in a tongue which in often defamed as vulgar. The novel challenges canon and defies Indian literary tradition. It believes in deconstructing truth, reason, etc. in order to show how the truth and reason have been constructed by the upper caste Hindus to dominate over the Dalit and lower castes. The current paper entitled Illustrating the Marginalization: A Literary Analysis of Meena Kandhaswami's The Gypsy Goddess discusses the most prevalent theme of the contemporary India, that is caste issues.*

**Key words:** *Dalitism, Marginalization, hegemony, Untouchability*

---

**Introduction**

The novel *The Gypsy Goddess* is a bold and lyrical story about horrifying events especially of a massacre. Meena Kandhaswami's powerful debut casts a spotlight on the fight of Dalit agricultural workers in southern Indian state of Tamil Nadu, who are murdered by oppressive upper caste landlords. The book is based on the massacre that took place in the village of Kilvenmani on Christmas day, 1968. But it is not only a book about an incident that has been heavily pushed to the corners of Indian historical brutalities. It is much more than that.

The caste system in India have been one of the most significant factors of social stratification. Many aspects of human conditions are deeply affected by the stratified patterns of caste system. Along with gender stratifications that define many social relations, caste system is deeply rooted in many aspects of human life. It defines the socio-cultural norms of different communities and often women bear the multiple burdens of oppressions based on caste, class and work hierarchies. Caste hierarchy prescribes different duties especially for women. It is understood by now that caste and gender

hierarchies together make the women's life complex.

The Dalit tribe constitute larger part of Indian society, were living under brutal suppression. In this context there emerged "Dalitism" that questioned the marginalization and exploitation of the Dalit's in India. Dalit studies developed into an independent area of study and it is concerned with human dignity, equality and democracy. The rise of Dalit studies has provided the necessary platform for a new set of scholarly enquiries in the social science and humanities. It may be thought of as a new academic practice rooted in resistance to the dominant epistemologies. It has enabled academia to engage with the grounded knowledge creation by the Dalit communities. Dalit studies opened up the possibility of a global conversation on caste, race and similar forms of inequality.

The last two decades have witnessed a serious engagement with Dalit struggles, experiences and perspectives. The powerful Dalit narratives represented the subjective experience of caste oppression and everyday life. The exploitation into the print and literary cultures has further revealed the gendered forms of caste and domination.

Another set of studies documented and analysed the significance of Dalit mobilization, counter narratives, caste discrimination, inter-social group inequalities, subaltern religious movements etc.

Writers such as Raj Gowthaman, Urmila Pawar etc have sought to rewrite question literary history is that it has historically been dominated by upper caste writers. Dalit authors in India emerged in a system in which literature is determined by those who hold power.

Meena Kandhaswami is one among the most popular writers and activists who focused on the Dalit people and their daily life. Her *The Gypsy Goddess* is based on the experiences and struggles of Dalit.

Indian Dalit literature began as a rigorous movement in the 1960s, though exclusive elements were visible as early in the 11th century. It began in Marathi literature and later on permeated to Hindi, Kannada, Telugu, Malayalam and Tamil literatures. Dalit writers initiated a realistic experience based and authentic literature which threatened the upper class hegemony in society and in literature. The anger, sorrow and the indomitable will and hope of Dalit protagonist were offered in a tongue which in often defamed as vulgar.

In south India there are many writers of Dalit literature. Among them Bama, Sivekami, Poomani etc explored subalternity and gender discrimination in their works. Their female protagonists are double victimized as condition is analogous to the situation of black women in America. Like Bama, Meena Kandhaswami who implored Dalit women and their life in a society which is dominated by caste and Gender. Her *The Gypsy Goddess* a unique work in Dalit literature. Even though the book is based on a true life massacre happened in Tamil Nadu, it explores Dalit women's life in the midst.

At the centre of the novel, Kandhaswami projects all these above mentioned aspects and concerns of the women in the Dalit community. The work is really an inspiration for those who hope to come forward and live with dignity among the others in the society. Meena Kandhaswami

has been persistently voicing her protest against caste, patriarchy and class. Her feminist works, Ambedkarite support and her Left liberal stance have lent her voice, rich in social militancy, with a contemporary bite, be it her protest against Hindutva, caste or misogyny, deities or village goddesses whose pain has been simply hardened into stone.

The human world has witnessed some of the moments to respect the 'equality of all' so that the distinction and differentiation between the self and the other is controlled to represent a better human world. But apart from such moments supporting the 'equality of all' the dominance of the self over the rest of the other persists in the man-made phenomenon like forms of caste, gender and race. This distinction within and between various caste, gender and race engendered more gaps than joints. Dalits are forbidden wear footwear and the men folk are made to lie their upper clothe round their waists. Such conventions become the cause of violence, when educated youth resisted such display of difference to the higher castes they faced serious revenge.

In Kilvenmani village, the untouchable people who were working under the landlords have to wake up before sunrise: walk inline every day break. They have to wash their faces in any puddle of water and brush their teeth with red bricks which were the color of their earth they work. They were not allowed to wear more than a loin cloth. While women have to wake up every morning with a prayer to held the family. Burma rice, which grew in Tanjore was the best rice in the world. But the dalits were fed only the second grade food, the cheaper Burmese rice. These poor people had to carry a "serattai", coconut shell to the tea stall because they were not served tea in the tumbler. Women from cheri could not take water from the wells, they had to wait for the caste-Hindu women to take a pity and pour the water into their pot.

The landlords built a cement shelter for their cows. But the Dalit have to huddle under a blanket of night sky because they are called the "untouchables ". In the Margazhi night the cold winds are cruel and howl as they always do and they huddled together. An old jute deck is a luxury in this month.

Their children sleep like mice with their heads inside old card board cartons so that cold does not bite their little nose. They hide their faces in their mother's sarees.

The landlords without any shame loots from their own servants when the slum people were in the rampage. They enter the slum with some rowdies, select poorest slum and pillage them. They steal everything in the Houses. Sometimes they would burn their roofs and clothes. When the people return, they were forced to start all over again. The Dalit women were terribly beaten and forced to drink "saanipal", cow-dung mixed in water after beatings: "Saanipal would be waiting for the beaten women or man- a concoction that would drain them to death ... being forced to drink diluted cow-dung water was soon replaced by being forced to drink a cocktail of fertilizer, so disobedience brought no disgrace, but death" (Kandhaswami, 264).

The agricultural workers begged the landlords for extra half measures of rice but the landlords refused their demands. They instructed the shop keepers not to sell anything to the untouchables in the Cheri. The Dalit people lose their younger children to starvation and their elder children because of the lack of sufficient food and medicine.

The villagers again went to another landlord, Ramanja Naidu but he told them that; "Hoist the flag of Paddy Producer's Association. Remove the red flag. Report for work this instant "(Kandhaswami, 114). That will never happen. Kilvenmani villagers were very much clear about some things; they were not asking the landlords land or homes. They were asking for work because they need food, they were asking for six measures of paddy, because they were hungry. Their wages was not enough for their stomach. Their children were dying of starvation. They are not ready to give up their strikes, until their demand is accepted. Gopalakrishna Naidu, one among the landlords, went wild. He along with many rowdies entered the slums and set fires to the hut. The people were locked inside. A mother threw her one year old son, out of the burning hut, to save his life. But the child was caught, chopped the child into pieces and they thrown back into the burning hut. They all were burnt alive.

The newspapers claimed these were mystery deaths. It was mystery to people who did not know about starvation. Not the children of landlords, or the children of shop keepers, or the children of teachers were died, only the children of the poor, coolies, the Dalit died. But the media did not notice the death. That is what earlier said that the people are discriminated on the basis of caste even in deaths. Society witnessed a sharp rise in atrocities against Dalit because of the society was strongly structured by the caste system. Dalits were considered as lowest in social status, and they were subjected to untouchability. Death is the rule of nature but people were changing themselves as blood thirsty beast in order to satisfy their selfish attributes. Kilvenmani often finds in the discourse of Dalit atrocities as one of the earliest and most violent crimes in post independent India.

The human world has witnessed some of the moments to respect the 'equality of all' so that the distinction and differentiation between the self and the other is controlled to represent a better human world. But apart from such moments supporting the 'equality of all' the dominance of the self over the rest of the other persists in the man-made phenomenon like forms of caste, gender and race. All these should be eliminated from the society.

#### **Works Cited**

1. Kandhaswami, Meena. *The Gypsy Goddess*. Harper Collins Publishers, 2014.
2. Arjun, Dangle, editor. *Positioned Breed: Translation From Modern Marathi Dalit Literature*. Orient Longman, 1994.
3. Basu, Swaraj, editor. *Readings on Dalit Identity: History, Literature and Religion*. Orient Blackswan Private Limited, 2006.
4. Den Uyl, M. *Invisible Barriers: Gender, Caste and Kinship in a Southern Indian Village*. Utrecht: International Books, 1995

**A STUDY ON WOMEN'S BUYING BEHAVIOUR AND SATISFACTION  
TOWARDS GOLD JEWELLERY**

**Dr. R. Jayasathya<sup>1</sup> Megha. J<sup>2</sup> Monika. R<sup>3</sup> Mridula. R<sup>4</sup>**

<sup>1</sup>Assistant Professor, Department of B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

<sup>2,3,4</sup>Student, III B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

**Corresponding Author- Dr. R. Jayasathya**

**DOI- 10.5281/zenodo.7264688**

**Introduction**

*In India, gold is promoted largely for purchasing and selling physically or in the type of ornaments. It is appreciated as a savings and investment which is a preferred investment in India. Jewellery is not only for the purpose of admiration but as well as security in times of emergency on often expensive and can be sold on every occasion there is want in need of money. In India, women are gifted jewellery at different times such as birth, puberty, marriage, on becoming a mother. Gold in India serves many functions and wearing it has several implications. It is considered as a status symbol. Consumer buying behaviour has changed dramatically in the past few years and they are being influenced by family, friends, reference groups and society in general. Indian consumers are becoming more aware and quality conscious*

**Statement Of The Problem**

The gold market in India is predominantly a market for buying and selling physical gold and gold in the form of ornaments. The gold in India serves many functions and wearing it, has several implications. It is valued in India as a savings and investment tool and secondly preferred to deposits and mutual funds. Though there are different forms of gold investment, it is known fact that women are preferring ornaments form of investments. The level of awareness about the gold price fluctuations, impact of GST in Gold price , wastage and making charge is low. The study depicts the womens buying behaviour and satisfaction towards gold jewellery.

**Objective Of The Study**

The following are the main objectives of the study

To identify the factors which influence the women of purchase jewellery.

**Research Methodology**

**Area of the study** – The study was undertaken in and around Coimbatore

**Sample size** - The sample size of the study is 100 respondents

**Statistical tools used for the study** – Simple percentage , Friedman rankings, Analysis of variance

**Review Of Literature**

The Review of literature is a summary of all reviews from various research related to the current study carried out by a researcher. A literature review is a descriptive, analytic summary of the existing material relating to a particular topic or area of study.

**R. Sundari (2020)**“A study on customer preference towards gold jewellery.” To understand the buying behaviour of the customer. To study about their choice on gold jewellery. The study is based on a survey collected in Coimbatore city with the help of primary data and secondary data. The study mainly focused on customer preference towards gold jewellery. The customers preference shows a shift from content to design in gold jewellery. Nearly half of the respondents prefer to purchase gold in corporate show rooms.

**Demographic Profile Of Respondents - Percentage Analysis**

|                                  |                       | No.Of Respondents | Percentage   |
|----------------------------------|-----------------------|-------------------|--------------|
| <b>Age</b>                       | <b>Below 25 years</b> | <b>83</b>         | <b>83.0</b>  |
|                                  | 26 – 35 years         | 12                | 12.0         |
|                                  | 36 – 45 years         | 5                 | 5.0          |
|                                  | Above 45 years        | 0                 | 0.0          |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100.0</b> |
| <b>Educational Qualification</b> | School level          | 10                | 10.0         |
|                                  | Diploma               | 5                 | 5.0          |
|                                  | <b>Under graduate</b> | <b>65</b>         | <b>65.0</b>  |
|                                  | Post graduate         | 15                | 15.0         |
|                                  | Professional          | 5                 | 5.0          |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100.0</b> |
| <b>Occupation</b>                | Public sector         | 17                | 17.0         |
|                                  | Private sector        | 30                | 30.0         |
|                                  | <b>Self business</b>  | <b>32</b>         | <b>32.0</b>  |
|                                  | Professional          | 21                | 21.0         |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100</b>   |
| <b>Marital Status</b>            | Married               | 17                | 17.0         |
|                                  | <b>Un married</b>     | <b>83</b>         | <b>83.0</b>  |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100</b>   |
| <b>Residential Status</b>        | Rural                 | 40                | 40.0         |
|                                  | <b>Urban</b>          | <b>42</b>         | <b>42.0</b>  |
|                                  | Semi - urban          | 18                | 18.0         |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100.0</b> |
| <b>Monthly Income</b>            | <b>Below – 25,000</b> | <b>59</b>         | <b>59.0</b>  |
|                                  | 25,001 - 50,000       | 19                | 19.0         |
|                                  | 50,001 – 75,000       | 12                | 12.0         |
|                                  | 75,001 – 1,00,000     | 8                 | 8.0          |
|                                  | Above 1,00,000        | 2                 | 2.0          |
|                                  | <b>Total</b>          | <b>100</b>        | <b>100.0</b> |

1. 83.0per cent belong to the age group Below 25 years.
2. 65.0 per cent belongs to under graduate
3. 32.0per cent belong to self business
4. 83.0per cent belong to Unmarried
5. 42.0per cent belong to urban
6. 59.0per cent belong to below – 25,000

**Sources Of Information About Gold Jewellery**

| Information About Gold Jewellery | No. Of Respondents | Percentage   |
|----------------------------------|--------------------|--------------|
| <b>Friends and relatives</b>     | <b>48</b>          | <b>48.0</b>  |
| News paper and magazine          | 29                 | 15.0         |
| Radio                            | 6                  | 6.0          |
| TV local channels                | 15                 | 15.0         |
| Flex board                       | 2                  | 2.0          |
| <b>Total</b>                     | <b>100</b>         | <b>100.0</b> |

From the data above it can be observed that 48.0 per cent of the respondents are friends and relatives, 29.0 per cent of the respondents are news paper and magazine,

6.0 per cent of the respondents are radio, 15.0 per cent of the respondents are TV local channels, 2.0 per cent of the respondents are flex board.

**Preference On Purchasing Gold Ornaments**

| <b>Purchasing Gold Ornaments</b> | <b>No.Of Respondents</b> | <b>Percentage</b> |
|----------------------------------|--------------------------|-------------------|
| <b>Earrings</b>                  | <b>28</b>                | <b>28.0</b>       |
| Bangles                          | 8                        | 8.0               |
| Necklace                         | 15                       | 15.0              |
| <b>Chains</b>                    | <b>28</b>                | <b>28.0</b>       |
| Rings                            | 13                       | 13.0              |
| Bracelets                        | 8                        | 8.0               |
| <b>Total</b>                     | <b>100</b>               | <b>100.0</b>      |

**Interpretation:**

From the data above it can be observed that 28.0 per cent of the respondents are earrings, 8.0 per cent of the respondents are bangles, 15.0 per cent of the respondents

are necklace, 28.0 per cent of the respondents are chains, 13.0 per cent of the respondents are rings, 8.0 per cent of the respondents are bracelets.

**Reasons For Buying Gold Jewellery**

| <b>Reasons For Buying Gold Jewellery</b> | <b>Mean Rank</b> | <b>Rank</b> |
|--|------------------|-------------|
| <b>For own use in house hold</b>         | <b>3.75</b>      | <b>1</b>    |
| For relatives/ neighbours                | 4.77             | 2           |
| Investment purpose                       | 5.46             | 4           |
| Marriage in family                       | 5.58             | 5           |
| Gift to friends                          | 5.34             | 3           |
| Traditional value                        | 5.87             | 6           |
| Status symbol                            | 6.08             | 8           |
| For spouse/ children                     | 5.94             | 7           |
| Safe guide family                        | 6.12             | 10          |
| Religious significances                  | 6.10             | 9           |
| <b>N</b>                                 |                  | <b>100</b>  |
| Chi - square                             |                  | 72.898      |
| Df                                       |                  | 9           |
| Asymp.sig                                |                  | .000        |

**Interpretation:**

The above table predicts the mean rank of reasons by the respondents on using buying gold jewellery where mean rank of **3.75 for for own use in house holdstands at the top**, for relatives / neighbours stands second with mean rank 4.77, gift to friends stands third with mean rank 5.34, investment purpose stands fourth with mean rank 5.46, marriage in family stands fifth with mean rank 5.58, traditional value stands with sixth with mean rank 5.87, for spouse / children stands with seventh with mean rank 5.94, status symbol stands eighth with mean rank 6.08, religious significances stand ninth with mean rank 6.10, safe guide family stands tenth with mean rank 6.12.

**Factors That Influenced You To Purchase Gold Jewellery – Anova**

ANOVA test is used to find out if there is any significant difference between the respondents demographic factors of age, educational qualification, Occupation, Marital status, residential status and monthly income of the women’s purchase towards satisfaction towards gold jewellery at 5 per cent level of agreeability. Higher the score is the more statements.

Ho:There is no significance difference between demographic factors such as, age, educational qualification, occupation, marital status, residential status and monthly income of the women’s purchase towards satisfaction towards gold jewellery.

| Factors                   | Classification    | No of Respondent | Mean | Standard Deviation | f     | Sig. | S/NS |
|---------------------------|-------------------|------------------|------|--------------------|-------|------|------|
| Age                       | Below 25 years    | 83               | 2.14 | .627               | .843  | .433 | NS   |
|                           | 26 – 35 years     | 12               | 2.33 | .492               |       |      |      |
|                           | 36 – 45 years     | 5                | 2.40 | .548               |       |      |      |
|                           | Above 45 years    | -                | -    | -                  |       |      |      |
| Educational qualification | School level      | 10               | 2.00 | .471               | 1.132 | .346 | NS   |
|                           | Diploma           | 5                | 2.60 | .548               |       |      |      |
|                           | Under graduate    | 65               | 2.14 | .609               |       |      |      |
|                           | Post graduate     | 15               | 2.27 | .704               |       |      |      |
|                           | Professional      | 5                | 2.40 | .548               |       |      |      |
| Occupation                | Public sector     | 17               | 2.29 | .686               | .615  | .607 | NS   |
|                           | Private sector    | 30               | 2.07 | .640               |       |      |      |
|                           | Self business     | 30               | 2.23 | .568               |       |      |      |
|                           | Professional      | 23               | 2.17 | .576               |       |      |      |
| Marital status            | Married           | 17               | 2.35 | .493               | 1.661 | .201 | NS   |
|                           | Unmarried         | 83               | 2.14 | .627               |       |      |      |
| Residential status        | Rural             | 40               | 2.22 | .660               | .358  | .700 | NS   |
|                           | Urban             | 42               | 2.12 | .593               |       |      |      |
|                           | Semi - urban      | 18               | 2.22 | .548               |       |      |      |
| Monthly income            | Below - 25,000    | 59               | 2.12 | .646               | .752  | .599 | S    |
|                           | 25,001 – 50,000   | 19               | 2.37 | .496               |       |      |      |
|                           | 50,001 – 75,000   | 12               | 2.17 | .577               |       |      |      |
|                           | 75,001 – 1,00,000 | 8                | 2.12 | .641               |       |      |      |
|                           | Above 1,00,000    | 2                | 2.50 | .707               |       |      |      |

#### Interperation:

The result of the ANOVA table shows that the .843 for age, 1.132 for Educational qualification, .615 for occupation, 1.661 for marital status, .358 for monthly income. It can be concluded that there is no significant difference between demographic factors such as age, educational qualification, occupation, marital status, residential status and monthly income. Hence the null hypothesis is accepted.

#### Conclusion

This study was undertaken to examine the service quality, customer satisfaction, and overall consumer preference to buy jewel from Branded Jewellery shop. Consumer processes a strong attitude on gold Jewellery buying because the value they pay on the purchase is comparatively higher than the products they buy on a regular basis further the study it was portrayed that the price, purity and design which scores the maximum from the analysis as a whole the study highlights that the consumer perceptions are highly influences by the retailers schemes

and the services offered by them further the study helps the future researchers to identify the perceptions towards gold Jewellery buying..

#### Reference

1. **Rawal, K. R. (2021)** in their research, “A study of consumer buying behaviour for purchasing of gold jewellery”-<https://shodhganga.inflibnet.ac.in/handle/10603/79443>
2. **Jojo K. Joseph (2021)**“consumer buying behaviour in gold jewellery.”<https://www.researchgate.net/publication/322737352>
3. **V. Selvarani (2020)**“a study on women satisfaction towards gold jewellery.”<http://www.jctjournal.com/gallery/125-feb2020.pdf>
4. **R. Sundari (2020)**“A study on customer preference towards gold jewellery.”<https://www.researchgate.net/profile/Sundari-Ranganathan/publication/352641728>

## IMPACTS OF TECHNOLOGY IN ENVIRONMENT

Mrs. Rini Mercy<sup>1</sup> Ms. Shree Vaishnavi<sup>2</sup> Ms. Nidharshanaa<sup>3</sup> Ms. Subiksha L<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

<sup>2,3,4</sup>Student, Department of B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

**Corresponding Author- Mrs. Rini Mercy**

**DOI- 10.5281/zenodo.7264694**

### **Abstract**

*As we are living in a high-tech society with all the conveniences and comforts available at our fingertip. Even though humans enjoy the growth of technology, it has created a huge impact on our environment directly and indirectly. The impact may be positive as well as negative. The growth of technology from the initial stage started to cause effects for humans as well as the environment. If we get from a deeper perspective, it is always said and believed that technology alone is not harmful but what makes it, is the incorrect usage of it by humans. It is mainly suggested that the best usage of technology can save the environment since its advantages can outweigh the disadvantages of the same.*

**Keywords:** *Environment, technology, impacts, harmful, advantages.*

### **Introduction**

The headway of innovation ceaselessly influences the climate in a positive way as well as a few adverse consequences of innovation on improvement. The variation of mechanical assets in ventures adds to the high expectations for everyday comforts. Proceeded with industrialization brings about natural corruption, particularly in created nations like Ireland. The effect of innovation on the climate incorporates abuse as well as harm to the earth. The impact of innovation on the climate is very huge, which even outcomes in uncommon environment changes across the world. There is the eradication of birds, harm as an unnatural weather change, and an extraordinary spread of sicknesses. The high-level natural innovation makes ordinary living very troublesome, and there is a pressing need to take on one-of-a-kind techniques to handle dormant changes.

### **Theme**

Technology, in other words, is a double-edged sword-one capable both of doing and undoing damage to environmental quality. We will look at technology and the environment in four key areas: energy, climate, water quality, and waste cleanup. In each case, we illustrate the dual nature of technology's environmental implications. We also touch on the emerging relationship between the Internet and environmental quality, one that again seems to cut both ways. We then note how technology is helping to fashion policies

that allow producers and consumers to recognize and internalize the environmental costs of technology and thus to spur innovation to clean up the environment.

### **Energy**

All the world's economies continue to face big challenges in using energy-the lifeblood of the industrial age-while maintaining environmental quality. Although U.S. energy efficiency is much greater than ever before, growth in the economy has assured rising energy consumption. While the average fuel efficiency of new passenger cars has more than doubled since 1975, the environmental gains are increasingly offset by the popularity of lower-mileage light-duty trucks and sport utility vehicles, increases in miles traveled per vehicle, and large increases in vehicle ownership.

Nonetheless, technology-impelled by economic, regulatory, and environmental pressures-has made possible impressive reductions in vehicular emissions of volatile organic compounds and carbon monoxide per mile traveled. Reductions in both by 70-80 percent since 1977 would not have been possible without substantial innovations in, most notably, electronics. Here, the development of sensors that can closely calibrate energy use to demand has meant that both modern engines and industrial motors can be operated much more efficiently. Microcontrollers and digital signal processors also underpin a new generation of auto emissions sensors, which now consume

up to 25 percent less energy. Modern autos have 20-90 of these sensors to control their engines precisely.

### **Climate**

Discussions of energy use lead naturally to the question of how it may be affecting the earth's climate. In the United States, the energy sector accounts for more than 85 percent of total greenhouse gas emissions, with energy-related carbon dioxide alone responsible for about 80 percent. Most U.S. greenhouse gas emissions result from the use of coal and petroleum in electricity generation and transportation, respectively. But two newer technologies, fuel cells and small, single-cycle gas turbines-induced by economic and environmental considerations as well as by innovation policy-offer substantial environmental advantages over traditional, large, centralized power plants. Local generation by smaller plants can not only reduce transmission losses, but also improve air quality since they can be fueled by hydrogen and natural gas-much cleaner than coal on a per kilowatt hour basis. If fuel cells become widely adopted in transportation, emissions will plunge there too.

Adopting such technologies may not be a perfect solution, however, particularly in power generation. Some fuel cell technologies release carbon dioxides, a greenhouse gas. In addition, small-scale plants serving only residential areas or small businesses may be less able to balance the peaks in demand than are larger plants serving both types of customers.

### **Positive Effect On Technology**

The constructive outcomes of innovation on society are broadening the life expectancy of individuals, expanded efficiency through the creations of machines which makes work simpler. The constructive outcomes of innovation on society are expanding the life expectancy of individuals, expanded efficiency through the creations of machines which makes work simpler, reusing of squanders, decrease in carbon dioxide emanations, and sustainable power creation. In a time when climate change, overpopulation and dwindling resources are a main topic of discussion, visions of a cleaner future aided by environmental innovation

give us hope. As technology becomes ever more advanced, its adverse effects on our planet are lessened while its potential for positive impact increases. This win-win situation is helping us to shape our planet for the better.

### **1. We Utilize Less Energy to get things done**

Since we started utilizing power to drive our urban areas, our electrical machines have gradually become increasingly productive. These gradual changes by the way we power our everyday lives have an emotional cascading type of influence over the long haul. However, supplanting a solitary light or overhauling an obsolete clothes washer, we can assist with counterbalancing our overconsumption of power. For instance, a cutting edge Drove light is around 60% more effective than conventional radiant bulbs and has a life expectancy that is quite a bit longer. Presently, we don't have to make and continue.

### **2. Energy Creation Is Becoming More clean**

Even though our reality is turning out to be more energy reliant as life becomes digitized, our approaches to delivering energy are becoming cleaner. Obviously, there's one significant justification for why: sustainable power frameworks. Instances of normal assets we can bridle to diminish our reliance on petroleum products are sun, wind and water. By lessening our reliance on modest regular assets, our contamination yield is decreased step by step.

### **3. Clean Energy Frameworks Are More Successful**

Sustainable power creation permits us to depend less on petroleum derivatives and different kinds of poisons. Mechanical advances in clean energy frameworks are quite possibly of the most compelling motivation why they have turned into a more effective and monetarily suitable choice for people and enterprises the same. For instance, sun-oriented power creation is presently 73% less expensive than it was in 2006.

### **4. Food Creation Is Turning out to be More Eco-Accommodating**

Our approaches to cultivating are turning out to be less unsafe to the climate as we

comprehend how our activities influence encompassing environments. Ranches utilizing current rural strategies can create however much multiple times additional harvests from a similar measure of land when contrasted and past techniques. The food we eat is set to change in the future as well. Meat filled in labs is something that might evoke a couple of cocked eyebrows, however turning into an important wellspring of cleaner, greener protein for humans is anticipated. This innovation removes the requirement for significant land space and water to cultivate nourishment for our animals and is anticipated to be more nutritious than generally cultivated creature meat.

### **5. Reusing Is Decreasing Waste and Contamination**

As reusing innovation creates, we can even more really reuse and reuse a greater amount of our waste. Later, people might have the option to make a 100 percent shut circle framework by reusing most of the materials we use. One of the fundamental advantages of reusing is broadening the lifecycle of ordinary articles. Something as basic as disposing of a water container can prompt asset consumption, modern waste, air and water contamination, living space disintegration, creature elimination and that's only the tip of the iceberg.

### **6. Urban communities Are Turning out to be Less Contaminated**

Urban communities are frequently taken a gander at as focal centers for contamination and energy utilization; however, this thought is gradually turning out to be less obvious. A whole division of innovation is absolutely committed to decreasing poisons from our everyday exercises. Close to the furthest limit of the last 100 years, this innovation has forestalled a fantastic measure of mischief to our planet. Later, urban communities are set to turn out to be much greener. For instance, we will want to create our very own great deal power through cutting edge sun-based cell innovation that can be applied to surfaces like windows and structures. Moving from internal combustion to electric vehicles will eliminate a tremendous level of the discharges radiating from urban

communities from one side of the planet to the other.

### **7. We Are Turning out to be More Mindful of Our Impact In the world**

With each year that passes, individuals become more mindful of how much our reality hurts the planet we live on. Innovation is a monstrous piece of this situation. As individuals have more noteworthy admittance to data, more individuals can understand their effect and track down ways of combatting it. For example, we are better ready to pinpoint the reasons for overpopulation in specific region of the world. Innovation assists us with giving assets like clean water, training, and clinical consideration where they're required most.

#### **Negative Effect On Technology**

The modern upheaval has achieved new innovations with colossal power. These advancements have harmed our reality in two principal ways: contamination and the exhaustion of regular assets.

#### **1. Air and water contamination**

Air contamination happens when unsafe or exorbitant amounts of gases are brought into the world's air. The outcomes of air contamination incorporate negative wellbeing influences for people and creatures and a worldwide temperature alteration.

Water contamination then again is the defilement of water bodies as a rule because of human exercises. The absolute most normal water poisons are homegrown waste, modern effluents and insect poisons and pesticides.

#### **2. Resource consumption**

IT is one more adverse consequence of innovation on the climate. It alludes to the utilization of an asset quicker than it tends to be renewed. Because of the rising worldwide populace, levels of regular asset debasement are likewise expanding.

#### **3. Huge Energy Use and Carbon Impression.**

Makers require monstrous energy to transform unrefined substances into the complex electronic, innovative items we use. Transportation of these items all over the planet likewise accompanies a high carbon cost.

#### **The Pandemic Phase**

The Covid-19 pandemic has led to an inevitable surge in the use of digital technologies due to the social distancing norms and nationwide lockdowns which also affects the environment. People and organizations all over the world have had to adjust to new ways of work and life. An increase in digitalization in leading firms and as well as educational institutions to has led to shift to work-from-home (WFH). Workplace monitoring and technostress issues will become important with an increase in digital presence. Online fraud is likely to increase and regulation of the internet, will be considered a crucial post-pandemic cause.

With the spread of the covid cases all over the world, almost all regions have implemented lockdowns, shutting down all activities that require human gathering and interactions - including colleges, schools, malls, temples, offices, airports, and railway stations. The lockdown has resulted in most people taking to the internet and internet-based services to communicate, interact, and continue their jobs from home. Internet services rises its usage from 40 % to 100 %, compared to pre-lockdown levels. Video-conferencing services like Zoom have seen ten times increase in its usage. Cities like Bangalore have seen a 100 % increase in internet traffic.

The lockdowns across countries have seen a rise in the use of information systems and networks, with drastic change in usage patterns and their behavior. Employees are adjusting to new "normal" - with meetings going completely online, office work shifting to the home. These changes have come across most organizations, whether in business, society, or government. The changes have also come suddenly, with barely any time for organizations and people to plan for, prepare

and implement new setups and arrangements; they have had to adjust, try, experiment, and find ways that did not exist before. It is in this context that we use the information systems to continue in the same way for some time in the future as during the lockdown. We can see the possible scenarios in this increase in information technology usage during and post the pandemic. The estimation of these effects assumes that there was a digital transformation already, before the pandemic set in, and it will take certain forms owing to the impact of the lockdowns.

### **Conclusion**

Global warming, soil contamination, ozone depletion, hazardous wastes, acid rain, radioactive hazards, climate change, desertification, deforestation, noise, and diminishing biodiversity are examples of current environmental problems that are common to nations worldwide. The growth in human population has resulted in an increase in the standard of living, however it has also increased the misuse of technology. If the existing human-environment interaction continues and if the human population increases with the current trends, the evidence shows that irreversible environmental damage may be caused to the planet.

However, the knowledge gained by science and clever use of technology, coupled with the willingness and positive attitude of people as individuals.

### **Reference Websites**

1. [www.Myresearchtopics.com](http://www.Myresearchtopics.com)
2. [www.Edinburgsensors.com](http://www.Edinburgsensors.com)
3. [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)
4. [www.Study.com](http://www.Study.com)
5. [www.brookings.edu](http://www.brookings.edu)
6. [www.researchgate.com](http://www.researchgate.com)

## A STUDY ON STUDENT'S LEVELS OF AWARENESS ABOUT CONSUMER RIGHTS

Dr. A. Meenakshi<sup>1</sup> Ms K. S. Harini<sup>2</sup> Ms. M. Priyanka<sup>3</sup> Ms. S. Suvetha<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of B.Com (CA), PSGR Krishnammal College for Women, Coimbatore

<sup>2,3,4</sup>Student, III B.Com (CA), PSGR Krishnammal College for Women, Coimbatore

**Corresponding Author- Dr. A. Meenakshi**

**DOI- 10.5281/zenodo.7264706**

### **Abstract**

*Consumer is an important component of society and business has an obligation to him. Consumer rights awareness to prevail amongst the consumer to protect them from unfair trade practices and to give them the idea of the utility of money spent by them. Consumer occupies a supreme position in a free economy. But, he never received the attention he deserves. In a country like India, he is not the sovereign but a slave. The welfare of the consumer lies in the fulfillment of normal and expectation with regards to the goods and services. The study has focused on the consumer rights awareness among students. The data has been collected from 200 respondents by applying convenient sampling technique. Statistical tools such as percentage analysis, descriptive statistics, mean ranking, chi-square analysis, ANOVA and t-Test has been used to analyse the data. The study suggests that each and students should understand about consumer rights and schools and colleges should conduct awareness program about consumer rights.*

**Keywords:** consumer, consumer rights and awareness.

### **Introduction**

“The customer is the most important visitor in our premises; he is not dependent on us. We are dependent on him. He is not an interruption in our work. He is the purpose of it. He is not an outsider in our business. He is the part of it. We are not doing him a favour by serving him. He is doing us a favour by giving us an opportunity to do so”.

**Mahatma Gandhi.**

Consumer rights awareness is now an integral part of our lives like a consumerist way of life. We all have made use of them at some point in our daily lives. Market resources and influences are growing by the day and the awareness of one's consumer rights is important. These rights are well-defined and there are agencies like the government, consumer courts and voluntary organizations that work towards safeguarding them. We all like to know about our rights and make full use of them. Every individual needs to be aware of their rights as a consumer. He should learn how to protect himself and how to become a smart buyer while shopping online or offline. The benefits of consumer awareness of an individual include enhanced critical thinking, improved life skills and increased self-confidence.

### **Statement Of The Problem**

People are not aware about their rights against unscrupulous practices of manufactures or traders in relation to goods and services supplied by them. People do not know what they should do in case if they are to be subject to fraud by them. Lack of consumer education is the problem of unawareness among the people about available rights. Poor and backward consumers are exploited by traders in different ways such as the sale of substandard quality, expiry date product, etc. Consumers are not given correct information and after sale service provided is not adequate. Unfair trade practices such as charging high price, selling low quality products, false weight and measures, adulteration and impurity, false and incomplete information, and misleading advertisements are common. Consumer exploitation has become synonymous of profit making for the sellers. Consumers are still being exploited due to lack of awareness on consumer rights.

### **Scope Of The Study**

The study covers students in and around Coimbatore city. The scope of the study reveals about the level of awareness about consumer rights among students and also to identify their sources of information about consumer rights. Every students as a

consumer should use their rights and to understand about consumer rights to avoid exploitation. The study attempts to analyse the usage of consumer rights among students while purchasing goods and related problems and exploitation.

**Objectives Of The Study**

To identify the level of awareness among students regarding consumer rights.

**Research Methodology**

**Period of the study:** The period of the study is from December 2019 - March 2020.

**Sampling technique:** The sampling technique used is convenient sampling.

**Area of the study:** The study is conducted among students with reference to Coimbatore city.

**Sample size:** A total of 200 students have been considered for the study.

**Sources of data:**

1) **Primary data:** Data to be collected for analysis from students is a structured questionnaire.

2) **Secondary data:** The secondary data were collected from journals and magazines. Periodical information from different websites was also used for the study.

**Findings Of The Study**

**Statistical tools used for the study:**

Percentage analysis, Descriptive statistics, ANOVA, t- Test, Chi-square analysis and Mean ranking

**Review Of Literature**

**Gagandeep Banga, Karan Wadhwa and Babita Kumar (2016)** founded that out of 100 respondents, 70 percent of the respondents aware about consumer rights and 30 percent of the respondents were not aware about consumer rights. They stated that 60 percent of consumers were familiar with right to information, 55 percent of the consumers were aware about right to education whereas 45 percent of the consumers aware about right to choose and right to safety, 32 percent of the consumers were aware about right to heard and merely 15 percent of the consumers aware about right to seek redressal.

**Nitin Bisht Sanjeev (2018)** has stated that out of 100 respondents, only few respondents were considered MRP/price and he reveals that very low level of respondents were considered manufacturing and expiry date of the product.

**Table: 1 Demographic factors of the respondents**

| Demographic Factor        | Particulars        | No. of Respondents | Percentage |
|---------------------------|--------------------|--------------------|------------|
| Age (in years)            | Below 15           | 21                 | 10.5       |
|                           | 15 to 18           | 46                 | 23.0       |
|                           | 18 to 21           | 64                 | 32.0       |
|                           | Above 21           | 69                 | 34.5       |
| Gender                    | Male               | 81                 | 40.5       |
|                           | Female             | 119                | 59.5       |
| Educational Qualification | School level       | 67                 | 33.5       |
|                           | Undergraduate      | 49                 | 24.5       |
|                           | Postgraduate       | 47                 | 23.5       |
|                           | Professionals      | 37                 | 18.5       |
| Nature of the family      | Nuclear            | 154                | 77.0       |
|                           | Joint              | 46                 | 23.0       |
| Family monthly income     | Below Rs20000      | 21                 | 10.5       |
|                           | Rs20001 to Rs30000 | 29                 | 14.5       |
|                           | Rs30001 to Rs40000 | 50                 | 25.0       |
|                           | Above Rs40000      | 100                | 50.0       |
| Area of residence         | Urban              | 141                | 70.5       |
|                           | Rural              | 59                 | 29.5       |
|                           | <b>Total</b>       | <b>200</b>         | <b>100</b> |

Source: Primary data

**Interpretation:**

The table 1 shows that, 34.5 percent of the respondents are in the age group of

above 21 years, 59.5 percent of the respondents are female as a gender, 33.5 percent of the respondents are school level,

77.0 percent of the respondents are nuclear family, 50.0 percent of the respondents family monthly income were above Rs40000

and 70.5 percent of the respondents are in urban area.

**Table: 2 Level of awareness of consumer rights - Descriptive analysis**

| Awareness of consumer rights | No. of Respondents | Minimum | Maximum | Mean | SD   |
|------------------------------|--------------------|---------|---------|------|------|
| Aware of basic needs         | 200                | 1       | 3       | 2.61 | .538 |
| Aware of safety              | 200                | 1       | 3       | 2.43 | .606 |
| Aware of information         | 200                | 1       | 3       | 2.31 | .690 |
| Aware of choose              | 200                | 1       | 3       | 2.22 | .731 |
| Aware to be heard            | 200                | 1       | 3       | 1.92 | .732 |
| Aware of seek redressal      | 200                | 1       | 3       | 1.77 | .753 |
| Aware of education           | 200                | 1       | 3       | 1.84 | .737 |
| Aware of healthy Environment | 200                | 1       | 3       | 1.96 | .772 |

Source: Computed data

**Interpretation:**

The table 2 shows that, aware of basic needs is the highest level of awareness with the mean rating of 2.61 followed by aware of safety with the mean rating of 2.43, aware of information with the mean rating of 2.31, aware of choose with the mean rating of 2.22,

aware of healthy environment with the mean rating of 1.96, aware to be heard with the mean rating of 1.92, aware of education with the mean rating of 1.84 and aware of seek redressal with the lowest mean rating of 1.77.

**Table: 3- Demographic factors vs. Level of awareness of consumer rights - ANOVA**

| Demographic Factor        | Classification     | Mean   | SD     | F Value | Sig. | NS/S |
|---------------------------|--------------------|--------|--------|---------|------|------|
| Age (in years)            | Below 15           | 1.8057 | .41182 | 13.433  | .000 | S    |
|                           | 15 to 18           | 1.8965 | .37487 |         |      |      |
|                           | 18 to 21           | 2.2381 | .48790 |         |      |      |
|                           | Above 21           | 2.3006 | .41297 |         |      |      |
| Educational Qualification | School level       | 1.9203 | .43223 | 9.270   | .000 | S    |
|                           | Undergraduate      | 2.1931 | .46241 |         |      |      |
|                           | Postgraduate       | 2.2015 | .45963 |         |      |      |
|                           | Professionals      | 2.3662 | .40907 |         |      |      |
| Family monthly income     | Below Rs20000      | 2.2171 | .44764 | .373    | .773 | NS   |
|                           | Rs20001 to Rs30000 | 2.0752 | .39277 |         |      |      |
|                           | Rs30001 to Rs40000 | 2.1420 | .44446 |         |      |      |
|                           | Above Rs40000      | 2.1330 | .50772 |         |      |      |
| Family monthly income     | Rs20001 to Rs30000 | 2.0752 | .39277 |         |      |      |
|                           | Rs30001 to Rs40000 | 2.1420 | .44446 |         |      |      |
|                           | Above Rs40000      | 2.1330 | .50772 |         |      |      |

Source: Computed data

**Interpretation**

**Age**

The F-ratio value suggests that there is a significant difference in the mean 'Level of awareness of consumer rights' with the respondents of age. Hence, the null hypothesis has been rejected with respect to 'Age'.

**Educational Qualification**

The F-ratio value suggests that there is a

significant difference in the mean 'Level of awareness of consumer rights' with the respondents of educational qualification. Hence, the null hypothesis has been rejected with respect to 'Educational Qualification'.

**Family Monthly Income**

It has been concluded with F-ratio value that there is no significant difference in the mean 'Level of awareness of consumer rights' with the respondents of family monthly income.

Hence, the null hypothesis has been accepted with respect to 'Family monthly income'.

**Table: 4- Demographic factors vs. Level of awareness of consumer rights - t- Test**

| Demographic factor   | Classification | Mean   | SD     | t Value | Sig. | NS/S |
|----------------------|----------------|--------|--------|---------|------|------|
| Gender               | Male           | 2.0991 | .45046 | -.909   | .570 | NS   |
|                      | Female         | 2.1606 | .48153 |         |      |      |
| Nature of the family | Nuclear        | 2.1603 | .48381 | 1.358   | .047 | S    |
|                      | Joint          | 2.0535 | .40983 |         |      |      |
| Area of residence    | Urban          | 2.2189 | .49515 | 4.025   | .000 | S    |
|                      | Rural          | 1.9368 | .32535 |         |      |      |

Source: Computed data

**Interpretation:**

**Gender**

The t value suggests that there is no significant difference in the 'level of awareness of consumer rights' when they are classified based on their gender. Thus, the null hypothesis has been accepted with respect to the factor 'Gender'.

**Nature of the family**

With the t value it has been found that there is significant difference in the 'level of awareness of consumer rights' when they are classified based on their nature of family. Thus, the null hypothesis has been rejected with respect to the factor 'Nature of family'.

**Area of residence**

With the t value it has been found that there is significant difference in the 'level of awareness of consumer rights' when they are classified based on their area of residence. Thus, the null hypothesis has been rejected with respect to the factor 'Area of residence'.

**Suggestions**

The following suggestions have been given based on the findings of the study:

1. It is necessary that each and every student should understand the concept of eight types of consumer rights.
2. In every colleges and schools the awareness program on consumer rights should be conducted.
3. Every student should use consumer rights in a right way as a consumer.
4. If they know very well about the consumer rights, the problems cannot be raised.

**Conclusion**

The study concludes that students' level of awareness is not much impressive. The best interest of consumers can only be

protected through effective cooperation among consumers, businessmen and government. The Government must take concrete steps in increasing consumer awareness like encourage consumer education, training and research. India is a vast country where majority of consumer is poor, helpless and disorganized regarding consumer rights. Further the market in India is very easy to exploit consumers who seems to be neither knowledgeable nor well informed. The consumer needs support and protection from the unscrupulous seller in the market. A common consumer is not in a position to approach a civil court against his complaints as due to lack of awareness of their rights, so the government has to implement some measures in a strict way so that the entire consumer community will be educated to a maximum extent about their rights. The success of consumerism is possible only when all the consumers are fully aware of their rights.

**Reference**

1. Gagandeep Banga, Karan Wadhwa and Babita Kumar (2016), "Consumer awareness about their rights and Grievance Redressal Mechanism". International Journal of Research in Finance and Marketing, volume-6, ISSN: 2231-5985.
2. Tamilmani (2015), "A study on consumer's awareness on consumer rights with reference to Coimbatore City". International journal of applied research, volume-2, ISSN: 2394-7500.
3. Kangkana chaudhury (2017), "Consumer awareness among college students". International journal of research-Granthaalayah, volume-5, ISSN: 2394-3629.
4. Natarajan, Porkodi and Murugan (2018),

“A study on consumer awareness on consumer rights in dindugal district”. International Journal of Pure and Applied Mathematics, volume-119, ISSN: 1311- 8080.  
5. Madugu Vijay Kumar (2016), “An Assessment of Consumer Awareness and protection”. International Journal of Humanities & Social Science Studies, volume-2, ISSN: 2349-6711.

## LAND USE CHANGE AND AGRICULTURE OF 24 PARGANAS (S): A CASE STUDY

**Madhuchhanda Dhole**

Designation: Research Scholar, R.K.D.F. University, Ranchi

**Corresponding Author- Madhuchhanda Dhole**

Email- [madhuchhandadhole@gmail.com](mailto:madhuchhandadhole@gmail.com)

DOI- 10.5281/zenodo.7264714

### **Abstract:**

*Land is the basic element of a country. It is used in various ways depending on the location. The fertile land is used for cultivation, uplands are used for residential purposes and grassland is used for pasture and some lands become fallow land for its nature. The main source of food is agriculture and a large area of land is used for it traditionally. The agricultural pattern is reflected in the land use system. Even the utilization of land is also affected by the land use system. Though the settlement is under the land use system and the growth of the population change the land use pattern, it also impacts the agricultural sector. The urban area is the source of the tertiary economic system, so the economic system and the land use pattern are changing with time. As a result, the primary cum agricultural sectors have been changing into industrialization.*

**Key words:** *Agriculture, Changes, Land use, Urbanization.*

### **Introduction:**

How people utilize land is referred to as "land usage." It shows the economic and cultural activities occurring in a certain area, such as mining, habitation, industry, and leisure pursuits. Land use changes occur often and on a variety of scales, and they can have unique and cumulative effects on the state of the climate, the quantity and condition of wildlife habitats, the operation of watersheds, the creation of waste, and the quality of the air and water. Land development and agricultural usage, which both have a wide range of potential consequences, are two of the most pressing issues (Land Use-US EPA, 2022). The district 24 PGS (S) is the southmost part of the Gangetic Alluvial Coastal Plane under the state of West Bengal and it covers 9960 sq. km area in this state (District Census Handbook South Twenty-Four Parganas, 2011). The State Statistical Handbook of West Bengal reports that in 2015, different types of land increased and decreased in West Bengal, with 24 PGS (S) in various years. From 2012–2013 to 2014–2015, West Bengal's net area was sown and rose, but other lands shrank. In the case of 24 PGS(S), the area not available for cultivation and the net area planted increased, while another uncultivated land, excluding current fallow and current fallow, decreased from 2013-14 to 2014-15.

The primary crop acreage, production, and yield rate were thus raised in both sectors during this session. If the data from several years ago could be noted in this data source, then it would be a clear picture of the uses of land area. In this short period, it has been observed that the net area has been sown and production has increased. Cropping intensity has increased from the years 1990–1991 to 2014–2015 because the Gross Cropped Area increased while the Net Cropped Area declined. Despite an increase in the area of unusable land and a decrease in fallow land, the net area seeded or net cropped area increased more than previously. For land utilization, the same feature has been observed in 24 PGS(S). However, it is important to note that the land-use pattern has altered over time due to several variables (State Statistical Handbook of West Bengal, 2015). The land use pattern change is not only one reason, the rapid change of urbanization is also responsible for these changes.

### **Objectives:**

1. To find out about the incidences of land use and land cover change along with agriculture.
2. To find out the relationship between land use change and growing up of urbanization.

### **Hypothesis:**

1. There is a relationship between agricultural and land use change.

2. Land use change occur due to the growth of urbanization.

**Methodology:**

years from websites. Also, the primary data has been collected based on the questionnaire. The researcher has done some literature review and found the basic changes and then selected the study area and done a case study on a small area of the district. The study blocks area Budge Budge Block-I, II and Thakurpukur-Mahestola etc. The stratified and simple random sampling process has been used to select the sample households from the blocks. A total of 298 households have been selected and surveyed for the data collection. After collecting data, the researcher tabulated and established the relationship among the data and reached a conclusion. **Analysis and data analysis:**

**Changes in Land use and Agriculture-**

The data was taken from the West Bengal Development Report, 2010, and is provided for the years 2006–07 through 2018–19, that have been shown in table.1. The West Bengal Development Report from 2010 estimates the district's total area to be 948710 hectares. This table divides the land into nine categories based on hectares. The overall area of forest has not changed, while the amount of cultivable wasteland, current fallow land, past fallow land, and non-agricultural land has increased throughout time. Conversely, the formerly designated area for the land use purposes of pasture and grazing, land under miscellaneous tree crops and groves not included in net area sown, and the barren, net area is sown, and unculturable land has been lost.

Table.1. Estimated Land use Statistics of 24 PGS(S), Area in Hectare

| Year    | Total area | Culturable Waste land | Current fallow | Fallow land other than Current fallow | Pasture and grazing land | Land under Miscellaneous tree crops and groves not included in Net Area Sown | Barren & Unculturable land | Non-Agricultural | Forest | Net Area Sown |
|---------|------------|-----------------------|----------------|---------------------------------------|--------------------------|--|----------------------------|------------------|--------|---------------|
| 2006-07 | 948710     | 511                   | 6391           | 238                                   | 50                       | 5309   | 453                        | 136615           | 426300 | 372843        |
| 2008-09 | 948710     | 504                   | 4632           | 204                                   | 44                       | 2863   | 439                        | 140064           | 426300 | 373660        |
| 2011-12 | 948710     | 440                   | 14814          | 324                                   | 0                        | 3504   | 279                        | 143753           | 426300 | 359296        |
| 2015-16 | 948710     | 5                     | 9532           | 200                                   | 80                       | 4698   | 380                        | 145412           | 426300 | 362103        |
| 2018-19 | 948710     | 16                    | 9270           | 270                                   | 33                       | 4020   | 220                        | 150281           | 426300 | 358300        |

*Source: West Bengal Development Report, 2010*

The effectiveness of the pond and garden change area is lacking. From table.2 the outcome can be determined when there have been significant changes in the relationship between agricultural land and settlement. Every block experienced a change, but the T-M block saw the biggest increase in habitation area and a decrease in agricultural land. An important factor in modifying the land-use pattern is the land transaction between the land owner and the customer. According to information gathered from the local population, selling a cultivable field as a plot has been popular and is still

popular now. Locals claim it has brought about a new issue for landowners in the area. Some people choose to sell to meet their requirements, whereas others are forced to do so without a legitimate justification. The main reason people are leaving their land is to make more money They claim that growing the crop is not advantageous to them and that the present generation is more likely to be connected to non-agricultural jobs. Because they are not generally recognized as farmers and, in the majority of cases, grow a crop for their consumption, the field is therefore considered as fallow,

currently fallow, or non-agricultural property. They are becoming less interested in cultivation as a result of the inadequate

infrastructure, drainage system, and climatic conditions.

| Blocks             | Thakurpukur-Mahestola |            | Budge Budge Block-II |            | Budge Budge Block-I |            |
|--------------------|-----------------------|------------|----------------------|------------|---------------------|------------|
|                    | Before 2010           | After 2010 | Before 2010          | After 2010 | Before 2010         | After 2010 |
| Homestead          | 162.15                | 285.47     | 123.56               | 165.45     | 96.47               | 147.79     |
| Agricultural field | 746.24                | 367.58     | 1636.15              | 949.49     | 567.57              | 335.67     |
| Garden             | 10.56                 | 11.67      | 11.78                | 12.32      | 11.56               | 11.54      |
| pond               | 8.48                  | 7.49       | 14.64                | 14.63      | 6.36                | 6.09       |
| Others             | 369.57                | 624.79     | 2863.87              | 3508.11    | 267.04              | 447.91     |

*Source of data: BL & LRO, Budge Budge Block-I, II & T-M Block.  
Note: 1 square meter is equal to 0.0003953686105 bigha. Source: Convert Square Meter to Bigha. <https://housing.com/calculators/square-meter-to-bigha>*

The researcher has included a question in the survey to determine whether the locals are aware of land-use change and its causes, whether they believe that the land has been changing or not, and, if so, what the causes are and how they affect people and the environment. The data analysis was done using a Likert scale. The adjustment in the land-use system has received strong support from the residents of every block. The majority of individuals have firmly agreed and agreed with the assertion that, indeed, agricultural fields have comparatively decreased in the situation of the lower incident.

**Growing up of the Urbanization and Land use change-**

In table.3, data for the areas, households, villages, census towns, and municipalities, as well as the population by sex for the 24 PGS(S)'s rural and urban sectors and three study blocks, are shown for the two decades between 2001 and 2011. The necessary information has been gathered from the District Census Handbooks for the years 2001 and 2011 to examine the population

trends between urban and rural districts and study blocks. In 2011, compared to prior decades, the urban area in the district of 24 PGS(S) increased many times while the rural area shrank by 2.5%. Similar to how rural areas have shrunk and been transformed into cities, the urban sector has increasingly spread its structure. Budge Budge, Pujali, and Maheshtala are the three municipalities or statutory towns included in the research area. The Pujali Municipality occupies the smallest territory, while the Maheshtala Municipality is responsible for the largest. In three statutory towns, there were more households in 2011 than there were in 2001. Both the total population and households have grown. Similar to that, this area's population density has grown. However, compared to the other two municipalities, the increased rate is the highest in every respect. Sex ratios have increased throughout the town, although the Budge Budge Municipality region has the highest rate of sex ratio growth. These data have been shown in table.4.

| Year | Rural         |             |                |             |             | Urban         |            |                                       |            |            | Population Density to total (Urban+Rural) = (Person/sq.km) | Administrative Sector (District/Block) |
|------|---------------|-------------|----------------|-------------|-------------|---------------|------------|---------------------------------------|------------|------------|--|--|
|      | Area (sq. km) | House Hold  | No. of Village | Population  |             | Area (sq. km) | House Hold | No. of Census Town and Municipalities | Population |            |  |  |
|      |               |             |                | Male        | Female      |               |            |                                       | Male       | Female     |  |  |
| 2001 | 978<br>3.24   | 1088<br>976 | 214<br>0       | 2997<br>270 | 2823<br>199 | 176.<br>76    | 232<br>953 | 21                                    | 5677<br>23 | 5184<br>97 | 693  | 24<br>Pargana                          |

|    |      |      |     |      |      |      |     |     |      |      |     |       |
|----|------|------|-----|------|------|------|-----|-----|------|------|-----|-------|
| 20 | 954  | 1298 | 204 | 3109 | 2964 | 418. | 482 | 118 | 1064 | 1023 | 819 | s (S) |
| 11 | 1.28 | 259  | 2   | 219  | 969  | 72   | 962 |     | 559  | 214  |     |       |

Source: District Census Handbook of South Twenty-Four Parganas, Census of India Report, 2001 and 2011

| Municipality/Statutory Town | Area in sq.km | House Hold |        | Total Population |        | Population Density (Person/sq.km) |          | Sex Ratio |      |
|-----------------------------|---------------|------------|--------|------------------|--------|-----------------------------------|----------|-----------|------|
|                             |               | 2001       | 2011   | 2001             | 2011   | 2001                              | 2011     | 2001      | 2011 |
| Budge Budge                 | 9.06          | 16293      | 18055  | 75531            | 76837  | 8336.75                           | 8480.91  | 835       | 945  |
| Pujali                      | 8.32          | 6772       | 8587   | 33858            | 37047  | 4069.47                           | 4452.76  | 917       | 956  |
| Maheshtala                  | 44.18         | 79927      | 101453 | 385266           | 448317 | 8720.37                           | 10147.51 | 904       | 952  |

Source: District Census Handbook of South Twenty-Four Parganas, 2001 & 2011

In table.5, the area of the urban and rural sectors of the study blocks has been distributed and the decadal change area has been shown. The area of the urban sector has increased and the rural area has decreased in

all blocks. That is indicating that the rapid increase of population and the land use pattern has been changing due to the rapid spread of urbanization.

| Name of Blocks                | Census 2001    | Census 2011    |
|-------------------------------|----------------|----------------|
|                               | Area in sq. km | Area in sq. km |
| Budge Budge -I (Rural)        | 13.09          | 10.68          |
| Budge Budge -I (Urban)        | 13.46          | 15.87          |
| Budge Budge - II (Rural)      | 72.79          | 61.7           |
| Budge Budge - II (Urban)      | 5.21           | 16.3           |
| Thakurpukur-Mahestola (Rural) | 56.19          | 42.61          |
| Thakurpukur-Mahestola (Urban) | 6.89           | 20.47          |

Source: Census of India, 2001 & 2011.

**Conclusion:**

The overall result is based on the given data and analysis of these data; it has been said that the land use pattern has changed along with the agricultural lands. There have many reasons for changing the land use and agricultural sectors. The main reason is the growth of urbanization in the study area. As the population has been increasing, for the necessity of habitation, the agricultural lands have been converted into a residential area.

Other causes are lack of interest, loss in the production of traditional agricultural systems and infrastructure and growing interest in other jobs or economic sectors. In this way, the researcher has tried to prove all

The objectives and the hypothesis. Also, the researcher has suggested that as agriculture is the main source of crop production in a huge populated country like India and pressure of food demand, moreover to save the economy of a country for the food purpose, self-food production is essential for a country, mainly for over-crowded countries. The agricultural sectors can be improved in the secondary and tertiary sectors with the help of modern technologies, skills and infrastructure. For that investment and planning is necessary. The government and non-governmental sectors should extend their encouragement to establish a new attempt for this purpose.

**References:**

1. *BL & LRO, Budge Budge Block-I, II & T-M Block.*  
<https://housing.com/calculators/square-meter-to-bigha>
2. Census of India, 2001 & 2011.  
<https://censusindia.gov.in/census.website/>
3. District Census Handbook South Twenty-Four Parganas. Village and Town Directory. Directorate of Census Operations West Bengal. (2001 & 2011).  
[https://censusindia.gov.in/2011census/dchb/DCHB\\_A/19/1917\\_PART\\_A\\_DCHB\\_SOUTH%20TWENTY%20FOUR%20PARGANAS.pdf](https://censusindia.gov.in/2011census/dchb/DCHB_A/19/1917_PART_A_DCHB_SOUTH%20TWENTY%20FOUR%20PARGANAS.pdf)
4. Land Use-US EPA, (2022). Report on the Environment.  
<https://www.epa.gov/report-environment/land-use>
5. State Statistical Handbook West Bengal (2015) Bureau of Applied Economics & Statistics Department of Statistics & Programme Implementation Government of West Bengal.
6. West Bengal Development Report (2010). Planning Commission. Government of India. Academic Foundation. New Delhi.

## **A THEORETICAL ANALYSIS OF FACTORS AFFECTING BITCOIN PRICE**

**Ms. Anshul Agrawal<sup>1</sup> Dr. Mukta Mani<sup>2</sup> Dr. Sakshi Varshney<sup>3</sup>**

<sup>1</sup>Research Scholar, Department of Humanities, and Social Sciences, Jaypee Institute of Information Technology, Noida, Uttar Pradesh, India

<sup>2</sup>Associate Professor, Department of Humanities, and Social Sciences, Jaypee Institute of Information Technology, Noida, Uttar Pradesh, India

<sup>3</sup>Assistant Professor, Department of Humanities, and Social Sciences, Jaypee Institute of Information Technology, Noida, Uttar Pradesh, India

**Corresponding Author- Ms. Anshul Agrawal**

Email- [agrawalanshul1988@gmail.com](mailto:agrawalanshul1988@gmail.com)

**DOI- 10.5281/zenodo.7264722**

### **Abstract-**

*Bitcoin is a popular Cryptocurrency that uses Blockchain technology. As Bitcoins prominence in modern finance grows, it attracts investors and financial institutions to invest on it. Because of its highly speculative and unpredictable behavior, investors want to know what fundamental and technical characteristics influence the Bitcoin price to protect their investment and portfolio. The main objective of this study is to determine what factors influence Bitcoin price and how it acts technically in the market. This study is useful for investors, policymakers, and financial institutions to save and secure their portfolios before investing in Bitcoin.*

**Keywords:** *Bitcoin, Disposition effect, Blockchain, supply and demand*

---

### **Introduction and Literature review-**

Cryptocurrencies have become one of the most trending topics in recent economic and financial issues. The advancement of this technology is a revolution in technological and finance stream. A Cryptocurrency is a digital or virtual currency that is based on cryptography and Blockchain technology (Corelli, 2018). Blockchain is a distributed computing platform that processes and records transactions across multiple machines. As a result it is difficult to counterfeit. It works on decentralized system (Grinberg, 2015), which means that it is not issued by any central authority or financial institutions. It is an independent entity. It was designed from the start to take advantage of the Internet's capabilities. Cryptocurrency transactions are verified and secured by user computers connected to the currency exchange network rather than traditional banking institutions. Bitcoins core feature distinguishes it from traditional fiat currency, which is backed and supervised by the nation's central government.

Bitcoin, on the other hand, is an autonomous virtual currency, with its price determined by what investors are prepared to pay for it at any given time. In 2009, a single Bitcoin price was around \$0.00001 and as on today date it crosses \$680000. With the significant surge in Bitcoin values, investors are eager to invest in it while also learning about the primary elements that influence its prices. Over 12,000 different types of Cryptocurrencies are publicly traded, according to CoinMarketCap.com website. The total worth of all Cryptocurrencies was over \$2.1 trillion on December 2021. The total worth of Bitcoin is around \$868.7 billion. Analyzing and determining the reasons for the price movement of Bitcoin is extremely very challenging because of its highly volatile and speculative behavior. Figure 1 shows the historical price movement of Bitcoin price from 2010-2022. The historical price movement of Bitcoin price is one of strong price spikes followed by dips and finally stasis. However, when the pattern repeats, the Bitcoin price rises dramatically with each cycle.



Source: Investopedia.com

Figure 1 Historical price movement of Bitcoin price

### **Cryptocurrencies and behavioral finance**

It is critical to investigate the behavior of Cryptocurrencies as well as the factors that influence

their prices. Because Cryptocurrency has been observed to exhibit highly volatile behavior, abrupt market, and ambiguous fundamentals value because it does not generate any income or utility of its own, it is very difficult to obtain its factual value, making it more difficult to ascertain those crucial factors which are affecting the value of Cryptocurrency market. These reactions increased the behavioral bias in the Cryptocurrency market, which causes inefficiencies such as information overreaction, resulting in market bubbles and crashes (Shiller, 2003). To understand the behavior of investors behind these bubbles and crashes, Shefrin and Statman (1985) described the disposition effect and observed key investors selling those assets whose values are rising and holding those assets whose values are falling. However, Haryanto et al. (2020) found that the disposition effect of the Cryptocurrency market is slightly different because the trader/investor is buying or holding the Cryptocurrency in both the trends i.e. bullish and bearish. Such behavior could be a core reason for price enrichment and high returns.

Based on previous studies, various researchers have come to conclusions on the elements that impact the price movement of Cryptocurrency and Bitcoin.

According to Kim et al., (2016), news and social media are the primary components of the Bitcoin price movement. Kristoufek (2013) found a significant linkage between Bitcoin and search engines like Wikipedia and Google trends. In addition to Kristoufer (2013), Kristoufer (2015) asserts supply and demand are the focal factors of the Bitcoin price movement. However, Ciaian, Rajcaniova, and Kancs (2016), on the other hand, investigate macroeconomic and financial developments. Furthermore; Adjei (2019) explored technological factors, Sovbetov (2018) proposed interest rate, and Ciaian et al. (2018) elaborated that Bitcoin price has a significant impact due to its attractiveness among investors. As we all know, this digital currency has reached the point of no technical return.

Its philosophy should not be overshadowed by an examination of Cryptocurrencies in general, because it is associated with automation and robotic transactions. As technology grows increasingly and is incorporated into daily lives, it is evident that one day Bitcoin may be surpassed by real currencies (Jamal and Refk, 2015). Apart from these factors, large corporate firms contribute significantly to the popularity of the Bitcoin price. Previously, only non-institutional investors were drawn to the value of Bitcoin, but now large organizations are also holding Bitcoin as an asset. Many publicly traded companies around the world hold large amounts of Bitcoins, such as Microstrategy Inc holds approximately 114,042 Bitcoins

worth 5.277 billion dollars, Tesla holds 38,300 Bitcoins worth 1.772 billion dollars, Galaxy Digital holds approximately 14,932 Bitcoins worth 691 million dollars, Square holds 8,027 Bitcoins worth 371 million dollars. We can observe from the preceding discussion that social adoption is the primary driver of Bitcoins' popularity and price movement. Investors or market participants believe they can sell Bitcoin at a higher price in the future to earn more profits; as more buyers enter the market, the price rises, attracting more buyers; and so on. But the opposite is also true. A loss of confidence in the currency will only encourage more people to sell, resulting in a downward spiral. As a result, this could be a major factor in Bitcoin price movement.

#### **Conclusion-**

Bitcoin is the most popular Cryptocurrency, accounting for 68% of the market. In a very short period, its price has increased significantly. Now a day's investors and portfolio managers are adopting Bitcoin as an alternative investment platform to increase their profits. However, because of its speculative nature, investors are concerned about knowing exactly what variables are influencing its values. Several factors have an impact on its prices, both directly and indirectly. This study investigates the elements that influence the Bitcoin price. The study reveals that demand-supply is the major factor that influences the Bitcoin price. Its price depends upon the investor's perception and its behavior if investors want to invest in it then it is ready to pay any amount to buy it, at that time the price of Bitcoin is sharply increasing. If investors perceive negative aspects of Bitcoin and suddenly want to sell then Bitcoin price sharply declines. This study is limited to theoretical aspects of factors influencing Bitcoin prices. Future studies can be conducted on other technological factors as well as trading patterns.

#### **References**

1. Adjei, F. (2019). Determinants of Bitcoin Expected Returns. *Journal of Finance and Economics*, 7(1), 42–47. <https://doi.org/10.12691/jfe-7-1-5>.
2. Ciaian, P., Rajcaniova, M., & Kancs, d'Artis. (2016). The economics of Bitcoin price formation. *Applied Economics*, 48(19), 1799–1815. <https://doi.org/10.1080/00036846.2015.1109038>
3. Ciaian, P., Rajcaniova, M., & Kancs, d'Artis. (2018). Virtual relationships: Short- and long-run evidence from BitCoin and altcoin markets. *Journal of International Financial Markets, Institutions and Money*, 52, 173–195. <https://doi.org/10.1016/j.intfin.2017.11.001>
4. Corelli, A. (2018). *Cryptocurrencies and Exchange Rates: A Relationship and Causality Analysis*. <https://doi.org/10.3390/risks6040111>
6. Grinberg, R. (2015). Bitcoin: An Innovative Alternative Digital Currency Bitcoin: *June*.
7. Haryanto, S., Subroto A., & Ulpah M. (2020). Disposition effect and herding behaviour in the cryptocurrency market. *Journal of Industrial & Business Economics*.
8. Jamal Bouoiyour and Refk Selmi, (2015), What Does Bitcoin Look Like?, *Annals of Economics and Finance*, 16, (2), 449-492.
9. Kim, Y. Bin, Kim, J. G., Kim, W., Im, J. H., Kim, T. H., Kang, S. J., & Kim, C. H. (2016). Predicting Fluctuations in Cryptocurrency Transactions Based on User Comments and Replies. December 2013, 1–17. <https://doi.org/10.1371/journal.pone.0161197>
10. Kristoufek, L., 2013. Bitcoin meets google trends and wikipedia: quantifying the relationship between phenomena of the internet era. *Sci Rep* 3, 3415.
11. Kristoufek, L. (2015). What are the main drivers of the bitcoin price? Evidence from wavelet coherence analysis. *PLOS ONE*, 10(4), 1–15.

<https://doi.org/10.1371/journal.pone.0123923>

12. Satoshi Nakamoto. (2008). *Bitcoin: A peer-to-peer electronic cash system*.
13. Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance*, 40(3), 777–790.
14. Shiller, R. J. (2003). From efficient markets theory to behavioural finance. *Journal of Economic Perspectives*, 17(1), 83–104.
15. Sovbetov, Y. (2018). Munich Personal RePEc Archive Factors Influencing Cryptocurrency Prices: Evidence from Bitcoin, Ethereum, Dash, Litecoin, and Monero. *Journal of Economics and Financial Analysis*, 2(2), 1–27.

## A COMPARATIVE STUDY OF PERSONALITY FACTORS OF MALE AND FEMALE PHYSICAL EDUCATION STUDENTS

**Dr. Manohar Mahadeo Mane**

Associate Professor, Department of Physical Education, University of Mumbai, Santacruz (East),  
Mumbai- 400098, Maharashtra, India

**Corresponding Author- Dr. Manohar Mahadeo Mane**

**Email: [manoharmane14@gmail.com](mailto:manoharmane14@gmail.com)**

**DOI- 10.5281/zenodo.7264726**

### **Abstract:**

*The present study was designed to compare the personality factors of male and female physical education students. A total sample of 29 students (22 male and 7 female) aged 18-30 years from the Department of Physical Education, University of Mumbai for the state of Maharashtra were divided into two groups. A 16 PF personality test developed and validated by Cattells was used as an instrument to collect data. Statistical analysis of mean, standard deviation (SD) and 't-test' were used. The findings revealed that there is no significant difference in the personality factors of male and female physical education students.*

**Key Words:** *personality, physical education, male and female*

### **Introduction:**

Sports psychology for physical education is that limb of psychology that deals with the physical fitness of a person in his participation in sports and games. Sports psychology is made up of two terms- 'sports' and 'psychology'. Thus this means the application of human psychology in the field of sports activities. Primary sports psychology is the scientific study of the psychological factors that are associated with participation and performance in sports, exercise, and other types of physical activity (**Bhojraj, 2019**).

Sports psychology studies sporting behavior. Behavior is his manifestation of personality. The manner in which a person's behavior shows the kind of personality he possesses (**Mohanty, 2018**).

Personality is the dynamic organization within the individual of these psychological systems that determine his characteristics behavior and thereby. Personality is a set of psychological characteristics and mechanisms within an individual that are organized and relatively durable that influence his or her interactions and adaptations to interpersonal, psychological, physical, and social environments (**Randy J. Larsen & David M. Buss, 2005**). It is impossible to talk about an 'athlete' in a singular way. There are traits that each athlete possesses to varying degrees. These traits determine the athlete's uniqueness (**Mohanty, 2018**).

The athlete's behavior can be interpreted and understood better on the basis of the study of

traits and cognitions that constitute his personality (**Sandhu, 2002**).

(**Eiko Eby C. et.al., 1986**) Studied the psychological profiles of an elite men's and an elite women's basketball team. The data from tests carried out during pre-season training for variables such as trait anxiety, achievement orientation, affiliation, self-esteem, and cohesion was analyzed. The results of this study did not support the research showing male and female differences in the context of sports. Many techniques have been used to measure personality, including projective tests, interviews, and questionnaires. Questionnaires are widely used to learn more about human behavior. Personality research in sports has looked at whether specific personality traits are related to the sports people play, whether gender and personality are related, whether they get on with teams and their success in sports.

### **Objectives of the study:**

1. To find out the personality factors of physical education students.
2. To compare the personality factors between male and female physical education students.

### **Hypothesis of the study:**

There would be a significant difference in the personality factors between male and female physical education students.

### **Methodology:**

Design of the study, selection of subject, sampling techniques, selection of variables, procedure for administering the test, collection of data and statistical procedure is described as follows:

The descriptive research design was used to gather data about the personality factors of physical education students. 29 students were selected as subjects from the department of physical education, university of Mumbai. Out of 29 students, 22 were male and 7 were female students studying for a master

of physical education. The average age was 25 years. The purposive sampling technique was used to collect the subject. The chattel's 16 PF questionnaire was used to collect the data for personality factors. The collected data was analyzed by employing descriptive statistics i.e. Mean, standard deviation, and Independent sample t-test.

**Results and Discussion:**

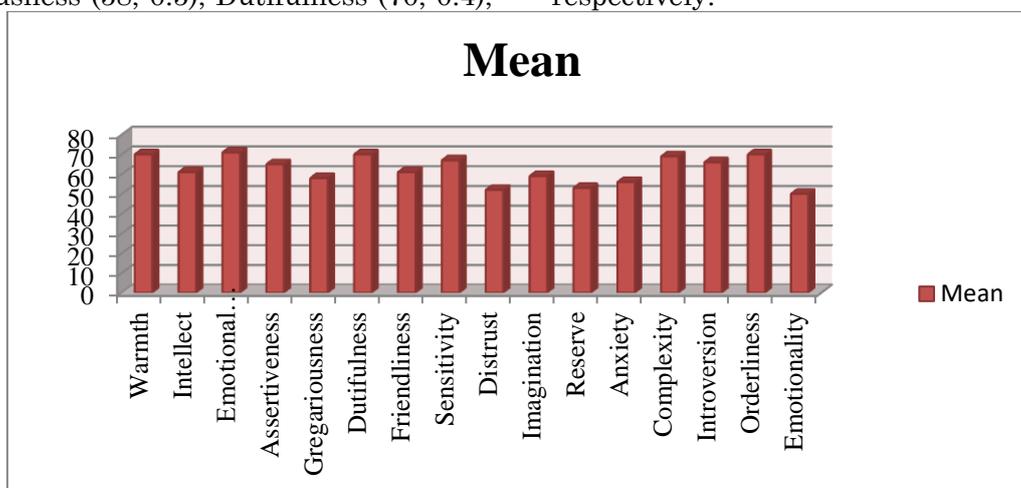
The mean and SD of Personality factors of Physical Education Students were presented in table 1.

**Table : 1 – Mean and SD of Personality factors of Physical Education students.**

| Personality Factor  | N  | Mean | SD  |
|---------------------|----|------|-----|
| Warmth              | 29 | 70   | 0.5 |
| Intellect           | 29 | 61   | 0.5 |
| Emotional Stability | 29 | 71   | 0.3 |
| Assertiveness       | 29 | 65   | 0.4 |
| Gregariousness      | 29 | 58   | 0.5 |
| Dutifulness         | 29 | 70   | 0.4 |
| Friendliness        | 29 | 61   | 0.6 |
| Sensitivity         | 29 | 67   | 0.4 |
| Distrust            | 29 | 52   | 0.4 |
| Imagination         | 29 | 59   | 0.4 |
| Reserve             | 29 | 53   | 0.5 |
| Anxiety             | 29 | 56   | 0.5 |
| Complexity          | 29 | 69   | 0.4 |
| Introversion        | 29 | 66   | 0.6 |
| Orderliness         | 29 | 70   | 0.4 |
| Emotionality        | 29 | 50   | 0.6 |

As per the above table, the means and standard deviation score of personality factors of the physical education students were as warmth (70, 0.5), intellect (61, 0.5), Emotional Stability (71, 0.3), Assertiveness (65, 0.4), Gregariousness (58, 0.5), Dutifulness (70, 0.4),

Friendliness (61, 0.6), Sensitivity (67, 0.4), Distrust (52, 0.4), Imagination (59, 0.4), Reserve (53, 0.5), Anxiety (56, 0.5), Complexity (69, 0.4), Introversion (66, 0.6), Orderliness (70, 0.4), Emotionality (50, 0.6) respectively.



**Fig. no. 1: Descriptive analysis of the personality factors of physical education students.**

The mean and SD of personality of Male and Female Physical Education students were presented in Table 2.

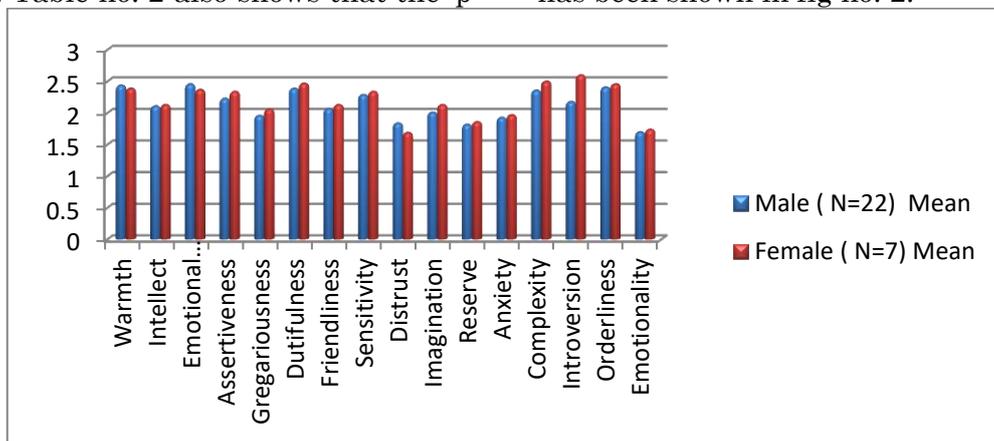
**Table 2: Mean and SD of personality of Physical Education students**

| Personality Factor  | Male ( N=22) |      | Female ( N=7) |      | t-value | p- value |
|---------------------|--------------|------|---------------|------|---------|----------|
|                     | Mean         | SD   | Mean          | SD   |         |          |
| Warmth              | 2.44         | 0.51 | 2.39          | 0.56 | 0.23    | 0.40     |
| Intellect           | 2.11         | 0.44 | 2.13          | 0.38 | 0.09    | 0.46     |
| Emotional Stability | 2.46         | 0.39 | 2.37          | 0.34 | 0.66    | 0.25     |
| Assertiveness       | 2.23         | 0.5  | 2.34          | 0.3  | 0.63    | 0.26     |
| Gregariousness      | 1.96         | 0.52 | 2.06          | 0.31 | 0.46    | 0.32     |
| Dutifulness         | 2.39         | 0.56 | 2.47          | 0.53 | 0.40    | 0.34     |
| Friendliness        | 2.07         | 0.54 | 2.13          | 0.21 | 0.22    | 0.41     |
| Sensitivity         | 2.29         | 0.46 | 2.34          | 0.46 | 0.31    | 0.37     |
| Distrust            | 1.84         | 0.41 | 1.69          | 0.55 | 0.79    | 0.21     |
| Imagination         | 2.01         | 0.45 | 2.13          | 0.44 | 0.67    | 0.25     |
| Reserve             | 1.82         | 0.51 | 1.86          | 0.37 | 0.17    | 0.43     |
| Anxiety             | 1.93         | 0.54 | 1.97          | 0.5  | 0.17    | 0.43     |
| Complexity          | 2.36         | 0.5  | 2.5           | 0.43 | 0.72    | 0.23     |
| Introversion        | 2.18         | 0.47 | 2.6           | 0.62 | 1.73    | 0.04     |
| Orderliness         | 2.41         | 0.61 | 2.46          | 0.47 | 0.25    | 0.39     |
| Emotionality        | 1.7          | 0.6  | 1.74          | 0.53 | 0.16    | 0.43     |

**Significant at 0.05 level**

Table no.2 clearly depicts the value for independent ‘t’ test between the male and female physical education students for personality factors, which shows that not a significant difference had been found as the value of ‘t’ test which is not significant at 0.05 level. Table no. 2 also shows that the ‘p’

value of male and female groups is more than 0.05 so it can be said that there was no significant difference between personality factors of male and female physical education students. The graphical representation of the descriptive analysis has been shown in fig no. 2.



**Fig. no. 2: Descriptive analysis of the personality factors for male and female physical education students**

**Discussion:**

Studying in the same classroom, good organizational climate and students' sports background did not show differences between male and female physical education students on the 16 personality factors. It is not surprising that there is no significant

difference in the personality factors of male and female physical education students. The findings of a study conducted by (Desai, 2020) on the analysis of sport-specific personality among athletes also revealed that no significant difference was found in sport-specific personality of boy athletes and

girl athletes. However, our finding is in contrast (Anjanabai, 2017), (Kuloor, 2017) and (Singh, 2022) to findings.

#### **Conclusion:**

On the basis of the above statistical findings, it was concluded that there was no significant difference in the personality factors between male and female physical education students. On the basis of statistical findings it was concluded that there were insignificant difference in personality traits between Physical Education teacher and General Education teacher ( $t_{0.05}(98) = 1.23 < 1.984$ ). It was also further concluded that the Physical Education Teacher is more extrovert than General education Teacher ( $24.6 > 23.54$ ). On the basis of statistical findings it was concluded that there were insignificant difference in personality traits between Physical Education teacher and General Education teacher ( $t_{0.05}(98) = 1.23 < 1.984$ ).

It was also further concluded that the Physical Education Teacher is more extrovert than General education Teacher ( $24.6 > 23.54$ ). On the basis of statistical findings it was concluded that there were insignificant difference in personality traits between Physical Education teacher and General Education teacher ( $t_{0.05}(98) = 1.23 < 1.984$ ). It was also further concluded that the Physical Education Teacher is more extrovert than General education Teacher ( $24.6 > 23.54$ ). On the basis of statistical findings it was concluded that there were insignificant difference in personality traits between Physical Education teacher and General Education teacher ( $t_{0.05}(98) = 1.23 < 1.984$ ). It was also further concluded that the Physical Education Teacher is more extrovert than General education Teacher ( $24.6 > 23.54$ ).

#### **Bibliography:**

1. Anjanabai, S. &. (2017). A comparative study of Personality traits between male and female on volleyall player. *International journal of Physcial Education Sports and Health* , 4 (1), 260-261.

2. Bhojraj, D. V. (2019). *Sports Psychology*. Nagpur: Sports Publication.
3. Desai, A. K. (2020). Analysis of sports specific personality among sportspersons . *International Journal of Indian Psychology* , 8 (1), 809-813.
4. Eiko Eby C. et.al. (1986). Psychological profiles of an elite men's and an elite wome's basketball team. *proceedings of the VIII commonwealth & international conference on sport, physical Education, dance, recreation and health* (pp. 209-213). London: E and F.N. Spon Ltd.
5. Kuloor, H. (2017). Comparison on the sports Specific personality of Female football players and female wight lifters of Mangalore University Inter collegiate participants. *International Journal of Physiology, Nutrition and Physical Education* , 2 (1), 27-28.
6. Mohanty, A. C. (2018). *Sports Psychology*. New Delhi: Trident Enterprises.
7. Randy J. larsen & David M. Buss . (2005). *Personality psychology, Domains of Knowledge about Human nature*. New York: McGraw Hill.
8. Sandhu, G. S. (2002). *Psychogy in sports, A contemporary approach*. New Delhi: Friends Publication.
9. Singh, o. p. (2022). Comparison on sports specific personality traits between undergraduate male and female physical education students. *Emerging trends of Physcial Education and sports Science* (pp. 285-286). Manipur: International sunmarg publishers and distributors.

## **EFFECT OF POSTNATAL EXERCISES ON PULMONARY FUNCTION AND QUALITY OF LIFE IN IMMEDIATE POSTPARTUM MOTHERS**

**Dr.Nensi V. Gandhi<sup>1</sup> Dr. Jagdish Gohil<sup>2</sup>**

<sup>1</sup>PhD Scholar, Faculty of Physiotherapy, Parul University, Assistant Professor, Sumandeep University

<sup>2</sup>Professor & HOD, Department of Medicine Parul Institute of Medical Science & Research, Parul University, Vadodara.

**Corresponding Author- Dr.Nensi V. Gandhi**

**DOI- 10.5281/zenodo.7264734**

### **Abstract**

*The postpartum (or postnatal) period begins immediately after childbirth as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state. The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and newborn deaths occur during this period. **Materials and Methods:** Study design was Phase: observational cross sectional study, Subjects: 20 postpartum females from Vadodara. Inclusion Criteria was Women aged between 18 and 35 years, Primi and multi-parous women, Subjects included with vaginal delivery. **Results:** Pulmonary Function Test (PFT) in terms of FEV1, FVC AND FEV1/FVC and Maternal Quality of Life (M-QOL), age, were presented as mean  $\pm$ SD. SNC and MNC were compared across different group by performing one way analysis of variance (ANOVA). Categorical variable was expressed in percentage Statistics.  $P < 0.001$  was considered as level of statistical highly significance. **Discussion:** Postnatal exercise plays a significant role in Pulmonary Function Test (PFT) and Maternal Quality of Life (MQOL) in postpartum mothers. So, we have tried to analyze the effect of Postnatal exercise on Pulmonary Function Test (PFT) by Winspiro Software and Maternal Quality of Life (MQOL) assessed by the maternal postpartum Questionnaire (MPQ) in postpartum mothers. **Conclusion:** We found that there is a significant effect of post-natal increase in FEV1, FVC and FEV1/FVC in immediate postpartum mothers. We found that there is a significant effect of post-natal increase on QOL in immediate postpartum mothers.*

**Keywords:** Vaginal delivery, Postnatal exercise, Maternal Quality of Life, Pulmonary Function Test.

### **Introduction**

The postpartum (or postnatal) period begins immediately after childbirth as the mother's body, including hormone levels and uterus size, returns to a non-pregnant state.<sup>1</sup> The terms puerperium, puerperal period, or immediate postpartum period are commonly used to refer to the first six weeks following childbirth.<sup>2</sup> The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and newborn deaths occur during this period.<sup>3</sup> In scientific literature, the term is commonly abbreviated to PX, where x is a number; for example, "day P5" should be read as "the fifth day after birth". This is not to be confused with the medical nomenclature that uses G P to stand for number and outcomes of pregnancy (gravidity and parity).

### **The Benefits Of Post Natal Exercises:**

Exercising after you have your baby can improve your physical and mental wellbeing. It can:

1. Help restore muscle strength and firm up your body
2. Make you less tired because it raises your energy level and improves your sense of wellbeing
3. Promote weight loss
4. Improve your cardiovascular fitness and restore muscle strength
5. Condition your abdominal muscles
6. Improve your mood, relieve stress and help prevent postpartum depression.

### **When To Start Post Natal Exercises:**

Gentle exercise (such as walking) can generally be started as soon as comfortable after giving birth. Start when you feel up to it. Some women will feel able to start exercising early.<sup>14</sup> Talk with your doctor about when is a good time for you to restart

an exercise program. Six weeks after giving birth, most of the changes that occur during pregnancy will have returned to normal. If you had a caesarean birth, a difficult birth, or complications, it may take a little longer to feel ready to start exercising.<sup>15</sup> If you did not exercise during pregnancy, start with easy exercise and slowly build up to harder ones. Keep in mind your lower back and core abdominal muscles are weaker than they used to be. Your ligaments and joints are also more supple and pliable, so it is easier to injure yourself by stretching or twisting too much. Avoid any high-impact exercises or sports that require rapid direction changes.<sup>16</sup>

#### **Types Of Post Natal Exercises:**

Recommended postnatal exercise includes:

1. Brisk walking
2. Swimming
3. Aqua aerobics
4. Yoga
5. Pilates
6. Low impact aerobic workouts
7. Light weight training
8. Cycling.

Woman of all ages are enjoying the benefits of regular physical activity and more so would like to continue exercising even during pregnancy. Exercises are globally considered to have a positive effect on health and wellness. It is associated with decreased incidence of physical and mental diseases and improvement in functional capabilities.<sup>(11,12)</sup> With urbanization and family, work and domestic pressures, there has been awareness about the positive effects of physical activity on one's health. But still a large percentage of population remains sedentary. It was found out that women tend to take less time out for exercising than men and more so with respect to pregnant women. Lately, pregnancy is recognized as a special time for behavior modification and is no longer considered as a condition for confinement. Pulmonary function testing (PFT) is a complete evaluation of the respiratory system including patient history, physical examinations, and tests of pulmonary function.

The primary purpose of pulmonary function testing is to identify the severity of pulmonary impairment.<sup>23</sup> Pulmonary function testing has diagnostic and

therapeutic roles and helps clinicians answer some general questions about patients with lung disease. PFTs are normally performed by a respiratory therapist, respiratory physiologist, physiotherapist, pulmonologist, and/or general practitioner.

#### **Indications:**

Pulmonary function testing is a diagnostic and management tool used for a variety of reasons, such as:

1. Chronic shortness of breath
2. Asthma
3. Chronic obstructive pulmonary disease
4. Restrictive lung disease
5. Preoperative testing
6. Impairment or disability
7. Early morning wheezing

#### **Measurements:**

##### **Spirometry**

Spirometry includes tests of pulmonary mechanics – measurements of FVC, FEV1, FEF values, forced inspiratory flow rates (FIFs), and MVV. Measuring pulmonary mechanics assesses the ability of the lungs to move huge volumes of air quickly through the airways to identify airway obstruction.

The measurements taken by the spirometry device are used to generate a pneumotachograph that can help to assess lung conditions such as: asthma, pulmonary fibrosis, cystic fibrosis, and chronic obstructive pulmonary disease. Physicians may also use the test results to diagnose bronchial hyperresponsiveness to exercise, cold air, or pharmaceutical agents.<sup>56</sup> Complications of spirometer: Spirometer is a safe procedure; however, there is cause for concern regarding untoward reactions. The value of the test data should be weighed against potential hazards. Some complications have been reported, including pneumothorax, increased intracranial pressure, fainting, chest pain, paroxysmal coughing, nosocomial infections, oxygen desaturation, and bronchospasm.

##### **Lung volumes:**

There are four lung volumes and four lung capacities. A lung's capacity consists of two or more lung volumes. The lung volumes are tidal volume (VT), inspiratory reserve volume (IRV), expiratory reserve volume (ERV), and residual volume (RV). The four lung capacities are total lung capacity

(TLC), inspiratory capacity (IC), functional residual capacity (FRC) and vital capacity (VC).

#### **Maximal respiratory pressures**

Measurement of maximal inspiratory and expiratory pressures is indicated whenever there is an unexplained decrease in vital capacity or respiratory muscle weakness is suspected clinically. Maximal inspiratory pressure (MIP) is the maximal pressure that can be produced by the patient trying to inhale through a blocked mouthpiece. Maximal expiratory pressure (MEP) is the maximal pressure measure during forced expiration (with cheeks bulging) through a blocked mouthpiece after a full inhalation. Repeated measurements of MIP and MEP are useful in following the course of patients with neuromuscular disorders.

#### **Diffusing capacity**

Measurement of the single-breath diffusing capacity for carbon monoxide (DLCO) is a fast and safe tool in the evaluation of both restrictive and obstructive lung disease.

#### **Oxygen desaturation during exercise**

The six-minute walk test is a good index of physical function and therapeutic response in patients with chronic lung disease, such as COPD or idiopathic pulmonary fibrosis.<sup>25,26,27</sup>

#### **Arterial blood gases**

Arterial blood gases (ABGs) are a helpful measurement in pulmonary function testing in selected patients. The primary role of measuring ABGs in individuals that are healthy and stable is to confirm hypoventilation when it is suspected on the basis of medical history, such as respiratory muscle weakness or advanced COPD. ABGs also provide a more detailed assessment of the severity of hypoxemia in patients who have low normal oxyhemoglobin saturation. "Maternal quality of life" refers to women's satisfaction of their position in life, based on cultural status, expectations, values, attitudes, goals, and living standards. Hence the need to pay attention to more specific dimensions of quality of life in the postpartum period is being sensed.<sup>27</sup> The postpartum period consists of the first six weeks following childbirth. This period is a critical period associated with a series of changes in the mother that have social, mental and physical effects on her life.<sup>27</sup> Coping with all these changes affects the

quality of life and health status of postpartum women. Any additional changes may lead to a remarkable increase in psychological problems, such as depression.<sup>27</sup>

It is necessary to study the predictors of life quality in the early postpartum period. Early diagnosis, timely care and intervention can improve the health of mother and baby. Preterm infants' mothers reported a significantly lower quality of life than the mothers of term infants. Postpartum hemorrhage affects women's quality of life through anemia and the resulting fatigue.<sup>27</sup> A few of the challenges that patients may face in this period include difficulty breastfeeding, postpartum blues or depression, anxiety, pain and physical discomfort, urinary incontinence, sleep deprivation, and socioeconomic strain (e.g., financial pressure to return to work).<sup>28</sup>

#### **Need of Study**

During pregnancy, there are various changes in the body systems which are experienced by the mothers. The main four systems which are affected most in which Pulmonary and Respiratory system is one of them. The lung capacities are compromised which leads to pulmonary and functional stress which affects the quality of life of mothers. Postpartum, managing child with these changes become more stressful which leads to fatigue and reduces the functional capacity.

The postpartum physiotherapy helps to reduce these stresses and improve the functional capacity and overall quality of life of mothers. The need of the present study is to evaluate the specific changes after physiotherapy. There are literatures supporting the importance and effects of postpartum physiotherapy after 6 months physiotherapy but very few literatures assessed the immediate effect of postpartum physiotherapy after 3 months. So, this study will evaluate the pulmonary function and quality of life after Physiotherapy.

#### **Material & Methodology**

The study had been carry forwarded after the obtaining the Permission from the Institution and after the approval of University Ethical committee.

#### **Materials and Methods**

1. Study design
2. Phase: observational study
3. Subjects: 20 postpartum females from

Vadodara.

4. Location of the Study: Parul Sevasharam Hospital Ami Hospital

#### **Inclusion Criteria**

1. Women aged between 18 and 35 years.
2. Primi and multi- parous women.
3. Subjects included with vaginal delivery.

#### **Exclusion Criteria**

women not involved in any exercise regimen during pregnancy, obstetric complications, like postpartum hemorrhage - primary and secondary, pre-eclampsia, abruption, placenta Previa and marked rectus diastasis, other medical conditions like,

1. Hypertension
2. Cardiac disease
3. Diabetes,
4. Systemic illness or infections,
5. Pelvic diastasis study will approve by the Institutional Ethical Review Committee.

#### **Materials**

1. Pen
2. Score sheet
3. Maternal quality of life questionnaire
4. Stop watch
5. Spirometer

#### **Outcome Measures**

1. Maternal quality of life
2. Pulmonary functions.

#### **Method Procedure**

The study needs to be approved by the scientific and ethical committee of the Parul University. The twenty (20) women fulfilling the eligibility criteria are recruited for the study and written informed consent will be taken from the study. The purpose of the study will be explained to the participant and an informed consent form will be obtained. Demographic details like name, age, height, weight, address and contact details will be recorded of all the twenty patients. All the

#### **Result & Tables**

**Table -1 Average Age**

|            | <b>N</b> | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|------------|----------|----------------|----------------|-------------|-----------------------|
| <b>Age</b> | 20       | 18.00          | 29.00          | 23.3000     | 2.67739               |

twenty patients' pulmonary function test (PFT) and Maternal Quality of life (M QOL) will be evaluated before exercises and after exercises.

Then following intervention is framed for all the twenty patients and it will be carried out for three consecutive days beginning from the second day postpartum to fourth day postpartum period twice daily for duration of 30 minutes per session. Intervention included 10 minutes of brisk walking and strengthening exercises for muscles namely neck flexors, extensors, side flexors, rotators, abdominals, scapular retractors, depressors, shoulder external rotators, hip extensors, knee extensors and flexors and ankle dorsi- flexors and pelvic floor muscle exercises. The maternal postpartum questionnaire will be used as subjective outcome measure for pre and post measurement. As an objective outcome measure another one will be pulmonary function test for pre and post criteria. It evaluates individual patient's health status, monitoring and comparing disease burden. It will be administered on the 1st day pre-intervention and on the 3rd day post intervention. Total scores will be calculated and pre and post scores will compare.

#### **Data Analysis**

Pulmonary Function Test (PFT) in terms of FEV1, FVC AND FEV1/FVC and Maternal Quality of Life (M-QOL), age, were presented as mean  $\pm$ SD. SNC and MNC were compared across different group by performing one way analysis of variance (ANOVA). Categorical variable was expressed in percentage Statistics.  $P < 0.001$  was considered as level of statistical highly significance.

#### **Statistical Software:**

Data was analyzed on statistical software SPSS Version 26.0 and Excel have been used to generate graphs and tables.

Graph-1 Average Age

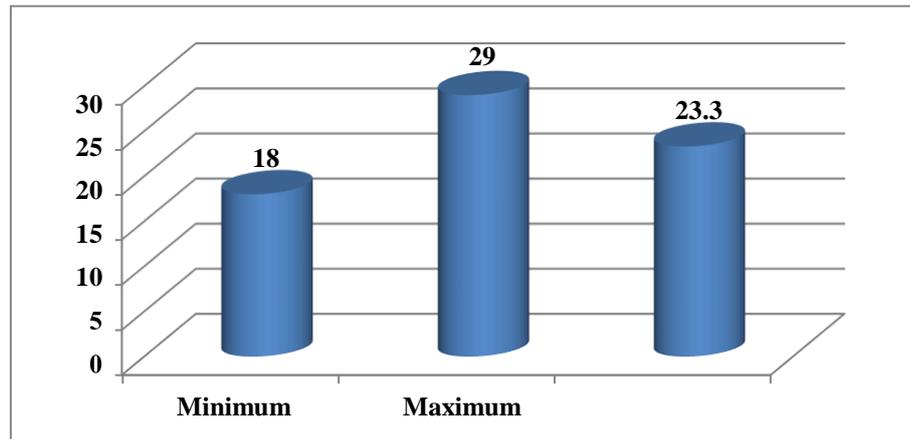


Table-1 and Graph-1 are showing average age. The study consists of 20 post-partum women with an average age of 23.3±2.677 years with minimum of 18 years and maximum of 29 years.

Table - 2 Pre - Post Comparison in Fev1

| FEV1 | Mean   | Standard deviation | Difference from Pre to Post | T value | P value |
|------|--------|--------------------|-----------------------------|---------|---------|
| Pre  | 1.5945 | .24258             |                             |         |         |
| Post | 1.6785 | .22504             | 0.084                       | 3.812   | P<0.05  |

Graph-2 Pre-Post Comparison in Fev1

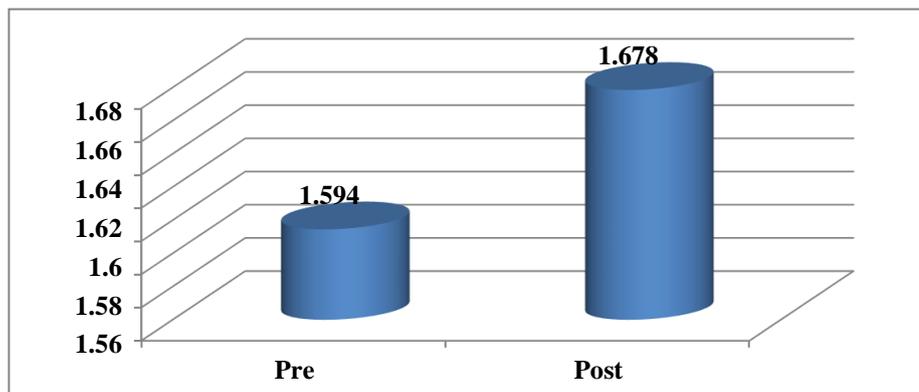


Table -2 and Graph-2 are showing pre post comparison in FEV1. The study shows pre FEV1 score was 1.594 ±0.242 and post score increased to 1.678±0.225.

The average difference from pre to post of FEV1 was 0.084 with p<0.05. The analysis shows FEV1 score significantly increased from pre to post

Table-3 Pre-Post Comparison in FVC

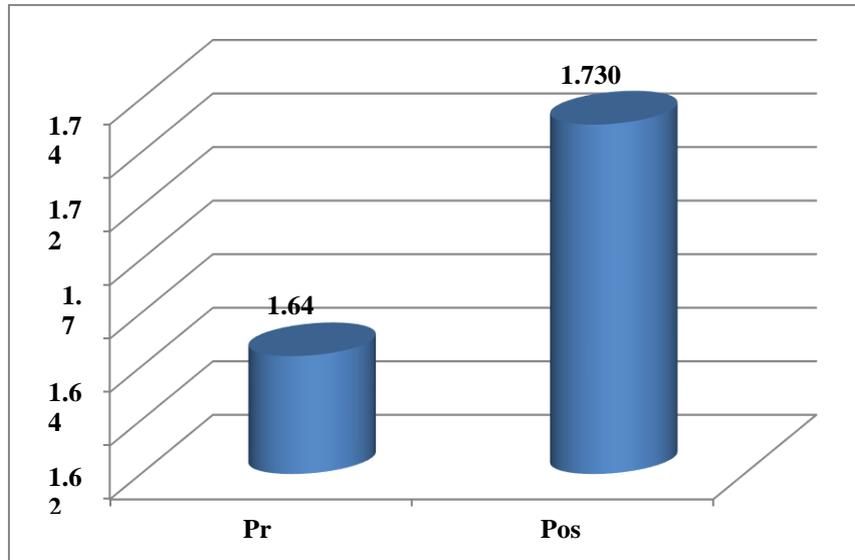
| FEV1 | Mean   | Standard deviation | Difference from Pre to Post | T value | P value |
|------|--------|--------------------|-----------------------------|---------|---------|
| Pre  | 1.6440 | .24448             | 0.865                       | 3.690   | P<0.05  |
| Post | 1.7305 | .25687             |                             |         |         |

**Graph-3 Pre-Post Comparison In FVC**

Table-3 and Graph-3 are showing pre post comparison in FVC. The study shows pre FVC score was  $1.644 \pm 0.244$  and post score increased to  $1.73 \pm 0.256$ . The average

difference from pre to post of FVC was 0.865 with  $p < 0.05$ . The analysis shows FVC score significantly increased from pre to post.

**Table-4 Pre-Post Comparison in Fev1/FVC**



| FEV1 | Mean    | Standard deviation | Difference from Pre to Post | T value | P value    |
|------|---------|--------------------|-----------------------------|---------|------------|
| Pre  | 97.0850 | 2.80343            |                             |         |            |
| Post | 97.1100 | 2.97886            | 0.025                       | 0.072   | $p > 0.05$ |

**Graph-4 Pre-Post Comparison in Fev1/FVC**

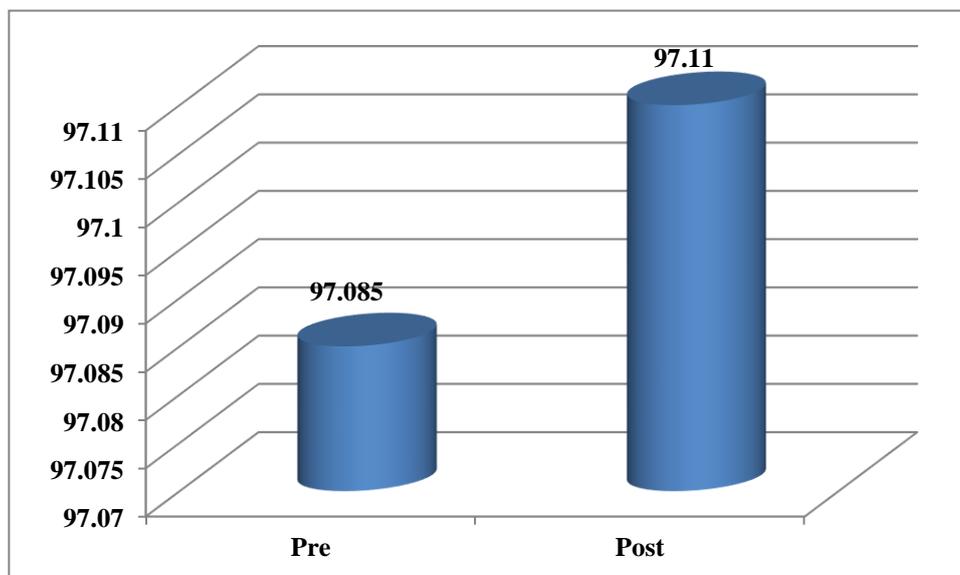


Table-4 and Graph-4 are showing pre post comparison in FEV1/FVC. The study shows pre FEV1/FVC score was  $97.085 \pm 2.803$  and post score increased to  $97.11 \pm 2.978$ .

The average difference from pre to post of FEV1/FVC was 0.025 with  $p > 0.05$ . The analysis shows FEV1/FVC score not significantly increased from pre to post.

**Table-5 Pre –Post Comparison in Quality of Life (Qol)**

| FEV1 | Mean   | Standard deviation | Difference from Pre to Post | T value | P value |
|------|--------|--------------------|-----------------------------|---------|---------|
| Pre  | 159.40 | 21.017             | 41.35                       | 7.657   | P<0.001 |
| Post | 200.75 | 26.951             |                             |         |         |

**Graph-5 Pre-Post Comparison in Qol**

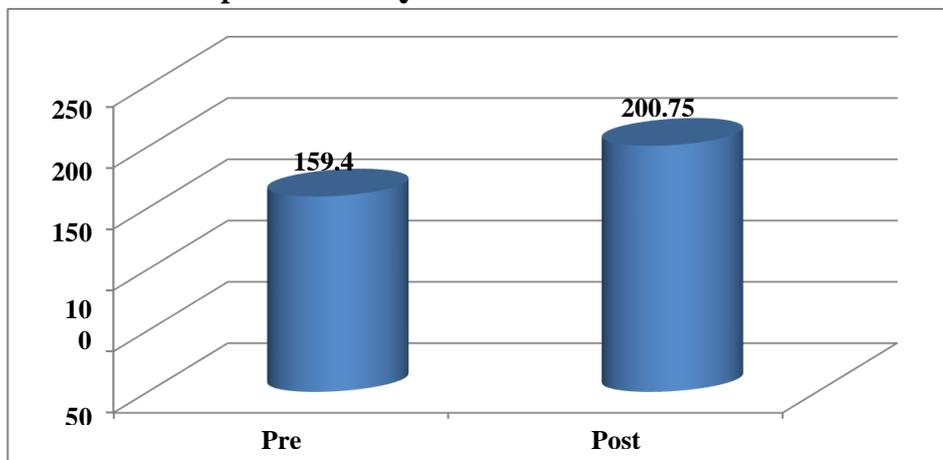


Table-5 and Graph-5 are showing pre-post comparison in Quality of life (QOL). The study shows pre QOL score was 159.40 ±21.017 and post score increased to 200.75±26.951. The average difference from pre to post of QOL was 41.31 with p<0.001. The analysis shows QOL score significantly increased from pre to post.

**Discussion**

Postnatal exercise plays a significant role in Pulmonary Function Test (PFT) and Maternal Quality of Life (MQOL) in postpartum mothers. So, we have tried to analyze the effect of Postnatal exercise on Pulmonary Function Test (PFT) by Winspiro Software and Maternal Quality of Life (MQOL) assessed by the Maternal postpartum Questionnaire (MPQ) in postpartum mothers.

In this study pregnant women were taken as subjects according to inclusion and exclusion criteria. Their PFT and MQOL were being assessed by Winspiro Software and MQOL respectively before and after Postnatal exercises in postpartum mothers. This study proved that postnatal exercises played the significant role in PFT in terms of FEV1, FVC and FEV1/FVC and MQOL in postpartum mothers.

In this study Pulmonary Function Test was assessed by Winspiro Software in terms of FEV1, FVC and FEV1/FVC. The mean value of FEV1 before treatment was

1.5945 and after treatment means after postnatal exercise was 1.6785 (Table-2 & Graph- 2). We found that there is a significant increase in the value of FEV1 after postnatal exercise. Moreover, earlier studies support that there is a significant improvement in Pulmonary Function Test in terms of FEV1 in postpartum mothers after postnatal exercises.

In this study we have also found PFT in terms of FVC before exercise and after exercise. The mean values of FVC before exercise and after exercise are 1.6440 and 1.7305 respectively (Table-3 & Graph-3). We also found that there is a significant increase in the value of FVC after postnatal exercise. There are many studies which support that there is a significant improvement in Pulmonary Function Test in terms of FVC in postpartum mothers after postnatal exercise.

In this study we have finally assessed the PFT in terms of calculated the ratio of FEV1/FVC. And results showed that the mean value of FEV1/FVC before exercise 97.0850 and after exercise was 97.1100 (Table-4 & Graph-4). Hence this study proved the significant improvement in Pulmonary Function Test in terms of the ratio of FEV1/FVC. There was a study done by **G Grindheim, a K Toska, b M-E Estensen, c, d LA Rosselanda** (2011) conducted a longitudinal cohort study to

observe the Changes in pulmonary function during pregnancy and their objective was to record any physiological changes in lung function during healthy pregnancies and finally they concluded that main outcome measures Forced vital capacity (FVC), forced expiratory volume in 1 second (FEV1), and peak expiratory flow (PEF), also expressed as a percentage of predicted values according to age and height: i.e. FVC%, FEV1%, and PEF%.in. Forced vital capacity (FVC) increases significantly after 14–16 weeks of gestation.

In this study we also tried to find out the Quality of life in postpartum mothers which was assessed by Maternal Quality of Life Questionnaires (MQOL) before and after exercise and we found the mean value of MQOL before exercise was 159.40 and after exercise was 200.75 (Table-5 & Graph-5). This showed that there is a significant difference in pre and post QOL in postpartum mothers after postnatal exercise. A study done by **Ni Putu Dian Ayu Anggraeni et al** conducted the Effect of Exercise on Postpartum Women's Quality of Life. The aim of this systematic review is to explore the effect of exercise on postpartum women's quality of life and they have concluded that Yoga and Pilates are proven to effectively improve maternal well-being because this exercise focuses on increasing the physical, psychological and social support during the postpartum period. So, postnatal exercises are very helpful and it played important role in Pulmonary Function Test and Quality of Life in postpartum mother.

#### **Conclusion**

It was found that there is a significant effect of post-natal increase in FEV1, FVC and FEV1/FVC in immediate postpartum mothers. It was found that there is a significant effect of post-natal increase on QOL in immediate postpartum mothers.

#### **Limitation Of The Study**

1. Very narrow section of population within a specific geographical area.
2. Short duration study.
3. Variable list was not exhaustive.
4. Absence of measuring the psychological disorder.

#### **Future Recommendations**

1. Can use other scales [The Quality-of-Life Scale (QOLS), The McGill Quality of Life

Questionnaire (MQOL), Health Related Quality of Life -14(HRQOL- 14), Short Form -36(SF-36) for assessing the QOL.

2. Can use Peak Flow Meter and Spirometer to assess the PFT.
3. Antenatal Training can be given before checking the QOL.
4. Both antenatal and postnatal training can be done before assessing PFT and QOL.
5. Number of samples can be increased.
6. Can find the relationship between PFT and MQOL in postpartum mothers.

#### **References**

1. Kansky C (July 2016). "Normal and Abnormal Puerperium: Overview, Routine Postpartum Care, Hemorrhage". Medscape.
2. Romano M, Cacciatore A, Giordano R, La Rosa B (May 2010). "Postpartum period: three distinct but continuous phases". *Journal of Prenatal Medicine*. 8 (5): 15–2. doi:10.1002/anie.201108814. PMC 3279173. PMID 22438056.
3. "WHO Recommendations on Postnatal Care of the Mother and Newborn". World Health Organization. 2013. Retrieved 12 March 2022.
4. "Recovering from a caesarean section". NHS Choices. Retrieved 16 December 2016.
5. Vernon D (2007). *With Women, Midwives Experiences: from Shiftwork to Continuity of Care*. Canberra: Australian College of Midwives. p. 17. ISBN 978-0-9751674-5-8.
6. Glazener CM, Abdalla M, Stroud P, Naji S, Templeton A, Russell IT (April 1995). "Postnatal maternal morbidity: extent, causes, prevention and treatment". *British Journal of Obstetrics and Gynaecology*. 102 (4): 282–7. doi:10.1111/j.1471-0528.1995.tb09132.x. PMID 7612509. S2CID 38872754.
7. Thompson JF, Roberts CL, Currie M, Ellwood DA (June 2002). "Prevalence and persistence of health problems after childbirth: associations with parity and method of birth". *Birth (Berkeley, Calif.)*. 29 (2): 83–94. doi:10.1046/j.1523-536X.2002.00167.x. PMID 12051189.
8. Borders N (2006). "After the afterbirth: a critical review of postpartum health relative to method of delivery". *Journal of*

- Midwifery & Women's Health. 51 (4): 242–248. doi:10.1016/j.jmwh.2005.10.014. PMID 16814217.
9. "ACOG Committee Opinion: Optimizing Postpartum Care". May 2018. Retrieved April 29, 2020.
  10. Mrs. Hannah Rajsekhar ,P. Sumalatha (oct-2015). Physiotherapy exercise during antenatal and post natal. Int J Physiother. Vol 2(5), 745-750.
  11. R Artall, M O'Toole. Guidelines of the American College of Obstetricians and Gynecologists for exercise during pregnancy and the postpartum period. Br J Sports Med. 2003;37(1):6-12.
  12. ACOG Committee. Opinion no. 267: exercise during pregnancy and the postpartum period. Obstet Gynecol.2002;99(1):171–3.
  13. Pate RR, Pratt M, Blair SN, et al. A recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. JAMA.1995;273(5):402–7.
  14. Blair SN. Physical activity, fitness, and coronary heart disease. In: C Bouchard, RJ Shephard, T Stephens, eds. Physical activity, fitness, and health: international proceedings and consensus statement. Champaign, IL: Human Kinetics, 1994:591– 608.
  15. Roger L. Hammer, PhDJan Perkins, MScRichard Parr, EdD, FACSM. Exercise IntJ Physiother 2015; 2(5) Page | 750 During the Childbearing Year. J Perinat Educ. 2000 ;9(1), 1-13.
  16. Katie M. Smith and Christina G. Campbell Physical Activity during Pregnancy: Impact of Applying Different Physical Activity Guidelines. Journal of Pregnancy Volume. Volume 2013, Article ID 165617, 9 pages.
  17. Veille J-C, Hohimer RA, Burry K, et al. The effect of exercise on uterine activity in the last eight weeks of pregnancy. Am J Obstet Gynecol.1985;151:727–30.
  18. Blair SN, Kohl HW, Gordon NF. How much physical activity is good for health?Annu Rev Publ Health.1992;13:99–126.
  19. Clapp JF III. Exercise in pregnancy: a brief clinical review. Fetal Medical Review.1990;161:1464–9.
  20. Hale RW, Milne L. The elite athlete and exercise in pregnancy. Semin Perinatol1996;2:89-101.
  21. Grisso JA,Main DM, Chiu G, et al. Effects of physical activity and life-style factors on uterine contraction frequency. Am J Perinatol.1992; 9(5-6):489-92.
  22. Pulmonary terms and symbols: a report of the ACCP-ATS Joint Committee on Pulmonary Nomenclature, Chest 67:583, 1975.
  23. Pulmonary Function Test in New York, Article. June 2010. Dr. Marina Gafanovich, MD - 1550 York Ave, New York NY 10028 - (212) 249-6218. NYC Pulmonary Function Test.
  24. Enright PL (2003). "The six-minute walk test". Respir Care. 48 (8): 783–5. PMID 12890299.
  25. Swigris JJ, Wamboldt FS, Behr J, du Bois RM, King TE, Raghu G, et al. (2010). "The 6 minute walk in idiopathic pulmonary fibrosis: longitudinal changes and minimum important difference". Thorax. 65 (2): 173–7. doi:10.1136/thx.2009.113498. PMC 3144486. PMID 19996335.
  26. ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories (2002). "ATS statement: guidelines for the six-minute walk test". Am J Respir Crit Care Med. 166 (1): 111–7. doi:10.1164/ajrccm.166.1.at1102. PMID 12091180
  27. Tahereh Mookhtaryan- Gilani, Nourossadat Kariman. Evaluation of Predictors of Quality of life in the Postpartum Period: A Cross-Sectional Study. Iran,Public Health, vol.51,No-6, Jun 2022, ppl 389-1399.
  28. Mark A .Clapp . Providing and Measuring Quality Postpartum Care .Department of Obstetrics and Gynecology <https://doi.org/10.107/s13669-022-00340-9>.

**STUDY OF THE BIVALVE RESOURCES OF KALI ESTUARY, KARWAR,  
KARNATAKA STATE, INDIA**

**Sambhaji H. Bhosale<sup>1</sup>, Rajendra V. Salunkhe<sup>2</sup>**

<sup>1</sup>Associate Professor, Department of Zoology Shankarrao Mohite Mahavidyalaya, Akluj, Dist. Solapur, Maharashtra, India. Pin-413101, Email- sambhajib1964@gmail.com

<sup>2</sup>Associate Professor, Department of Zoology Arts, Science and Commerce College, Indapur, Dist. Pune, Maharashtra, India.

**Corresponding Author- Sambhaji H. Bhosale**

Email- [rvsalunkhe4444@gmail.com](mailto:rvsalunkhe4444@gmail.com)

DOI- 10.5281/zenodo.7264740

**Abstract**

*The Kali estuary is one of the four important estuarine complexes of Uttara Kannada, which supports good resources of bivalves especially, clams and oysters with the former being the main supporting community to the total molluscan fishery all through the year. Some of the commercially important species of clams found are Meretrix meretrix, Paphia malabarica, Villorita cyprinoides, Sunetta solandrum . Besides providing the nutritious food, the bivalves also serves as raw material for preparation of lime.*

**Key Words:** *M. meretrix, P. malabarica, V. cyprinoides, S. solandrum, Kali estuary, Natural bivalve resource.*

**Introduction:**

Bivalves, by far excelled gastropods and cephalopods as a cultivable source of food (1). Generally these are the referred as poor man's food, forming nutritious food for people living in coastal areas. The meat is rich in proteins, glycogen and minerals on par with other animal foods (2-6).

An extensive work has been done on molluscan resources of both east and west coasts of India (7-11). Though some literature of Uttara Kannada coast (1,12,13) but the information regarding utilization of the harvested resources is lacking. Hence, to fill this gap an attempt was made to study the distribution and utilization of the bivalve resources landed from Kali estuary, Karwar.

**Description of the Area:**

The Kali estuary (14°50' N and 70°07' E), one of the four important estuarine system of Uttara Kannada, is bestowed with moderately good population of bivalves namely clams and oysters; the former being the mainstay supporting the total molluscan of oysters to the fishery is meager. The important species of clams occurring in the estuary are *Meretrix meretrix*, *M. casta*, *Paphia malabarica*,

*Villorita cyprinoides* and *Sunetta solandrum* while the oyster is represented by backwater oyster, *Crassostrea madrasensis*.

**Distribution:**

The species composition, distribution, density and biomass of clams along the estuary is described by earlier workers (1, 12, 14). A peak production of these species was encountered during the postmonsoon season while a minimum occurrence always corresponded to the southwest monsoon period.

The clam beds at lower reaches of the estuary were mainly composed of *M. meretrix*, *M. casta*, *P. malabarica* and *S. solandrum* while at upstream, it was comprised by a single dominant species, *V. cyprinoides*. Besides, *Anadara granosa*, *Solen truncatus*, *Cardium rugosum* were also observed in good quality. At the proximity to the estuarine mouth, the *M. meretrix* was numerically dominant whereas at upper stretches of the estuary (where the fresh water regime established), *V. cyprinoides* outnumbered the other species. As stated by Bhat (14), the minimum production of bivalves occurred during the period of southwest monsoon,

which might be due to the strong bottom currents and enormous siltation. The clams also seem to undergo burrowing deep into the mud to tideover the unfavorable

environmental condition. This is evident by recurrence of maximum density during post monsoon season.

**Table 1: Total landings of shellfish along Uttar Kannada coast and from Karwar centre Source: Local Baitkul fishermaen society information**

| Year      | Catch from the Uttara Kannada (tonnes) | Catch from the Karwar centre (tonnes) | Contribution of Karwar centre to total Landings of Uttara Kannada(%) |
|-----------|--|---------------------------------------|--|
| 2005-2006 | 2309.8                                 | 565.0                                 | 24.46  |
| 2006-2007 | 2140.3                                 | 421.0                                 | 19.67  |
| 2007-2008 | 801.2                                  | 380.5                                 | 47.49  |
| 2008-2009 | 730.4                                  | 373.0                                 | 51.07  |
| 2009-2010 | 432.8                                  | 302.0                                 | 69.78  |
| 2010-2011 | 779.4                                  | 622.5                                 | 79.87  |
| 2011-2012 | 993.5                                  | 553.5                                 | 55.71  |
| 2012-2013 | 1088.2                                 | 386.0                                 | 35.47  |
| 2013-2014 | 695.2                                  | 451.5                                 | 64.94  |
| 2014-2015 | 804.4                                  | 543.0                                 | 67.50  |

#### **Fishery:**

Unlike finfish fishery, the clam fishery is irregular and unorganized in the Kali estuary. Nearly 80-100 fishermen are engaged in fishing collecting around 45-50 kg of clams per day during peak fishing periods. The clams are mainly collected by hand picking though scoopnets are used occasionally. Generally the landings are more during full and new moon days. Oyster meat is removed from oyster shells with the help of a chisel or knife.

The shell-fish landings during 2005-2006 to 2014-2015 along Uttara Kannada coast and from Karwar center (Kali estuary) together with percentage contribution from Karwar to the total landings are shown in table 1. Wide fluctuations in landings are observed from year to year during the decade both in total catch and the catch from Kali estuary ; 302.0 tonnes of shellfish landed in 2009-2010 formed the lowest in Karwar while 622.5 tonnes in the following year was the highest. These fluctuations , as stated earlier, could be a consequence of

unorganized fishery for bivalves in the estuary besides other reasons. Nevertheless, the percentage contribution from Kali estuary ( Karwar) to the total landing of the Uttara Kannada shows that major share was from this center, ranging between 19.67% ( in 2006-2007) and 79.87% ( 2010-2011).

Monthwise shellfish landing from Karwar during 2014-2015 are presented in **Table.2** The harvest was low during southwest monsoon period (140.0 t) compared to post monsoon (202.0 t) and premonsoon ( 201.0 t). The landings were high especially during January to May. Low catch during monsoon period could be because of burrowing nature of clams dee, into soil during unfavorable conditions.

#### **Utilization:**

Major portion of fresh clam and oyster meat is utilized for domestic consumption while a part of it is used for preparing pickles and drying. Lime is an important by-product prepared from empty shell of clams and oysters.

**Table.2: Monthwise landings of shellfish from karwar during 2014-2015.**  
Source: Local Baitkul fishermaen society information

| Month          | Landings (tonnes) |
|----------------|-------------------|
| April 2014     | 57.0              |
| May 2014       | 54.0              |
| June 2014      | 16.0              |
| July 2014      | 22.0              |
| August 2014    | 48.0              |
| September 2014 | 54.0              |
| October 2014   | 44.0              |
| November 2014  | 49.0              |
| December 2014  | 49.0              |
| January 2015   | 60.0              |
| February 2015  | 50.0              |
| March 2015     | 40.0              |

**Preparation of lime:**

Bivalves besides providing nutritious food, Serves as raw material in the form of empty shells for manufacture of lime. The importance of clam resources in the manufacture of lime was first described by Hornell (15). Lime preparation from molluscan shells is an important cottage industry in Karwar.

The manufacturer of lime from bivalve shells is by indigenous method. First the empty shells are cleaned and sieved to separate unwanted materials. Nearly 30-35 baskets of cleaned shells (each basket weighing nearly 18-19 kg) are filled in the kiln with alternating layer of charcoal.

The kiln with dimension 3×3×1.5 m is constructed with brick and sand. On top of each layer husk powder is spread and fire is lit at the base of kiln either by burning wood or with electric power. The mixture is allowed to ignite for nearly 5 to 6 hours after which, the ash from kiln is removed and kept 30-60 minutes for cooling. Later approximately ten liters of water is added to one kg of ash and allowed to cool. After cooling the lime is stored, which is later used locally for masonry work, whitewashing concrete structure and preparing moulds of idols.

**Conclusion:**

Inspite of availability of substantial clam resources along the Indian coast, very

little attention is paid to improve the fishery and the byproducts. It is well realized that molluscs would play a considerable role in the country's imbalanced nutritional requirements.

Compared to Clam beds in other regions, the yield from Kali estuary was found to be comparatively high with the yield being 980kg /ha(l) , while Bhat(14) observed a dense population of clams ranging between 41,600/m<sup>2</sup> and 3,68,000/m<sup>2</sup>. These findings suggest that there is vast scope for developing and expanding bivalve resources in the Kali estuary. As a first step towards proper management of the resources the biology of the important species of clams has to be studied. Diversification of utilization of the harvested resources fetches higher monetary income to the fishermen involved. Natural bivalve resource production from Kali estuary can be augmented by adopting culture of species like *M. Meretrix* and *M. casta* in suitable areas along the estuary.

**References:**

1. Neelakantan B., U. G. Bhat, U. G. Naik, K.K. Philipose and M.S. Kusuma. 1985. On the molluscan resources in Uttara Karnataka. Harvest and Post- Harvest Technology of Fish. pp. 88-90.
2. Field I. A 1922. Biology and economics value of sea mussel *Mytilus edulis*. Bull.US Bur. Washington 38: 127-259.

3. Durve V.S. and D.V. Bal. 1961. Studies on the chemical composition of the oyster *Crassostrea gryphoides* ( Schlotheim). J. Zool. Sco.India 13:70-77.
4. Durve V.S. 196. On the percentage edibility and the index of condition of the oyster *Crassostrea gryphoides*( Schlotheim) . J. Mar. Biol. Assoc. India. 9: 128-135.
5. Geisa A. C. 1966. Lipids in the marine invertebrates. Physio. Rev. 46: 244-298.
6. Salih M. 1979. Studies on the biochemical composition of the clam, *Meretrix casta* (Chemnitz) off Cochin bar mouth. Bull . Mar. Sci. Univ. 10: 1-5.
7. Jones S. 1950. Observation on the bionomics and fishery of brown mussel (*Mytilus sp.*) of the cape region of Peninsular India. J. Bombay Nat. Hist. Soc. 49: 519-528.
8. Desai B.N. 1971. Dominance of molluscs in the benthic population off Cochin. J. Bombay Nat. Hist. Soc. 68: 355-362.
9. Durve V. S and K. Alagarswamy. 1973. Living Resources of the sea around India. Proc. Symp. Spl. Publication, CMFRI, pp.641-647.
10. Ansari Z. A. 1978. Fishery and culture possibilities of molluscan in Goa. Seafood Export J. 10 : 4.
11. Parulekar A. H. , Z. A. Ansari, S. N. Harakantra and A. Nair. 1978. Growth of weaving mussel, *Modiolus metcalfic* ( Hanley) in the Mandevi River, Goa. Indian J. Mar. Sci. 7: 51-53.
12. Harakantra S. N. 1975. Some Observation on the beds of Kali estuary, Karwar. Bull. Natn. Inst. Oceanogr. 8: 101-108.
13. Philipose K. K. 1980. Studies on some aspects of the biology of the gregn mussel *Perna viridis* (Linnaeus) and the back water clam *Meretrix casta* ( Chemnitz) from Karwar waters. M. Sc. Dissertation, Karnatak Univ., Dharwad, India.
14. Bhat U.G. 1984. Studies on the benthos of Kali estuary, Karwar. Doctoral thesis, Karnatak Univ., Dharwad, India.
15. Hornell J. 1916. The utilization of coral and shells for lime burning in the Madras Presidency. Madras Fish. Bull. 1: 105-126.
16. Modassir, Y 2000. "Effect of salinity on the toxicity of Mercury in Mangrove Clam, *Polymesoda Erosa* (Lightfoot 1786)." Asian Fisheries Science. Metro Manila 13(4): 335-341.
17. Bhat P. K. 2003. " Hydrological Studies of Aghanashini Estuary, Kumta- Central West Coast of India." Ph.D. Thesis, Karnataka University, Dharwad.
18. Dey. A. 2006. Handbook of Mangrove Associate Molluscs of Sundarbans. Zoological Survey of India.
19. Boominathan, M. G. Ravikumar, M D S Chandran, and T V Ramchandra. 2012. " The Impact of Dams on the Edible Bivalves- A comparative study of Kali and Aghanashini Estuaries of Uttara Kannada District, Karnataka, India." In National Conference on Mangrove Wetlands and Near Shore Marine Ecosystem from Sustainability Issues to Management & Restoration, 5-6 March 2012, ed. A L Ramanathan , S Sreekes, and M Sundararajan, Abstract: 45-46. School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India.

## **ACHIEVEMENTS OF INDIAN POLITICS WITH RESPECT TO FOREIGN POLICY**

**Dr. S. N. Salwade<sup>1</sup> Mrs. Gajanan B. Jadhav<sup>2</sup>**

<sup>1</sup>Dept. of Political Science, Research Guide, Walchand College of Arts & Science (Autonomous)  
Solapur

<sup>2</sup>M.A. SET, Political Science

**Corresponding Author- Mrs. Gajanan B. Jadhav**

Email- [gajananjadhav407@gmail.com](mailto:gajananjadhav407@gmail.com)

DOI- 10.5281/zenodo.7264744

### **Abstract:**

*India is the largest democracy in the world. India has consistently followed the policy of peace, friendly relations with other countries and sovereign equality of all nations big and small. The success of India's policy lies in the fact that it has well adjusted with the changing times and circumstances and its core principles have stood the test of time.*

**Keywords:** *Indian Foreign Policy, cold war, Nuclear non-Proliferation Treaty (NPT), Comprehensive Nuclear Test Ban Treaty (CTBT).*

### **I. Background:**

The linked article provides an overview of Indian foreign policy, including its goals, guiding principles, and key elements.

The international order underwent significant changes following the conclusion of the Cold War and the collapse of the Soviet Union. Globalization accelerated these changes even more. India's foreign policy, on the other hand, was aware of these changes and attentive to the new, developing order.

The focus on public diplomacy and economics, the shifting alliances with the US and the western bloc, the Look East Policy, and a new pragmatism highlight how India's foreign policy is evolving in the modern era. Still, the Indian foreign policy faces fresh obstacles. India's foreign policy objectives allowed it to carve out an independent international role from the time of her independence till the late 1980s.

Through NAM, India served as a leader for developing nations. It brought up topics such as the abolition of colonialism and apartheid, the equality of all nations under their own sovereign laws, the collective self-sufficiency of developing nations, and the democratisation of international organisations. For newly liberated emerging nations, these issues were crucial. The non-alignment policy also allowed India to contribute positively to the disarmament and international peace that were necessary for the peaceful development of third-world nations. India signed the treaty of friendship and cooperation with the Soviet Union in

1971 to meet her security needs, which drew criticism for the country's non-alignment stance. Due to its size, population, and expanding military might, India was the dominant force in the region. However, it frequently had strained and contentious relations with its neighbours, particularly with Pakistan. India was crucial to the liberation of Bangladesh in 1971 and was successful in forging friendly ties with other nearby nations. India's policy of having cordial relations with its neighbours, however, suffered from its loss to China in 1962. India's economic woes and the end of the bipolar international political order brought about by the collapse of the Soviet Union since the 1990s have had a significant impact on India's foreign policy.

This gave the country the chance to evaluate its foreign policy and foreign relations in light of the new global order. As a result, India's foreign policy undertook fresh changes, leading to closer strategic ties with the US and more involvement with East Asia under her Look East Policy. India has also forged new relationships with Central Asia and Africa. China and India's relationship is currently being restored, and India's neighbourhood policy has taken a more assertive stance. However, there is no indication that the situation with Pakistan is getting better. It appears that India's foreign policy has evolved since the 1990s to be more pragmatically oriented, broadly based, and fiercely national interest-focused. Similar to other nations, India has made economic

diplomacy the cornerstone of its foreign strategy.

**II. On the basis of India's foreign policy practice for last 65 years, the following points of her achievements may be noted:**

1. Founder of the Non-aligned Movement is Jawaharlal Nehru. India has contributed to the Movement's expansion and made it a voice for the development, peace, and stability objectives and interests of developing countries. NAM Summit 1983 took place in New Delhi. Our foreign strategy has focused on bolstering the Movement by making its objectives clear since the end of the Cold War.
2. India took the lead in the resistance to colonialism. India's independence contributed to the end of colonialism in other emerging nations, particularly in Africa. In 1946, India brought up the topic of racial injustice in South Africa at the UN. The AFRICA Fund was formed during the 8th NAM Summit in Harare in 1986 at India's suggestion. The chairperson of the 1993 AFRICA Fund Committee was from India.
3. Nuclear disarmament is given precedence in Indian foreign policy above general disarmament. India has made numerous attempts both inside and outside of the UN. A Disarmament Action Plan was presented by India to the UN General Assembly's Third Session in 1988. In the 1980s, India joined the Six-Nation Five-Continent Cooperative Initiative to voice global concern over the nuclear arms race. Although it has opposed discriminatory agreements like the Nuclear Non-Proliferation Treaty (NPT) and Comprehensive Nuclear Test Ban Treaty (CTBT), India is committed to nuclear disarmament within a time-bound framework. Until all nations, including nuclear weapon states, accept the idea of universal nuclear disarmament in a phased-manner, India will not give up its nuclear options.
4. India, a founding member of the UN, is committed to the organization's goals and principles and has made major contributions to its initiatives, including peacekeeping. India has taken part in

peacekeeping operations in Korea, Egypt, the Congo, Somalia, Angola, and Rwanda more recently. India has additionally taken part in UN negotiations on a more equitable international economic system. In 1974, the UN General Assembly approved a resolution on the New International Economic Order at India's urging. (NIEO). It participates actively in both the Group of 77 and the G-15. India was elected to the Security Council as a non-permanent member for the ninth time in 2010. India took office on January 1, 2011. India has advocated for permanent membership in the Security Council as a result of her substantial population, growing economy, prominent place in world affairs, and UN contributions. Except for China, all permanent members agree with India's assertion. India has participated responsibly in other UN issues like disarmament, human rights, and sustainable development.

5. To advance her national interests, India has built partnerships with all nations that are mutually beneficial. Other than Pakistan, India's neighbours are doing better. The 2005 Neighborhood Policy in India placed a strong emphasis on interconnection and interpersonal interactions. Prior to that, the Gujral Doctrine of 1998 stated that India shouldn't demand reciprocity from its neighbours. China-India relations are improving.
6. The expansion of strategic ties with the US has aided India's development throughout the 1990s. In terms of bilateral relations, the 2008 Peaceful Nuclear Cooperation agreement is a turning point. It recognised India as a nuclear power and put an end to its 34-year nuclear isolation. India has set up yearly summits with the EU, ASEAN, China, Japan, and Russia. Regular high-level interactions are now feasible.
7. Through the 2008 and 2011 India-Africa Forum Summits, India has also rekindled its relationship with African nations. India and Central Asian countries are closely connected. India's energy security may benefit from this energy-rich area.

8. South Asian regional cooperation has benefited from India's foreign policy. In December 1985, India acceded to SAARC. South Asian Free Trade Area (SAFTA) was founded by SAARC in 2006 with the assistance of India and despite a number of challenges. To improve regional cooperation in her neighbourhood, India played a leading role in the establishment of the BIMSTEC in 1998 and the Indian Ocean Rim Association for Regional Cooperation (IOR-ARC) in 1997. The "Look East Policy" of India is working. In 1996, India became a member of the ASEAN Regional Forum, and since 2005, it has taken part in the East Asia Summit, which aims to establish an East Asian Community modelled after the EU.
9. India is a world power. On the verge of the 1997 financial crisis, India established the G-20 to oversee the world's financial system. India has been invited to join the G-8 Outreach group of wealthy nations. She is a part of IBSA, an association formed in 2003 by South Africa, Brazil, and India. India has now joined BRICS, a group of developing nations that was founded in 2008.
10. India has prioritised economic diplomacy in its foreign policy for the last 20 years. India's institutions and economy underwent restructuring in reaction to globalisation. In order to coordinate the economic and commercial endeavours of the foreign ministry, India established IPU in 1990. The Look East Policy of India is commercial. India and ASEAN signed a free trade agreement in 2010.

To expand commerce, India signed FTAs with Sri Lanka, Singapore, and Malaysia. India's commerce reached \$70 trillion in 2011, a significant rise in 20 years. Trade abroad has improved. India's largest trading partner is China, notwithstanding its political unrest. Recently, India has drawn a lot of FDI. The government's involvement in fostering trade and investment abroad is another significant development. The foreign investment in India is recent. South-South Cooperation is promoted by Indian economic diplomacy. ITEC, which was founded in 1964, is used in a number of Asian and African nations. To encourage South-South Cooperation, India

offers economic privileges, credit lines, and development aid to developing nations. India's HRD effort is popular throughout Africa.

### **III. Contemporary Context: Change And Continuity In India's Foreign Policy**

Modern international relations can be separated into two stages based on fundamental characteristics. Cold War thinking and the US and Soviet Union's superpower rivalry dominated the post-WWII era.

At the time, this had an impact on international affairs. There has been a divergence from the first post-cold war era since the early 1990s. Cold War politics were reframed by the Soviet Union's collapse in 1991, the end of WARSA, the military alliance of the Communist bloc, in 1992, the unification of Germany, the growth of NATO, and the appearance of a unipolar world ruled by the US and its allies.

Economical change also affected the world order. Globalization became the new economic reality of international relations, driven by new communication technologies and neoliberal market economy logic.

The entire changing international system was impacted by these two factors. This altered the foreign policies of every country. Most affected countries adopted policies that did not reflect this new reality. In India. Early in the 1990s, India's economy and foreign policy need significant changes. A response to the escalating economic order brought on by globalisation was the liberalisation and privatization-based economic strategy of 1991. India arrived late. China started taking similar steps in the early 1980s. India's foreign policy was altered in response to the post-cold war political and economic world order in the ways listed below: India's foreign policy during the cold war was largely idealistic with occasional practical strategies. In the post-cold war period, with entirely new conditions to cope with, India adopted a pragmatic approach in foreign affairs in view of her strategic and economic interests. The pragmatic assessment of foreign policy in 1990s led to two fundamental shifts in India's foreign policy orientations:

1. First, India reconsidered her relations with the only super power, the US and moved on to develop strategic partnership with her, which appeared unthinkable in cold war ideological conditions.
2. The second change was the initiation of new engagement with the countries of East Asia. This was encompassed under the Look East Policy announced by India in 1991.

India hasn't abandoned the non-alignment tenets, but its foreign policy objectives have changed. India is a world power. India now has a bigger voice in world affairs thanks to its membership in the G-20, IBSA, and BRICS. India continues to assist developing nations and LDCs via the aforementioned global forums. The prominence of NAM has decreased. Its cause is still vital in today's global society. India's foreign policy is seen in the switch from NAM to IBSA and G-20.

#### **IV. Conclusion:**

However, India's strategy of friendly relations with its neighbours was harmed by its defeat by China in 1962. India's foreign policy has been significantly impacted by its economic problems and the breakdown of the bipolar international political order since the demise of the Soviet Union in the 1990s. This provided the nation with the opportunity to assess its foreign ties and foreign policy in light of the emerging global order. India's foreign policy consequently underwent radical revisions, resulting in tighter strategic connections with the US and more engagement with East Asia under her Look East Policy. Additionally, India has developed new ties with Central Asia and Africa. India's neighbourhood policy has changed, and relations between China and India are currently being repaired. There is, however, no sign that things are improving with Pakistan. Since the 1990s, India's foreign policy seems to have changed, becoming more pragmatically oriented, broadly based, and fervently national interest-focused. India, like other countries, has built its international strategy around economic diplomacy.

#### **V. References:**

1. Richard Wike, Katie Simmons, Bruce Stokes, and Janell Fetterolf, "Globally, Broad Support for Representative and

- Direct Democracy," Pew Research Center, October 16, 2017, <http://www.pewglobal.org/2017/10/16/globally-broad-support-for-representative-and-direct-democracy/>.
- 5 Roberto Stefan Foa and Yascha Mounk, "The Democratic Disconnect," *Journal of Democracy* 27, no. 3 (July 2016): 5-17.
2. <https://www.journalofdemocracy.org/article/danger-deconsolidation-democraticdisconnect>
3. The only other examples today of formal single-party states are Vietnam, Laos, North Korea, Cuba, and Eritrea.
4. Madhav Khosla, *The Indian Constitution* (New Delhi: Oxford University Press, 2012)
5. Bimal Jalan (June-2010): *Indian Economy; Problems and Prospects of Indian economy*.
6. Agrwal A.N. (July-2009): *Indian Economy; Problems and Development and Planning*.
7. Dr. Chandrasekhar Prasad (July, 2012, New Delhi): *Agriculture and sustainable development in India*.
8. Mishra R.S. (Aug-2000): *Economics of Development*.
9. Krishnamurthy H.R. (June 2012, Bengaluru): *Economic Development of India*.

**DIFFERENT MORPHS OF HOOD OF INDIAN COBRA NAJA NAJA FROM  
TAHSIL INDAPUR, DIST. PUNE, MAHARASHTRA, INDIA**

**Rajendra V. Salunkhe<sup>1</sup>, Sambhajirao H. Bhosale<sup>2</sup> Sanjay K. Gaikwad<sup>3</sup>**

<sup>1</sup>Department of Zoology, Arts, Science and Commerce College, Indapur, District Pune-413106, Maharashtra, India.

<sup>2</sup>Department of Zoology, Shankarrao Mohite Mahavidyalaya, Akluj, Dist. Solapur-413101, Maharashtra, India.

<sup>3</sup>Department of Cell and Molecular Biology, Rajiv Gandhi Institute of IT and Biotechnology, Bharati Vidyapeeth, Pune-411046, Maharashtra, India.

**Corresponding Author- Rajendra V. Salunkhe**

Email id: [rvsalunkhe4444@gmail.com](mailto:rvsalunkhe4444@gmail.com)

DOI- 10.5281/zenodo.7264774

**Abstract**

*During the period of 1991-2022, rescued 481 Indian cobra (Naja naja) snakes from the different areas of Indapur tahsil and released into the forest area at the location suggested by forest authorities at each time. Colouration of the 'spectacled cobra' or binocellate cobra is yellowish, brownish or black above, with or without a black and mark on hood, a black and white spot on the inside of the hood with one or two black crossbars below hood. In Naja naja, at rest, the ribs lie along the length of the body, the overlying skin is loosely attached. When erect the dorsal side skin is stretched, making the hood more conspicuous, and the head, bent strongly at the atlas (1<sup>st</sup>) vertebra, is carried at right angles to the hood. The hood of Naja naja when dialated is diagnostic, more so when the markings are visible.*

**Keywords:** Naja, India, cobra, hood, Indapur, binocellate

Asiatic cobra complex comprises 10 species (Wuster, 1998). However, only four species, namely Naja naja (Linnaeus, 1758), N. kaouthia Lesson, 1831, N. oxiana (Eichwald, 1831) and N. sagittifera Wall, 1913 occur in India; and out of them only N. naja shows a fairly wide distribution. Asiatic cobra complex comprises 10 species (Wuster, 1998). However, only four species, namely Naja naja (Linnaeus, 1758), N. kaouthia Lesson, 1831, N. oxiana (Eichwald, 1831) and N. sagittifera Wall, 1913 occur in India; and out of them only N. naja shows a fairly wide distribution.

**Introduction:**

Indian cobra (*Naja naja*) of family Elapidae is also called as Spectacles cobra, binocellate cobra or asian cobra, is a cobra species found in India, Pakistan, Sri Lanka, Bangladesh, Bhutan and Nepal, and a member of 'big four' species which are responsible for the most snakebite cases (Mukherji, 2012). It is a protected species under the Indian Wildlife Protection Act (1972).

In Maharashtra state, in Pune District there is 13 taluka out of them Indapur is one of the tahsil lies between Latitude 17°53' to 18°15' N and longitude 74°35' to 75°8' E., and the average height from mean sea level is 546 m. Indapur is 135 km away from Pune, total geographical area of Indapur is 1487 sq. km (148700 hector), Bhima and Nira rivers are very close to Indapur tahsil. In Maharashtra second largest dam having catchment area

i.e. Ujani dam is located 10 km eastwards of Indapur city and backwater extends 48 km towards west upto Daund tahsil. Out of the total geographical area 80% area comes under irrigation. Under Indapur tahsil 143 villages have been included (Sensus of India, 2011). Average rainfall of tahsil is 406 mm. Indapur has enriched with te forest area of 7,361.8 hector (Maharashtra Government Socio-economic reference, 2012-13).

**Materials and methods:**

The work was conducted at Indapur tahsil of Pune district, Maharashtra state,

India, under which 143 villages have been included covering of 1,487 sq km area during the period of 1991-2022. to work on the diversity of snakes, environmental education and wild life conservation of snakes. The rural and urban habitation and also the scrubland, rocky areas, swamp areas, water bodies, etc. have been considered. Survey, collection and identification of snake species have been carried out in a tahsil area. The investigator is a skilled person to handle the various non venomous, semi venomous and venomous snakes. For safe handling of snakes, snake hooks and cotton bags have been used and for rescuing of snake from water filled well, the snake tongs have been used.

To prevent the snake bite precautionary measures have been taken. During rescuing the Indian cobra, the hoods can be observed and photographs have been taken and different morphs of hood of Indian cobra have been studied.

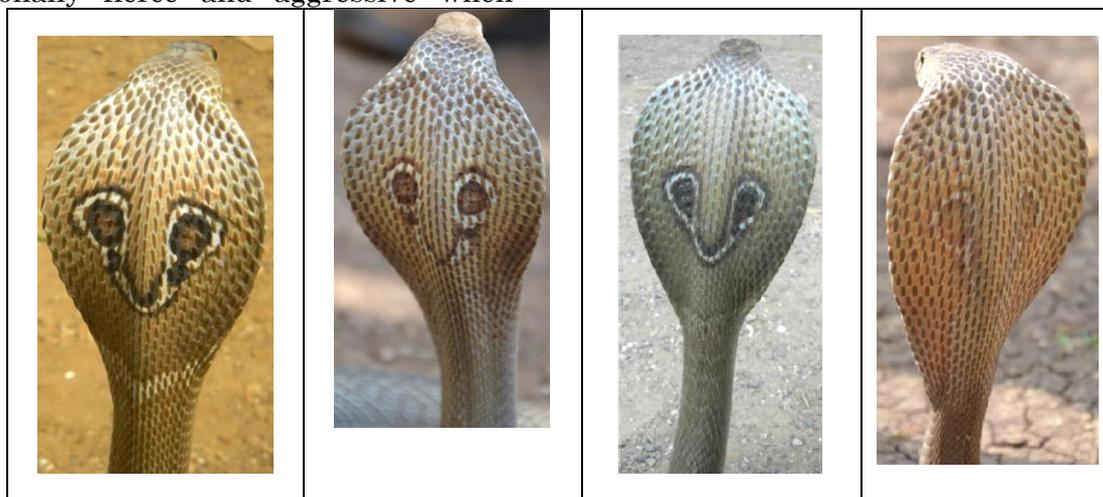
**Results:**

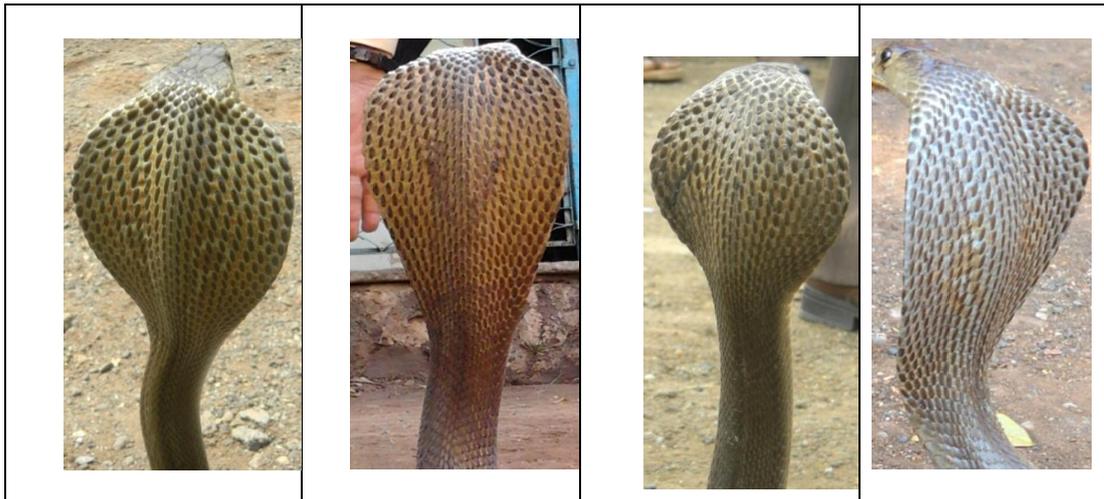
During the period of 1991-2022, rescued 481 Indian cobra (*Naja naja*) snakes from the different areas of Indapur tahsil and released into the forest area at the location suggested by forest authorities at each time. Indian cobra is not usually aggressive and often exceedingly timid but occasionally fierce and aggressive when

disturbed. Young cobras are more dangerous than adults, being more easily excited and ready to strike repeatedly and with determination. When alarmed, it adopts the well known pose with erect forebody and spread its hood. The height to which the forebody is raised is approximately one-third the total length of the snake and forms the effective striking range. While thus poised, the snake sways backwards and forwards, hissing in an explosive manner which is brief and high pitched during inhalation and longer, louder, lower pitched and intermittently explosive during exhalation. The throat is pouched, more so during exhalation and the whole body is inflated.

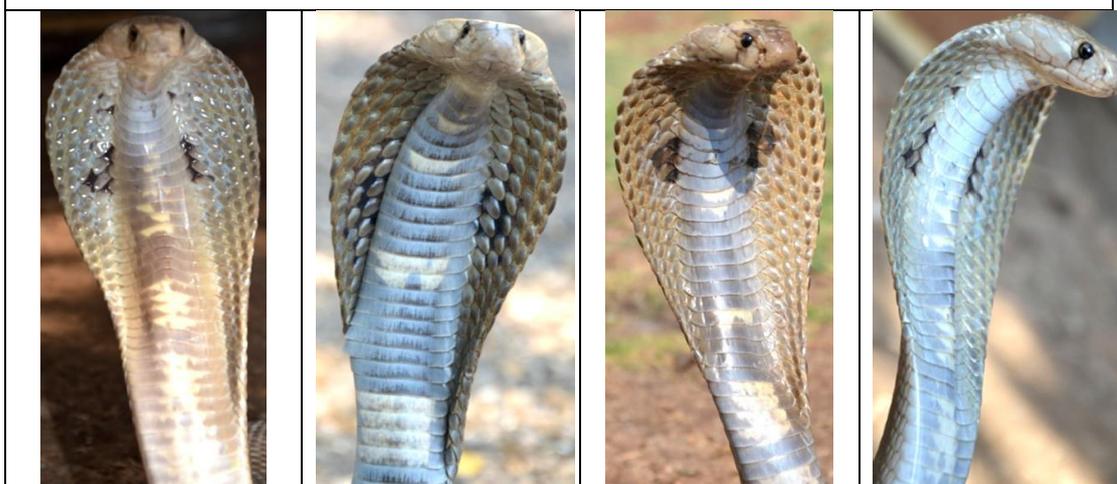
Colouration of the ‘spectacled cobra’ or binocellate cobra is yellowish, brownish or black above, with or without a black and mark on hood, a black and white spot on the inside of the hood with one or two black crossbars below hood.

In *Naja naja*, at rest, the ribs lie along the length of the body, the overlying skin is loosely attached. When erect the dorsal side skin is stretched, making the hood more conspicuous, and the head, bent strongly at the atlas (1<sup>st</sup>) vertebra, is carried at right angles to the hood. The hood of *Naja naja* when dialated is diagnostic, more so when the markings are visible.





Variations in the spectacled mark on the back side of the hood



Skin of the left side of the hood is stretched more lengthwise

**Plate: Design on the back side and front side of the hood of Cobra (*Naja naja*)**

**Discussion:**

The hood formed by elongated ribs of the 3<sup>rd</sup> and following 27 vertebrae, the 9<sup>th</sup> on the left and 10<sup>th</sup> on the right are the longest, the preceding and succeeding ribs shorten progressively, giving an oval outline to the expanded hood (Daniel, 2002). In the present study the hood markings observed well defined as well as faint or with no marks. According to Daniel (2002), Sri Lankan and south Indian cobras are usually of shades of brown with well defined hood markings and cobras from north are more often black and the hood pattern may not be well defined or may be absent and in death of cobra the hood may not be demonstrated.

**References:**

1. Daniel J. C. (2002): The book of Indian reptiles and amphibians, Oxford Uni. Press, Walton street, Oxford, ISBN: 0195660994, PP.138.
2. Maharashtra Gov. Socio-economic reference: 2012-13. [http://en.wikipedia.org/wiki/Snakes#cite\\_ref-cogger\(1991\):180](http://en.wikipedia.org/wiki/Snakes#cite_ref-cogger(1991):180).
3. Mukherjee, Ashis K. (2012): Green medicine as a harmonizing tool to antivenom therapy for the clinical management of snakebite, The road ahead, Indian J. Med. Res., 136 (1), PP.10-12.

**EXPERIMENTAL INVESTIGATION ON MANUFACTURED SAND  
CONCRETE-FILED STEEL TUBULAR COLUMNS**

**K. M. Sharma<sup>1</sup>, A.B.Shendge<sup>2</sup>, V.A.Rupnawar<sup>3</sup>, A.D.Gaikwad<sup>4</sup>**

<sup>1,2</sup>Department of Civil Engineering, DGOIFOE Bhigwan -413130, Pune, India.

<sup>3,4</sup>Assistant Professor, Department of Civil Engineering DGOIFOE Bhigwan -413130,  
Pune, India.

**Corresponding Author- K. M. Sharma**

E-mail: [sharmakamal8586@gmail.com](mailto:sharmakamal8586@gmail.com)

DOI- 0.5281/zenodo.7264784

**Abstract**

*Steel members have the advantages of high ductility and tensile strength, while concrete members have the advantages of high compressive strength and fire resistance. Composite members made from steel and concrete, have the beneficial qualities of both materials. Concrete filled steel tube column is a recent concept. Concrete filled tube columns provide higher stiffness due to confined effect as compare to hollow steel tube column. Very few research works are conducted on concrete filled steel tube short columns. It is observed that this type column has more load carrying capacity. In this paper experimentation is carried out on three hollow specimens and nine specimens are concrete filled steel tube with variable ratio of diameter to wall thickness. All the composite column specimens tests are carried out under Universal Testing Machine.*

**Keywords:** Composite column; concrete-filled steel tube column; Mild steel tube; Axial strain; Axial loading;

**1. Introduction**

Steel members have the advantages of high tensile strength and ductility, while concrete members have the advantages of high compressive strength and fire resistance. The enhancement of the concrete filled tube columns in structural properties can be reached because the steel tube provides confinement for the concrete, and the concrete core can prevent the inward buckling of the tube.

**2. Experimental Program**

**2.1 Specimen preparation**

As stated above, a total of 3 hollow and 9 CFST column specimens were prepared and tested under axial compression in the present study. The main parameters included the types of fine aggregates, i.e., manufactured sand (MS), the sectional steel ratio (defined as  $\alpha = A_s/A_c$ ). Details of the test specimens are listed in Table1, where D is the outer diameter of the circular CFST specimens, t is the wall thickness of the steel tube, f<sub>cu</sub> is the measured compressive strength of standard concrete cubic samples under the

same curing condition with the CFST specimens f<sub>y</sub> as the yield stress of the steel and f<sub>ck</sub> as the characteristic compressive strength of the core concrete. For circular CFST specimens, three different tubular thicknesses (3.2, 4 and 4.8 mm) and height of each specimens is 600mm were designed to achieve the steel ratio  $\alpha$  as 0.151, 0.208 and 0.257 respectively. The sectional diameter D of the circular steel tube is 88.7 mm.

**2.2 Specimen labeling**

1. The first letter of the label represents the cross-sectional shape: 'C' for circular cross section.
2. The first number of the label represents the nominal wall thickness of the steel tubes: for circular specimens, '3' for 3.2mm, '4' for 4mm, and '5' for 4.8mm.
3. The following two letters represents the type of fine aggregate of the core concrete: 'MS' for manufactured sand.
4. The last number, i.e., '1', '2' or '3', represents the serial number of the three reference specimens.

**Table 1, Information of the CFST specimens.**

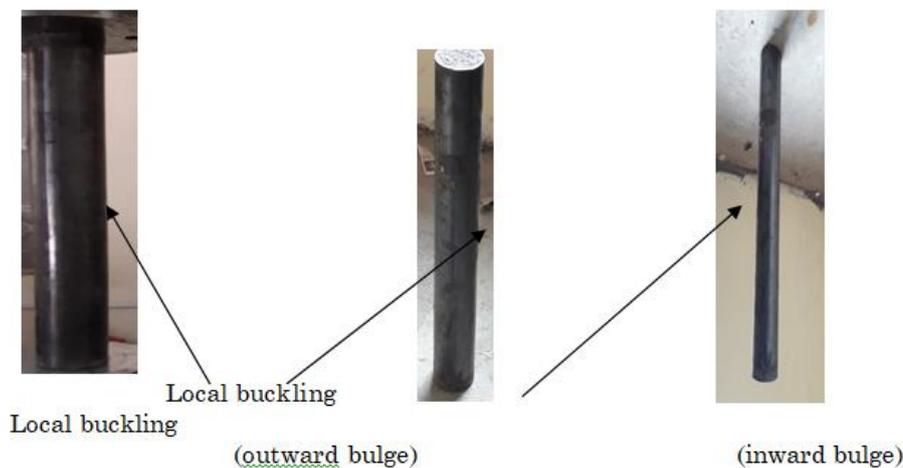
| NO. | Sectional profile | Specimen label | D (mm) | t (mm) | Types of fine aggregates | $f_{cu}$ (MPa) | $\alpha$ |
|-----|-------------------|----------------|--------|--------|--------------------------|----------------|----------|
| 1   |                   | C-3-MS-1       | 88.7   | 3.2    |                          | 30.8           | 0.151    |
| 2   |                   | C-3-MS-2       | 88.7   | 3.2    |                          | 30.8           | 0.151    |
| 3   |                   | C-3-MS-3       | 88.7   | 3.2    |                          | 30.8           | 0.151    |
| 4   |                   | C-4-MS-1       | 88.7   | 4      |                          | 30.8           | 0.208    |
| 5   | Circle            | C-4-MS-2       | 88.7   | 4      | Manufactured sand (MS)   | 30.8           | 0.208    |
| 6   |                   | C-4-MS-3       | 88.7   | 4      |                          | 30.8           | 0.208    |
| 7   |                   | C-5-MS-1       | 88.7   | 4.8    |                          | 30.8           | 0.257    |
| 8   |                   | C-5-MS-2       | 88.7   | 4.8    |                          | 30.8           | 0.257    |
| 9   |                   | C-5-MS-3       | 88.7   | 4.8    |                          | 30.8           | 0.257    |

**Experimental results**

**3.1. Typical failure modes of the tested CFSST specimens**

The failure patterns of the circular CFST specimens after testing are displayed in Fig.3. The circular CFST specimens had obvious local buckling at the mid-height of the tube. The steel exhibited very good

deformation ability, where no fracture was observed the tested specimens even under severe buckling conditions. The failure modes of all CFST specimens were outward buckling instead of inward buckling due to the inner support provided by the core concrete.



**Fig.3 Buckling effect of circular column**

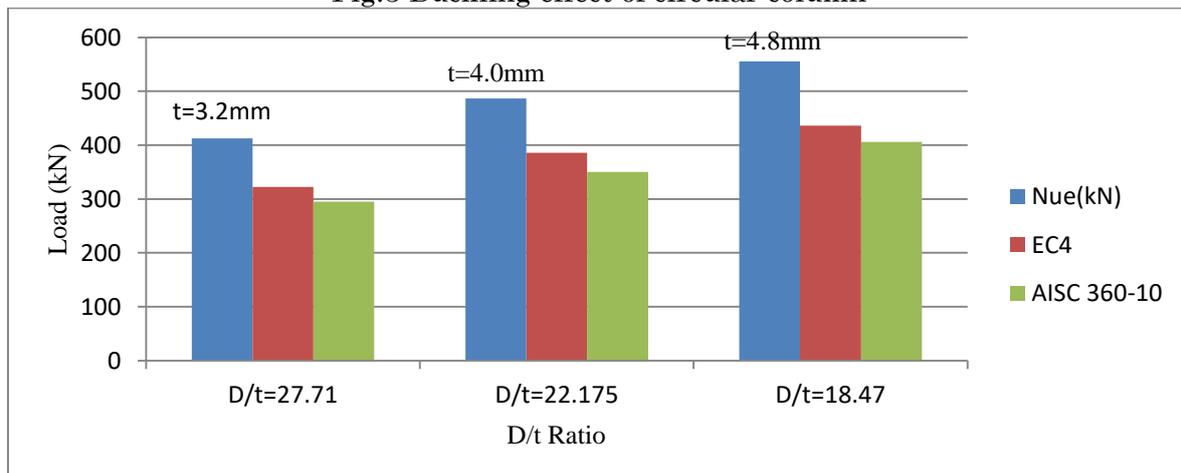
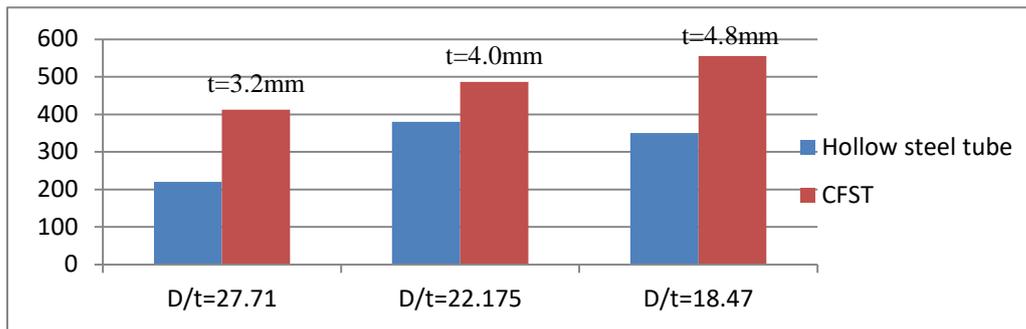


Fig.6 Comparison of the ultimate capacity of the tested CFST specimens

Fig.7 Comparison of the ultimate capacity of the hollow specimens and CFST specimens



### Conclusion

EC4 gives 27% to 15% lower strength than experimental strengths. ACI/AISC gives 30% to 10% lower strength than experimental strengths. Ultimate strength increases 1.87 times in concrete filled tube column than hollow steel tube. Generally, manufactured sand CFST specimens showed excellent ductility during the axial compression tests. The failure mode of such type of composite columns were outward buckling at mid height.

### References

1. Feng Zhou, Ben Young. Concrete-filled aluminium circular hollow section column tests. *Thin-Walled Structures* 47 (2009) 1272–1280.
2. Feng Zhou, Ben Young. Numerical analysis and design of concrete-filled aluminium circular hollow section columns. *Thin-Walled Structures* 50 (2012) 45–55.

**“UNBOTTTLING THE FUTURE” - EXHAUSTIVE ROLLOUT OF A EXTENSIVE  
QUALITY MANAGEMENT SYSTEM OF PILFER-PROOF CAPS TOWARDS  
KAIVALYA TECHNOLOGIES PUDUCHERRY.**

**Dr. K. Bhuvanewari<sup>1</sup> Mr. M. Prasanth<sup>2</sup>**

<sup>1</sup>HOD, Assistant Professor, MBA, Department of Management Studies, IFET College of  
Engineering, IFET Nagar, Gangarampalayam, Villupuram-605108

<sup>2</sup>Manager, Kaivalya Technology Pvt Ltd, K.Kuchipalayam, Thirukanur Road, Pudhucherry-  
605107

**Corresponding Author- Dr. K. Bhuvanewari**

Email- [drbhuvanewari.ifet.ac.in@gmail.com](mailto:drbhuvanewari.ifet.ac.in@gmail.com)

**DOI- 10.5281/zenodo.7264793**

**Abstract**

*Due to rising urbanisation, industrialisation, and globalisation, the market for aluminium caps and closures is becoming more significant. The market for aluminium caps and closures will expand as consumer awareness of difficulties with the need for practical parking solutions rise. The market for aluminium caps and closures may have further growth restrictions due to rising production costs for metal alloys and fluctuating raw material prices. Glass bottle closures with tamper-evident caps are common in the pharmaceutical industry. Consumption increases as living standards rise. Market is being driven by safety features like "no bottle no cap" and operation stopping in the absence of a cap that save a lot of material and make it the preferred capping option. When capping glass bottles, the machine must use just the right amount of pressure so that the cap takes on the shape of the bottle without cracking. The success of the machine is also greatly influenced by its adaptability to different cap and bottle sizes. The key to surviving for a long period in the ropp capping business is constant research for more automation and safety features as a result, the report forecasts how prevalent each important category will be in the upcoming years.*

**Keywords:** *repeatability, business, reproducibility, technology, industrialization.*

**Introduction**

Our state-of-the-art production facility is located in the union territory of pondicherry, where we produce roll on pilfer proof closures (ropp). Including sizes 22mm, 25mm, 28mm, and 29/35mm, our installed capacity is about 5 million closures per month (deep). Tear off seals, vial seals, and side embossed ropp closures are all part of our current expansion of our product line and production capabilities. Our production procedure is designed to provide closures with a high level of consistency and dependability while maintaining cost effectiveness. The awareness of our staff and the cleanliness of our facility are the first steps toward quality consciousness. Every step of the manufacturing process is monitored by quality checkpoints to guarantee that the finished goods meet the client's requirements. A thorough quality management system is strictly followed in the execution of our products. Prior to

being packed, the finished product is 100% visually inspected on an inspection conveyor. The latter steps, including lining, visual inspection, and packing, are completed in a clean, air-conditioned setting.

**Review of literature**

Market for aluminium caps and closures, screw caps, crown cork, press twist lugs, east open end, and other are listed by kind. Product type (easy-open can ends, non-refillable closures, roll-on pilfer-proof (ropp) caps, and others), application (oral solid, oral liquid, parenteral, lotion, ophthalmic drugs and others), end-use industry (beverage, food, pharmaceutical, home and personal care and others), country (u.s., canada, mexico, germany, italy, u.k., france, spain, netherlands, belgium, switzerland, turkey, russia, rest of europe, japan, china, india, south korea, australia, singapore, malaysia, thailand, indonesia, philippines, rest of asia- pacific, brazil, argentina, rest of south america,

south africa, saudi arabia, uae, egypt, israel, rest of middle east and africa), **industry trends and forecast to 2029**. according to **data bridge market research**, the market for aluminium caps and closures is expected to grow at a cagr of 4.75% between 2022 and 2029. The packaging industry is expanding and growing, especially in developing nations like india and china, and there is a growing demand for creative packaging solutions made using cutting-edge manufacturing techniques. These factors, along with rising rates of consumption of both alcoholic and non-alcoholic beverages and rising personal disposable income, are what are fueling the growth of the packaging industry.

#### **Objectives of the study**

1. To study the role of quality standardization in kaivalya technologies.
2. To understand the effective operation of engraved consistency and assurance in the product's functionality.
3. To understand the aluminum roll-on pilfer proof caps (ropp caps).

#### **Significance of the study**

The application and removal instructions are engraved on these caps, which have a particular design. As a child's natural instinct is to turn the cap to open, these caps are made with a particular technology that allows the cap to be pushed up before the bottle is opened. Managers with the required technical credentials oversee the process and certify it. A semi-automatic sealing machine is available to ensure consistency and assurance in the product's functionality, and gauges are utilised to make sure the finished product's dimensions are within predefined ranges. To check the size and other properties of the raw materials used in the product's manufacturing, measuring equipment and hardness testers are utilised.

#### **Research methodology overview**

The organization of conceptual pieces is divided into many subject flows. The material was acquired from a variety of researchers and research organizations.

Throughout the investigation, the majority of the information acquired in research papers, articles, blogs, and online media gave insight into this technology, used in the product's manufacturing, measuring tools and hardness testers are utilized.

#### **Engraved consistency of quality management**

1. Endeavoring to have our quality management system certified to iso 9001 in keeping with our goal of creating a high-quality product in a reliable, economical manner.
2. Testing instruments are offered to make sure that the finished product's dimensions are within specified limitations, the dimensions and other characteristics of the input raw materials are within parameters, and the usability of the product is consistent and secured.
3. To enable them to verify the constancy of our product quality, we promote and welcome frequent visits by our customers to our unit to conduct quality audits / inspections.

#### **Sensor technique for pp cap quality assurance**

With the following sensors, countable sensor, positioning sensor, and lining sensor, kaivalya technology conducts its own quality checks.

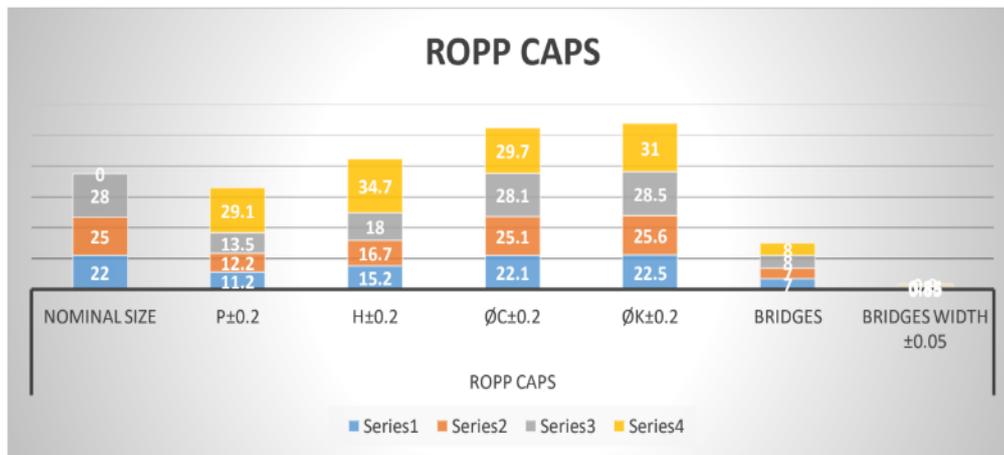
#### **Dynamics of the market for ropp capping machines**

The growing demand for bottle closures with features that can shield it from having its products exploited is the main factor driving the worldwide ropp capping machines market. Bottle caps that take on the shape of a bottle are known as roll-on-pilfer-proof caps. For complicated-shaped bottles, it greatly simplifies the capping procedure. Additionally, the caps are constructed in a way that prevents re-capping of the bottle without a special device once it has been opened. This bottle's aesthetics are greatly influenced by these caps. The market is competitive thanks to a variety of automated features and safety precautions.

**Implementing a standard quality management**

| Ropp caps    |       |       |        |        |         |                     |
|--------------|-------|-------|--------|--------|---------|---------------------|
| Nominal size | P±0.2 | H±0.2 | Øc±0.2 | Øk±0.2 | Bridges | Bridges width ±0.05 |
| 22           | 11.2  | 15.2  | 22.1   | 22.5   | 7       | 0.85                |
| 25           | 12.2  | 16.7  | 25.1   | 25.6   | 7       | 0.85                |
| 28           | 13.5  | 18    | 28.1   | 28.5   | 8       | 0.85                |
| 29/35        | 29.1  | 34.7  | 29.7   | 31     | 8       | 0.9                 |

**Table 1.1. Implementing a standard quality management**



**Figure 1.1. Implementing a standard quality management**

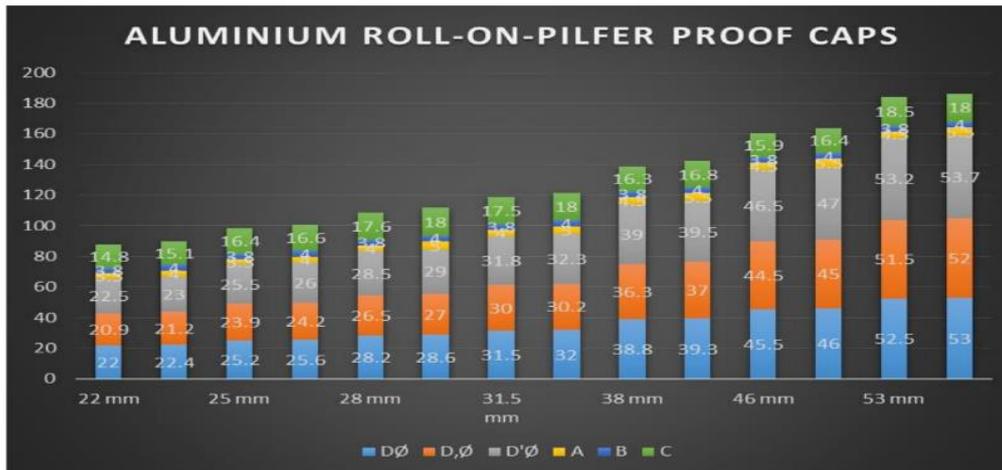
Incentivizing aluminum comprises up about two thirds of all caps and closures in the globe, and ropp caps contributes half of this total. These figures demonstrate the

enormous need for ropp caps and ropp capping equipment across the spectrum for various end applications.

**Persisting compatible aluminium roll-on pilfer proof caps**

| Aluminium roll-on pilfer proof caps (ropp caps) |      |      |                       |     |     |      |
|---|------|------|-----------------------|-----|-----|------|
| Normal size                                     | Dø   | D,ø  | D'ø                   | A   | B   | C    |
| 22 mm   | 22   | 20.9 | 22.5                  | 3.5 | 3.8 | 14.8 |
|   | 22.4 | 21.2 | 23                    | 4   | 4   | 15.1 |
| 25 mm   | 25.2 | 23.9 | 25.5                  | 3.5 | 3.8 | 16.4 |
|   | 25.6 | 24.2 | 26                    | 4   | 4   | 16.6 |
| 28 mm   | 28.2 | 26.5 | 28.5                  | 4   | 3.8 | 17.6 |
|   | 28.6 | 27   | 29                    | 5   | 4   | 18   |
| 31.5 mm   | 31.5 | 30   | 31.8                  | 4   | 3.8 | 17.5 |
|   | 32   | 30.2 | 32.3                  | 5   | 4   | 18   |
| 38 mm   | 38.8 | 36.3 | 39                    | 4.5 | 3.8 | 16.3 |
|   | 39.3 | 37   | 39.5                  | 5.5 | 4   | 16.8 |
| 46 mm   | 45.5 | 44.5 | 46.5                  | 4.5 | 3.8 | 15.9 |
|   | 46   | 45   | 47                    | 5.5 | 4   | 16.4 |
| 53 mm   | 52.5 | 51.5 | 53.2                  | 4.5 | 3.8 | 18.5 |
|   | 53   | 52   | 53.7                  | 5.5 | 4   | 18   |
| Dø = out side diameter                          |      |      | d,ø = inside diameter |     |     |      |

**Table 1.2. Persisting compatible aluminum roll-on pilfer proof caps**



**Figure 1.2. Persisting compatible aluminium roll-on pilfer proof caps**

A thorough quality management system guides the rigorous compliance of our production.

**Conclusion**

As industries as a whole improve and people's level of living as a whole rise, there is a growing need for pp caps on the market. Most commonly, glass containers are covered with pp tops. Pharmaceuticals, packaging industries all employ glass bottles. Pilfer proof lids are made to prevent the contents of a container from being altered, tampered with, or stolen. The roll seal aluminium closure is the cap most usually found on glass bottles used to store goods including alcohol, medications, chemicals, syrups, and squash. Regarding sizes, patterns, standards, and specifications, the pp caps produced should adhere to the customer's requirements. On these specially manufactured caps, the directions for putting on and taking off the cap are etched. These caps were created with a specific technology that required pressing the cap up before opening the bottle because a child's natural instinct is to turn the cap to open. As the need for these usage sectors grows year after year, so does the demand for pp caps.

**References**

1. How to start a pilfer-proof metal caps business by michaele coe

## **PROBLEM OF SALT INTRUSION IN AGRICULTURE OF PORBANDAR DISTRICT**

**Kajal D. Khunti**

Research Scholar, Bhakta Kavi Narsinh Mehta University, Junagadh

**Corresponding Author- Kajal D. Khunti**

Email- [kajal.agath93@gmail.com](mailto:kajal.agath93@gmail.com)

DOI- 10.5281/zenodo.7264797

### **Abstract :**

*Gujarat has the longest coastline of 1600 km, compared to all other Indian states. Porbandar district situated at the Arabian Sea has a coastline of 106 km. This sea shore of Gujarat is a boon for the fisherman because of the fishing industry. While there is saltwater problem in the coastal villages is annoying. Excessive exploitation of groundwater increases the problem of salinity. The area from Porbandar to Una is known as "Lili Naagher" due to its agriculture richness. Bhavnagar district board's Mahuva is also known as "Kashmir of Saurashtra". These areas were rich in horticulture crops like coconut, sapodilla, and sugarcane. But due to increasing salinity of the sea, the agriculture here is declining. When salinity of seawater enters in freshwater level, it is called salt intrusion. A few years ago, one or one and half kilometers of land was alkaline saline. But as time went on, the salinity also increased. The salt has reached 15 km in some areas of the coast while 40 km in others. Agriculture is the main livelihood of Porbandar district in the state of Gujarat. Salinity has proved to be a challenging problem for the agriculture of this coastal district. Villages that are close to shore are more prone to salinity intrusion and villages far from shore are less prone to salinity. The salinity of sea saltwater entering in the freshwater level in coastal areas has increased. Such saline water is unusable for agriculture, therefore farming in coastal villages is depends on rainfall. with low or erratic rainfall, the condition of agriculture is deteriorating. Considering the present problem of the district, many measures have been taken by the government for the storage of fresh water.*

### **Introduction**

India is an agricultural country. About 65% of India's population is dependent on agriculture. Therefore, it is very important to develop the agricultural sector for the economic development of the country. The present government is paying special attention to industrial development rather than agriculture while agriculture is going through many problems. Since most of the agriculture in our country is dependent on nature i.e., Rainfall, the productivity of the agriculture sector can be seen low. Irrigation in our country is based on groundwater.

As ground water is a natural resource and collective resource, it is used indiscriminately in the agricultural, industry and other sectors. This has created a shortage of groundwater. Excessive abstraction of groundwater and lack of recharge system degrades groundwater's quality. As a result of increasing use of groundwater in coastal areas, sea salinity is increasing. Such alkaline water is having a detrimental effect on the production and

productivity of agriculture and the economic condition of the farmers is deteriorating.

### **Objectives :**

1. To check the changes in crop pattern due to salinity ingress
2. Getting information on salinity tolerant crops
3. Investigating the effects of salinity increase on product and productivity.

### **Hypothesis :**

1. Crop production and productivity decline due to salinity increase.
2. Crop pattern have changed due to salinity increase.
3. Due to salinity increase, the number of farmers harvesting once a year will be higher.

### **Methodology**

Different methods are used for research studies. Most of the research is carried out in the context of the present, past and future according to chronology. The type of problem can be determined based on its form and purpose.



### Data Analysis

| Sr. No. | Name of the Crop | Cultivated Area (Hector) |     |     | Total Production |        |         |
|---------|------------------|--------------------------|-----|-----|------------------|--------|---------|
|         |                  | 1-3                      | 4-6 | 7-9 | 1-50             | 51-100 | 101-150 |
| 1       | Peanuts          | 60                       | 30  | 30  | 82               | 20     | 8       |
| 2       | Cumin            | 53                       | 15  | 16  | 65               | 10     | 9       |
| 3       | Wheat            | 55                       | 12  | 10  | 55               | 15     | 5       |
| 4       | Cotton           | 15                       | 10  | 4   | 19               | 5      | 5       |
| 5       | Chickpeas        | 54                       | 15  | 5   | 52               | 12     | 10      |
| 6       | Aird             | 7                        | 0   | 0   | 7                | 0      | 0       |
| 7       | Corn             | 18                       | 3   | 0   | 9                | 10     | 2       |
| 8       | Millet           | 14                       | 10  | 4   | 14               | 7      | 7       |
| 9       | Sorghum          | 65                       | 23  | 10  | 55               | 35     | 8       |
| 10      | Mugh             | 30                       | 5   | 0   | 25               | 10     | 0       |
| 11      | Urad             | 6                        | 0   | 0   | 6                | 0      | 0       |
| 12      | Dhana            | 20                       | 5   | 0   | 15               | 5      | 5       |

| ANOVA               |             |    |             |             |             |             |
|---------------------|-------------|----|-------------|-------------|-------------|-------------|
| Source of Variation | SS          | df | MS          | F           | P-value     | F crit      |
| Between Groups      | 10430.77778 | 5  | 2086.155556 | 8.494782519 | 2.99322E-06 | 2.353808958 |
| Within Groups       | 16208.33333 | 66 | 245.5808081 |             |             |             |
| Total               | 26639.11111 | 71 |             |             |             |             |

### Conclusions:-

In Porbandar district, farm production and productivity low is observed due to salt intrusion. Due to Saline intrusion, farms are unable to grow crops of their choice. The soil becomes hard due to salinity and is not suitable for cultivation. Besides, in human health, cancer, joint pain, breathing problems, etc. are caused due to salts in the air. Drinking saline water has also reduced productivity in cattle.

### Recommendations:-

- To complete the work of unfinished 'Megha Canal'.
- Stopped rainwater from flowing into the sea in Vain. Landng or storing.
- To recharge more and more wells and borewells.
- Planting more and more trees around the farm or sowing in fallow soil will prevent salinity from entering.
- The use of chemical fertilizers should be reduced, and the use of domestic and organic fertilizers should be increased.

- Substitution of soil in salinity affected farms.
- Building ridged or dams around the farm Decreases the salinity.
- Groundwater quality will be improved by storing rainwater in costly stone quarries in coastal areas.

### Referenees :-

- Shah Dipika Bhadresh "Academic research" university Bibliography Board, Ahmedabad – 2004.
- Uchat D. A., "Methodology of research in education and social sciences." Literary press Pvt. Ltd. Ahmedabad – 2009.
- Sudhirendar Sharma, "A saline invasion" – 25 Aug. 2013
- Porbandar district, Gujarat Village, [Directory@vlist.in](mailto:Directory@vlist.in)
- Rajendra Dave, "water problem of Saurashtra" – 2001
- Sarya, Ahinsa and Nagar of prem Porbandar office of the director of information Gujarat Gandhinagar – 2006.

## **GREEN SYNTHESIS AND CHARACTERIZATION OF METALLIC NANOPARTICLES USING CAESALPINIA BONDUCELLA EXTRACT AND THEIR INVITRO ANTIMICROBIAL PROPERTIES**

**Ms. B. Mohanapriya<sup>1</sup> A.Sri Sarika<sup>2</sup> M. Snehakala<sup>3</sup> E. Subitsha<sup>4</sup>**

<sup>1</sup>Assistant Professor- Department of Biotechnology, Rathinam College of Arts and Science Coimbatore

<sup>2</sup>B.Sc Biotechnology, Rathinam College of Arts and Science, Eachanari, Coimbatore

<sup>3</sup>B.Sc Biotechnology, Rathinam College of Arts and Science, Eachanari, Coimbatore

<sup>4</sup>B.Sc Biotechnology, Rathinam College of Arts and Science, Eachanari, Coimbatore

**Corresponding Author- Ms. B. Mohanapriya**

**Email- [srisarika@gmail.com](mailto:srisarika@gmail.com)**

**DOI- 10.5281/zenodo.7264803**

### **Abstract**

*Recent advances in nanoscience and nanotechnology changes the way of diagnostics, using silver nanoparticles for treating disease is more effective way. Compare to the other metallic nanoparticles silver nanoparticles are more effective in diagnostics. In our present study, we taken the medicinal plant extract Caesalpinia bonduc and had undergone the synthesis of silver nanoparticles using green synthesis method. The prepared nanoparticles were characterized and elucidated by using UV visible spectrometer, SEM (Scanning electron microscopy), TEM (Transmission electron microscopy) and XRD (X-ray diffraction). And we also check antimicrobial properties of silver nanoparticles by well diffusion method against Escherichia coli and Pseudomonas aeruginosa. By undergoing various study we observed that our plant sample Caesalpinia bonduc was showing good antimicrobial properties.*

**Key words:** Green Synthesis, Silver nanoparticles, Caesalpinia bonduc, UV spectrometer, SEM, TEM, XRD, Antimicrobial properties.

### **Introduction:**

Globally, metallic nanoparticles having prominent role in medical field as well as biology, physics, material science and chemistry due to their medicinal properties. Among the several noble metal nanoparticles, silver metal nanoparticles have attained special focus in view of their distinctive properties, like good electrical conductivity, chemical stability, catalytic and antibacterial activity. So we go for a synthesising of silver nanoparticles. Using plant extract for synthesis of silver nanoparticles is most beneficial way, because of having less biohazards compare to chemical method.

We used Caesalpinia Bonducella as our sample. Caesalpinia Bonducella is a medicinal plant from a Fabaceae family, commonly known as grey nicker, nicker bean, fever nut or knicker nut, have a lot of beneficial properties, like anti diabetic properties. The aqueous solution of the

outer shell of the seeds of the plant traditionally is used for the relief of the symptoms of diabetes mellitus and also have antibacterial, antifungal, and wound healing properties.

### **Materials and method:**

#### **Preparation of plant extract:**

2.5 g of *Caesalpinia Bonducella* plant powder were added in 100 ml of distilled water and boiled for 2 minutes. After cooling down in room temperature, extract were filtered by using wattman filter paper.

#### **Biosynthesis of silver nanoparticles:**

5 ml of plant extract were added to 50 ml of 1mM AgNO<sub>3</sub> (1:10 ratio) and it was kept in room temperature, dark condition for 24 hours. The plant sample serves as a reducing agent and AgNO<sub>3</sub> serves as an oxidizing agent. After 24 hours the extract were changed in brown color indicating the formation of Ag nanoparticles.



Time of added AgNO<sub>3</sub>

After 24 hours

Characterization of silver nanoparticles: Firstly, the characterization is done by UV-Vis spectrometer. The visible range of UV-vis spectrometer is 200-700. In our study, the absorption spectra of the samples were taken 300–540 nm to identify silver nanoparticles. The de-ionized water was used as the blank. The samples from the maximum time point of production of silver nanoparticles were used to further analysis. The morphological, structural and chemical composition of Silver NP's were analyzed by employing SEM-(Scanning Electron Microscopy), Transmission Electron Microscopic (TEM) analysis and X-Ray diffraction (XRD) was done.

#### **Antimicrobial activity test for synthesized AgNps by well diffusion method:**

Antimicrobial properties of silver nanoparticles by well diffusion method against *Escherichia coli* and *Pseudomonas aeruginosa*. Using micropipette, 25  $\mu$ L, 50  $\mu$ L and 65  $\mu$ L of the sample of nanoparticles solution were poured into well on all plates. And for control study, crude extract (without adding AgNO<sub>3</sub>) and blank AgNO<sub>3</sub> solution were added in another separate wells. After incubation at 35 C for 18 h, the different levels of zone of inhibition were measured. Using- *E.coli* - about 15 mm zone formation had observed, using *pseudomonas* - about 20 mm zone formation had observed.

#### **Result and Discussion:**



The detailed study on biosynthesis of silver nanoparticles by natural plants extract *Caesalpinia bonduc*. It was observed that the color of the solution turned from white to dark brown after 24 h of the reaction, which indicated the formation of silver nanoparticles. The formation and stability of the reduced silver nanoparticles in the colloidal solution was monitored by UV-vis spectrophotometer analysis. The UV-vis spectra showed maximum absorbance at 460 nm, which increased with time of incubation of silver nitrate with the plants extract (Fig 1). The curve shows increased absorbance in various time intervals and

the peaks were noticed at 460 nm. In order to verify the results of the UV-vis spectral analysis, the samples of the silver ions exposed to the extracts of natural plants were examined by XRD. Fig 2 shows the XRD pattern for silver nanoparticles synthesized using natural plants extract. The mean particle diameter of silver nanoparticles was calculated from the XRD pattern according to the line width of the plane, refraction peak using the Scherrer's method. X-Ray Diffraction: pattern of silver nanoparticles (NPs). Peaks are assigned to diffraction from the (111), (200) and (220) planes of silver. Peaks of XRD pattern can

be indexed as a pattern shows the presence of the diffraction peaks corresponding to the (111), (200), and (220) planes. Next, Fig3 (SEM) Scanning electron micrographs of Ag NPs synthesized from *N. arbor-tristis* with ethanol precipitation at 2  $\mu$ m resolution. Micrographs show the encapsulation of Ag NPs in the extracted matrix. Fig 4 (TEM) Transmission electron microscopy analysis were attached.

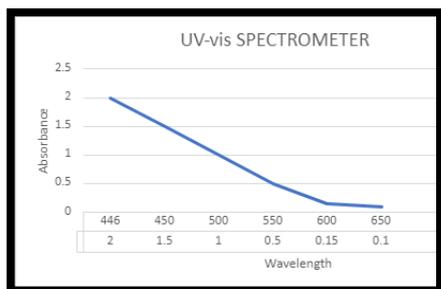


FIG 1 UV-vis spectrometer analysis

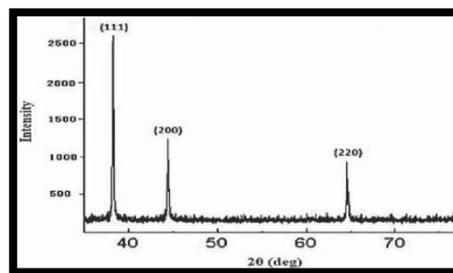


FIG 2 XRD

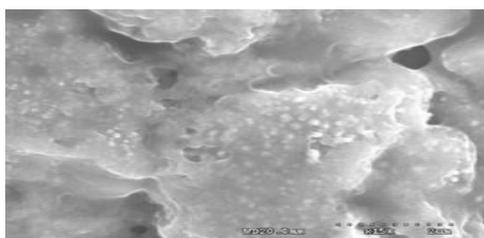


Fig 3 SEM analysis

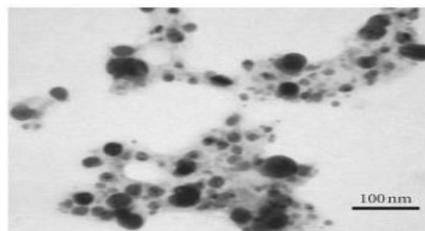


Fig 4 TEM analysis

### Reference:

1. Akinnibosun, F.I., Akinnibosun, H.A., Ogedegbe, D., 2009. Investigation on the antibacterial activity of the aqueous and ethanolic extracts of the leaves of *Boerhaavia diffusa*. *L. Sci. World J.* 4, 15–18.
2. Chaudhry, Q., Castle, L., 2011. Food applications of nanotechnologies: an overview of opportunities and challenges for developing countries. *Trends Food Sci. Technol.* 22, 595–603.
3. Dibrov, P., Dzioba, J., Gosink, K.K., Hase, C.C., 2002. Chemiosmotic mechanism of antimicrobial activity of Ag<sup>+</sup> in *Vibrio cholerae*. *Antimicrob. Agents Chemother.* 46, 2668–2670.
4. Favero, J., Corbeau, P., Nicolas, M., Benkirane, M., Trave, G., Dixon, J.F.P., Aucouturier, P., Rasheed, S., Liautard, J.P., Devaux, C., Dornand, J., 1993. Inhibition of human immunodeficiency virus infection by the lectin jacalin and by a derived peptide showing a sequence similarity with gp120. *Eur. J. Immunol.* 23, 179–185.
5. Kalishwaralal, K., Deepak, V., Ram Kumar Pandian, S., Kottaisamy, M., Barathmani, K.S., Kartikeyan, B., Gurunathan, S., 2010. Biosynthesis of silver and gold nanoparticles using *Brevibacterium casei*. *Colloids Surf. B: Biointerfaces* 77, 257–262.
6. Kokura, S., Handa, O., Takagi, T., Ishikawa, T., Naito, Y., Yoshikawa, T., 2010. Silver nanoparticles as a safe preservative for use in cosmetics. *Nanomedicine* 6, 570–574.

8. Kowshik, M., Ashtaputre, S., Kharrazi, S., Vogel, W., Urban, J., Kulkarni, S.K., Paknikar, K.M., 2003. Extracellular synthesis of silver nanoparticles by a silver tolerant yeast strain MKY3. *Nanotechnology* 14, 95–100.
9. Mandal, D., Bolander, M.E., Mukhopadhyay, D., Sarkar, G., Mukherjee, P., 2006. The use of microorganisms for the formation of metal nanoparticles and their application. *Appl. Microbiol. Biotechnol.* 69, 485–492.

**“IMPACT OF COVID-19 ON AGRICULTURE SECTOR : CASE STUDY OF  
KUTCH”**

**Avani Pravin Thakkar<sup>1</sup> Pradeep Prajapati<sup>2</sup>**

<sup>1</sup>Guide

<sup>2</sup>Research Scholar

**Corresponding Author- Avani Pravin Thakkar**

**Email- [avnithacker1993@gmail.com](mailto:avnithacker1993@gmail.com)**

**DOI- 10.5281/zenodo.7264815**

**Abstract**

*This paper talks about the affects the global pandemic i.e., Corona Virus has had on the agricultural economy, focusing on the farmers from Kutch, Gujarat. It highlights on the problems that they faced because of the covid. Such as Transportation crisis, small markets, economic starvation, Trading crisis, lack of availability of labourers, etc.*

**Introduction**

India is one of the most populated countries in the world, and even today the economy of this country majorly depends on agriculture. Currently the whole world is suffering from Covid-19 Pandemic, which has practically devastated the functioning of even the most stable and efficient economies, and the agriculture sector of India is not spared either. Kutch the largest district of the Indian nation has been suffering from this pandemic since the last 12 months. Considering this situation the theory of Population Growth by the English economist Thomas Malthus, can very aptly explain all this. The theory says that whenever the population will increase more than the food supplies, nature by any means will bring balance to the population and food supply. The current situation not only has harshly affected the life of people, but also has very adversely affected the economies, no matter what sector we talk about primary, secondary or tertiary sector the corona virus has had a big impact on it. In this paper we will talk about how this global pandemic has affected the largest district of India, Kutch.

**What is Covid-19?**

Earlier named as Novel Corona Virus 2019-ncov. Virus, is a Latin term which means a crown, which is circular, entwined, and thorny. After this WHO renamed this to Covid-19, on 12th of February, 2020. The full name of Covid-19 is Corona Virus Disease 19.

**Affects of Covid-19**

The first ever covid case was reported on 31st December, 2019, from Wuhan, China. Which later spread to the whole world, there is not a single country in the world which has not been affected by this virus India reported its first case on 30th January, 2020, in Kerala. This in no time reached the state of Gujarat, on the date of 19th March, 2020 in the cities of Surat and Vadodra. Kutch was hit by the virus very soon, on 5th April. Because of this global pandemic- increase in domestic violence, increase in suicides, mental health issues, unemployment, starvation. Every part and group of the society has been adversely affected and one of the most hit sectors is the agriculture sector.

**Review of Literature**

Parmar Nilam (August, 2020) has discussed about the effects covid 19 has had on the farmers, even though they had a very good yield, they were not able to get the right prices for their produce because of the lockdown as the transportation was not available.

Because of this the farmers as in a state of great difficulties, in her paper Effects of Covid 19 on Indian Economy. Raúl Siche in his paper said that, The different pandemics that humanity has experienced, such as the Spanish Flu, Asian Flu, Hong Kong Flu, HIV/AIDS, SARS, Ebola and Swine Flu, have had a great impact on the economy, the environment and any human activity, such as livestock, agriculture, tourism,

transport, education, health, fishing, mining, industry, commerce, etc. Currently, humanity is facing another pandemic, the infection of the new corona virus (2019-nCoV) that generates the disease known as COVID-19. **Dr. Sarth A. and S N Yogish (November 2020)** talked about how Farming is the foundation of any economy. It is the essential area which creates work so the whole hover of financial course goes on. At the point when we talk about the Indian economy, most of the populace is confined to this area. With the progressing pandemic, occupations of the apparent multitude of ranchers and the individuals who are enjoying this area are at high danger. In certain countries, COVID-19 has vanished while in some it is returning. Simply a limited capacity to focus the pandemic will leave a never-ending impact on the agrarian area.

The pandemic will disappear definitely, yet we don't have the foggiest idea when and we don't have a clue about the quantum of the negative effect it will leave on the economy. The beginning of the Covid pandemic has corresponded with the pinnacle gathering season. As the business sectors are secured, there is a danger to the yield in more than 100 lakh hectares in the nation. Indeed, even among the various fragments, the effect changes broadly among various areas and among makers and horticultural compensation workers. This effect will resound over the bigger economy and will wait longer than a couple of months. During these difficult occasions, how does Indian Agriculture react to the emergency and how do government estimates influence 140 million homestead families the nation over and from that point sway the economy of a significant nation in the creating scene? We survey the quick difficulties that COVID19 has presented to the ranch area and recommend moderation measures to guarantee a practical food framework in the post-emergency period. So that reason there is have to contemplate the effect of Corona virus on India Agriculture. Chetan

K. and Dr. S N Yogish (2019), COVID-19's economic implications once again catapulted agriculture into the mainstream discourse.

The reverse migration of labourers to India's hinterlands is having a differentiated impact across regions. While agricultural operations in the well-endowed regions are about to suffer, the hinterlands will have received an excess supply of labourers, throwing up new challenges and opportunities. In this context, it is worthwhile to revisit the role of agriculture in economic development to throw light into the policies the sector will need to adopt to recover better. This article talks about some of the impacts of lockdown within agriculture. The impacts of the economic slowdown on agriculture are also discussed. It was published in Gujarat Samachar, one of the prominent daily newspapers that, due to corona virus there are clouds of problems on the farming sector. Even though they had a great yield they were not able to get the sufficient prices for it. Because of which the farmers are suffering with lack of money. All the sectors have been affected adversely due to the virus, and farming sector is among them as well.

#### **Objective of Study**

1. Impact of Covid 19 on Kutch.
2. Impact of Covid 19 on Agriculture sector and farmers.

#### **Method of Study**

This paper studies the impact of covid-19, on the agriculture sector of Kutch district. For this study primary and secondary data has been compiled and presented together in order to draw a brief idea about the agriculture sector of Kutch, under the influence of Covid-19. For the primary data farmers from Mundra and Abdasa were contacted and were interviewed for their inputs. Regarding how this pandemic has brought with it various situations that would put them in a tough spot.

#### **Impact of Covid on Kutch**

Covid 19 brought with it a national lockdown, which meant a complete stop to any activity that took place outside the

home of any individual. Small scale businesses were affected the most as this lockdown made them completely shut. People lost their savings either because of the lack on income or in the form of medical expenses. Mental health was also severely affected due to this pandemic, cases of anxiety, depression and even suicide increased.

Domestic violence, divorces also saw an increase in these times. Tourism, which is one of the most integral part of the economy of Kutch also saw a large drop, people directly or indirectly associated with the tourism sector also were pushed further down in poverty. Colleges and school moved to an online medium, which further created a gap between students; many teachers lost their jobs because of this shift. Daily wage workers were hit the most; they were not even able to feed their family which made them prone to the virus as well.

#### **Impact of covid-19 on Agriculture sector**

Agriculture sector is one of the primary sources of income for many people in Kutch; according to the census of 2011 34% of the people in Kutch are dependent on Agriculture for their source of income. Hence, the families associated with agriculture sector faced a number of problems due to the pandemic.

Even in the normal times, farmers face a lot of problems like- lack of rainfall, untimely rainfall, insects and market rates, but the farmers are usually prepared for all this. Corona virus was something that caught the farmers on their heels. The farmers actually had a very good yield this year, after fighting all the above mentioned things, but because of the collapse of transportation due to covid they were not able to transport the produce efficiently. As many of these farmers don't possess a storage facility, they were forced to sell their produce on a much lower rate which eventually resulted in loss. Even their savings were used up, in order to feed their families. To bring a firsthand experience in

light farmers from Mundra and Abdasa were interviewed.

#### **Samji Bhai from Abdasa**

Samji Bhai is a medium scale farmer from Abdasa, Gujarat who provides jobs for daily wage workers in his farms. When asked about what are the problems he has been facing he told us that, as majority of workers were from other states and due to covid they has to migrate back to their home states there is a very high shortage of labourers in his town, as wearing a mask in mandatory in these times it gets uncomfortable for him because he has problems in breathing through a mask. Due to the lack of trade fertilizers, seeds and chemicals are continuously getting expensive with each passing day, the rise in the expenses and the fact that the produce is not able to be sold at the desired price, it has created an imbalance between income and expenses. Due to this many farmers took the severe step of suicide owing to the lack of money.

#### **Mavji Bhai from Mundra**

When we asked Mavji Bhai about his experiences he told us that, it doesn't matter what sector we talk about industrial, tourism or agriculture covid-19 has had a huge impact on all of them. Currently all the farmers are facing problems due to covid, and it seems as if our lives are in danger. Farmers already face a lot of issues on a daily basis, and covid just added more problems to the already existent ones. He said that he has planted wheat this years, which indeed gave a very good yield too, but the problem was that he didn't knew how to sell the produce. Due to the lockdown, he was not able to get the desired price for his produce. He faced financial scarcity owing to these adverse conditions.

#### **Conclusion**

We can clearly see that covid 19 has been a worst for everyone around, and has very devastatingly attacked the economies around the globe. The farmers of Kutch, Gujarat are no different. They suffered due to the lockdowns, transportation shortage, and small market and also due to the

healthcare system. We don't really know when will this global pandemic will end, but we have to make sure we don't lose lives in this and make sure everyone of us survives. We have to help each other out at every possible opportunity.

**References**

1. <https://gujaratsamachar.com>
2. <https://www.thehindu.com>
3. <https://enm.wikipedia.org>
4. <http://kcgjournal.org>
5. <https://www.researchgetnet.com>
6. <https://ijsr.net>
7. <https://ras.org>

## **SOCIAL MEDIA AND WOMEN EMPOWERMENT**

**Dr. Munde Sanjeevani Dashrathrao**

Assistant Professor In Commerce , Late Shankarrao Gutte Gramin AC&S College, Dharmapuri,  
Tq.Parali(V), Dist Beed,

**Corresponding Author- Dr. Munde Sanjeevani Dashrathrao**

Email : mundesanjeevani2@gmail.com

**DOI- 10.5281/zenodo.7264818**

### **Abstract**

There has been a change in the media landscape over the past decade with social media channels such as blogs, online discussion opportunities, and online communities now accompanying traditional media outlets such as newspapers, magazines, and television programs. Social media is becoming an agent of change. It is changing the way information is communicated to and from people around the world. Its use is increasing day by day with high rate in all over the world. Social media has confirmed potential for assembling attention and responsibility to women's rights, and challenging judgement and stereotypes. It has proved to be a powerful vehicle for bringing women's rights issues to the attention of a wider public, spurring action on the streets of cities around the world and inspiring policy makers to step up commitments to gender equality. The paper is an attempt to study how social media is donating to women empowerment based on secondary data. The paper likes to accomplish that though social media is contributing to women empowerment but there is virtual gender gap due to lack of literacy, cybercrime, cyberbullying, etc. and women are not able to fully utilize the new space.

**Keywords:** Social Media, Empowerment, Women Empowerment, Cybercrime, New Media.

---

### **Introduction**

Over the past decade, the media landscape has melodramatically changed with social media passages such as blogs, online discussion forums, and online societies now supplementing traditional media outlets such as newspapers, magazines, and television programs. Social media are new information network and information technology using a form of communication applying interactive and user-produced content, and relational relationships are created and maintained. Social media is becoming an agent of change. It is changing the way information is communicated to and from people around the world. It has proved to be a powerful vehicle for bringing women's rights issues to the attention of a wider public, galvanizing action on the streets of cities around the world and encouraging policy makers to step up commitments to gender equality. The explosion of social media, Cyber feminism and unprecedented use by women of new technologies represents important opportunities to bring gender equality and women's rights issues to the forefront of

both policy making and media attention. India ranks second in usage of Facebook and third in Twitter.

### **Social Media**

The word media is defined as 'one of the means or channels of communication, information, or entertainment in society' as newspapers, radio, televisions and social networking sites etc. Media technology has made communication increasingly easier as time has passed throughout history. Today, children are encouraged to use media tool in school and expected to have a general understanding of various media technologies available. Usage of social media is on growth and it is projected that such percentage will increase For many connected users in India, access to the Internet is primarily for accessing social media networks. The most popular activities on social media include maintaining be one's own virtual profile on the likes of Facebook and Twitter, posting and sharing an update as well as replying to something a friend has posted.

### **Empowerment**

Empowerment is a hypothesis that links individual fortes, competencies, natural

helping systems and proactive behavior to social policy and social change. Empowerment theory and research link individual well-being with the larger social and political environment. Empowerment suggests that individual with others to achieve goals, efforts to gain access to resources and some critical understanding of the sociopolitical environment as basic machineries of the construct. Empowerment is a process of changeover from a state of helplessness to a state of relative control over one's life, purpose and a hazardous empathetic of their setting. This changeover can obvious itself in an development not only in the professed ability to control but also in the actual aptitude to control. Thus, the enablement process aims to inspiration the burdened human agency and the social structure within the limitations and possibilities in which this human agency exists and reacts.

### **Role Of Social Media In Empowering Women**

Social media is emerging as an alternative media as a platform to share and raise the voice of women when their voice is restricted. People are joining Cyber hands to help women and share their voices in each and every protest. The subject of empowering women is now being linked to social media as it is emerging as a powerful tool for awareness and action. Empowerment of women is necessary for a bright future of the women, family, society and country so as to make them take their own decisions for personal growth. For a long time voice of women is restricted and it can be made loud byway of social media. Social media is the latest technological tool for Economic Empowerment of Women. The concept of entrepreneurship has helped women to get rid of the tag of being a burden on others economically.

### **Social Media and Internet Impact as seen for Women Empowerment:**

After the infamous 16th December Delhi gang rape incident, within two days Facebook group "Delhi for Women's Safety"

was created which received 1.75lakh likes and many other such groups were created. Such groups on social media attracted public attention and created platform both for women justice and women empowerment at global level. Social Media has become so powerful today that in the face of such incidents social media becomes the voice of people. This Incident got so much social media attention, that Government of India was forced to take strict actions against the culprits, passing a more powerful law to prevent such incident in future. Social media has proven potential for mobilizing attention and accountability to women's rights, and challenging discrimination and stereotypes. Social media has proved to be a powerful vehicle for bringing women's rights issues to the attention of a wider public, galvanizing action on the streets of cities around the world and encouraging policymakers to step up commitments to gender equality.

Ecommerce is flourishing with the help of digital marketing. The study of Social Media Platforms and their impact in unlocking the financial success of the women entrepreneurs globally has been widely observed and quite vital to the new generation of gender based ventures that are digitally driven through the use of technology. Social media is becoming a women's info guide and empowering tool. Governments across the world had to take action against such incidents when everywhere people condemned such happenings. All these positive changes are now triggered to only increase their pace with time due to Internet and Social Media. However, cybercrime is creating hurdles in women empowerment and they are not able to fully utilize the benefits of IT revolution.

### **Cyber crime**

Cyber crime is a global phenomenon. With the advent of technology, cyber crime and victimization of women are on the high and it poses as a major threat to the security of a person as a whole. Even though India is one of the very few countries

to enact IT Act 2000 to combat cyber crimes, issues regarding women still remain untouched in this Act. The said Act has termed certain offences as hacking, publishing of obscene materials in the net, tampering the data as punishable offences. But the grave threat to the security of women in general is not covered fully by this Act. Amongst the various cyber-crimes committed against individuals and society at large, crimes that are specifically targeting women are such as Cyber-stalking, Harassment via emails, Cyber Bullying, Morphing, Email spoofing and Cyber Defamation. While Cyber Stalking affects both men and women, women are disproportionately targets, especially of age group of 16-35, who are stalked by men. It is believed that Over 75% of the victims are female. An astonishing one in twelve women and one in forty five men will be stalked in their lifetimes. Cyber bullying is a typical type of online harassment, which can be defined as hurling harsh, rude, insulting, teasing remarks through the message box or in open forums targeting one's body shape and structure, educational qualifications, professional qualifications, family, gender orientation, personal habits and outlook. Harassment through e-mails is not a new concept. It is very similar to harassing through letters. Harassment includes blackmailing, threatening, bullying, and even cheating via email. E-harassments are similar to the letter harassment but creates problem quite often when posted from fake ids.

### **Conclusion**

Women who are being deprived of basic human rights and life chances are becoming empowered due to social media. They can reach various helpline through the initiative of alternative media groups and members and connect with people. There is no doubt that the developmental facts of women have always been the prime focus of planning since independence and a clear vision is needed to remove the obstacles on the path of women emancipation from the

government and women themselves. The various challenges posed by the new era have forced us to provide a concrete and developmental aspects alternatives in lieu of empowerment of women through the possible available media. We need more action oriented programmed and policies which inculcate in understanding the various technicalities and prospects of media keeping into consideration women's empowerment a must need of the society. Various studies of popular media throw light on empowering and debilitating influence of media. Generation of alternate media for women's empowerment and protest against derogatory and indecent portrayal of women in media must go on simultaneously.

### **References**

1. Atton, Chris (2002), *Alternative Media*, London, SagePublications
2. Baruah, Trisha Dowerah. (2012). 'Effectiveness of SocialMedia as a tool of communication and its potential for technology enabled connections: A micro-level study'. "International Journal of Scientific and Research Publications". Vol.2 (5). pp: 1-9
3. Celestine Lugaye Ukpere, Andre D. Slabbert and Wilfred I. Ukpere, *Rising Trend in Social Media Usage by Women for Business Success*, Mediterranean Journal of Social Sciences, MCSER Publishing, Rome-Italy 2014; 5(10):2039-2117, 2039-9340.
4. Hoffamn, Auren (2008), 'Women and Social Media'. "Business week online". P-2
5. Jacka, T.Mike., and Scott, R.Peter. (2011). 'Auditing social media: A Governance and Risk Guide'. : New Jersey ,John Wiley and Sons', Inc. Hoboken
6. Joseph, Ammu and Sharma, Kalpana (2006), 'Whose news?The media and women's issues', New Delhi, Sage publications
7. Joshi, SC (2004) 'Women empowerment: Myth and Reality'(2004), New Delhi, Akansha publishing House
8. Mazman, and Usluel (2011). 'Gender Differences in Using Social Networks'. "The

*Turkish Online journal of Education  
technology". Vol-10, issue-2, pp-133-139*

9. *Ramona Emerson, Women Use Social  
Media More than Men: Study, The  
Huffington Post, 09, 26, 2011.*

10. *Rheingold, Howard. (2000) 'The Virtual  
community'. MIT Press: Cambridge Social  
Networking Fact Sheet, Social Media  
Update, 2013.*

11.

*[http://www.pewinternet.org/Reports/2011/  
Technologyandsocial-networks.aspx](http://www.pewinternet.org/Reports/2011/<br/>Technologyandsocial-networks.aspx)*

12. *Uma Rani P, Sripriya. Impact of Social  
Media on the Development of Small Women  
Entrepreneur in Kancheepuram District,  
International Journal of Logistics  
& Supply Chain Management Perspectives,  
Pezzottaite Journals 2013; 2(4):2319-9032*

## **PEDIATRIC ASTHMA: CAUSES AND TREATMENT**

**Dr.U.Srineetha<sup>1</sup> Dr.D.Veera Nagendra Kumar<sup>2</sup> Dr.C.Narasimha Rao<sup>3</sup>**

<sup>1,2,3</sup> Assistant professor in zoology, Govt. College for men (A),Kadapa,A.P

[Srineetha.ummadi@gmail.com](mailto:Srineetha.ummadi@gmail.com)

DOI- 10.5281/zenodo.7264824

### **Abstract**

Asthma is the most common respiratory disorder in India. Despite significant improvement in the diagnosis and management of this disorder, the majority of Indians with asthma remain poorly controlled. In most patients, however, control can be achieved through the use of avoidance measures and appropriate pharmacological interventions. Asthma is a complex condition that affects 14% of the world's children and the approach to management includes both pharmacologic as well as non-pharmacologic strategies including attention to complex socioeconomic status phenomena. After an historical consideration of asthma, allergic and immunologic aspects of asthma in children and adolescents are presented. Basic asthma management requires optimization of inhaler technique and treatment adherence, avoidance of environmental triggers and self-management education. It is also important that clinicians recognize risk factors that predispose patients to asthma exacerbations and potentially life-threatening attacks. Concepts of socioeconomic aspects of asthma are considered along with environmental features and complications of asthma disparities. According to the 2007 National Asthma Education and Prevention Program (NAEPP) report, if impairment symptoms are present for >2 days/week or 2 nights/month, then the disease process is characterized as persistent, and, in all age groups, inhaled corticosteroids (ICS) are recommended as the preferred daily controller therapy. Montelukast is approved for children ages  $\geq 12$  months and is often used for its ease of daily oral dosing. Long-acting beta-2 adrenergic agonists should only be used in combination with an ICS. For more-severe or difficult-to-control phenotypes, biologic therapy has been developed, which targets the type of inflammation present. Also reviewed are links of asthma with mental health disorders, sleep disturbances and other comorbidities. A stepwise approach to asthma management is discussed that includes pharmacologic and non-pharmacologic strategies in the pediatric population. The role of immunotherapy and use of various immune-modulators are considered as well.

**Keywords:** *Children, Asthma, symptoms, causes, treatment.*

### **Introduction:**

Over 200,000 years ago Homo sapiens appeared on the earth learning about core principles of survival that involved a wandering existence.<sup>1,2</sup> After speech developed in humans they were able to pass on some learned information about the life they experienced. A valuable lesson was agriculture allowing some to locate in key places near major waterways in Africa, the Near East, China and Southeast Asia.<sup>2</sup> One of the major challenges in survival was to understand concepts of health and disease. Asthma is the most prevalent chronic respiratory disease worldwide, affecting more than 300 million people of all ethnic groups throughout all ages. It is the most common chronic disease in children, imposing an increasingly consistent burden on health system. Despite the various asthma

phenotypes described in children, this condition is overall recognized as a chronic inflammatory disease of the airways characterized by variable symptoms of wheeze, breathlessness, chest tightness and/or cough associated with expiratory airflow limitation that may resolve spontaneously or in response to medication. The understanding of the global burden of pediatric asthma has increased over the last two decades thanks to national and international studies on general populations. In defining asthma prevalence, epidemiological surveys have focused on self-reported (or parent-reported) symptoms by using standardized questionnaires, rather than on doctor diagnosis but further studies are needed for a more comprehensive and ongoing assessment of disease prevalence,

morbidity and hospitalization all over the world.

**Definition**

Asthma is defined as a chronic inflammatory disease of the airways. The chronic inflammation is associated with airway hyper responsiveness (an exaggerated airway-narrowing response to specific triggers such as viruses, allergens and exercise) that leads to recurrent episodes of wheezing, breathlessness, chest tightness and/or coughing that can vary over time and in intensity. Symptom episodes are generally associated with widespread, but variable, airflow obstruction within the lungs that is usually reversible either spontaneously or with appropriate asthma treatment such as a fast-acting bronchodilator.

**Methods**

We first identified unmet needs through an open-question survey administered to international experts in pediatric asthma who were members of the Pediatric Asthma in Real Life Think Tank. Prioritization of topics was then achieved through a second, extensive survey with global reach, of multiple stakeholders (leading experts, researchers, clinicians, patients, policy makers, and the pharmaceutical industry). Differences across responder groups were compared.

**Symptoms of asthma**

\*Assess for classic symptoms of asthma  
Wheezing, breathlessness, chest tightness, cough (With or without sputum)

\*Assess symptom patterns suggestive of asthma

Recurrent/episodic, occur/worsen at night or early in the morning, occur/worsen upon exposure to allergens (e.g., animal dander, pollen, dust mites) or irritants (e.g., exercise, cold air, tobacco smoke, infections)

**Table: 1 Socio-economic cost of childhood asthma: direct, indirect, and intangible costs**

| Direct costs      | Indirect costs    | Intangible costs   |
|-------------------|-------------------|--|
| Outpatient visits | Productivity loss | Impairment of quality of life                            |
| Emergency visits  | Working days loss | Limitations of physical activities and study performance |
| Hospitalizations  | School days loss  | Psychological effects                                    |
| Diagnostics       |                   |  |
| Medications       |                   |  |

**Childhood Asthma Risk Factors**

The perinatal period has been implicated in the development of childhood asthma. Several cohort studies have unveiled

**Medical history**

Irritants (e.g., exercise, cold air, tobacco smoke, infections)

- Respond to appropriate asthma therapy
- particularly allergic rhinitis

**Physical examination**

- Examine for wheezing on auscultation
- Examine upper respiratory tract and skin for signs of other atopic conditions

**Family History**

Both maternal and paternal histories of asthma are associated with increased risk of asthma in offspring. Interestingly, maternal asthma history is more strongly associated with asthma development in the child.

**Sex**

Boys are more likely to develop childhood asthma, as compared with girls, at least until the point of puberty. This has been explained by smaller airway size in boys compared with girls under age 10 years, which predisposes to worsened airway reactivity, as compared with girls of the same age, height and weight

**Socio-Economic Cost of Childhood Asthma**

Asthma is a chronic condition that can assume different severity degrees throughout patient's life, with significant social impact and economic burden. In fact, this disease can be associated with limitations on physical and social aspects of daily life of children and their caregivers, especially when symptoms are not controlled<sup>3</sup>. Overall, global asthma-related costs are high and significantly vary across countries, depending on several factors, such as the type of health system, financial resources on Public Health and methods of data collection<sup>4</sup>

risk factors for the development of asthma in offspring, with factors that span from genetic and environmental risk factors to features such as child's sex and presence of atopy.

**Genetic Risk Factors**

The genetics of asthma are an emerging and complicated topic. Multiple genes are thought to contribute to asthma and rapidly changing technology continues to build our current understanding of the genetic risk factors for asthma development. This is a complex topic that we will only briefly describe herein. Genome-wide Association Studies (GWAS) have dramatically improved our understanding of asthma susceptibility genes. Briefly, the following genes have been determined to have significant association with asthma susceptibility: the 17q21 locus with the *ORMDL3* and *GSDML* genes, the *IL33* gene on chromosome 9p24, the *HLA- DR/DQ* gene on chromosome 6p21, the *IL1RL1/IL18R1* gene on chromosome 2q12, the *WDR36/ TSLP* gene on chromosome 5q22 and the *IL13* gene on chromosome 5q31<sup>5</sup>. Interestingly, GWAS have shown evidence that loci may be specific to racial/ethnic populations, such as PHYN1 observed in African-Americans with asthma. However, as with other common diseases, for individuals, only a small degree of heritability of asthma can be explained by the genes observed in GWAS. Therefore, emerging and multi-genetic approaches are needed to further study the genetic susceptibility to asthma.

**Environmental Risk Factors**

The increased asthma prevalence in metropolitan areas with respect to rural ones and, overall, in industrialized countries, highlighted the role of air pollution in

asthma inception<sup>6</sup>. Exposure to both outdoor and indoor pollutants has been associated with increased asthma exacerbations, rates of hospitalization and reduced lung function. Even though a cross-sectional study on 5 European birth cohorts recently showed no associations between air pollutants exposure and asthma prevalence (, a European population-based birth cohort study on more than 14,000 children found that increasing exposure to nitric dioxide (NO<sub>2</sub>) and particulate matter with a diameter of less than 2.5µ m (PM<sub>2.5</sub>) at the birth address was associated with increased asthma incidence at age 14–16 years Further evidence comes from a meta-analysis of birth cohort studies showing that increased childhood exposure to PM<sub>2.5</sub> and black carbon was associated with increased risk of asthma at age 12 years.

**Pediatric Asthma medication and treatment**

The pharmacological options for treatment of asthma include, according to their use, reliever medications, which are drugs that allow relief of symptoms within few minutes, during worsening asthma or exacerbations, also used for prevention of exercise-induced bronchoconstriction; controller medications, that are used for maintenance treatment: they control symptoms and reduce airway inflammation and future risks of exacerbations; add-on therapies, proposed for patients with severe persistent asthma symptoms and exacerbations, despite treatment with high dose controller medications.

Table 2: Stepwise pharmacotherapy management in asthmatic children.

|  | <b>STEP 1</b>  | <b>STEP 2</b> | <b>STEP 3</b>                        | <b>STEP 4</b>        | <b>STEP 5</b>                 |
|--|----------------|---------------|--------------------------------------|----------------------|-------------------------------|
| <b>Reliever therapy</b>                | As-needed SABA |               | As-needed SABA or low dose ICS/ LABA |                      |                               |
| <b>Controller therapy</b>              |                | Low dose ICS  | Low /medium ICS/LABA                 | Medium/high ICS/LABA | Add-on treatment (omalizumab) |
| <b>Other common controller options</b> | Low dose ICS   | LTRA          | Medium/high dose ICS Low ICS + LTRA  | High dose ICS + LTRA | Low dose OCS                  |

SABA, short-acting beta<sub>2</sub>-agonist; ICS, inhaled corticosteroids; LABA, long-acting beta<sub>2</sub>-agonist;

LTRA, leukotriene receptor antagonists; OCS, oral corticosteroid

At present, **Step 1** treatment is with as-needed inhaled short-acting beta<sub>2</sub>-agonists (SABAs) alone, commonly salbutamol. SABAs are used for acute relief of asthma symptoms, mainly in patients with occasional daytime symptoms and with normal lung function. Inhaled anticholinergic agents, usually ipratropium, are second-line relievers; they are less effective than SABA, but may have synergistic effects when added to SABA during severe exacerbations in reducing hospitalization<sup>7,8</sup>.

**Step 2.** ICS differ in potency and bioavailability; beclomethasone dipropionate (BDP) and budesonide have approximately equivalent effects in clinical practice, although there may be some variations using different delivery devices. Fluticasone propionate and mometasone appear to provide the same clinical activity, compared to BDP and budesonide, at half the dosage. The initial dose of ICS should be appropriate to the severity of disease (T<sub>2</sub>). In children, the starting ICS dose will usually be less or equal 200 micrograms BDP or equivalent per day, given initially twice daily (except ciclesonide proposed once daily)<sup>7,8</sup>. More than 200–400 µg BDP or equivalent would be considered a pediatric moderate dose, and more than 400 µg a pediatric high dose. The dose of ICS should then be titrate to the lowest effective dose at which control of asthma is maintained. There is an increasing evidence showing that, at recommended doses, ICS are also safe and effective in young children with asthma.

The options of treatment at **Step 3** differ depending on age group. In young children, a medium dose of ICS plus as-needed SABA is the preferred solution, whereas in adolescents, as well as in adults, the combination of low dose ICS/LABA (BDP/formoterol or budesonide/formoterol) as maintenance treatment with as-needed SABA as reliever, or low dose ICS/LABA (BDP/formoterol) as both maintenance and reliever treatment may be considered. Adding LABA to the same low dose of ICS seem to improve, in this age group, symptoms and lung function and reduce risk of exacerbations, compared with a fixed dose of ICS/LABA as maintenance treatment or a higher dose of ICS, both with as-needed

SABA. Another option for adults and adolescents if asthma control remains suboptimal, is to increase ICS to medium dose, but this is less effective than adding a LABA. Other less efficacious options are low dose ICS plus either LTRA or low dose, sustained-release theophylline<sup>7</sup>.

For adolescent patients as well as adults, low dose maintenance and reliever ICS/LABA with as-needed SABA, is suggested for **Step 4**; if necessary, in patients with not complete symptoms control, may be considered the use of medium dose ICS. For children <12 years, if asthma control is not achieved using moderate dose ICS, the recommendation is to refer the child for expert assessment. A high dose is recommended only when good asthma control cannot be achieved with medium dose ICS plus LABA and/or a third controller, such as LTRA. However, the increase in ICS dose generally provides little additional benefit, and there is an increased risk of side-effects. When patients experience persistent symptoms or exacerbations despite high-dose ICS or ICS/LABA, or other options of Step 4 treatment, there are different pharmacological options that may be considered at **Step 5**, as following listed. Add-on low dose oral corticosteroids (≤7.5 mg/day prednisone equivalent) may be considered, but may be associated with potential side effects especially in long-term treatments. Prednisolone is the most used steroid for maintenance therapy in patients with chronic asthma<sup>9</sup>. Blood pressure, urine or blood sugar, cholesterol, bone mineral density, growth (height and weight centile), should be regularly monitored, and cataracts should be screened in patients using steroid tablets.

### **Conclusion**

The global prevalence, morbidity and mortality related to childhood asthma among children has increased significantly over the last 40 years. Although asthma is recognized as the most common chronic disease in children, issues of under-diagnosis and under-treatment persist. There are substantial global variations in the prevalence of asthma symptoms in children, with up to 13-fold differences between countries. The rising number of hospital admissions for asthma may reflect an

increase in asthma severity, poor disease management and/or the effect of poverty. The financial burden of asthma is relatively high within developed countries. There are multiple barriers to reducing the global burden of asthma, including limited access to care and/or medications, and lack of prioritization as a public healthcare priority. In addition, the diversity of healthcare systems worldwide and large differences in access to care require that asthma management guidelines be tailored to local needs

### References

1. J. Lötvall *et al.* Asthma endotypes: a new approach to classification of disease entities within the asthma syndrome *J Allergy Clin Immunol* (2011)
2. J.R. Castillo *et al.* Asthma exacerbations: pathogenesis, prevention, and treatment *J Allergy Clin Immunol Pract* (2017)
3. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention (2018). Available online at: [www.ginasthma.org](http://www.ginasthma.org)
4. Nunes C, Pereira AM, Morais-Almeida M. Asthma costs and social impact. *Asthma Res Pract.* (2017) 3:1. doi: 10.1186/s40733-016-0029-3  
[PubMed](#) [Abstract](#) | [CrossRef](#) [Full Text](#) | [Google Scholar](#)
5. Nieuwenhuis MA, Siedlinski M, Berge M, Granell R, Li X, Niens M, et al. Combining genomewide association study and lung eQTL analysis provides evidence for novel genes associated with asthma. *Allergy* (2016) 71:1712–20. doi: 10.1111/all.12990  
[PubMed](#) [Abstract](#) | [CrossRef](#) [Full Text](#) | [Google Scholar](#)
6. Galassi C, De Sario M, Biggeri A, Bisanti L, Chellini E, Ciccone G, et al. Changes in prevalence of asthma and allergies among children and adolescents in Italy: 1994–2002. *Pediatrics* (2006) 117:34–42. doi: 10.1542/peds.2004-2709  
[PubMed](#) [Abstract](#) | [CrossRef](#) [Full Text](#) | [Google Scholar](#)
7. Global Initiative for Asthma *GINA Report: Global Strategy for Asthma Management and Prevention* (2017). Available online at: <https://ginasthma.org/gina-reports/>
8. British Thoracic Society/Scottish Intercollegiate Guideline Network, *British Guideline on the Management of Asthma* (2016). Available online at: <https://www.brit-thoracic.org.uk/document-library/clinical-information/asthma/btssign-asthma-guideline-2016/>
9. Normansell R, Kew KM, Mansour G. Different oral corticosteroid regimens for acute asthma. *Cochrane Database Syst Rev.* (2016) 5:CD011801 10.1002/14651858.CD011801.pub2 [[PMC free article](#)] [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]

## **Management of hazardous solid waste in India: A Review**

**Hema Digambarrao Makne**

Asst.Prof & Head, Department of Zoology B.Raghunath ACS College,Parbhani

Email: [hemamakne@rediffmail.com](mailto:hemamakne@rediffmail.com)

DOI- 10.5281/zenodo.7264831

### **Abstract**

As a result of economic development, industrialization, and changing lifestyles, quantity of hazardous waste in India is increasing significantly. Disasters occur due to both the natural and man-made activities. Hazards and Disasters are categorized into four groups, viz., Natural events, Technological events, Man-made events and Region-wise events. The adverse impacts caused due to the indiscriminate disposal of Hazardous Wastes (HWs) come under the category of Environmental Disasters. Hazardous Waste Management (HWM) is a very important issue globally. Rapidly growing industrial sector has contributed to the generation of large quantity of hazardous waste material. Therefore, to reduce environmental hazard, proper attention is required during storage, segregation, transportation and disposal of hazardous waste, because it cannot be disposed as off in the environment. This study explains about hazardous wastes, types with management of solid waste including limitations in the country for an effective mitigation of various hazards.

**Keywords:** hazardous waste; treatment: management hazards; India.

### **Introduction**

Waste is defined as any unwanted or unusable substance that is discarded after primary use. Wastes are normally generated as a result of human and animal activities. Urbanization and rapid advancements in industrialization has led to an increase in the production and consumption process resulting in the generation of wastes from various sectors. By 2050, it is expected that about 50% of India's population will be living in urban areas, and waste generation will grow by 5% per year Over time the waste accumulate and can have real impact on the health and the environment.[1] Municipal solid wastes which are hazardous are often simply collected, transported, and dumped without treatment or processing. Thus a large amount of waste remains untreated at collection centers, roadsides, with many small and large scale industrial units disposing of their waste mainly in open spaces and adjacent to water sources, resulting in environmental pollution and risks to public health [2]. The important major incidents such as Minamata Bay-Japan and Bhopal gas tragedy in India have been shown the dangers of improper disposal and exposure to hazardous wastes. These incidents have evoked global attention and has led to strengthening regulations on hazardous waste management worldwide [3]. Thus despite significant socio-economic development, solid hazardous waste

management systems in India have remained relatively unchanged and are inefficient. The 3Rs (reduce, reuse, and recycle) are used. Though being part of the country's policy framework various legislation have been introduced by the Ministry of Environment and Forests (MoEF & CC) to address some of these issues still present regulations and standards are insufficient to regulate and manage hazardous wastes (HW), thus increasing critical environmental problems. However, the problems and challenges of HW management in India can be overcome with an coordinated effort by the government, the private sector in general, and the community in particular. So to carry out efficient management of wastes, knowledge about the types and classification of wastes must be known [4-6]. Solid wastes are classified on the basis of their biological and chemical property like biodegradable/Organic wastes, Non-biodegradable/inorganic wastes, hazardous wastes and non-hazardous wastes.

### **1.Hazardous wastes**

Hazardous waste is defined as chemical material that can no longer be used for its intended purpose and is known to be harmful or potentially harmful to plants, animals and human health or to the environment .Hazardous wastes may be in the form of solids, liquids, sludge's or gases. They are generated primarily by chemical production, manufacturing and other industrial activities. If improperly handled, they can

cause substantial harm to human health and to the environment. Hence a good management practice should ensure that hazardous wastes are collected, stored transported and disposed off separately, to make them harmless. Some of the important hazardous wastes are lead, mercury, cadmium, chromium, many drugs, leather, pesticides, dye, rubber, solvents, paints and effluents from different industries.

### **3 Principles and methods of Hazardous waste management**

#### **3.1 Principle**

Hazardous waste management is the general term given to the procedures and policies carried out to deal with hazardous waste in a way that will not create problems to man and the environment. Generally, hazardous wastes were commonly disposed of by open dumping, open burning, or incineration. Open dumping can contribute to land litter and water pollution and the end products of open burning and incineration can contribute to air pollution in the form of particulates, nitrogen oxides, noxious odors and other constituents. Because of rapid industrialization the concern of hazardous waste management is increasing [7]

Hazardous waste management is a major challenge in urban areas throughout the world. The following procedure forms a standard waste management strategy in a developed society, in India also the same strategy is following. Each step plays a very important role in ensuring that waste disposal which is the final stage in the management process is achieved without threat to man and the environment.

#### **3.2 Handling of hazardous wastes**

Persons handling hazardous wastes are advised to have protective precautions to protect themselves from health effects. Exposure of hazardous waste leads to dermatitis in the skin, asthma on long exposure, eye irritation and also tightening of the chest.

#### **3.3 Transport of hazardous waste**

Hazardous waste generated often requires transport to a particular site for an approved treatment, storage, or disposal facility (TSDF). Because of potential threats to public safety and the environment, transport is given special attention by

governmental agencies to avoid any occasional accidental spill. [8]

#### **3.4 Disposal of hazardous waste**

It is the final stage of a hazardous waste management system. The different waste disposal methods includes secure landfill, deep well and bedrock disposal. [9] A landfill is a disposal facility where hazardous wastes are placed into and stored in the soil [10]

### **5. Hazardous Waste management in India**

Hazardous waste is any substance in solid, liquid or gaseous form, because of physical, chemical, reactive, toxic, flammable, explosive, corrosive, radioactive or infectious characteristics causes threat to human health and environment. The amount of hazardous waste generated per annum is found to be 4.4 million tonnes as per organization of economic cooperation and development (OECD). This estimate of about 4.4 million is based on the 18 categories of wastes which appeared in the Hazardous waste management (HWM) rules first published in 1989. Among this 38.3% is recyclable, 4.3% is incinerable and the remaining 57.4% is disposable in secured landfills. Nearly about 13 States of the country (Maharashtra, Gujarat, Tamil Nadu, Orissa, Madhya Pradesh, Assam, Uttar Pradesh, West Bengal, Kerala, Andhra Pradesh, Telangana, Karnataka and Rajasthan) contributes for about 97% of total hazardous waste generation. The top five states include Maharashtra, Gujarat, Andhra Pradesh, Telangana and Tamil Nadu. If the hazardous waste is not properly maintained, severe pollution of land surface and ground water will occur [11–13]. As per industrial requirement category in India, every industry should have enough land available within its premises for the treatment and disposal or reuse/recycling of the wastes generated from it. There is a major concern all over the world for the safe disposal of hazardous waste. Hazardous Wastes (HWs) can be disposed off at Treatment, Storage and Disposal Facility (TSDF) as it is one of the centralized location for treatment of wastes.

### **7. Challenges & Issues in Hazardous Waste Management (HWM) in India**

However there is considerable improvement in the management of hazardous waste over the past two decades, there are some issues that still need to be discussed, few of which are discussed here. Though the major reforms and rules with regard to HWM Rules being enforced, illegal dumping of HW is still a major issue affecting the environment. The disposal of HW need to be strictly followed at the earliest through effective enforcement of regulations. Common Hazardous Waste Treatment, Storage and Disposal Facilities(CHWTSDF) it's non availability in the close proximity, lead to higher transportation cost for waste disposal, which in turn motivates industries for illegal dumping. Awareness on the co-benefits of secured landfill and CHWTSDF needs to be created for the industries as well as the public for effective management of hazardous wastes.

## **6. Conclusion**

The rise in economic development in India within recent decades has resulted in a significant increase in the generation of hazardous waste. These wastes creating a significant risk to the environment and public health in the country due to ineffective management of the waste. The main prospective of hazardous waste management program is to change the way of managing hazardous waste so that they can be stored, transported and dispose in an environmentally safe manner. Hazardous waste management must have an initiative beyond disposing directly into the land surface. Industries are encouraged to generate less amount of hazardous waste as a part of manufacturing process. Because the toxic wastes cannot be completely eliminated and only possible way is to minimizing, recycling, and treating wastes. So steps should be taken to use the modern technology without causing any threat to environment. Minimizing, recycling, and treating wastes. As waste minimization and recycling has potential for further development, research in this field should be encouraged to bring in

new technologies and good methods for application.

## **References:**

- [1] M. Vrijheid, "Health effects of residence near hazardous waste landfill sites: A review of epidemiologic literature," *Environ. Health Perspect.*, vol. 108, no. SUPPL. 1, pp. 101-112, 2000.
- [2] E.D.Enger, B.F.Smith, A study of interrelationships. Environmental Science. Edward E. Bartell. California, USA, 2004.
- [3]. Y. Joshi and K. P. Ishwar, "India: State of Environment, 2001," pp. 133-149, 2001.
- [4] C.C. Amadi, O.C. Okeke & D.C. Amadi, Hazardous waste management: A review of principles and methods, *International Journal of Advanced Academic Research Sciences, Technology & Engineering*, 2017, 3 (8), 1-20.
- [5] L. Fazzo, F. Minichilli, M. Santoro, A. Ceccarini, M. Della Seta, F. Bianchi, P. Comba & M. Martuzzi, Hazardous waste and health impact: a systematic review of the scientific literature, *Environmental Health*, 2017, 16 DOI 10.1186/s12940-017-0311-8.
- [6] Vandana bharati, Jaspal singh, A.P.Singh, A Review on Solid Waste Management Methods and Practices in India, 2017, 4065-4067.
- [7] V.M. Iyyanki & M.Vali, Science and Engineering for industry, Environmental Management 1st Edition, Elsevier. Inc, 2017.
- [8] A.N.Jerry, Encyclopedia Britannica, Hazardous Waste management, 2015
- [9] C.Visvanathan , Hazardous waste disposal, Resources, Conservation and Recycling.1996,16, 201-212. [https://doi.org/10.1016/0921-3449\(95\)00057-7](https://doi.org/10.1016/0921-3449(95)00057-7)
- [10] Encyclopedia Britannica, Hazardous Waste Disposal, 2016, Retrieved from <https://www.britannica.com/technology/hazardous-waste-management>
- [11] Rajkumar Joshi, Sirajuddin Ahmed, Status and challenges of municipal solid waste management in India: A review, *Cogent Environmental Science* 2016, 2, 1139434.
- [12] V.Ramakrishna and B.V. Babu, "Fresh water depletion – a crisis: Causes & remedies", *Environment & People*.1999a, 6(1), 33-39.
- [13] J. Parsa., H.M. Stuart and R. Steiner, Stabilization /solidification of hazardous wastes using fly as, *J. Environ. Engg, ASCE*, 1996,122 (10), 935-940.

## CHARACTERISTIC PROPERTIES OF Bu-PPQ

<sup>1</sup> Dr. Pratima V. Damre

1 Department of Applied Science, Government of Engineering and Research, Awsari (khurd),  
Taluka-Ambegaon, District-Pune, Pin No.412405

Corresponding Author- Dr. Pratima V. Damre

Email.id- [pvdamre@gmail.com](mailto:pvdamre@gmail.com)

DOI- 10.5281/zenodo.7264836

### Abstract-

Modified Bu-PPQ was prepared by in situ chemical oxidative method of polymerization by carrying out simultaneous doping during the polymerization. The rare earth metal series salts i.e., CeCl<sub>3</sub> and LaCl<sub>3</sub> and Xanthene dyes such as fluorescein and Rhodamine -B at various concentrations are used as dopants. Thin films of the materials were prepared by bath deposition technique. All the PPQ derivative materials formed were investigated through FTIR, NMR spectroscopic and Mass spectrometric analysis. The thermal properties of the materials were studied by TG and DT analysis. Morphological studies of the materials were carried out through XRD, AFM and SEM studies and material is further subjected to electrical characterization by DC- conductivity measurement using four probe conductivity instrument. The optical investigations, providing the temperature-dependent conductive defects formation in the obtained structures.

**Keywords-** Bu-PPQ, Conductive defects, CeCl<sub>3</sub>

### Introduction-

Poly(quinoline)s were first reported in the 1970s by Stille and coworkers[8–10] in response to increasing demands for thermally stable and mechanically strong polymers. Typically, poly(quinoline)s have high thermal stability with glass-transition temperatures (T<sub>g</sub>) above 200°C and onset thermal decomposition temperatures (T<sub>dec</sub>) above 400°C, high oxidative stability, high electrical conductivity, and outstanding mechanical and optically clear film forming properties.[8 – 10] These characteristics make poly(quinoline)s interesting materials for electronic and/or electro-optical devices. Over the last decade, Jenekhe, Jen, and others have investigated extensively the optical and electronic properties of poly(-quinoline)s including photo-conductivity,[10] optical nonlinearity,[3 –2] photoluminescence,[1–8] electroluminescence, [2–7] charge-transfer,[38] and electron transporting properties[7–4] for their potential applications in OLEDs,[2–3] organic photovoltaic devices,[1] and selective chemosensors (proton and metal ions).[4 – 5]

### Experimental Section

#### General Procedure for Polymerization

1 equiv of the diacetyl monomer, 1 equiv of 3,3-dinonanoylbenzidine, 6.0 g of diphenyl phosphate, and 3 g of *m*-cresol were added to a cylindrical reaction vessel. The reactor was

purged with argon for 20 min. The mixture was mechanically stirred under static argon as the temperature was gradually raised to 140°C over a period of 12 h. The polymerization mixture was stirred at this temperature for 72 h and then precipitated into 10% triethylamine/ethanol. The precipitate was collected by vacuum filtration and extracted on a Soxhlet apparatus for 72 h with 20% triethylamine/ethanol. The polymer was dissolved in CHCl<sub>3</sub> and precipitated into ethanol, collected by vacuum filtration, and dried at 60 °C in a vacuum for 24 h.

#### Results and Discussion

Conjugated rigid-rod polyquinolines have excellent thermal stability and high mechanical strength [1,2]. These *n*-type semiconducting polymers [3] have interesting electronic [2 b], photoconductive [4], and nonlinear optical [5] properties. Recently, some polyquinolines were used as both the electron-transport layer and an emission layer in polyquinoline/poly(*p*-phenylenevinylene) heterojunction light-emitting diodes (LEDs) [6]. The attractive combination of excellent thermal, mechanical, and optoelectronic properties of the conjugated polyquinolines has motivated our synthesis of new derivatives for electroluminescent device applications.

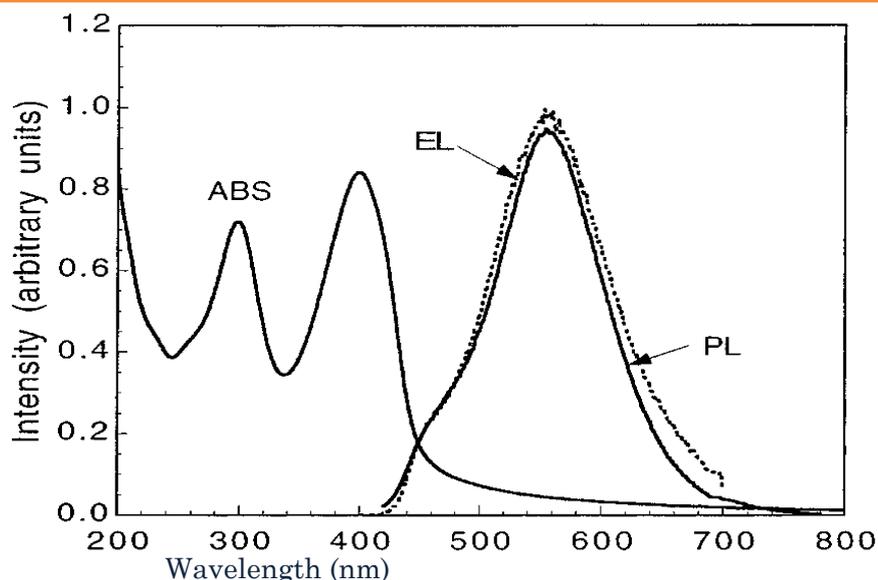


Fig. 1. Optical absorption, photoluminescence (excited at 399 nm and electroluminescence (8 V) spectra of Bu-PPQ thin films.

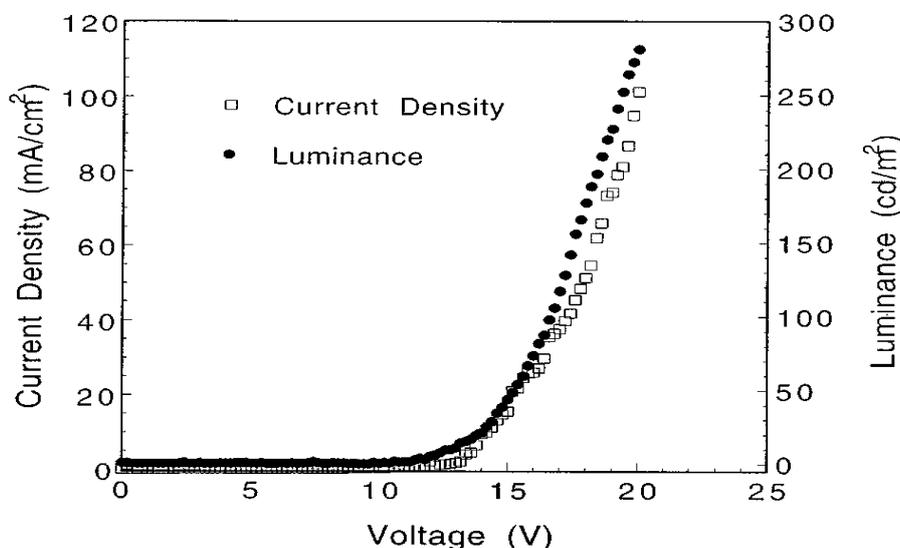


Fig. 2. Current –voltage and voltage –luminance characteristics of the electroluminescent device ITO/TAPC: PS/Bu-PPQ/Al.

Figure 1 shows the optical absorption, steady-state photoluminescence (PL), and electroluminescence (EL) spectra of Bu-PPQ. This polymer shows a strong absorption with a p-p\* transition at 399 nm. The optical absorption edge bandgap is 2.78 eV (446 nm). Bu-PPQ thus has absorption peak and bandgap identical to those of PPPQ, which were previously reported [2 b]. This suggests that the ground state electronic structure of PPPQ does not change with the introduction of the *tert*-butyl groups in Bu-PPQ. Also

shown in Fig. 1 is the steady-state PL spectrum of Bu-PPQ thin film excited at 399 nm. The PL spectrum shows an emission peak at 554 nm. The yellow emission corresponds to a large Stokes shift of 155 nm (0.87 eV), which is characteristic of excimer emission of the solid film of many conjugated polymers [10]. The PL emission of Bu-PPQ showed a 20 nm blue shift compared to PPPQ(1), which has a PL emission peak at 574 nm. This indicates that the introduction of the *tert*-butyl groups in Bu-PPQ modifies the excited state elec-

tronic structure of the parent polymer PPPQ. That chain packing of conjugated polymers should significantly influence their excited state properties more than their ground state electronic properties has been predicted [10].

The EL spectrum of the device ITO/TAPC:PS/Bu-PPQ/Al at a bias voltage of 8 V is shown in Fig. 1. The EL emission peak is at 554 nm. It can be seen that the EL spectrum is identical to the PL spectrum, indicating that the EL emission is from the Bu-PPQ layer only and that the electroluminescence and photoluminescence of Bu-PPQ originate from the same excited states. Figure 2 shows the current–voltage and luminance–voltage characteristics of the EL device. The turn-on voltage of the ITO/TAPC:PS(50 nm)/Bu-PPQ(50 nm)/Al device was 8 V. It showed bright yellow color emission, which can be clearly seen under room light. The luminance of the device was 280 cd/m<sup>2</sup> at a current density of 100 mA/cm<sup>2</sup>. The EL efficiency of the device was estimated to be 0.26% photons/electron. These values were about six times higher than those of PPPQ (1) under the same conditions. For example, the device ITO/TAPC:PS(50 nm)/PPPQ(50 nm)/Al had a luminance of 45 cd/m<sup>2</sup> at the same current density of 100 mA/cm<sup>2</sup>. The large enhancement of electroluminescence in the *tert*butyl-substituted Bu-PPQ (2) compared to the parent polyquinoline 1 can be understood in terms of reduced concentration quenching of luminescence facilitated by increased inter-chain packing distances [10]. Observation of efficient electroluminescence in the ITO/TAPC:PS/Bu-PPQ/Al devices implies that the emissive Bu-PPQ layer also exhibits good electron transport (*n*-type) characteristics, in accord with prior findings for other polyquinolines [3, 6].

In summary, a new electroluminescent, yellow lightemitting *n*-type conjugated polymer, Bu-PPQ (2), has been synthesized and characterized. Although the substitution of *tert*-butyl groups in Bu-PPQ did not change the

optical absorption properties of the parent PPPQ, a more efficient electroluminescence with an

EL quantum efficiency of 0.26% photons/electron and a luminance of 280 cd/m<sup>2</sup> was observed. The brightness and efficiency of light-emitting diodes from Bu-PPQ (2) were six times higher than those of PPPQ (1) with no *tert*-butyl substitution. These results also demonstrate that thin films of the new polyquinoline exhibit good electron transport (*n*-type) characteristics in EL devices.

#### Acknowledgement

This research was supported by the Department of Chemistry, Government Vidarbha Institute of Science and Humanities, Amravati.

#### References

- [1] [a] P.D. Sybert, W.H. Beever, J.K. Stille, *Macromolecules* 1981, 14, 493. [b] E.K. Zimmerman, J.K. Stille, *Macromolecules* 1985, 18, 321. [c] M.W. Pelter, J.K. Stille, *Macromolecules* 1990, 23, 2418.
- [2] [a] A.K. Agrawal, S.A. Jenekhe, *Chem. Mater.* 1992, 4, 95. [b] A.K. Agrawal, S.A. Jenekhe, *Macromolecules* 1993, 26, 895.
- [3] A.K. Agrawal, S.A. Jenekhe, *Chem. Mater.* 1996, 8, 579.
- [4] M.A. Abkowitz, M. Stolka, H. Antoniadis, A.K. Agrawal, S.A. Jenekhe, *Solid State Commun.* 1992, 83, 937.
- [5] A.K. Agrawal, S.A. Jenekhe, H. Vanherzeele, J.S. Meth, *J. Phys.Chem.* 1992, 96, 2837.
- [6] S.A. Jenekhe, X. Zhang, X.L. Chen, V.-E. Choong, Y. Gao, B.R. Hsieh, *Chem. Mater.* 1997, 9, 409.
- [7] D.M. Sutherlin, J.K. Stille, *Macromolecules* 1985, 18, 2669.
- [8] G.S. Skinner, J.A. Gladner, R.F. Heitmiller, *J. Am. Chem. Soc.* 1951, 73, 2230.
- [9] R.B. Davis, L.C. Pizzini, *J. Org. Chem.* 1960, 25, 1884.
- [10] S.A. Jenekhe, J.A. Osaheni, *Science* 1994, 265, 765.
- [11] J.A. Osaheni, S.A. Jenekhe, *J. Am. Chem. Soc.* 1995, 117, 7389.

## SUSTAINABILITY IN PROCESS INDUSTRIES

**Asst. Prof. M. M. Chavan**

Venutai Chavan College, Karad Tal.Karad,Dist.Satara.Pin-415124

**Corresponding Author- Asst. Prof. M. M. Chavan**

Email- [manishachavan15101986@gmail.com](mailto:manishachavan15101986@gmail.com)

DOI- 10.5281/zenodo.7264842

### **Abstract-**

The principles of sustainability are the foundations of what this concept represents. Therefore, sustainability is made up of three pillars: the economy, society, and the environment. These principles are also informally used as profit, people and planet. Sustainable manufacturing is the creation of manufactured products through economically-sound processes that minimize negative environmental impacts while conserving energy and natural resources. Sustainable manufacturing also enhances employee, community and product safety.

**Keywords.** Sustainability , people, economic, and environmental.

### **Introduction-**

Process Industry increases productivity, job creation and generates income, thereby contributing to poverty eradication and addressing other development goals, as well as providing opportunities for social inclusion, including gender equality, empowering women and girls and creating decent employment for the youth. The process industries are those industries where the primary production processes are either continuous, or occur on a batch of materials that is indistinguishable. For example, a food processing company making sauce may make the sauce in a continuous, uninterrupted flow from receipt of ingredients through packaging. Or batches may be produced depending on the cook kettle sizes but immediately combined and re-routed. In either case, there is no concept of a unit of sauce while it is being processed. Examples of the process industries include food, beverages, chemicals, pharmaceuticals, petroleum, ceramics, base metals, coal, plastics, rubber, textiles, tobacco, wood and wood products, paper and paper products, etc.

### **Definition of process industry in the English dictionary**

The definition of process industry in the dictionary is an industry, such as the chemical or petrochemical industry, that is concerned with the processing of bulk resources into other products.

### **Definition of. Sustainability process industry**

Sustainable manufacturing is the creation of manufactured products through economically-sound processes that minimize negative environmental impacts while conserving energy and natural resources.

### **Objectives of the study-**

1. The purpose of research study is to know the Sustainability in process industries
2. To discuss the Policies to Enhance Sustainable Development.
3. To study the company Sustainability Policies. .

### **Research Methodology-**

The data required for this paper is mainly collected from secondary data sources collected from books, research papers and internet.

### **Important elements of sustainable development policies**

The discussion presented in this report highlights the importance of a number of cross-cutting elements to guide policies towards sustainable development. These include

- 1. Long term planning horizons-** In the absence of an adequate framework for assessing the impact of policies on different types of resources, measures targeted at short-term objectives may be selected even if they have negative long term impacts. While trade-offs between different goals

may prevail in the short term, in the long term man-made, natural, human and social capital will complement each other in supporting welfare improvements

**2.Pricing-** For markets to support sustainable outcomes, prices should reflect the full costs and benefits to societies of the goods and services being produced. This may require the elimination of incentives to over-use natural resources and to degrade the environment, or the introduction of new incentives to improve the environment

**3.Delivery of public goods-** Many of the benefits from government interventions needed to promote sustainable development have the characteristics of public goods (basic research, information, health and education). Also, many of these public goods are global, as they will benefit several countries (e.g. information on the state of global ecosystems). Effective delivery of these public goods requires overcoming obstacles to co-ordination, through burden-sharing rules that recognise the different responsibilities and response capacities of individual countries.

**4. Cost-effectiveness-** Policies should aim at minimising their economic cost. This will require ensuring that the costs of each extra resource spent are equal across the range of possible interventions. Cost-effectiveness allows the minimisation of aggregate costs and the setting of more ambitious targets in the future.

**5. Environmental effectiveness-** Policies should secure: i) regeneration – i.e. renewable resources should be used efficiently and their use should not be permitted to exceed their long term rates of natural regeneration; ii) substitutability – i.e. non renewable resources should be used efficiently, and their use limited to levels that can be offset by renewable resources or other forms of capital; iii) assimilation – i.e. releases of hazardous or polluting substances to the environment should not exceed its assimilative capacity, and concentrations should be kept below established critical levels necessary for the protection of human health and the

environment. When assimilative capacity is effectively zero, zero release of such substances is required to avoid their accumulation in the environment; iv) avoiding irreversibility – i.e. irreversible adverse effects of human activities on ecosystems and on bio-geochemical and hydrological cycles should be avoided. The natural processes capable of maintaining or restoring the integrity of ecosystems should be safeguarded from adverse impacts of human activities. The differing levels of resilience and carrying capacity of ecosystems should be considered, in order to conserve their populations of threatened, endangered and critical species.

**6. Policy integration-**Unsustainable practices may result from incoherent policies in different domains. Sectoral policies, in particular, are often introduced without due regard for the externalities being targeted by environmental policies, leading to inconsistencies and spill-over effects. Improving policy coherence requires better integration of economic, environmental, and social goals in different policies. subject to uncertainty. Accordingly, when designing policies for sustainable development

**Here is an example of a Company Sustainability Policy:**

- 1.Recycle as much waste material as possible.
- 2.Avoid the use of paper wherever possible.  
...
- 3.Recycling equipment that is no longer of use to the company. ...
- 4.Keep energy usage low. ...
5. waste paper (from the printer) where possible, making use of the blank side for notes, etc.

### **Conclusions**

Sustainability reporting builds on existing business management tools and concepts and applies them in a broader context in response to a complex and highly interactive social, environmental, and economic environment. It builds on conventional business management techniques—such as key performance indicators—but applies them with a focus

on triple bottom line and life cycle management. It requires a sophisticated approach of integrating nonfinancial, sustainable performance measures into the traditional reporting of an organization.

The challenge of sustainability for business organizations is to extract value from sustainability reporting so that it constructively guides and transforms their business operations. Sustainability reporting without strategic purpose may result in information that is nice to know; costly to obtain; and of little benefit to the company, the environment, or society.

#### **Reference-**

##### **Books**

1. UdyojaktaVikas–Dr. PrabhakarDeshmukh.

2. MANUFACTURING-PROCESSES-S-L-Gavhale-ebook/dp/B07H5LW2FZ

3. <http://www.faadooengineers.com/threads/32528-Manufacturing-Process-by-kaushish-full-book-free-pdf-download>

##### **Website**

1. <https://www.oecd.org/greengrowth/1869800.pdf>

2. <https://www.sciencedirect.com/science/article/abs/pii/S0166361514000207>

3. [https://www.researchgate.net/publication/297078677\\_Sustainable\\_Development\\_in\\_the\\_Process\\_Industries\\_Cases\\_and\\_Impact](https://www.researchgate.net/publication/297078677_Sustainable_Development_in_the_Process_Industries_Cases_and_Impact)

4. [https://en.wikipedia.org/wiki/Manufacturing#Economics\\_of\\_manufacturing](https://en.wikipedia.org/wiki/Manufacturing#Economics_of_manufacturing)

## **Recognition and Diminution of abnormal textual content from video by automatic in-painting**

**Prof. Punde Amruta Arun,**

Assistant Professor, Department of Computer Engineering, Dattakala Group Of Institutions,  
Faculty Of Engineering, Savitribai Phule Pune University, India,

Email- [pundeeaa.foe@dattakala.edu.in](mailto:pundeeaa.foe@dattakala.edu.in).

**Corresponding Author- Prof. Punde Amruta Arun,**

**DOI- 10.5281/zenodo.7264846**

### **Abstract**

A video textual content diminution theme primarily involves two main stages; foremost, associate automatic video text recognition and second, efficient video restoration once the text removal. Automatic In-painting used for effective restoration of the video once text removal. In some case there we want of an automatic approach to induce eliminate unwanted matter contents from a video. The proposed system at first processes the given video victimization FFMPEG library and that we can regenerate the video by using Audio stream and Video Stream in specific. Inside the primary stage, we have to extract audio stream and video stream, which we will keep in temporary location. We will extract each frame of given video stream, apply method each frame/image to recognize text and detect the text from frames. We use OCR to extract text from all the frames. In second stage the in-painting advanced approach applied to reconstruct the missing data and finally we will create the video without textual content using processed frames. The experimental results demonstrate the effectiveness of both our proposed video text detection approach and the video in-painting technique, and consequently the entire automatic video text removal and restoration process.

**Keywords** —FFMPEG Library; In-painting; OCR (Optical Character Recognition); text detection; text recognition; SWT (Stroke width transform); CC (connected components)

### **INTRODUCTION**

The texts sometimes seem in video sequence as logos, subtitles, captions or banners. The informative embedded texts are often for the most part found within the news and alternative common TV broad castings. Though texts offer extra data, not all of them area unit necessary as they will block important portions of a video. Consider the case, for example, when indirect advertisement is not permitted but it is already included within a frame sequence in the form of a caption, textual advertisement running at the bottom of TV shows. Hence, there should be a way to erase the unwanted text from the video. This motivates the need of an automatic approach to remove undesired textual contents from a video. Automatique en peinture method of filling the missing regions of an image from the surrounding parts is known as Digital Image In-painting. The digital Image In-painting has numerous applications like restoration of broken recent printing and recent images, error recovery of images and videos. The two stage framework for automatic video text

removal: 1) detect and remove embedded video texts and 2) fill-in their remaining regions by appropriate data. The operations basically are performed by splitting the video into various frames and considering each as a separate image [1], [3]. The separate stages of automatic text detection and removal/extraction after splitting video into various frames are as follows [3]:

- 1) Text Detection: Determining the presence of text location in each frame.
- 2) Text localization: Deciding the exact location of text in each frame.
- 3) Text tracking: Integrate location of text across the adjacent frames of video.
- 4) Text extraction: segmentation of text component from background.
- 5) Text removal: removing the text from the frame.

The textual content will be formed into plain text and removed and then fill the regions using appropriate way of in-painting method. Image in-painting is employed to recover the broken image and fill regions that are missing in original image. It restores the loss of information and reconstructs image looks as a natural image. All the previous methods had been not really perfect for automatic

detection and removal of text from video. And so a new approach of automatic inpainting for video text detection and removal proposed as a great milestone in the area of automation by A. Mosleh [1].

In existing system technique, basically the operations are performed by splitting the video stream into frames and considering each frame as a separate image as an input for the stream of operations. The text are detected in each frame over here by generating edge map, and connected components (CC) are generated by using stroke width transform (SWT) and unsupervised clustering for detecting only text regions and rejecting other. The text objects are tracked using CAMSHIFT algorithm and filtering of noncaption text takes place. In the last step of inpainting after extraction of text from video, 3D bandlet transform is used as bandlet transform effectively represent image geometry, and exploits spatio temporal regularities to perform regularities to perform a regularization to address the restoration. In existing system video inpainting method, each caption is considered as volume and so smooth video without text is generated without further any more operation for maintaining visual consistency. In this paper we propose a video text recognition approach which consist of multilingual text localization and detection technique and followed by an effective restoration stage. This paper focuses on new approach for recognition and restoration of multilingual text from video. The propose system concentrate on the improved technique for detection and removal of multilingual text from video by using enhance inpainting technique. The first stage means recognition of text will be done by using FFMPEG and OCR algorithm.

Second stage diminution of text from video will be done by using Extended version of Criminisi's Algorithm for in-painting an image/frame. The propose system focuses on reducing the time complexity and give better results in respect of quality, also proposed system will be concentrate on multilingual text recognition. The rest of this paper consisting, Section II reviews the related work. A brief overview of Existing system is provided in Section III. Then brief overview of proposed system introduce in Section IV. The technique used for recognition and diminution of anomalous textual contents from video by automatic in-painting introduced in Section V. In Section VI experimental results are provided. Finally, Section VII concludes this paper.

### OVERVIEW OF EXISTING SYSTEM

A. Mosleh et. al. has proposed system presents a two stage framework for automatic video text removal to detect and remove embedded video texts and fill-in their remaining regions by appropriate data (refer to Fig. 1). In the video text detection stage, text locations in each frame are found via novel edge detector which benefits from the geometric features revealed by the bandlet transform and via an unsupervised clustering performed on the connected components (CCs) produced by the stroke width transform (SWT). The text object tracked with Continuously Adaptive Mean Shift (CAMSHIFT) algorithm and filtering of non-caption text takes place. The detected video text regions are removed, and then the video is restored by an in-painting scheme as bandlet based 3D volume regularization algorithm. The proposed video in-painting approach applies spatio-temporal geometric flows extracted by bandlets to reconstruct the missing data [1].

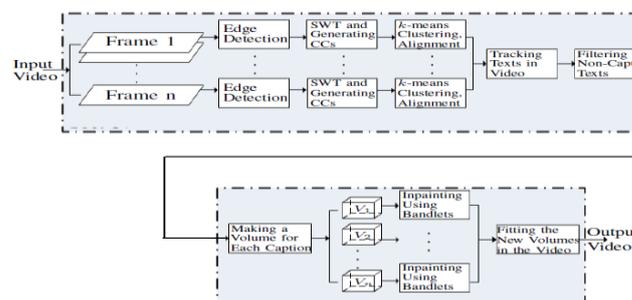


Fig. 1. Main stages of video text detection and removal by A. Mosleh [1]

### OVERVIEW OF PROPOSED SYSTEM

For erase the unwanted text from the video the need of an automatic approach to remove undesired texts from a video. Roughly speaking an automatic video text removal scheme involves two main stages: i) an automatic video text detection, and ii) an effective video completion/restoration after the text removal. There are many existing video text completion techniques rarely cover both of these aspects in a single platform. In the proposed system framework (refer to Fig. 2). consist of two stages, the first stage is for recognition and diminution of text present in video, the second stage is for the Automatique en peinture after the text removal from video. The proposed system the first stage we will process the video using

FFMPEG library and we will extract text embedded as third stream in video. And we will regenerate the video using Audio stream and Video Stream only. This all process can be done using FFMPEG only.

In second stage, we will extract each and every frame of video and we will keep all the frames in temporary location and we will also extract audio stream and that also we will keep in temporary location. Now we will process each and every frame/image to find out text or remove the text from images. We use OCR to extract text from all the frames. The in-painting advanced approach applied to reconstruct the missing data and finally we will create the original video using processed frames/images and Audio stream. We will delete all temporary location data.

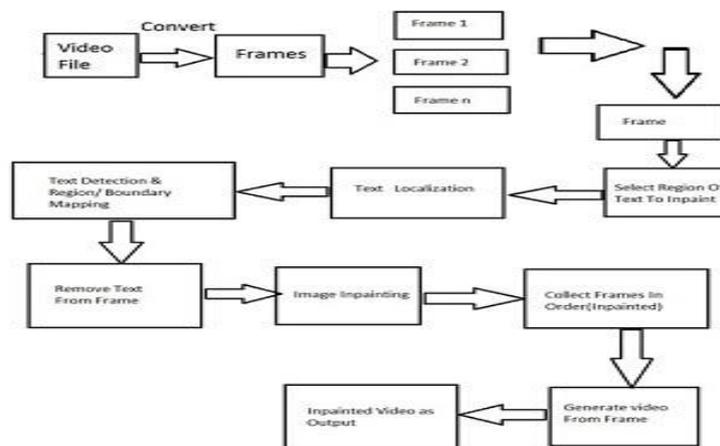


Fig. 2. Proposed System flow of video text detection and removal

### PROPOSED SYSTEM ALGORITHM

#### Flow of Proposed System -

We apply following steps for recognition and diminution of anomalous textual contents from video by Automatique en peinture:

1. Select video File
2. Convert video file to Frames – n Frames
3. Sort out frames which has text region to in paint
4. Text localization – Find text areas using OCR

5. Text Detection and region / boundary mapping
6. Recognize and Remove text from frames
7. Apply the in-painting algorithm i.e. Extended version of Criminisi's Algorithm of Enhanced Exemplar Based Approach on frame
8. Collect In-painted frames in order
9. Generate the video of frames and audio stream, video without textual contents.

#### • Flow of OCR Algorithm –

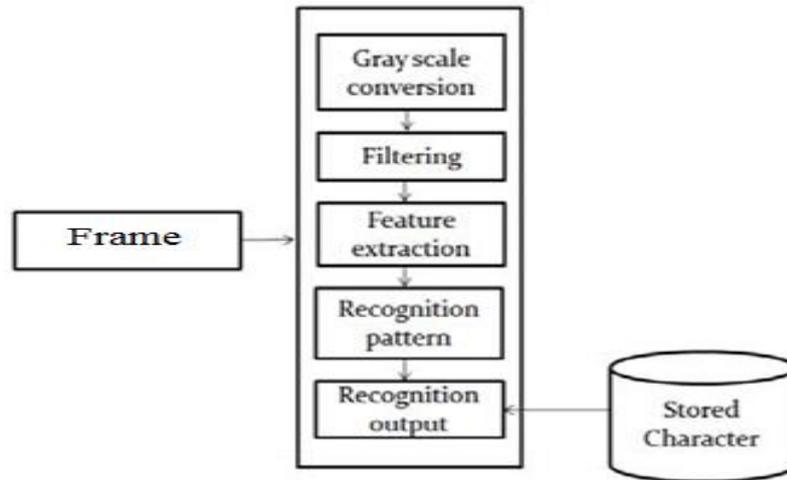


Fig. 3. Flow of OCR Algorithm

• **Enhanced Criminisi's Algorithm**

Generally an Enhanced Criminisi's algorithm of enhanced exemplar based inpainting approach involves the following steps:

*Initialize the target region.*

This is generally performed separately from the inpainting process and requires the use of an additional image processing tool. This is performed by marking the target region in some special colour. Without any loss of generality, let us consider that the colour that the target region will be marked in is green (i.e. R = 0, G = 255, B = 0).

- i. *Find the boundary of the target region.*
- ii. *Select a patch from the region to be inpainted.*

The patch size should be a bit larger than the largest distinguishable texture element in the image. We have used a default patch size of 9 x 9 which can be changed with the knowledge of the largest texture element in the image. We denote the patch by  $wp$ .

- iii. *Find a patch from the image which best matches the selected patch,  $wp$ .*

This matching can be done using a suitable error metric. We use the Mean Squared Error (please refer eq. 1) to find the best matching patch.

$$MSE = \sum \frac{(f_{x,y} - g_{x,y})^2}{N} \tag{1}$$

where  $f_{x,y}$  represents the element of the patch  $wp$  and  $g_{x,y}$  represents the elements of the patch for which MSE is to be calculated. N is the total number of elements in the patch.

- v. *Update the image information according to the patch found in the previous step.*

**EXPERIMENTAL RESULTS**

In Existing System the set of videos contains sequences captured from TV, movies and video games. The resolution of each video sequence is 320 x 240. In the implementation of the text detector and the video inpainting scheme, the settings are used[1].

In Proposed System several video sequences are used to evaluate the proposed video text removal method. The set of videos contains sequences captured from TV, cartoon shows, movies and Camera Captured video. The resolution of each video sequence is not restricted; also any type of video can be used for the process. Following are the results we get after the video is processed.

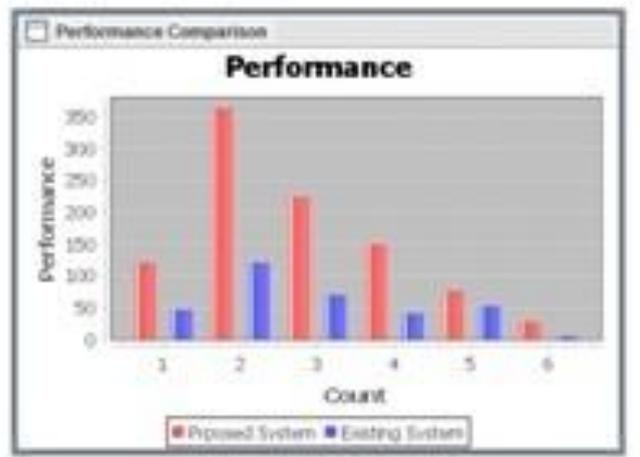


Fig. 4. Performance comparison of Existing and Proposed System.



Fig. 5. Execution Time comparison of Existing and Proposed System.

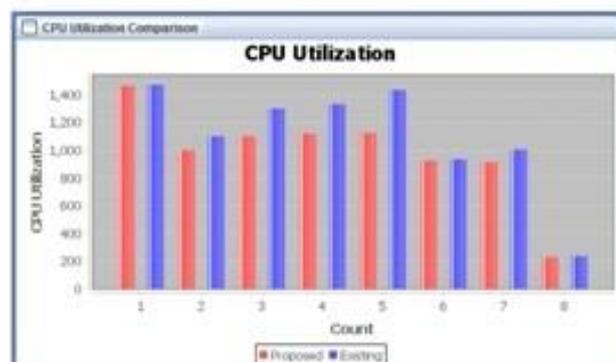


Fig. 4. CPU Utilization comparison of Existing and Proposed System

#### CONCLUSION

The existing approaches for Textual content detection and extraction as well as many techniques for in-painting. There were many

techniques implemented to detection and removal the textual contents from video by using image in-painting. So, as we have mentioned different techniques to detection,

extraction and removal of textual contents from images or video and in-painting of image / video. The Identifier/Locator text separation schemes were developed for one or two languages, but still it takes more time to locate the text, in-painting the missing regions from image/frame.

Existing system for video text detection and removal system having some limits, so the propose a system going under in reduce the time complexity and give better results in respect of quality, also proposed system will be multilingual text detection.

We presented system having two stages, the first stage we processed the video using FFMPEG library and OCR algorithm. We use OCR to recognize and extract text from all the frames. The second stage used in-painting advanced approach applied to reconstruct the missing data and finally we will create the original video using processed frames/images and Audio stream. The Enhance Criminisi's Algorithm is used for in-painting. The Proposed system will recognize as well as remove the multilingual text (as English and Chinese language text) from the video and the automatic in-painting will be done with the advanced in-painting technique.

#### REFERENCES

- [1] A. Mosleh, N. Boouguila, and A. B. Hamza, "An Automatic Inpainting Scheme for Video Text Detection and Removal," in *IEEE Transactions on Image processing*, vol. 22, no. 11, pp.4460–4472, Nov. 2013.
- [2] M. Favorskaya, A. Zotin, and M. Damov, "Intelligent inpainting system for texture reconstruction in videos with text removal," in *Proc. ICUMT*, Oct. 2010, pp. 867–874.
- [3] Priyanka Deelip Wagh, and D R Patil, "Text Detection, Extraction and Removal: A Survey," *IJCA Proceedings on National Conference on Emerging Trends in Computer Technology* NCETCT(1):19-23, Dec. 2014.
- [4] Yen-Lin Chen, "Automatic Text Extraction, Removal and Inpainting of Complex Document Images," in *International Journal of Innovative Computing, Information and Control*, Vol. 8, No.1(A), pp. 303-327, Jan. 2012.
- [5] D. Chen, J.-M. Odobez, and H. Bourlard, "Text detection and recognition in images and video frames," *Pattern Recognit.*, vol. 37, no. 3, pp. 595–608, 2004.
- [6] M. Lyu, J. Song, and M. Cai, "A comprehensive method for multilingual video text detection, localization, and extraction," *IEEE Trans. Circuits Syst. Video Technol.*, vol. 15, no. 2, pp. 243–255, Feb. 2005.
- [7] L Gomez, D Karatzas, "Multi-script Text Extraction from Natural Scenes ", *International Conference on Document Analysis and Recognition (ICDAR)*, 2013.
- [8] S. Ravi, P. Pasupathi, S. Muthuumar, N. Krishnan, "Image in-painting techniques - A survey and analysis," *Innovations in Information Technology (IIT)*, 2013 9th International Conference at Abu Dhabi, pp. 36-41, 17-19 Mar. 2013.
- [9] Rajul Suthar, Mr. Krunal R. Patel, "A Survey on Various Image Inpainting Techniques to Restore Image", *Int. Journal of Engineering Research and Applications*, Volume 4, Issue 2(Version 1), pp. 85-88, ISSN: 2248-9622, Feb. 2014.
- [10] Khushbu A.Panchal 1, Dr.Mehfuza Holia, "A Survey: Different Technique of Video Inpainting", *International Journal of Innovative Research in Computer*, Vol. 2 Issue 2, Feb. 2014.
- [11] Vahid K Alilou, F Yaghmaee, "Introducing a new fast exemplar-based Inpainting algorithm", *Electrical Engineering (ICEE 2014)*, 22nd Iranian Conference on, pp. 874-878, May. 2014.
- [12] Ranjan Jana, Amrita Roy Chowdhury, Mazharul Islam, "Optical Character Recognition from Text Image," *International Journal of Computer Applications Technology and Research*, Volume 3– Issue 4, pp. 239 - 243, ISSN: 2319–8656, 2014.

## **Impact of the COVID-19 Pandemic on the Service Quality of the Healthcare System**

**Anil Kumar Bhardwaj<sup>1</sup> Dr. Preeti Shukla<sup>2</sup>**

<sup>\*</sup>Management, Dr. C.V.Raman University, Kota, Bilaspur (C.G.),

<sup>\*\*</sup>Associate Professor, Dr. C.V.Raman University, Kota, Bilaspur (C.G.),

**Corresponding Author- Anil Kumar Bhardwaj**

**DOI- 10.5281/zenodo.7264858**

### **Abstract-**

For the first time in history, a health crisis has shut down the entire global economy, painfully demonstrating how inseparable healthcare and the economy have become. Is health intrinsically more important now? Or is the overflow of continuous digital information exacerbating fear and influencing political choices? Or is this because so-called 'developed markets' are truly affected this time? This article will not attempt to answer these questions; however, they are critical to contextualize the future of healthcare systems. Across the globe, our healthcare systems were not designed to deal with this crisis: an unpredictable, large-scale health challenge that requires urgent mobilization of resources and affects the whole population. Debating these systems' ability and efficiency to deal with it is therefore not relevant per se. In many ways, the Covid pandemic is diametrically opposed to the direction that healthcare systems, particularly in developed countries, have been taking over the past years. In response to the COVID-19 outbreak this risk communication package for healthcare facilities provides healthcare workers (HCWs) and healthcare facility management with the information, procedures, and tools required to safely and effectively work. The package contains a series of simplified messages and reminders based on WHO's more in-depth technical guidance on infection prevention and control in healthcare facilities in the context of COVID-19: "Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected" (25 January 2020). HCWs play a critical role in outbreak response and are the backbone of a country's defenses to limit or contain the spread of disease. They face higher risks of potential COVID-19 infection in their efforts to protect the greater community and are exposed to hazards such as psychological distress, fatigue and stigma. WHO recognizes this essential work and the responsibility and importance of protecting the healthcare facility workforce.

### **INTRODUCTION**

Focus resources on non-communicable, chronic diseases such as diabetes and cardiovascular conditions

Health issues related to lifestyle changes and an aging population made this type of healthcare burden more relevant for healthcare systems than pandemics. As Zhou Maigeng from the Chinese Center for Disease Control said last year, "going forward, the burden of chronic health problems, especially among the elderly, will far exceed infectious diseases".

People aged over 65 will represent more than 11.8% of the total population by 2023, peaking at 29% in Japan and 22% in Western Europe.

The number of people living, for example among chronic diseases, with diabetes is projected to increase by 48% to 629 million by 2045, with China (114.4 million), India (72.9

million), and the United States (30.2 million) topping the list.

Drive efficiency, shifting care from hospital to outpatient settings

In France, the number of overnight hospitalization beds decreased by 4.2% while outpatient care beds increased by 7.4% and in-home hospitalization increased by 3.4% from 2013 to 2018.

In the United States, aggregate hospital revenue from outpatient services grew from 30 percent in 1995 to 47 percent in 2016, while in England, from 2012 to 2016, the increase in inpatient admissions was 9% and outpatient attendances increased by 21% over the same period.

Incentivize innovation for smaller unmet needs and vulnerable populations primarily, increasing relative focus and spend on Specialty Care

Rare disease patients make up less than 0.06% of the population in the United States,

less than 0.05% in the EU, and less than 0.04% in Japan. In contrast, worldwide orphan drug sales are expected to have doubled at 12.3% over the 2019–24 periods. By 2024, orphan drugs are projected to make up one-fifth of worldwide prescription sales, amounting to US\$242 billion. In parallel, oncology is expected to have almost a 20% share of the worldwide market by 2024, and an 11.4% in CAGR growth.

#### **Limit investment in overall prevention**

In 2015, less than 3% of healthcare spending went to prevention in OECD countries. Most of these countries spent between 2 and 4%, which has remained stable over the long-term. In addition, nearly 50% of prevention spending was on healthy condition monitoring programs, such as check-ups and dental examinations, 25% on health promotion while both immunization and screening programs accounted for less than 10% each. This raises a question on resource allocations; while many immunization and some screening activities have shown to be cost-effective (and some even cost-saving), there is less consensus on the effectiveness of general (including dental) check-ups.

Immediate and near-term challenge: the Covid emergency and its collateral impact  
Leaders around the world are putting in place emergency measures to cope with this health crisis, adjusting in real-time and ‘spending each day fixing errors they made yesterday’.

In the near term, healthcare systems will face two major, additional, “collateral” issues. The first will be the physical and mental exhaustion of the healthcare workforce, along with worn-out hospital infrastructure. The second will be the growing “backlog” of healthcare procedures. For example, the inability or fear of high-risk patients to consult a doctor is disrupting chronic disease management and delaying some critical cancer care procedures. In France, consultations have fallen by 40% among general practitioners and by 50% among specialists since the beginning of the epidemic, even when accounting for the surge of tele-consultations. Concurrently, cancer centers have decided to postpone monitoring consultations and operations considered to be non-urgent. In addition, containment (and

progressive de-confinement) measures, compounded by the economic recession, will undoubtedly affect mental health (e.g., anxiety, depression) and physical health (e.g., weight gain, unbalanced nutrition).

#### **Long-term view: addressing a new reality while remaining sustainable**

The Covid pandemic will have a longer-term impact on healthcare systems, that should be addressed by political and healthcare authorities as soon as possible.

Non-communicable diseases will continue to rise – they were projected to account for 75% of all deaths in 2030 — up from 63% in 2013. Within them, chronic conditions are associated with intensive use of healthcare resources, with for example 70% of total health funding in England spent on 30% of the population that have long-term conditions<sup>13</sup>. In addition, mental health is projected to become the leading cause of morbidity and mortality globally by 2030. In parallel, the existing management of communicable diseases, including through vaccination, will continue to be a focus.

So, on top of this, how will already resourced-constrained healthcare systems (re)configure to improve their ability to handle unpredictable large-scale health crisis like Covid while remaining sustainable?

The current crisis will inevitably reshape the world we know. In a recent article, we described scenarios to illustrate the different ways in which our world could unfold after the crisis, across five dimensions:

Economy: will worldwide economies rebound after absorbing a passing storm OR enter an extended recession?

Society: will social cohesion rise with a heightened appreciation for interpersonal and familial relationship OR fall as xenophobia and suspicion of others become the norm?

Politics: will governments around the world gain trust and international organizations such as WHO grow in relevance OR adopt isolationism to protect their constituents?

Technology: will technology advances stay on course OR diverge among different markets, with a focus on advances in surveillance and control measures?

Sustainability: will focus on sustainability, including climate change, be renewed OR

decline as countries shift towards energy independence?

### **IDENTIFY, RESEARCH AND COLLECT IDEA**

Since the beginning of the outbreak, health care providers have been shown more support, solidarity and gratitude than they ever have. Yet, attacks on health care have continuously been reported and now also include incidents linked to the COVID-19 pandemic across the world. This unprecedented public health emergency has demonstrated that health facilities, medical transport, patients as well as health care workers and their families can – and do – become targets everywhere. This alarming trend reinforces the need for improved measures to protect health care from acts of violence. During the COVID-19 pandemic more than ever, protecting the health and lives of health care providers on the frontline is critical to enabling a better global response. This page provides information about the essence of COVID-19-related attacks, their impact on the response, the role of stigma in driving them and, finally, a brief overview of actions taken to minimize their impact.

Defining attacks on health care

Ensuring access to health services is the cornerstone of a successful health response. Any verbal or physical act of violence, obstruction or threat that interferes with the availability, access and delivery of such services is defined as attack on health care by the World Health Organization (WHO).

As shown in the info graphic below, the nature of attacks on health care related to COVID-19 varies greatly across contexts and can range from the use of heavy weapons targeting health facilities to the stigmatization of health care workers. Ultimately – whether they take the form of a cyber attack or a physical assault – they deprive people of urgently needed care, endanger health care providers, and undermine health systems.

### **IMPACT ON THE RESPONSE**

The COVID-19 pandemic has put some health systems under immense pressure and stretched others beyond their capacity. As such, responding to this public health emergency and successfully minimizing its

impact requires every health resource to be leveraged. Failure to protect health care in this rapidly changing context exposes health systems to critical gaps in services when they are most needed, and can have a long-lasting impact on the health and wellbeing of populations.

In fragile and conflict-affected countries, acts of violence during the COVID-19 pandemic have already deprived hundreds of medical services and severely hindered the response. Among others, the bombardment and destruction of a 400-bed facility in Libya<sup>1</sup> (United Nations, 2020) further reduced the ability of health authorities and aid agencies to prepare for a full-blown epidemic.

In other countries where attacks on health care have been noticed, the COVID-19 pandemic has sometimes created hostile environments for health care providers who have reported incidents of violence, discrimination and harassment. Stigmatized as vectors of contagion in many countries, some have been assaulted, others were denied transport while commuting to work, and entire families were evicted from their homes. Furthermore, reports of attacks on medical vehicles carrying COVID-19 samples, on-duty COVID-19 drivers as well as patients are accumulating and raising concerns worldwide.

However, attacks on health care not only have a direct impact on the ability of health systems to deliver services to those most in need, but also take a heavy toll on the psychosocial health of patients, critical health care providers on the frontline and their families. As those continue to be targeted by acts of violence during these public health emergency, health systems must – among other things – prepare for shortages of health care workers unwilling or unable to report to work due to unsafe environments or obstruction in their personal lives.

### **The role of stigma**

Acts of violence related to the COVID-19 pandemic take place against the backdrop of growing social stigma and discriminatory behaviors against anyone perceived to have been in contact with the virus. Health resources, patients, health care providers and

their family members are at particularly high risk of experiencing attacks due to the wrongful belief that they have become vectors of contagion in a community.

COVID-19 misinformation plays an important role in shaping such beliefs and behaviors across the world. The 'infodemic' of false information about the disease exacerbates fear of contagion, misconceptions and myths about the virus. Amid growing mistrust, health care providers increasingly come to be seen as a risk to communities rather than the solution to this public health emergency. To illustrate, health care workers have reported being spat on, called 'contagious rat', assaulted after boarding public transports, having their belongings vandalized and their children discriminated against by their classmates.

These attacks on health care speak to the importance of adequate risk communication at all levels of society to reduce fear, stigma and – ultimately – violence. How we communicate about COVID-19 is critical in supporting people to take effective action to combat the disease and protect health care.

#### CONCLUSION

Responding to attacks

During the pandemic, the international community, governments and civil society have taken the first steps to protect health systems by addressing attacks on health care as well as their roots.

To stop attacks on vital infrastructure such as health facilities and water and sanitation systems, the international community has called for ceasefires in conflict-affected areas. Some national and local governments introduced new policies to protect health care, including in India where perpetrators are punishable with prison terms up to 7 years. In Mexico, some cities have implemented dedicated transport services for health care workers after many were refused entry on public buses.

Doctors' associations across the world have also initiated talks with authorities to make their work environment safe from infections and to better protect health care providers outside the hospital. Through its Health Care in Danger initiative, the International Committee of the Red Cross published a checklist for a safer COVID-19 response

addressed to managers of health-care services, individual practitioners and health policymakers. WHO and partners are also conducting communication and outreach campaigns at country-level to support governments in addressing attacks on health care.

The current COVID-19 situation

Data reported to WHO in the last 24 hours.  
Latest update: 18 January 2022, 09:16 pm GMT+5:30.

New cases 238 018

Confirmed cases 37 618 271

Confirmed deaths 486 761

#### ACKNOWLEDGMENT

Dated 9th January 2022 Government of India, Ministry of Health & Family Welfare Revised Advisory for managing Health Care Workers (HCWs) working in COVID and Non COVID areas of the Health Care Facilities

#### 1. Background

The health work force is a valuable resource for the country. The health care personnel working in hospitals are at increased risk of acquiring the COVID-19 disease, if there is a breach in the personal protection while managing patients. It is important to ensure proper advisory to protect Health care Workers (HCWs) particularly in context of safety from Healthcare Associated Infections (HAIs) while managing COVID-19.

#### 2. Purpose of the document

The purpose of the document is to provide guidance on the following:

- Prevention measures to be observed at the Institution/facility level.
- Testing and isolation measures for health care functionaries.

**3. Institutional Mechanism for preventing and responding to Healthcare Associated Infections (HAIs) among HCWs** All health facilities shall activate its Hospital Infection Control Committee (HICC). The HICC in the health facility is responsible for implementing the Infection Prevention and Control (IPC) activities and organizing regular trainings on IPC for HCWs.

A Nodal Officer (Infection Control Officer) shall be identified by each health facility to address all matters related to Healthcare Associated Infections (HAIs). With reference to preventing such infection among

healthcare workers, the nodal officer will ensure that:

- i. Healthcare workers in different settings of hospitals shall use PPEs appropriate to their risk profile.
- ii. All healthcare workers have undergone training on Infection Prevention and Control and they are aware of common signs and symptoms, need for self-health monitoring and need for prompt reporting of such symptoms.
- iii. Provisions have been made for regular (thermal) screening of all hospital staff.
- iv. All HCWs are vaccinated with 2 doses of the COVID vaccine and also take the precautionary third dose as per prescribed protocol.
- v. Provisions have been made for prompt reporting of breach of PPE by the hospital staff and follow up action.

#### **4. Action for Healthcare Workers**

- i. Ensure that all preventive measures like frequent washing of hands/use of alcohol based hand sanitizer, respiratory etiquettes (using tissue/handkerchief while coughing or sneezing), etc. are followed at all times.
  - ii. Appropriate PPE is used at all times while on duty.
  - iii. A buddy system\* to be followed to ensure that there is no breach in infection prevention control practices.
  - iv. Any breach in PPE and exposure is immediately informed to the nodal officer/HoD of the department
  - v. HCWs after leaving the patient care units (wards/OPDs/ICUs) at the doctor's duty rooms/hostels/canteen or outside the HCF must follow physical distancing and masking to prevent transmission to/acquiring infection from other HCWs who may be positive.
  - vi. Pregnant/lactating mothers and immunocompromised healthcare workers shall inform their medical condition to the hospital authorities for them to get posted in appropriate areas.
- \*Buddy system: Under this approach, two or more-person team is formed amongst the deployed hospital staff who share responsibilities for his/her partner's safety and well-being in the context of (i) Appropriately

donning and doffing of PPEs, (ii) maintaining hand hygiene and (iii) taking requisite steps on observing breach of PPEs.

#### **5. SOP for health work force deployment during COVID-19**

5.1 SOP to be followed in case HCW reports exposure/breach of PPE

All the Healthcare workers must report every unprotected exposure/ breach of PPE while managing COVID-19 patients to the concerned nodal officer and HoD of the concerned department immediately. Such exposed HCWs shall continue to work wearing appropriate PPE and test themselves at day 5 of the exposure or if symptoms develop anytime within 14 days from the day of exposure.

5.2 SOP to be followed in case HCW reports symptoms suggestive of COVID-19

5.2.1 If any healthcare worker who is manifesting signs and symptoms suggestive of COVID-19, he/she will be tested & isolated immediately and if tested positive the following actions shall be taken:

- a. In case of mild case, HCW will have an option of home isolation, subject to the conditions stipulated in the "Revised guidelines for Home Isolation of mild /asymptomatic COVID-19 cases" (available at:<https://www.mohfw.gov.in/pdf/RevisedHomeIsolationGuidelines05012022.pdf>). Such cases would end their home isolation as per timeline provided in the said guidelines.
- b. In cases where home isolation is not feasible, such mild cases will be admitted to a COVID Care Center.
- c. Moderate cases that require oxygen therapy shall be managed at a Dedicated COVID Health Center.
- d. Severe cases will be managed in a Dedicated COVID Hospital.

5.2.2. HCWs can resume duties while wearing appropriate PPEs if symptoms have resolved (except mild cough), and they are afebrile for 3 successive days.

Page 3 of 3

5.2.3. Those HCWs who test negative and continue to be symptomatic, will be treated in non-COVID ward as per their clinical diagnosis. They can resume work based on the clinical diagnosis and the medical certification by the treating doctor.

5.2.5 Discharge of COVID-19 positive HCWs will be in accordance with the discharge policy (available at:

<https://www.mohfw.gov.in/pdf/RevisedDischargePolicyforCOVID19updatedon9thJanuary2022.pdf>)

5.3 Regular quarantine of healthcare workers after performing duty in COVID-19 areas  
Quarantine/isolation of healthcare workers,.

#### REFERENCES

1. B. Smith, "An approach to graphs of linear forms (Unpublished work style)," unpublished.
2. E. H. Miller, "A note on reflector arrays (Periodical style—Accepted for publication)," IEEE Trans. Antennas Propagat., to be published.
3. J. Wang, "Fundamentals of erbium-doped fiber amplifiers arrays (Periodical style—Submitted for publication)," IEEE J. Quantum Electron., submitted for publication.
4. <https://www2.deloitte.com/fr/fr/pages/covid-insights/articles/impact-covid19-healthcare-systems.html>
5. Novel Coronavirus (2019-NCoV) Situation Reports. Available online: <https://www.who.int/emergencies/diseases/novelcoronavirus-2019/situation-reports> (accessed on 7 April 2020).
6. Yadav, P.D.; Potdar, V.A.; Choudhary, M.L.; Nyayanit, D.A.; Agrawal, M.; Jadhav, S.M.; Majumdar, T.D.; Shete-Aich, A.; Basu, A.; Abraham, P.; et al. Full-Genome Sequences of the First Two SARS-CoV-2 Viruses from India. *Indian J. Med. Res.* 2020, 151, 200.
7. Rambaut, A.; Holmes, E.C.; O'Toole, Á.; Hill, V.; McCrone, J.T.; Ruis, C.; du Plessis, L.; Pybus, O.G. A Dynamic Nomenclature Proposal for SARS-CoV-2 Lineages to Assist Genomic Epidemiology. *Nat. Microbiol.* 2020, 5, 1403–1407.
8. Isabel, S.; Graña-Miraglia, L.; Gutierrez, J.M.; Bundalovic-Torma, C.; Groves, H.E.; Isabel, M.R.; Eshaghi, A.; Patel, S.N.; Gubbay, J.B.; Poutanen, T.; et al. Evolutionary and Structural Analyses of SARS-CoV-2 D614G Spike Protein Mutation Now Documented Worldwide. *Sci. Rep.* 2020, 10, 14031.
9. Potdar, V.; Cherian, S.S.; Deshpande, G.R.; Ullas, P.T.; Yadav, P.D.; Choudhary, M.L.; Gughe, R.; Vipat, V.; Jadhav, S.; Patil, S.; et al. Genomic Analysis of SARS-CoV-2 Strains among Indians Returning from Italy, Iran & China, & Italian Tourists in India. *Indian J. Med. Res.* 2020, 151, 255.
10. Coronavirus Disease (COVID-19) Situation Reports. Available online: <https://www.who.int/emergencies/diseases/novelcoronavirus-2019/situation-reports/> (accessed on 22 August 2020)
11. <https://www.mohfw.gov.in/pdf/RevisedAdvisoryforManagingHealthCareWorkersHCWorkinginCOVIDandNonCOVIDareasoftheHealthCareFacilitiesupdatedon9thJanuary2022.pdf>

## **MODERN LIFE STYLE – FATAL ATTRACTION, WOE TO HUMAN HEALTH**

**<sup>1</sup>J Venkata Lakshmi, <sup>2</sup>B Vaishnavi, <sup>3</sup>Y Savithri, <sup>3</sup>P Ravi Sekhar, <sup>4</sup>B Sreekanth**

<sup>1</sup> Assistant Professor, Department of Chemistry, Government College for Men (A), Kadapa, Andhra Pradesh, India.

<sup>2</sup> Student, Department of Electronics and Communication Engineering, Lovely Professional University, Punjab, India.

<sup>3</sup> Assistant Professor, Department of Zoology, Government College for Men (A), Kadapa, Andhra Pradesh, India.

<sup>4</sup> Guest Faculty, Department of Zoology, Government College for Men (A), Kadapa, Andhra Pradesh, India.

Corresponding Author Email ID [lakshmivenkatjanapati@gmail.com](mailto:lakshmivenkatjanapati@gmail.com)

**Corresponding Author- J Venkata Lakshmi**

**DOI- 10.5281/zenodo.7264869**

### **Abstract**

Today's hectic schedule, work pressure, and lack of awareness of nutritious and healthy food are creating not only physical and mental unhealthiness but also psychological issues. As the modern world is taking us out of sync with our natural rhythms, we are slipping into the lap and trap of severe health diseases such as obesity, hypertension, hyperlipidaemia, cardio vascular diseases, diabetes, cancer, depression, insomnia, etc. Present study focuses on the adverse effects of fatal attractions in modern life which include unhealthy diet and junk food, bad habits and 5S. sedentary life style, stress, sleep, smart phones and self-medication.

**Key Words:** hyperlipidaemia, junk food, sedentary life style, self-medication.

### **Introduction**

The 21st Century is the era of modernization and the fast lifestyle. Lifestyle is a way used by people, groups and nations and is formed in specific geographical, economic, political, cultural and religious text. Humans in this era are very fast, full of stress, skilled in artificial intelligence, and more aware of food quality. But, despite nutritional awareness, peoples are away from a healthy diet and healthy lifestyle due to their busy and hectic schedules. The consumption of fast food among the youth is increasing day by day. according to the NHLBI (National, Heart, Lung and Blood Institute), the tendency to frequent fast-food eating is one of the major causes of weight gain among teenagers (1). Consumptions of alcohol and drugs, bad smoking habits, unnecessary taken stress, etc. are the several factors responsible for an unhealthy lifestyle (2). In the above context, this study is focused on various fatal attractions in modern life

style and its adverse effects on human health which is a curse to human progression.

### **Fatal Attractions In Modern Life Style Unhealthy Diet and Junk Food**

Diet is the greatest factor in lifestyle and has a direct and positive relation with health. For humans to survive, food consumption is of prime importance not only for energy and nutrients but also for responding to feelings of satiety and hunger. Satiety, the satisfaction of appetite, means the state of no hunger. Currently, several people are suffering from severe to acute disease/illness (such as cardiovascular: CVD, hypertension, joint pain, metabolic and skeleton problems, overweight, etc.), inability/disability, even violence, death, etc. due to unhealthy diet and modern life style. late eating (or eating during an uncertain period) causes a misalignment of biological clocks. Thus, misaligned biological clocks affect and disturb the function of our genes. Consequently, like a wrong watch, our sleep-wake cycle gets disrupted (3).



**Figure 1 Fatal attractions in Modern Life Style**

In India, however, the definition of junk food is still not reported/ or undefined. Although, junk food is categorized as proprietary food according to the FSSI (Food Safety Standards of India). This means, that foods that are not standardized under the regulation are called proprietary or junk food. Proprietary food (i.e., un-standardized food) follows only the general rules and regulations under the food act (2). These foods are hoped for only to describe their composition or nature. Such types of foods do not fulfil the requirement regarding dietary use, medicinal purposes, health supplement, and functional and nutraceutical application. The high trans-fat in Indian fast food is perhaps one of the main reasons for becoming India the hub of patients with diabetes and coronary heart diseases (Cardio Vascular Disorders). Nowadays, India is a leading country having the highest case of the acute coronary syndrome and STEMI (St-segment Elevation Myocardial Infection). Mothers who consume more fast foods or foods with high sugar and fat during their pregnancy or breastfeeding/ lactating period, there is more possibility to become their children junk food lovers (i.e., junkies). The children of such mothers are more susceptible to face problems such as obesity, raised cholesterol, diabetes, high blood fat, etc. (6) This occurs due to changes in the brain's (fetal) reward pathway and consequently changing food preferences caused by the consumption of high fat and high sugar. The old saying “We are what we

eat” is true today also (4). The unhealthy food habits are the main contributors to problems like diabetes, respiratory infection, high blood pressure, high cholesterol, cardiovascular diseases, cancer and osteoporosis.

#### **Bad Habits**

Bad habits like consumption of alcohol, drugs and smoking leads to essential metabolic and physiological changes, raised blood pressure (BP), overweight/obesity, increased blood glucose, and cholesterol levels. Consumption of alcohol and tobacco has become kind of a status symbol. People are fully aware of the health hazards associated with these but still continue their consumption just because they believe that this will keep them with the high society. Tobacco smoking can cause lung cancer, chronic bronchitis, leukaemia, pneumonia and emphysema. It increases the risk of heart disease and can lead to heart attack. According to a report of UN about one million addicts of heroin are found in India, and unofficially this figure is supposed be around five million. In addition to heroin, the use of intravenous drugs, pharmaceutical products containing narcotic drugs is also increasing (6) . Drug abuse has a negative impact on the development of a society. It often leads to increase in crime in society.

#### **Sedentary Life Style**

Sedentary lifestyles have led to an increase in health problems like metabolic diseases, joint and skeletal problems, cardio-vascular diseases, hypertension, overweight from a

very young age. We love to remain confined to a place with limited exercise and interest in physical health. We prefer vehicles even for short distance and avoid walking. Earlier people did a lot of physical labour in their daily routine but today the availability of electronic devices, vehicles etc has reduced our physical exercise. We have our mobiles close to us and do not even need to walk to a small distance to attend a call on the landline.

Physical activity is absolutely necessary at any age. In raising children, the main part should be devoted to physical activities. Insufficient motor load in children can lead to unpleasant consequences like decreased immunity, health problems, low mental activity. This is very important because in the modern world, the number of children suffering from various diseases is growing rapidly (8).

Unfortunately, many people do not understand the importance of regular daily exercise in the morning. High in the world of technology, man engages in mental labour, does not move at all, and forgets physical activity. The sedentary lifestyle of most people has a negative impact on a person's psychological and physical well-being. Moderate physical activity is protection against various diseases and early death. In addition, exercise helps to develop the body's resistance to the negative factors of the environment.

Morning exercise helps to lift the spirits after sleep, activates the nervous and cardiovascular systems. By producing such a daily morning activity, both mental and physical activity increase and the body as a whole becomes ready for the stresses that are common in modern life. Low physical activity, of course, leads to deterioration of health, the development of various diseases and a reduction in life expectancy

#### **Smart Phones**

Now with the increase in the use of smart phones, we regularly feel a compulsion to check messages and updates on our mobiles. Extensive use of mobiles negatively affects our span of attention and concentration.

According to the World Health Organization (WHO), 'mobile phones emit radiofrequency (RF) fields 1000 times greater than what is

emitted from base stations' Excessive use of mobiles may lead to cardiovascular disorders also (7). Some studies have also indicated that prolonged usage of mobiles may even lead to decreased sperm cell count. Our eyes become strained when we continuously look at the screen for significant length of time. Gradually our eyes become dry and we develop the tendency to blink lesser number of times while glaring at the mobile nonstop leading to eye strain, double vision and temporary short-sightedness.

Often the people who are regular users of mobiles feel pain, stiffness, cramped fingers and wrists. This is called 'Text claw' and is caused due to excessive typing and scrolling on mobiles or laptops. 'Text neck' or 'texter's neck' is used to describe the neck pain and damage that is caused by continuously sustained from looking down at your cell phone, tablet, or other wireless devices too frequently and for too long. According to the National Cancer Institute, the use of mobile phones could potentially pose a risk of brain cancer also. Youngsters today love to enjoy music on their mobiles with earphones on (9). This may lead to hearing problems. Often, we hear of cases of accidents caused due to the person driving a vehicle or crossing a road or railway line with earphones on.

#### **Stress**

In the modern world there are so many pressures on all of us from different sides that we always feel burdened to struggle to prove ourselves better than others. There is cut throat competition in almost all walks of life lead to unceasing and ever-increasing stress. This creates psychological and physical problems. Thus, there is a significant increase in cases of depression, frustration and even suicides (10).

#### **Sleep**

We all have heard the poem 'Early to bed and early to rise makes a man healthy, wealthy and wise.' We have always been told that a good sleep is necessary for good health. But now so many people do not get the required amount of sleep every day. We all are aware that internet has invaded into our lives. A study by the doctors at National Institute of Mental Health and Neuro Sciences (NIMHANS), Bengaluru, has shown that nowadays people are so hooked on the

internet for Facebook and WhatsApp that 'they are going to bed 1.6 hours later on an average and waking up 1.5 hours later.' A study revealed that about 90% of young persons who suffer from heart attacks are those who did not sleep well. Present lifestyle has become such that we take less than the daily need of our sleep (11). This adversary affects our mental, physical health. According to this study, about 3-5% people gave more importance to using 'internet than to their work, meals, personal hygiene, sleep and even interaction with their family members.'

### **Self-Medication**

Nowadays cases of self-medication are also increasing. Many of us take pain relievers, eye drops and antibiotics without ever reading what is written on them regarding their side effects. Self-medications have a negative impact on our overall health and the immune system. There are many dietary supplements available in the market and they are marketed in a way to create an impression that they are nourishing but they are in no way a substitute for natural healthy food items.

### **Conclusion**

In 1948, World Health Organization (WHO) defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." But in today's world, fatal attractions in modern life style greatly influence our health. The proportion of income being spent on health matters has risen considerably. But still the health of majority of persons is not very satisfactory. Thus, it is high time that we need to modify our lifestyles in a way to save ourselves from the negative impact of the electronic devices and self-medication. We need to realize that our health is extremely important. So healthy food, good habits, physical activity, sound sleep and decreasing stress are needed in every person's daily routine for living good quality life.

### **References**

1. Obidovna, Djalilova Zarnigor, and Davlatov Salim Sulaymonovich. "Physical activity and its impact on human health and longevity." *Достижения науки и образования* 2 (82) (2022): 120-126.

2. Maratovich, Qudiyarov Ikram. "The Role of Physical Culture in Human Life." *Zien Journal of Social Sciences and Humanities* 6 (2022): 20-21.
3. Someshwar, Mr Siddharam, and Pushpraj Wagh. "A Study on Impact of Lifestyle on Health And Wellness." In *2nd International Conference on Innovation in Management & Information Technology*, p. 235. 2022.
4. Yurii, Shapran. "Modern Health-Saving Educational Technologies in The System of Professional Training of Specialists." *Editorial Board* (2022): 299.
5. Mittal, Komal, A. Philo Magdalene, and Drishya Pathak. "A Lifestyle Disorder that Spared Nobody: Mental Health and COVID-19." In *Health Dimensions of COVID-19 in India and Beyond*, pp. 157-169. Springer, Singapore, 2022.
6. Patel, Krishna Kumar. "Effect of modern food and lifestyle on human biological clocks and health: A review." *Emergent Life Sciences Research* (2021): 1-13.
7. Santos, Lèlita. "The impact of nutrition and lifestyle modification on health." *European Journal of Internal Medicine* (2021).
8. Abdurakhmonov, Shavkat Kakhkhorovich. "The Importance of a Healthy Lifestyle in Achieving Physical Perfection." *The American Journal of Applied sciences* 3, no. 03 (2021): 42-47.
9. Valle Gottlieb, Maria Gabriela, Vera Elizabeth Closs, Vilma Maria Junges, and Carla Helena Augustin Schwanke. "Impact of human aging and modern lifestyle on gut microbiota." *Critical reviews in food science and nutrition* 58, no. 9 (2018): 1557-1564.
10. Kumari, Poonam, and Bhavya Bhargava. "Phytochemicals from edible flowers: Opening a new arena for healthy lifestyle." *Journal of Functional Foods* 78 (2021): 104375.
11. Farhud, Dariush D. "Impact of lifestyle on health." *Iranian journal of public health* 44, no. 11 (2015): 1442.

## **Role of the Mode of Travels in Tourism Development**

**Dr. Sandipan Gavhale<sup>1</sup> Mrs. Deepali Ashok Pathrabe<sup>2</sup>**

Head of the Department of Economics Annasaheb Vaghire Mahavidyalay, Otur  
Taluka – Junnar, Dist.- Pune

Assistant Professor in Economics G.E.S.A.C.S.C. Shreewardhan Dist- Raigad

Email. – [deepalinimje123@gmail.com](mailto:deepalinimje123@gmail.com)

DOI- 10.5281/zenodo.7264872

### **Abstract –**

Development will be defined as improving the welfare of a society through social, political, and economic conditions. The expected outcomes are quantitative and qualitative development in human capital and physical capital. At that time, economic activities cannot take place without an infrastructure base. The intensive use of social infrastructure, the transport sector is an important factor of the economy and a common tool used for social development and also development of tourism. This is even more so in a global economy. A relation between the quantity and quality of transport infrastructure and the level of economic development is apparent. High-density transport infrastructure and highly connected networks are commonly associated with high levels of development. When transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multiplier effects. When transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as reduced or missed opportunities and lower quality of life.

**Key Words –** Tourism, industries, improve, Development, Travels, Mode of Transport

### **Introduction –**

Tourism is very Important and ancient way of the Economic Development. The number of international tourists has more than doubled after 1970. The international tourism growth has a large impact on the transport geography since it links traffic generation, interactions at the local to the global, and the related transportation modes and terminals. Traveling has always been an important feature, but its function has substantially evolved. Historically, travellers were explorers and merchants looking to learn about regions, potential markets and to find goods and resources. As time moved on and as transportation became more reliable, traveling became a more mundane activity taking place in an organized environment and tourism. In the modern world, traveling is more centered around annual holidays. As an economic activity, tourism is characterized by a high demand. Transport is a key element in the tourism industry. Transport costs are significant for international transportation and cost fluctuations strongly influence demand. The demand in national transport and international transport infrastructures implies a large number of people to be transported in an efficient and fast. It requires heavy investments and

planned schedules are essential in promoting adequate transportation facilities for tourists.

Transport policies and national regulations can influence destinations available to tourists. The improved facilities have incited tourism, and the expansion of tourism has prompted the development of transport infrastructure. Air transport is the primary mode for international tourism. If the public sector does not cope with the demand in terms of transport infrastructures, the tourist industry might be impaired in its development. However, land transport networks in various countries are designed to meet the needs of commercial movements that tourism requires.

### **Objectives -**

1. To study Mode of travels.
2. To study of demand mode of travels.
3. To study of tourism growth.

Types of Travelling Modes -

Car traveling –

Car traveling is an independent transport. It is very conveyance where the traveller decides the route and the time of the trip. It is cheaper since road fees are not directly paid and provided as a public and the whole journey, from door to door can be achieved. Car transport is the dominant mode in world tourism. Tourists will often rent cars to journey within their destinations

**Coach traveling –**

Coach Traveling uses the same road network as cars. They can be used for short duration local tours (hours) but also can be set for multi-days journeys where the coach is the conveyance moving tourists.

**Rail travel –**

Rail travel was the dominant form of passenger transport before the age of the automobile. The railway reflects more the commercial needs of the national economy. Due to the scenery or the amenities provided, rail transportation can also be a tourist destination in itself. Several short rail lines that no longer had commercial potential have been converted for tourism.

**Air transport –**

Air transport is the most effective transport mode. Air transport has revolutionized the geographical aspect of distances. Business travellers are among the biggest users of airline facilities. The low-cost air carriers have attracted a significant market segment mainly used for tourism.

**Cruises –**

Cruises are mainly providing short sea journeys of about a week. Cruising has become a significant tourist industry. Cruise ships act as floating resorts where guests can enjoy amenities. The impacts of cruising on the local economy. This implies that tourists spend most of their money on the cruise ship itself.

**Recommendations for Improve Tourism and Transport Industry –**

- Create affordable travelling mode in Tourism.
- Developed the infrastructure.
- Focus on Tourist safety and choice of travelers.
- Provide clear information to tourist about the Transportation.

**Conclusion –**

After infrastructure development tourism industry growing rapidly. They also contribute in Economy.

**Reference-**

1. Afraz, N., et al. (2006) Impact of Transport Infrastructure on Economic Growth – Annex 6 to Final Report of COMPETE Analysis of the Contribution of Transport Policies to the Competitiveness of the EU Economy and

Comparison with the United States, European Commission – DG TREN, Karlsruhe.

2. Banister, D. and J. Berechman (2000) Transport Investment and Economic Development, London: Routledge.
3. Banister, D. and J. Berechman (2001) “Transport investment and the promotion of economic growth”, Journal of Transport Geography, Vol. 9, pp. 209-218.
4. Graham, A. and F. Dobruszkes (eds) (2019) Air Transport – A Tourism Perspective, Amsterdam: Elsevier.
5. World Economic Forum (2017) The travel & tourism competitiveness report 2017, World Economic Forum.

## NATURE AND MAN-MADE DISASTERS

1Dr. Nithya Ramadass<sup>1</sup> Ms. S. Jayasri<sup>2</sup> Ms. S. Amsaleka<sup>3</sup> Ms. A. Lakshmi Harshitha<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

<sup>2</sup>Student, III B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

<sup>3</sup>Student, III B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

<sup>4</sup>Student, III B.Com (CA), PSGR Krishnammal College for Women, Coimbatore.

DOI- 10.5281/zenodo.7264878

### Abstract

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Disasters are divided into 2 basic groups: natural and man-made. Among the natural disasters are earthquakes, volcanoes, hurricanes, floods, and fires. Among the man-made disasters are war, pollution, nuclear explosions, fires, hazardous materials exposures. Floods, droughts, cyclone, earthquakes and landslides have been a recurrent phenomenon. This is resulting in huge loss in terms of human, financial, environmental and livelihood. 'Save the World' is a motto that persuades humans to safeguard the earth and the environment.

**Keywords** Geo-climatic Conditions – Material Exposure – Environment – Livelihood – Safeguard the Earth

### Introduction DISASTER

A disaster is an unexpected accident or natural disaster that can inflict significant damage and maybe death. A disaster is defined as a disruption on a massive scale, either natural or man-made, occurring in short or long periods. Disasters can lead to human, material, economic or environmental hardships, which can be beyond the bearable capacity of the affected society.

#### Natural disaster

A natural disaster is described as a major event caused by Earth's natural processes that result in significant environmental harm and loss of life. The term natural has consequently been disputed because the events simply are hazards or disasters without human involvement. Different types of natural disasters can be Earthquake, Flood, Cyclone, Hailstorm, Epidemics, Tornadoes. The Natural disasters are also called 'wrath of God'. Today man is exploiting the forests, plains, mountains, minerals indiscriminately for his personal selfishness. As a result of that natural calamities are increasing day by day. India has witnessed many natural disasters be it in form of Odisha Super Cyclone (1999) or Gujarat Earthquake (2001) or even the Indian Ocean Tsunami (2004)

#### Man-made disasters

Human-induced disasters are very dangerous catastrophes caused by humans. Chemical

spills, hazardous material spills, explosives, chemical or biological attacks, nuclear blasts, rail accidents, airline crashes, or groundwater poisoning are all instances of man-made disasters. Some of the

Man-made disasters include,

The Bhopal gas tragedy was India's first major industrial disaster and the world's worst. More than 3,787 people died due to poisonous gas.

The Gulf War Spill ended up killing thousands of marine species, and some local species even disappeared.

The Jilin Chemical Explosion killed six and injured dozens. It also left thousands of people homeless in Jilin.

#### Causes:

A natural disaster is a consequence of adverse effects that causes an imbalance in the environment leading to sudden undesirable changes. Causes for such calamities can be contributed to deforestation, soil erosion, and pollution. The major causes of catastrophic disasters are natural phenomena occurring in the earth's crust as well as on the surface Human-induced disasters are very dangerous catastrophes caused by humans. Chemical spills, hazardous material spills, explosives, chemical or biological attacks, nuclear blasts, rail accidents, airline crashes, or groundwater poisoning are all instances of man-made disasters

#### Effects:

Natural and human-caused disasters affect thousands of people each year. Major adverse events such as these have the potential to cause catastrophic loss of life and physical destruction. They are often unexpected and can leave whole communities in shock. Human-made disasters provoke a serious disruption of the economy, agriculture and health-care sectors of a society, typically producing long-lasting effects that perpetuate underdevelopment. Leakage of toxic chemicals from the industries and accidents in the nuclear reactors has short-term and long-term effects on the environment and human health. Short-term effects on human health relate to casualties and diseases like blindness, cancer, paralysis, heart trouble, gastric and respiratory abnormalities. Long-term effects include genetic imbalances in humans and its impact on the future generations. Soil and water sources also remain polluted for long durations of time. Natural disaster: The immediate effects of a natural disaster materialize through four main channels: loss of life; destruction of physical capital (e.g. housing, commercial buildings, vehicles, and infrastructure such as roads); population displacement; and disruption of economic activity. Disasters may be explosions, earthquakes, floods, hurricanes, tornados, or fires. In a disaster, you face the danger of death or physical injury. You may also lose your home, possessions, and community. Such stressors place you at risk for emotional and physical health problems.

**Precautions:**

**Natural disaster:**

Strategies that disaster management professionals implement to protect vulnerable communities and limit hazards include the following:

Raising awareness about potential hazards and how to address them Educating the public about how to properly prepare for different types of disaster Installing and

strengthening prediction and warning systems. Managing hazards and risks means planning to minimize a community's vulnerability to disasters. This can involve Encouraging community members to buy appropriate insurance to protect their properties and belongings Educating families and businesses on how to create effective disaster plans Promoting the use of fire-retardant materials in construction Advocating for capital works initiatives, such as the construction and maintenance of levees Building partnerships between sectors and agencies at the federal, state, and local levels to collaborate on mitigation projects

**Man-made disaster:**

Man-made environmental disasters risks can be reduced by:

Locating hazardous sites and materials away from centers of population.

A safe environmental health structure, to ensure e.g. clean, uncontaminated drinking water.

Pilot studies and the taking of independent environmental health advice before making potentially hazardous changes.

Agreeing, monitoring and enforcing environmental health policies.

Rapid, effective remedial action in the event of a disaster, to minimize longer term risks and knock-on effects on health.

**Conclusion**

To conclude, it is important to understand that human and manmade disasters can cause irreversible damage, and it is in fact ourselves who are causing these disasters because of our ignorance and some even being caused by intent. Without a doubt we have kept making terrible mistakes over the years, which is why it is time we take awareness, and become more cautious so that we can care for our world and lower the rate of man -made disasters and have disaster management to lessen the harm that natural disasters causes.

## **Post Pandemic Recovery of the Tourism Industry in India**

**KIRAN PANDURANG YEMUL**

Research Scholar, Faculty of Commerce and Management Department, Punyashlok Ahilyadevi Holkar Solapur University.

Email:- [yemulkiran@gmail.com](mailto:yemulkiran@gmail.com)

DOI- 10.5281/zenodo.7264882

### **Abstract:-**

The study finds that the Indian tourism industry has been significantly impacted by the ongoing pandemic. The study adopts a narrative literature review-based approach to arrive at a sustainable recovery framework based on the analysis and evaluation of the literature on the proposed topic. This study aims to assess and assimilate the overall impact posed by this pandemic to the Indian tourism industry and propose a sustainable recovery framework. First tourism is an integral to the economic health of all region, it contributes more than one in 10 jobs. Second thing is, it also proved resilient in the face of previous economic shocks, such as the 2008 financial crises and previous outbreaks of infectious diseases such as SARS, MERS and Ebola.

**Keywords:-** Indian tourism industry, Covid-19, Climate action, Sustainable Recovery framework.

### **Objectives:-**

Tourism continues to be one of the sector hardest hit by the coronavirus pandemic and the outlook remains highly uncertain. International tourism to fall by around 70% in 2020 and 2021. Destinations that rely heavily on international, business and events tourism are particularly struggling, with the many coastal, regional, and rural areas faring better than cities. After that many countries are developed to that vaccine has boosted hopes for recovery but challenges remain with the sector expected to remain in survival until well into 2022. Domestic tourism has restarted and is helping to mitigate the impact on jobs and business in some destinations. However, the real point of view that recovery of only is possible when national and international tourism industry returns. The most important is co-operation and evidence based solution to travel the around the world. The tourism industries require to proper government of India support and Govt. Have taken impressive action to build the tourism industry, to minimum job losses and to build the recovery in 2022. According to the recent report - "India Tourism Statistics" published by the Ministry of Tourism, the Foreign Tourist Arrivals (FTAs) during January- April 2021 were 376083 compared to 23,57,877 in January to April 2020, registering a fall of - 84.0%. March saw a negative growth of 87% too.

### **Essential Aspects That Emerged Out of the Current Pandemic**

To work on tourism revival, it is essential to understand some fundamental aspects emerging from the current pandemic.

#### **Restoring Confidence in Tourism**

Traveller's confidence has been badly affected by the ongoing crisis and uncertainty. According to a report by World Tourism Organization (UNWTO), travellers have become overly cautious in their outlook as the pandemic has stopped their confidence levels to sub-zero. Restoring traveller confidence for utilising public transport is a significant challenge. The fall in traveller confidence has eventually led to a fall in demand and has affected tourism consumption across a considerable period. Leveraging technology and applications for more convenient travel could bridge the gap. We have already adapted to cashless payments and ensured social distancing while transacting on a day-to-day basis. Bringing in more such ideas to action may restore traveller confidence considerably.

#### **Focus On Strict Safety Protocols and Social Distancing**

Traveller behaviour has also been influenced by how the crisis has been unfolding and, thus, would lead to some long-term consumer trends that would reshape how the sector adapts. This would include the emergence of new niche market segments, focusing on safety protocols and contactless tourism experiences.

#### **Limiting Scope of Uncertainty**

A more significant and diligent need to give clear information to travellers, both leisure

and business has emerged. The clarity in information provided will essentially limit the scope of uncertainty among tourists.

### **Encouraging Domestic Tourism**

Domestic tourism would greatly benefit the economy if people preferred to travel locally within their own country. Additionally, the new government campaign “Dekho Apna Desh” initiative encourages travellers to explore 15 destinations by the end of 2022 to win a prize. The opportunity is said to be available for international visitors too once international travel resumes. One important aspect is that domestic tourists tend to be price-sensitive and spend less. Tailor Made itineraries to cater for envisaged target travellers would earn high returns.

### **Safety and Hygiene**

Safety and hygiene would be the critical factors for travellers to select destinations and plan their itineraries. Travellers would be likely to prefer ‘customised solutions’ and avoid big gatherings. They could also prioritise private means of transport, which may adversely impact the environment.

### **Leveraging Technology**

Digitisation in tourism services is a vital disruptor that has emerged in this crisis. Leveraging technology for touch less service delivery and contactless payments and services could remain in place post-pandemic too. Investing in new technology will continue to accelerate, with a greater degree of automation, virtual experiences, provision of real-time information and availability of contactless payments and services.

### **Implementing VR Tourism**

Many countries have been implementing virtual reality technology in tourism for all good reasons. It offers customers to purchase experiences and market tourism in a better way. Customers usually look for a lot of information on the websites, and VR can aid them to get to know them effectively. Virtual tours of hotels, booking interfaces, travel experiences, and more can be provided to render first-hand experiences and enable travellers to make informed decisions. We can also use such solutions for marketing our tourism and make people aware of the hidden gems in our country.

The tourism sector is at a crossroads. Implementing measures to overcome the impeding aspects will help reduce the pandemic’s adverse effects on the tourism industry. Building an environment that will make it easier for travellers to arrive and improving the visa approval process might get the international travellers back. Additionally, it is necessary to display a country’s ability to provide safety for tourists to earn traveller confidence. This can be achieved by establishing credible protocols in place.

Let us build a better way forward by establishing robust, sustainable and resilient tourism models in our country. Let us build a wholesome path for the recovery of the tourism sector.

Some of the key points are proprieties to include in tourism industry.

- Providing clear information to traveller and businesses, and limiting uncertainty.
- Strengthening state wise co-operation within proper guidelines.
- Govt supporting tourism businesses to adapt and survive industry.
- Restoring traveller confidence.
- Build the more salient and sustainable tourism sector.

### **Research methodology:-**

This study is conceptual of that adopts a narrative literature review, which describe that on the impact of post covid pandemics and conceptualizes a recovery framework that can be use by the stakeholders and Indian tourism industry sector for a sustainable recovery in post pandemic era. As tourism is closely associated with tourist mobility and interconnectedness and with other systems like the network of organizations that facilitate the travel and tourism around attractive destinations

The step-wise methodology is as outlined in the in two parts.

- Primary Data
  - Secondary Data
- ### **Primary Data-**
- Selection of database for research paper
  - Select keywords for search (Post Pandemic Recovery of the Tourism Industry in India)
  - Initial search papers in websites from which selected for detailed review.

- Assessment of relevant issues with respect to COVID-19 impact on Indian tourism industry.

**Secondary Data-**

- Published tourism industry data and online mode articles.
- Assessment of impact of COVID-19 on tourism industry.

This study is a conceptual article that adopts a narrative literature review, which evaluates extant literature on the impact of

the past pandemics and conceptualizes a recovery framework that can be used by the stakeholders of the Indian tourism sector for a sustainable recovery in a post pandemic era.

Development of the START Framework

S- Sustainable development

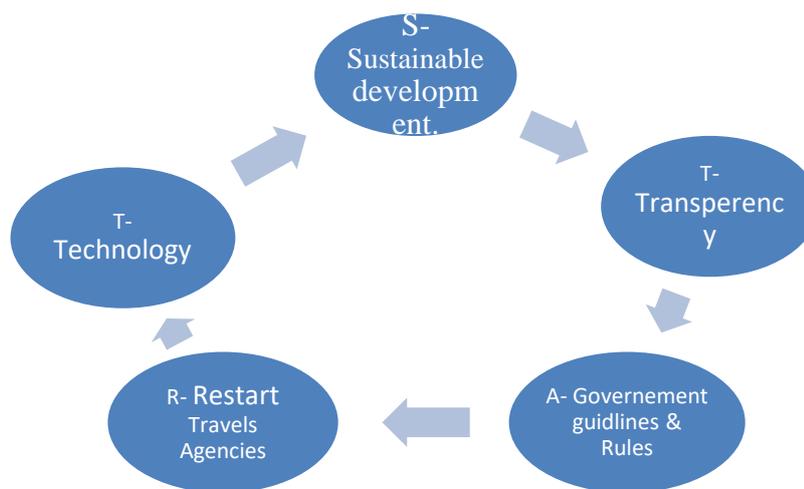
T- Transparency

A- Adopt govt guidelines rules.

R- Restart travels

T-Technology

**INDIAN TOURSIM**



**References**

1. World Health Organization. (2009). WHO vaccine-preventable diseases: Monitoring system: 2009 global summary (No. WHO/IVB/2009). World Health Organization.
2. World Health Organization (WHO). (2020). World Health Organization news room. Retrieved 24 June 2020 from <http://www.euro.who.int/en/healthtopics/health-emergencies/health-systems-for-emergencies/news/news/2020/01/novel-coronavi-rusoutbreak-in-china-what-does-it-mean-for-europe>
3. Potential impact of COVID-19 on the Indian economy/ KPMG reports. Etinsights.et-edge.com Retrieved June 29, 2021, from <https://home.kpmg/content/dam/kpmg/in/pdf/2020/04/potential-impact-of-covid19-on-the-indian-economy.pdf>
4. <https://www.financialexpress.com/economy/covid-19-aftermath-in-2-months-124-million-jobslost/1987737/>

## **Impact of Stress and Coping Strategies of Allopathic Medical Practitioners**

**Shruti N. Sarda<sup>1</sup> Dr. Radheshyam. D. Sikchi<sup>2</sup>**

Research Student Sant Gadge Baba Amravati University, Amravati  
Principal Sitabai Arts, Commerce and Science College, Akola

**DOI- 10.5281/zenodo.7264889**

### **Abstract-**

A doctor is the one who dedicates his life to the service of the patients. He or she relieves the sufferings and pain of mankind. He cures them from disease and illness. He strives to make the life of others better and healthier. The doctor works to prevent spread of the epidemics. Every now and then dangerous diseases grab the humanity. It is the doctor who finds the cure. Sometimes it may take years of painstaking work and research to find the cure, but ultimately the success is achieved. A doctor's life is hard. Often, he has to visit the patient at off hours foregoing his rest, sleep and even food. Sometimes the doctor has to work throughout the day and night attending to serious patients or victims of war, epidemic or major accident. He has to always treat his patients with a smile and cheer. He motivates and encourages sick person. He is a source of hope and strength. Even in distress his duty is first towards his patient. Always remembering the famous Hippocratic Oath, he pledges his life in alleviating the sufferings of the patients.

### **Introduction**

India has a long tradition of service to the mankind. It is ingrained in its culture and all the religions. Indian doctors are well known for their charitable attitude, dedication, hard work and personal touch. They are in great demand all over the world. Many Indian doctors are working in famous hospitals abroad India is a country having one of the largest reservoirs of doctors. It has about 300 medical colleges, which produce about 30,000 doctors every year. They work all over the country in the cities and villages, in large hospitals or their own clinics. In recent years there has been a great leap forward in the Modernization of our hospitals with latest equipment's. This has facilitated the doctors to undertake complicated operations and treat critically ill patients with success. Besides allopathic systems of medicines, there are doctors who practice Ayurvedic, Unani and Homeopathic system of medicine. Innovative practices of treatment, like the Chinese acupuncture and acupressure, yoga, Nature cure etc. have also gained popularity in the country. The doctors practicing traditional systems are locally available and often called 'barefoot doctors'. There is a revived interest in these systems of treatment and many allopathic doctors combine their treatment with traditional methods like yoga, nature cure and

Ayurveda. The whole purpose is to serve the mankind and remove the pain and sufferings of patients. In this respect, the society is in debted to the profession of doctors. The fields of medicine and surgery have advanced beyond imagination. A damaged organ can be transplanted, in today's medically advanced world. Within medical circles, specialties usually fit in to one of three broad categories: "Medicine", "Surgery", and "Diagnostic".

### **Internal medicine**

is the medical specialty concerned with the diagnosis, management and nonsurgical treatment of unusual or serious diseases, either of one particular organ system or of the body as a whole. There are many subspecialties (or sub disciplines) of internal medicine: Angiology/Vascular Medicine, Anesthesiology, Cardiology, Critical care medicine, Dermatology, Emergency medicine, Endocrinology, Family medicine Gastroenterology, Hematology, Hepatology, Infectious diseases, Nephrology, Neurology, Oncology, Pediatrics, Psychiatry, Pulmonology/Pneumology/Respirology, Rheumatology.

### **Surgical specialties**

employ operative treatment. In addition, surgeons must decide when an operation is necessary, and also treat many non-surgical issues, particularly in the surgical intensive care unit (SICU), where a variety of critical

issues arise. Surgeons must also manage pre-operative, post-operative, and potential surgical candidates on the hospital wards. Surgery has many sub-specialties, including general surgery, cardiovascular surgery, colorectal surgery, neurosurgery, ophthalmology, Obstetrics and gynecology, oral and maxillofacial surgery orthopedic, otolaryngology, plastic surgery, podiatric surgery, transplant surgery, trauma surgery, urology, vascular surgery.

**Diagnostic specialties** are diagnostic services that apply laboratory techniques to diagnosis and management of patients. They include Pathology, Radiology, Clinical neurophysiology, Nuclear medicine.

Stress in contemporary life, arising from an increase in daily work and the complexity of modern living has become a major problem. Work-related stress can lead to a variety of illnesses, like tension, headache, backache, high blood pressure, disturbance in the functioning of the artery and mental illness. That can lead to addiction to alcohol and drugs. These effects are spreading like contagious diseases, it can lead to absenteeism, low productivity etc. Many situations or activities in organizations are latently stressful.

**Stress:**

Stress is a common human emotion and experience in various situations. The term stress has been used in various disciplines. Stress in engineering is known as “the ratio of the internal force brought into play when a substance is distorted to the area over which the force action.” In medicine, stress is equated with the general sense of hardship.

In fact, stress can be used to refer to the following approaches (Pestonjee, 1987):

1. **External force:** As an external force, stress focuses on circumstances which people experience as stressful. According to Weitz, the stressful stimuli may be a perceived threat, isolation and confinement, blocking, group pressures, frustration, etc.
2. **Psychological function:** Stress is also considered as a response to a situation which demands that the individual adapts to a change physically or psychologically. Response to stress may be in the form of frustration or anxiety.
3. **Interactive approach:** According to this

approach stress is the interaction of external demand (stimulus) and internal responses. Thus, stress is a complex interaction of environmental, organizational and personal feelings and responses. Hans Selye first introduced the concept of stress in the life sciences in 1936. Wolff (1968), describes stress as an inherent character of life. Since stress is a dynamic state of an organism in response to a demand for adaptation, living creatures are constantly in a state of more or less stress. Lazarus (1971) went on to explain stress is a broad class of problems or demands which tax the system (physiological, social, and psychological systems) and the response of that system. As per Parkes (1971), stress can be viewed as a stimulus to growth and achievement to the new balance. Giving psychological emphasis, Clay and Organ (1978) defines stress as “a set of circumstances under which an individual cannot respond adequately or instrumentally to environmental stimuli, or can so respond only at the cost of excessive wear and tear on the organism-for example, chronic fatigue, tension, worry, physical damage, nervous breakdown, or loss of self-esteem.”

**Strategies To Increase Satisfaction:**

1. **Know Yourself:** One way to increase job satisfaction is to know oneself. What are things that motivate you? Sure the company can do things and implement programs to increase staff motivation especially the companies that know the importance of job satisfaction. But motivation is also from within. It is inside you, only you know what keeps you awake at night and makes you jump out of bed in the morning. When you know yourself, it is easy to increase your own job satisfaction as you will know what works for you.
2. **Keep Challenging Yourself:** Work has to be challenging enough but not so overwhelming that you find it insurmountable. Challenges at an optimum level keep you going. Perhaps you find that your work is not challenging anymore. In that case, learn to get more projects that are challenging now since you know the importance of job satisfaction in your life.
3. **Cross Learn:** Make cross-learning and increasing your competency at work a culture you adopt. That means learn other skills that

are only expected from people in other departments. If you are a salesperson, learn to read financial statements. Cross learning can keep you challenged and will also open doors previously not an option for you. By knowing that options are open you become more relaxed and feel better about yourself. That can increase job satisfaction.

4. **Improve Other Areas of Your Lives:** I have mentioned that the importance of job satisfaction is its contribution to a significant part of your happiness because you spend one-third of your day at work. Interestingly, when you are unhappy with other parts of your life you will also bring it to work. It is usually easy to blame other parts of your life on the low level of job satisfaction you have. But the reverse is also true, if you are unhappy with some parts of your life, you may just blame it on your job. Analyze yourself, are there other parts of your life you can improve?
5. **Remain optimistic:** Where have you not heard this before, right? Stay positive. It's so easy to dish out advice to stay positive. And it is worth mentioning again. Whenever you feel you aren't very satisfied with your job, learn to stay positive. There are many things to be thankful for when you have a job. Remain positive that things can change for the better. Look forward to good things like a possible promotion or salary increase or completion of a project. You may just see your job satisfaction level increase.
6. **Know the Role of Work in Your Life:** Work means different things to different people. Know the role of your job in your life. What does it allow you to do? Pay for the bills? Serve people in the community? Allows you time to pursue your hobby? Know what is the role of your job in your life and you will put it in the right context. That may just raise your job satisfaction level.
7. **Work Allows for the Search of Purpose:** I like to think that work allows me to search for my sense of purpose. Not many people are mindful enough to know what their purpose in this world is. Why not let work become a medium to allow you to search for that purpose? Imagine having eight hours a day just doing an exercise that slowly reveals what you are here in this world to do? As a result, the significance of job satisfaction in

causative to your happiness in life is obvious. These are some steps one can deploy if we want to increase our job satisfaction and indirectly to the happiness in our life.

**References-**

1. Blonna R., 'Coping with stress in a changing world', Tata McGraw Hill Edition, New Delhi, 2000.
2. Parwin G. Deosthalee, (2000), "Type of Organization and Position Held in Organization as a Source of Stress among Female Executives", NMIMS Management Review, 7 (1), January-June, pp. 72 -75.
3. Karuna Sharma and Sadhana Mahajan (2003), "Gender Differences in Stress as Affected by Some Demographic Variables in Bank Employees", Indian Journal of Applied Psychology, 40 (6), pp. 17 -24.

## **Impact of Recent advances of humans on Health and Environment**

**Dr. Y. Savithri<sup>1</sup>, Dr. P. Ravi Sekhar<sup>2</sup>, J. Venkata Lakshmi<sup>3</sup> and Dr. B. Sreekanth<sup>4</sup>**

<sup>1,2,4</sup>Lecturer in Zoology, Govt. College for men(A), Kadapa, Andhra Pradesh, India

<sup>3</sup>Lecturer in Chemistry, Govt. College for men(A), Kadapa, Andhra Pradesh, India

**Corresponding Author: Dr. Y. Savithri**

**DOI- 10.5281/zenodo.7264892**

### **Abstract**

Environment is sum total of water, air and land interrelationships among themselves and also with the human being, other living organisms and property. Environmental studies provide an approach towards understanding the environment of our planet and the impact of human life upon the environment. Thus environment is actually global in nature, it is a multidisciplinary subject including physics, geology, geography, history, economics, physiology, biotechnology, remote sensing, geophysics, soil science and hydrology etc. Human health and well-being are intimately linked to the state of the environment. Good quality natural environments provide basic needs, in terms of clean air and water, fertile land for food production, and energy and material inputs for production. Environmental pollution is defined as “the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected. Great efforts are made to limit the release of harmful substances into the environment through air pollution control, wastewater treatment, solid-waste management, hazardous-waste management, and recycling. Unfortunately, attempts at pollution control are often surpassed by the scale of the problem, especially in less-developed countries. The effects of environmental degradation on human health can range from death caused by cancer due to air pollution to psychological problems resulting from noise. This chapter attempts to describe the major impacts on human health of environmental degradation and to estimate the associated amount of health loss. A better understanding of the economic costs of environment-related health loss can help to inform environmental policy design.

**Key words:** Environment, Deforestation, Pollution, Climate change, erosion

### **Introduction**

Environment belongs to all the living beings and thus is, important for all. Each and every body of whatever occupation he or she may have, is affected by environmental issues like global warming, depletion of ozone layer, dwindling forest, energy resources, loss of global biodiversity etc. Environment study deals with the analysis of the processes in water, air, land, soil and organisms which leads to pollute or degrade environment. It helps us for establishing standard Environment and Ecology for safe, clean and healthy natural ecosystem. People indeed feel very concerned about the links between their environment and their health, more so now than in the early 1990s when environmental issues were much higher on their and the media's agenda (EEA, 1999). It also deals with important issues like safe and clean drinking water, hygienic living conditions and clean and fresh air, fertility of land, healthy food and development. Sustainable environmental law, business administration,

environmental protection, management and environmental engineering are immersing as new career opportunities for environment protection and managements. The environment is like a blanket that surrounds our being everywhere. By environment, we do not only mean plants or animals. In order to provide a complete picture of a population's health status, the various aspects which affect it can be combined in a measurement of the “burden of disease”, as expressed for example in “disability adjusted life years” (DALYs). They give an indication of how the duration of disease combined with the impact of disease can alter the ability of people to live normal lives as compared to those with no disease (Murray and Lopez, 1996).

The environment is inclusive of all the living and nonliving creatures present on the Earth. The interaction between humans and the environment exists right from the evolution of human beings on earth. Humans have a significant impact on the

environment. There are many answers to how human activities affect the environment. The impact of human activities on the environment is two-sided - positive and negative. Humans are responsible for impacting the biophysical environment, biodiversity, and other resources and the working mechanism of the environment. In a broader perspective, it comprises the study of the chemical species existing in the various segments of the environment, their sources, pathways, reactions, and their consequences on the activities of human beings and other life forms. Other human health risks that have recently received considerable attention include unsafe livestock feeding practices through which toxins reach the food chain unintentionally. Dioxins that have accidentally contaminated poultry feed can move up the food chain to humans, and using feeds that contain diseased animal remains can cause the so-called "mad cow disease" (BSE) in livestock which has been linked to a new form of Creutzfeldt-Jacobs disease in consumers. The effects on health from exposure to chemicals and air pollutants vary from allergies to cancer. Although the link between exposure and disease is often not clear, a direct causal relationship has been found for some cases. Even at low exposure levels, urban air pollutants can cause asthma, allergies, respiratory diseases and cardiovascular diseases if the exposure is continuous or long term. Heavy metals have been shown to cause neurological disorders and various cancers. POPs can also cause various cancers and are suspected of causing birth defects and reproductive disorders (Colborn et al., 1996).

#### **Effects of Human Activities on Environment are as Follows**

1. Deforestation
2. Loss of Biodiversity.
2. Pollution
3. Climate Change.
4. Misuse of Natural Resources.
5. Erosion
6. Depletion of ozone layer
8. Extinction of species

##### **1. Deforestation.**

Tropical rainforests are particularly rich in biodiversity and are being destroyed, Habitat loss through pervasive, incremental

encroachment such as that caused by urban sprawl, Pollution such as that associated with widespread pesticide use and overuse of fertilizer which are 6 and 12 times greater than they were before 1961 respectively, It is estimated that half of the species at risk are threatened by agriculture, Water use in some of the largest water catchments in the world where dams and irrigation reduce water flows, Hunting and the over-exploitation of species such as in wild capture fisheries but also for wildlife trade Spread of invasive species and diseases through trade and travel Climate change, as warming and changing rainfall patterns alters species ranges and the underlying water and chemical cycles which define current ecosystems Pollution from plastic waste although its long-term effects on biodiversity are far from clear. Deforestation brings about climate changes such as the internal heating of earth, change of weather pattern and excess of rainfall. Deforestation is continuing at an alarming rate and it is an unavoidable environmental issue that requires immediate action. It is the practice of chopping down trees to such an extent that the global climate is slowly undergoing changes. Goodall, J. (2010) states that forests are important as a crucial part of life on earth and to contribute to the basic human needs.

##### **2. Agriculture**

It is the oldest and widespread occupation of the people in rural areas. Over the years, there have been notable changes in the pattern of farming; Manual farming has been replaced by 'mechanized farming' due to the advancement of different technologies. Ploughing is done by tractors in place of bulls. Modern agricultural techniques have eventually changed into both ways. Some are favorable and some of these are unfavorable.

**Fertilizers and Pesticides:** Crops require basic food like nutrients for their growth. Fertilizers are used to provide nutrients to plants. It helps in the growth of plants and contributes greatly to increase yields of the crops. Natural fertilizers do not harm the environment.

##### **3. Industries**

Industrial activities generate a huge amount of waste products which are usually discharged into the water bodies. The smoke

from industries also pollutes the air. Its noise causes noise pollution too. Processing of wastes from large chemical plant is a very complex process because many chemicals are produced that way. In recent years, emphasis is laid on the industrial waste treatment, for the recovery of useful byproduct.

By and large, it should be kept in mind that no industrial product is more important than our environment. Nowadays various measures have been taken to transform industrial waste into profitable products in order to save our environment as well as money. For example, waste papers can be used to make thick covers of note books. Industrialization is considered the synonym to development but it is necessary to review the impact of industrialization on society and environment otherwise it can bring the following consequences:

a) **Ecosystem imbalance:** Industrial plants discharge a number of contaminants to the air and water and thus pollute them equally. Man's uncontrolled actions for the fulfilment of his desires are contaminating the atmosphere and leading the biosphere to undesirable changes that will result into the ecosystem imbalance.

b) **Biodiversity loss:** To set up new industries, the biologically rich habitats are being destroyed and fragmented. Today, biodiversity loss is one of the most concerning crises. A rich biodiversity is essential for the health of biosphere and industrial development of a country.

c) **Toxic metal and non-metal discharge:** Toxic metals and non-metals from the industries, cause great harm to the biosphere. The organic impurities cause harmful effects on the water basins and the regions adjoining them. Discharge of effluents from industries, decreases the amount of DO (dissolve oxygen) in water. It is leading us towards the deficiency of pure drinking water.

d) **Food chain imbalance:** Industrial discharge carries a variety of organic and inorganic contaminants that enters into the food chain and causes imbalance. It disrupts the energy flow of the ecosystem as well.

e) **Disturbance of self-purification mechanism:** The organic matter gets

oxidized by bacteria which break it into simpler substances such as ammonia, nitrates, sulphates etc. These substances are utilized by protozoa, fish, insects etc. Discharge of organic matter into the streams, results into the growth of bacteria and consequently, it depletes the dissolved oxygen, which is replenished by the atmosphere. This process is called Self-Purification. When large amount of industrial sewage is disposed off into the natural water bodies, the self-purification mechanism gets disturbed.

f) **Gaseous emissions:** Natural resources have been exploited at their fullest, in the race of development, all over the world. In recent times, due to industrial coal burning large amount of gases like CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, CFCs are increasing in the lower atmosphere. The emission of these greenhouse gases results into global warming, at the same times SO<sub>2</sub> and NO<sub>2</sub> emitted from industries cause acid rain and formation of smog.

#### **Control Measures**

1. Scientific techniques should be adopted for the reprocessing of the industrial waste.
2. Recycling practices should be made a must in the industrial plants.
3. Reasonable funds should be provided for the construction of treatment plants for industrial effluents.
4. Legal provisions should be enforced by proper administration.
5. Eco-friendly industrial plants should be taken into consideration.

Definition of Environment // 9

#### **4. Mining**

Mining is the Act of extracting ores, coal etc. from the earth. Mining on Industrial scale can produce environmental damages from exploitation and development even long after the mining is closed.

#### **5. Transportation**

Way back two centuries, the atmospheric gases were balanced, atmosphere had the capacity to protect itself from the encroaching pollutants. But the various means of transport released oxides of nitrogen, hydrocarbon, and various harmful gases in the atmosphere. The affect, after all was the disturbance in the atmospheric.

#### **6. Ozone Depletion**

Ozone layer acts as a shield scattered in the stratosphere. It absorbs the sun's UV radiation and keeps it away from the earth's surface. Its depletion is a cause of global concern as its thinning will let the lethal UV rays pass and reach to the earth's surface which will result into cancer, eye damage and even will reduce our immunity. Ozone hole is usually measured as reduction in the total column above a point on the earth's surface, which is normally expressed in Dobson units. Substantial reductions up to 70% have been observed in the ozone column over Antarctica. High concentrations of ozone in the troposphere, typical for the summer months, lead to an increase in the frequency of respiratory symptoms; nearly 1 000 emergency hospital admissions and more than 2 000 premature deaths per year can be attributed to this pollution in the EU countries (WHO, 2002a).

**7. Extinction of species:** The variety and interdependence of all living things has led to the evolution of world. Man has been killing animals right since the time he acquired the skill of hunting. Although in those times, hunting was the means for survival, human beings continued to kill animals even after they had learned to cultivate crops. Effects of Human Activities on Environment

#### **1. Loss of Biodiversity**

Ever wondered how human activities affect the environment? One of the major effects of human activities on the Environment is Biodiversity loss. Biodiversity is the variety of species living in an ecosystem. The larger the number of species and genetic variation, the greater is the biodiversity. Due to the increase in human settlements, many forests are being cut. This has led to a reduction in the number of plant species. Many animals become homeless. The constantly changing climatic conditions and extinction of many ecosystems have also led to the loss of biodiversity. It is astonishing to see the impact of human activities on the environment.

#### **3. Climate Change**

One of the most significant human impacts on the environment is deforestation. Due to deforestation and pollution, there are significant changes in the weather conditions of a place. These changes when happening in

a prolonged chain are known as climate change. Deforestation causes a delay in the arrival of monsoon and the purification of the air. With growing human settlements and industrialization, the level of harmful gases in the environment keeps increasing.

#### **4. Misuse of Natural Resources**

The misuse or over-exploitation of natural resources also has a human impact on the environment. It puts a lot of stress on the environment to re-create these natural resources. Not all natural resources can be re-created. Some of them like petroleum take thousands of years to get replenished.

#### **5. Erosion**

Another major human impact on the environment is brought by Erosion. The deforestation and littering of the soil make it more prone to erosion. Due to the uprooting of trees, the soil becomes loose and can easily be carried away by the air or floods. Erosion is also partially connected to climate change.

#### **6. Depletion of Ozone layer:**

The stratosphere has a layer of ozone that protects us from the harmful ultraviolet (UV) rays of the sun. Exposure to these rays cause skin cancer and cataracts. However, the ozone layer filters out the dangerous UV rays from sunlight as it enters the earth's atmosphere.

#### **How can Humans Improve Damaged Ecosystems?**

- ❖ Creating awareness by celebrating 'Earth Day', 'Green Day', 'Tree Day', etc. Eliminating foreign species can help native species of plants to grow.
- ❖ Avoiding use of pesticides and chemical fertilizers, innovative and different energy forms like solar energy, wind energy, etc.
- ❖ Limiting the use of vehicles by following the rule of carpool, taking stairs, walking or taking a bike ride whenever possible.
- ❖ Eating local products can help avoid wastage of gas and air pollution; as food products are transported by trucks, trains, ships or airplanes.
- ❖ Control of pollution has been a formidable challenge to human civilization. As the pollution grows with the civilization and growing population, the control of pollution is more challenging. Several measures have been

adopted, suggested imposed in industries, in agriculture and urban dwellings to control the pollution.

- ❖ It is concluded to protect our self we must have environmental awareness; teachers also enlighten the students to protect the environment. Let's teach our children to respect nature and the environment, and learn in the process how we can hold on to the one planet which has a miracle called life.
- ❖ Environmental pollution is causing a lot of distress not only to humans but also animals, driving many animal species to endangerment and even extinction.

#### **Concern on Environmental and health:**

- ❖ Every minute, 5 children in developing countries die from malaria or diarrhoea. Every hour, 100 more children die as a result of exposure to indoor smoke from solid fuels.
- ❖ Every day, almost 3000 people in low- and middle-income countries die from road traffic injuries: in the poorest countries most of these deaths are among pedestrians. Every month, nearly 19 000 people in developing countries die from unintentional poisonings, often as a result of exposure to toxic chemicals and pesticides in their work or home environments. Environmental hazards and related illnesses kill millions globally every year (Smith et.al, 1999; Fletcher, 2003-2004; The World Health Report 2002). But while the victims share a common fate, their problems are not necessarily linked in either today's policy agendas or in the minds and actions of decision-makers.
- ❖ Much of the environmental disease burden is attributable to a few key risks. Those include unsafe water and sanitation, vector-borne disease, indoor smoke from solid fuels, toxic hazards and global environmental change as well as unsustainable patterns of development that contribute to air pollution, traffic injury and other forms of urban environmental degradation.
- ❖ Along with the human toll, developing countries bear the economic cost of lost productivity, the burden on the health sector, degraded resources and long-term

social consequences (Jha and Whalley, 1999). Against these stark realities, policy-makers in the developing world grapple with a rapid rate of modernization and change. They face critical development decisions that require a thorough consideration of impacts on environment and health.

#### **Conclusion:**

- ❖ Environment related issues that affect our health have been one of the most important triggers in the
  - Increasing awareness of the need for better environmental management.
  - Development has created several long term health problems.
  - Every minute, 5 children in developing countries die from malaria or diarrhoea.
  - Much of the environmental disease burden is attributable to a few key risks.
  - If only a few people live along the river, their bathing in the river will not jeopardize the use of the river as a source for drinking water.
  - Public Health is concerned with threats to the overall health of the population of a community.
  - The nature is one big resource for our production and consumption patterns.
  - Human behaviour affects the flora and fauna in particular areas.
  - Depending on the half times of the waste components, eco-values and natural production values may be lost for extreme long times.
  - Environmental health, as defined by WHO, comprises those aspects of human health, including the quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment.
  - Millions of children die every year due to diarrhea from contaminated water or food.
  - Millions of people are exposed to hazardous chemicals in their workplace or homes that lead to poor health due to industrial products where controls are not adhered to.
  - Strategies to provide clean potable water and nutrition to all people are an important part of a healthy living environment.

- Centuries of human civilization have helped mankind to adapt to living in a wide variety of climates
- Environment related issues that affect our health have been one of the most important triggers in the increasing awareness of the need for better environmental management.

**References:**

1. EEA (European Environment Agency), 1999. *Environment in the European Union at the turn of the century*. EEA, Copenhagen.
2. WHO (WHO Regional Office for Europe), 2002a. *European health report 2002*. [http://www.euro.who.int/europeanhealthreport/20020903\\_2](http://www.euro.who.int/europeanhealthreport/20020903_2)
3. Murray, C.J.L. and A.D. Lopez (eds) (1996), *The Global Burden of Disease*, Harvard School of Public Health (on behalf of WHO and the World Bank), Harvard University Press, Cambridge.
4. Colburn, T., D. Dumanoski and J.P. Meyers (1996), *Our Stolen Future*, Little, Brown and Company, London.
5. Smith, K. R., Corvalán, C. F. and Kjellström, T., 1999. How much global ill health is attributable to environmental factors? *Journal of Epidemiology* 10(5): 573–584.
6. WHO (WHO Regional Office for Europe), 2002a. *European health report 2002*. [http://www.euro.who.int/europeanhealthreport/20020903\\_2](http://www.euro.who.int/europeanhealthreport/20020903_2).

## **Assessment of Groundwater Quality in the Northeastern part of Sandur Taluk, Ballari District, India.**

**Ramesh K<sup>1</sup> Venkataiah C<sup>2</sup>**

Department of Applied Geology, VSKU PG Centre Nandihalli-583119 Sandur Taluk, Ballari District, Karnataka, India

**Corresponding Author- Ramesh K**

email: [rammigeo@gmail.com](mailto:rammigeo@gmail.com)

**DOI- 10.5281/zenodo.7264896**

### **Abstract:**

Mining has several environmental consequences. One of the negative effects on the environment is water resource pollution, which can be attributed to flagrant violations of environmental regulations and unscientific, rampant, and erroneous mining- and dumping practices. The study area is located in the northeastern block of the mining-intensive Sandur Schist Belt. Management of ore and Over/Side/Inter Burden in mining is a difficult task that requires a systematic approach. Environmental pollution results from unplanned and accelerated production in violation of the relevant Rules and Regulations, as well as partial implementation/unscientific execution of the Environment Management System. Monitoring water quality in the mining area, as well as the surrounding buffer zone, is critical for assessing the impact and developing a management plan. Thus, groundwater and surface water samples were collected from 12 different locations of Study area in the month of May 2021. The water quality tests were carried out for the characterization of surface waters and groundwater and the Interpolation technique was performed using Arc GIS 10.1 software. Standard samples of the following parameters are analyzed as follows - pH, Total Hardness (TH), Chloride (Cl), Fluoride (F), and Iron (Fe). Fluoride was the most dominant ion responsible for the contamination of the groundwater. Some Groundwater samples within the study area exceeded the World Health Organization's guideline value, demonstrating the impact of mining and allied practices on Groundwater resources.

**Keywords:** *Groundwater Quality Analysis, Effect of Mining, Sandur Schist Belt.*

### **Introduction:**

Groundwater is the principal source of drinking water in rural areas of Karnataka state. Groundwater is generally considered to be cleaner than surface water. Nevertheless, several factors like agricultural and domestic waste, land use practices, geological formation, infiltration rate, etc., are found to affect the quality of groundwater. Therefore, in this report, we have made a sincere effort to evaluate systematically the environmental quality of groundwater of the north-eastern mining block of Sandur Taluk in Karnataka.

### **Study area:**

The study area is located in a part of the Northeastern region of Sandur Schist Belt, Bellary District, Karnataka State between latitudes 15.257787°N to 15.088812°N and longitudes 76.356183° E to 76.607385°E [Survey of India toposheets numbered 57A/8, 57A/12, 57A/16 and 57B/9] (Fig. 1). The lowest elevation is 625m above the MSL and the highest elevation is 997m above the MSL. It covers an area of 165 sq km. The study area consists of hills and flatlands. The Sandur Schist Belt in the northeastern region of the Sandur area has a hilly terrain and several mining leases for Iron and Manganese Ores.

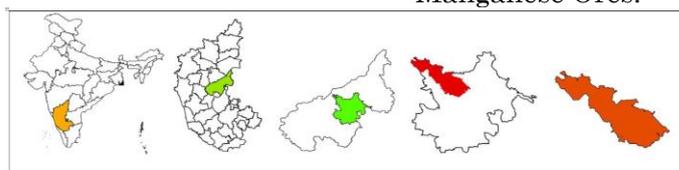


Figure: Representing the Present study area (NEB Range of Sandur)

Figure. 1:- Location of the study area.

**Methods and Methodology:**

In the month of May 2022, representative groundwater and surface water samples from 12 locations were collected from those parts of the study area where the chances of ores and gangue affecting groundwater/surface water resources are predominantly higher. These areas include the Sandur schist belt's hill slopes and foothills, as well as the relatively flat terrain northeast of the schist belt into which surface runoff will flow, carrying mining products with it. Because the study is concerned with the impact of iron- and manganese ore mining. Northeastern block portion of the Sandur Schist Belt the study area has several mining leases. After thoroughly washing the cans with the water to be collected, samples were collected in one-liter polythene cans. Before collection, samples were filtered to remove any suspended matter. A GPS receiver was used to record sample locations. Water

sample temperature, pH, and electrical conductivity were all measured on-site. The temperature was measured with a digital thermometer, and pH and conductivity were measured with HACH hand-held pH and conductivity pens. Other parameters were measured in the laboratory and obtained results are compared with World Health Organization's guideline value then generated the different maps using the Arc GIS 10.1 software

**Result and Discussion:**

The various parameters analyzed are as shown in the Water Analysis Tables 1: pH, Total Hardness (TH), Fluoride (F), and Iron (Fe) as shown in Table 1. The tests are carried out in the laboratories for the characterization of surface waters and groundwater for the month of May 2022. The interpolation technique was performed using Arc GIS 10.1. The generation of maps is done by attributing the values to the software.

**Table 1:** results of a partial physicochemical analysis of 12 representative water samples from the study area.

| Sl.No. | Village Name            | GPS Coordinates | pH   | EC   | TH  | Cl  | Fe    | F     | Remarks |
|--------|-------------------------|-----------------|------|------|-----|-----|-------|-------|---------|
| 1      | Near Narihalla          | 15.104982°      | 8.70 | 880  | 300 | 168 | 0.069 | 0.042 | Unsafe  |
|        |                         | 76.574785°      |      |      |     |     |       |       |         |
| 2      | Dawalthpura Borewell    | 15.109698°      | 7.80 | 1480 | 720 | 244 | 0.071 | 0.456 | Unsafe  |
|        |                         | 76.547956°      |      |      |     |     |       |       |         |
| 3      | Susheela Nagar Borewell | 15.121708°      | 7.40 | 1940 | 952 | 288 | 0.075 | 0.170 | Unsafe  |
|        |                         | 76.494085°      |      |      |     |     |       |       |         |
| 4      | Sidhapura               | 15.151947°      | 7.70 | 1320 | 602 | 172 | 0.066 | 0.127 | Unsafe  |
|        |                         | 76.470805°      |      |      |     |     |       |       |         |
| 5      | Jaisingpura             | 15.183699°      | 8.20 | 1370 | 736 | 184 | 0.069 | 0.413 | Unsafe  |
|        |                         | 76.438301°      |      |      |     |     |       |       |         |
| 6      | Venkatagiri             | 15.200286°      | 7.70 | 1250 | 606 | 128 | 0.061 | 0.498 | Unsafe  |
|        |                         | 76.425543°      |      |      |     |     |       |       |         |
| 7      | Kallahalli              | 15.218176°      | 7.60 | 2100 | 864 | 316 | 0.083 | 0.407 | Unsafe  |
|        |                         | 76.407524°      |      |      |     |     |       |       |         |
| 8      | Rajapura                | 15.233336°      | 7.60 | 1970 | 904 | 272 | 0.059 | 0.194 | Unsafe  |
|        |                         | 76.395472°      |      |      |     |     |       |       |         |
| 9      | Rayarakere              | 15.236414°      | 8.60 | 1210 | 524 | 176 | 0.065 | 0.091 | Unsafe  |
|        |                         | 76.387758°      |      |      |     |     |       |       |         |
| 10     | Rayarakere Borewell     | 15.240359°      | 7.40 | 1820 | 772 | 220 | 0.072 | 1.106 | Unsafe  |
|        |                         | 76.386949°      |      |      |     |     |       |       |         |
| 11     | Muraripura              | 15.128452°      | 7.48 | 1950 | 846 | 336 | 0.048 | 0.356 | Unsafe  |
|        |                         | 76.590594°      |      |      |     |     |       |       |         |
| 12     | Muraripura              | 15.1341°        | 7.36 | 2050 | 824 | 312 | 0.042 | 1.342 | Unsafe  |
|        |                         | 76.5831°        |      |      |     |     |       |       |         |

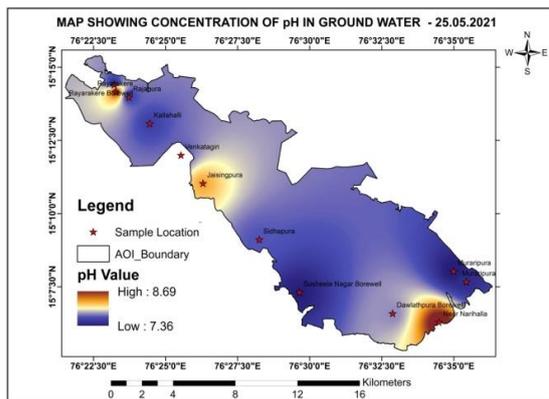


Figure 2: PH Concentration Map

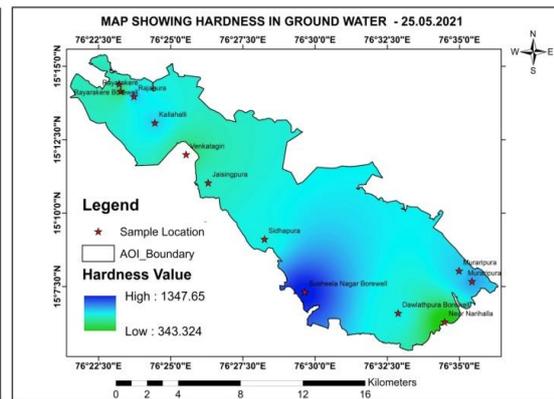


Figure 3: Hardness Map

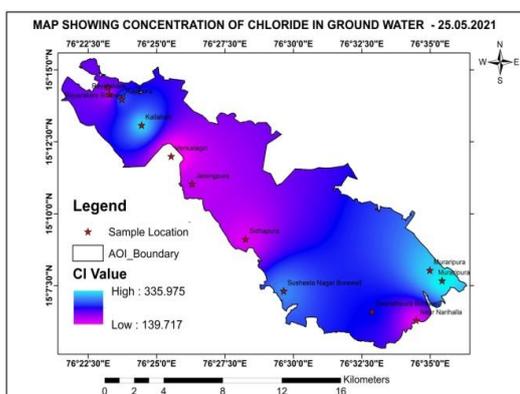


Figure 4: Chloride concentration Map

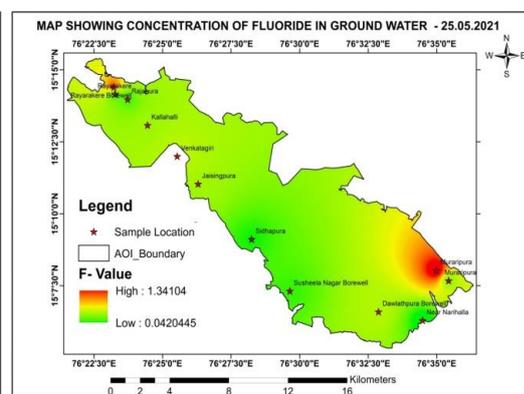


Figure 5: Fluoride Concentration Map

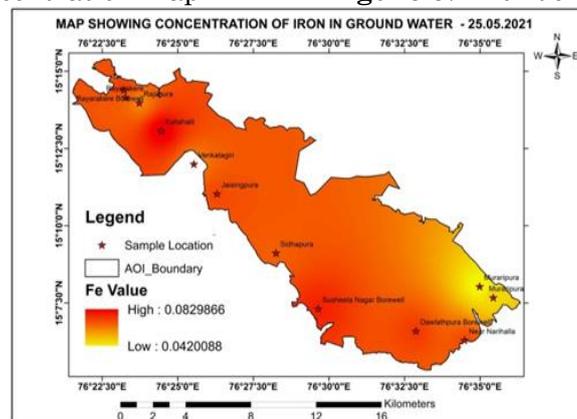


Figure 6: Iron Concentration Map

Excess EC disrupts the salt and water balance, causing high blood pressure, kidney problems, and diarrhea. The EC of the water samples from the study area ranges from 880 to 2100 mhos/cm. Six samples exceed the permissible limit. A high or low pH value causes irritation to the eyes, skin, mucous membranes, hair fiber swelling, and gastrointestinal irritation, among other things (Pradhan and Patra, 2014; WHO,

1996). The pH of the water samples in the study area ranges from 7.36 to 8.70. The pH limit for drinking water is specified from 6.5 to 8.5, Fig 2 shows the pH concentration map of the study area. there are two water samples show exceeds PH Concentration levels and the other is within the WHO limits. According to WHO standards, the desirable limit for Total Hardness is 100 mg/L and the maximum permissible limit is

500 mg/L. The Total Hardness of water samples from the study area ranges from 300 to 952 mg/L. eight samples exceed the permissible limit and the other four samples are within the allowable limit.

The concentration of chloride in water samples ranges from 128 to 336mg/L and it is shown in Fig 4. According to WHO(2004) standards, the acceptable limit of chloride in drinking water is 200 to 600 mg/L, and all samples fall within this range. Fluoride levels range from 0.042 to 1.342mg/L,(Fig 5) The safe limit is 1.5 mg/L, and all samples are within the permissible limit. According to WHO (2004) standards, the permissible limit for iron is 0.1 mg/L, Iron ranges from 0.042 to 1.342 mg/L in the study area(Fig 6). all samples range within the permissible limit. Iron is an essential nutrient in human nutrition, and the amount required depends on age, gender, physiographic status, and other factors.

**Conclusion:**

The analyzed surface water samples were compared to various sets of standards. It is concerning that the Total Hardness of eight samples exceeds the World Health Organization's maximum permissible limit (2004). Because of haphazard dumping of iron ore and waste, as well as poor stabilization methods, erosion/wash-off has occurred during the rainy season, polluting the water bodies.

**Acknowledgment:**

The authors would like to thank the Department of Applied Geology at VSKU PG Centre Nandihalli for allowing them to conduct this research.

**References:**

- 1) R.K. Sunil Kumar, B.V. Suresh Kumar, and S. Manjunatha – Estimation of Surface and Groundwater Pollution due to mining activity in geo-chemical methods and re-vegetation site selection using remote sensing and GIS techniques in the parts of Sandur Schist Belt, South India (2012) Nature Environment and Pollution Technology, ISSN: 0972-6268, Vol. 11 No. 3 pp. 403-408.
- 2) G.V. Gaonkar, J.T. Gudagur, and T.K. Lakkundi – Impact of mining on surface water quality in the western part of Sandur schist belt, Karnataka, India – A Preliminary Investigation(2016), International Journal of Advanced Research (IJAR), ISSN 2320-5407.
- 3) Suresh and N.M. Kottureshwara quality of groundwater in selected areas of sandur Taluk in Karnataka state, India. April (2009), ResearchGate.
- 4) Alexander, P. Quality Assessment of Groundwater of Mubi Town in Mubi South Local Government Area of Adamawa State. Anachem Journal. 2008. 2 (1) 214-220.
- 5) Alexander, P., Maitera, O.N., and Kawuwa, B. Quality Assessment of Ground Water in Vimtim Community in Mubi, Adamawa State, Nigeria. 2011. 3; 34-40.
- 6) Chatterjee, K.K. (1993) An Introduction to mineral economics. Pub: Wiley Eastern Limited. ISBN: 81-224-0499-5. Pp 476-477.
- 7) India's Childhood in the "Pits" A Report on the Impacts of Mining on Children in India (2010). ISBN Number: 978-81-906548-4-5.
- 8) Macro Level Environmental Impact Assessment Study (2011). Report of Bellary District, Karnataka (As per the Directive of Hon'ble Supreme Court of India) Volume I.
- 9) NEERI, (2004). Regional Environmental Impact Assessment for Mining Operations in Bellary-Hospet Region, Karnataka.

---

## **N-LIST: E-INFORMATION LITERACY DEMO PACKAGES**

**Anil Changdeo Bansode**

College of Arts, Bhigwan, Dist. Pune

**Corresponding Author- Anil Changdeo Bansode**

E-mail: [acbansode@gmail.com](mailto:acbansode@gmail.com)

DOI- 10.5281/zenodo.7264904

### **Abstract**

Information literate people have a number of qualities and skills. We are living in the information age. Information is the basic requirement for every human activity and it is important as food, air and water. The objective of the present paper is to highlight the concept of Literacy, Information Literacy, E-information literacy and to specify objectives, methodology and output of the study. The recent changes in the education policy for higher education, the Government of India has taken lot of initiation in introducing national level programs and projects i.e., National Mission on Education through ICT (NMEICT) of National Knowledge Network (NKN) encouraging the universities and colleges through UGC-INFLIBNET Centre to adopt ICT based applications along with dedicated internet connectivity to reach the knowledge to each and every corner of the country.

---

**Keywords:** Information, Information Literacy, E-Information Literacy, UGC, INFLIBNET. N-LIST

---

### **Introduction**

In India, Higher education is considered a vital national resource and for the last couple of decades, it has assumed a pro-active role in response to nation's expectations, because the contribution of knowledge workers towards economic growth and international competitiveness is becoming more and more vivid. In India, Universities are normally vested with the responsibility of Post-graduate teaching, affiliating Under graduate Colleges, holding examinations and awarding Degrees. Undergraduate teaching is mainly done by colleges and these colleges play the pivotal role in Indian higher education system. As of now, the college education in India is facing pressures of increased enrollment, changing educational policies and the challenging task of imparting higher education to its vast human resource potential in the age group of 14 to 24, enabling them to participate in the 21st century global knowledge race. Simultaneous to this situation, unprecedented change in information scenario, current trends in electronic publishing, advanced technologies facilitating faster information access, concept of globalization of knowledge have altogether made the information environment more complex, as it had never been.

The greatest challenge for society in the 21st century is to keep pace with the knowledge and technological expertise necessary for

finding, applying and evaluating information. It is acknowledged that we live in an information-rich society where the amount of information in the world is presently doubling every three years. Therefore it is necessity of 21st century to include information literacy (IL) in education. The information society calls for all people to become information literate which means that they should not only be able to recognize when information is needed but also be able to identify, locate, evaluate and use effectively information needed for decision making or fulfilling different goals. IL is increasingly important in the present context of the information explosion and related uncertainties about its authenticity, validity, and reliability.

In 21st century, IL has become a crucial issue for the political, economic, social & cultural development in all countries. IL is global phenomenon today. It is information gap that divides the nations & the citizens of a nation into rich & poor. It is information literacy that helps in closing this gap. Present research focuses on the E-information literacy of all colleges, departments of any academic institute. Hence the present research "E-Information Literacy: A Case Study" has been undertaken.

#### **1.1 Inflibnet:**

INFLIBNET Centre is an autonomous Inter-University Centre of the University

Grants Commission of India under Ministry of HRD located in Gandhinagar, Gujarat , 1991, provides An Initiative of Ministry of Human Resource Development (MHRD) Under the NME-ICT now funded by UGC, as college component under UGC-INFONET Digital Library Consortium to Colleges and Universities in India.

### **1.2 N-List:**

The Project entitled "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)", being jointly executed by the UGC-INFONET Digital Library Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi provides for i) cross-subscription to e-resources subscribed by the two Consortia, i.e. subscription to INDEST-AICTE resources for universities and UGC-INFONET resources for technical institutions; and ii) access to selected e-resources to colleges. The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other beneficiary institutions through server(s) installed at the INFLIBNET Centre. The authorized users from colleges can now access e-resources and download articles required by them directly from the publisher's website once they are duly authenticated as authorized users through servers deployed at the INFLIBNET Centre. N-LIST provides e-resources (6,000+ e-journals and 31,35,000+ e-books) to Colleges and Universities in India.

### **1.3 N-LIST: Four Components**

The project has four distinct components, i.e. -  
i) to subscribe and provide access to selected UGC-INFONET e-resources to technical institutions (IITs, IISc, IISERs and NITs) and monitor its usage;  
ii) to subscribe and provide access to selected INDEST e-resources to selected universities and monitor its usage;  
iii) to subscribe and provide access to selected e-resources to 6,000 Govt./ Govt.-aided colleges and monitor its usage; and  
iv) to act as a Monitoring Agency for colleges and evaluate, promote, impart training and monitor all activities involved in the process of providing effective and efficient access to e-resources to colleges.

The INDEST and UGC-INFONET are jointly responsible for activity listed at i) and ii) above. The INFLIBNET Centre, Ahmedabad is responsible for activities listed at iii) and iv) above. The INFLIBNET Centre is also responsible for developing and deploying appropriate software tools and techniques for authenticating authorized users. Who paid Membership Fee- Non-Aided Colleges (except Agriculture, Engineering, Management, Medical, Pharmacy, Dentistry and Nursing) may join NLIST on payment of Annual Membership Fee of (Rs. 35,400.00 (Rs. 30,000/- Membership Fee + Rs. 5400/- (18%) GST).

### **Review Of Research And Development In The Subject**

Review of relevant literature is an important step for research. After formulating research problem, the process of reviewing the related literature was started.

In addition to this a few books and large number of research articles related to present study have been reviewed by the investigator. Starting from definitional analysis i.e. Information, Literacy, Information Literacy, E-Information Literacy etc.

### **Definitional Analysis**

Information - information is data that has given shape. It may be considered as processed data. Thus, information is data plus the meaning, which has to be a result of human action (Seetharama, 1999).

Literacy - literacy involves the ability to use language in its written form: a literate person is able to read, write and understand his or her native language and expresses a simple thought in writing (Bawden, 2001).

Information Literacy - Information Literacy is an understanding and set of abilities requiring individuals to recognize when information is needed, have the ability to locate, evaluate, use effectively the needed information and create information within cultural and social context (ALA, 1989).

E-Information Literacy - Electronic information literacy refers to literacy activities (such as reading, writing, and research) that are delivered, supported, accessed, or assessed through computers or other electronic means rather than paper (Martin & Rader, 2003).

### **Objectives**

To review the current developments in the field of "Information Literacy".

To study the extent of Information Literacy in UG & Research Students, with special emphasis on the E-Information Literacy.

To design & develop demo packages in E-Information Literacy for training students, researchers & other users.

To survey satisfaction level of users on demo package.

### **Methodology**

Present study has used survey method in combination with experimental method. Survey method plays a significant role in research as can be seen from the statement.

"The survey method is one of the most effective and sensitive instruments of research. Survey research can produce much needed knowledge" (Kasyap, 1969).

Experimental method is a systematic & scientific approach to research in which research manipulates one or more variables, controls & measures any change in other variables. Following experiments were conducted on the sample population.

The user's knowledge about use of services listed in scope was collected by distributing questionnaire to UG & Research.

Depending on the knowledge, the interactive courses were developed along with online tutorials [Demo Package].

The package was tested with experimental group of UG as well as Research Students.

Users' satisfaction level about the package have been collected & analyzed.

The steps in the research methodology included:

#### **Data collection**

Researcher collected the data with the help of structured questionnaire.

#### Design of Questionnaire:

To know the needs of students covered, a structured questionnaire was designed and factual questions, opinion questions were asked.

#### **Data Analysis & Interpretation**

The rich & wide variety of quantitative data obtained had been checked & tabulated before processing & analysis were carried out. Data handling, validation processing & analysis have been carried out with the help of computer. The major part of checking,

tabulating & calculation for the one way analysis to measure the difference was carried out. Tables have been generated. Collected data has been analyzed by using Statistical Software Package i.e. SPSS package and presented data in from. For the purpose of analyzing the data collected some statistical techniques like, co-relation tools, Ti, Ti – Square, Chi – Square etc. were used for analyzing data.

#### **Co-relation:**

"When the relationship is of a quantitative nature, the appropriate statistical tool for discovering & measuring the relationship & expressing in brief is a co-relation" (Croxtton, 1969). Thus co-relation is a statistical tool which studies the relationship between two variables & co-relation analysis involves various methods & techniques used for studying & measuring the extent of the relationship between the two variables.

This was used to study the relationship between individual departments, class, gender & age groups with the Information Literacy & E-Information Literacy in BAMU.

#### **P-value**

It indicates the probability of getting a mean difference between the groups as high as what is observed by chance. The lower the p-value, the more significant the difference between the groups.

#### **Chi Square [ $\chi^2$ ]**

The *chi-square* (chi, the Greek letter pronounced "kye") statistic is a nonparametric statistical technique used to determine if a distribution of observed frequencies differs from the theoretical expected frequencies. Chi-square statistics use nominal (categorical) or ordinal level data, thus instead of using means and variances, this test uses frequencies.

A test that uses the chi-square statistic to test the fit between a theoretical frequency distribution and a frequency distribution of observed data for which each observation may fall into one of several classes.

The Chi Square [ $\chi^2$ ] test measures the alignment between 2 sets of frequency measures. These must be categorical counts & not percentage or ratios measures. The Chi Square [ $\chi^2$ ] is one of the most popular statistics because it is easy to calculate & interpret.

### **WAM (Weighted Arithmetic Mean)**

*WAM arithmetic mean computed by considering relative importance of each items is called weighted arithmetic mean.* To give due importance to each item under consideration, we assign number called weight to each item in proportion to its relative importance. It can be calculated from following formula:

$$\bar{X}_w = \frac{\sum wx}{\sum w}$$

### **Ti-Square**

The responses to the questions on E-Information Literacy have analyzed using a five point scale 1 – Not Satisfied, 2 – Relevant Satisfied, 3 – Occasionally Satisfied, 4 – Frequently Satisfied, 5 – Highly Satisfied. Response of each question were analyzed & presented as tables with annotations where ever & whenever necessary for the purpose of analyses code 4 & 5 in each table are added & the tables are annotated, omitting 1 code, codes 2, 3, 4, & 5 are added to find out Ti & Ti-square, which are use for further statistical analysis.

### **Design And Development Of Demo Packages**

To provide basic information about design of demo packages with the help of Macromedia Flash Program, System requirements for this program, along with user manuals created by researcher & feedback taken by researcher has analyzed & presented.

#### **6.1 Macromedia Flash**

Flash is a program by Macromedia for creating interactive, animated online content. Animated simply means "to have movement" -- Flash content does not have to be a cartoon. It is commonly used to mimic software interface elements such as scroll bars, drop-down menus, buttons, and navigational systems. The term "Flash" has also come to mean the actual files created using Macromedia's program of the same name.

#### **6.2 Languages**

Flash Player 8 is available in the following languages for the above operating systems and browsers: Chinese Simplified, Chinese Traditional, English, French, German, Japanese, Italian, Korean, and Spanish.

### **Conclusion**

Researcher has developed demo packages along with user manuals for use of E-Information Literacy viz.

- ❖ Tutorial on E-journals
  - ❖ Tutorial on E-books
  - ❖ Tutorial on ETD
  - ❖ Tutorial on OPAC
  - ❖ Tutorial on Subject Gateways
- Which itself are the original contributions to the research.

### **References**

1. Chatterjee, A. (2007). Resource sharing among libraries in digital era: role of consortium. Retrieve from [www.isical.ac.in/serial/consortia/CBSOR-02.pdf](http://www.isical.ac.in/serial/consortia/CBSOR-02.pdf)
2. Dhawan, S.M. (1999). Towards an Effective Solution for Resource Sharing. Proceedings on Libraries and Information Services in the Electronic Information Era, edited by J.L. Sardana, Indian Library Association: pp.214- 219.
3. Grycz, Czeslaw Jan. (1997). Resource sharing in the systemic context of scholarly communication. Library Trends, 45(3), 499-517.
4. Herrold Dictionary, 2012.
5. Hwa-Wei Lee. Return to the basics: the importance of library cooperation and resource sharing. Retrieve from <http://ir.lib.nctu.edu.tw>
6. Islam, M. (2013). Present Status of Library Cooperation, Networking, and Resource Sharing in Bangladesh: Web-based Library Cooperation for Access to World-wide Information. Library Philosophy & Practice, 10.
7. Kasyap, M M (1969). Planning of survey. Library Herald, 2 (1&2): 195-199. 10
8. Kaul, H. K., (1999). Library resource sharing and networks. New Delhi: Virgo publications: pp.336.
9. Kent, Allen (1990). Library Network. New Delhi: Tata McGraw-Hill: pp. 3-25.
10. Reitz, Joan M (2004). Dictionary for Library & Information Science. Westport: Libraries Unlimited.
11. Kothari, C. R., Research Methodology: Methods & Techniques, 2nd ed., New Age Publishers, New Delhi, 2005.
12. McClure, Charles R. and Bertot, John Carlo (Ed.), Evaluating Networked Information Services –Techniques, Policy,

- Issues, New Delhi: Ess Ess Publication, 2008
13. Nikose, Satyapraksh, Adhunik Granthalayache Vyavasthapan, Pranya Prakashan, Nagpur, 2007.
  14. Nikose, Satyapraksh, Research Methodology, Pranya Prakashan, Nagpur, 2007
  15. ALA (1989). American Library Association Presidential Committee on Information Literacy – Final Report. Chicago: American Library Association.
  16. Bawden, D. (2001). Information and digital literacies: a review of concepts. Journal of Documentation. 57(2). 218-259.
  17. Croxton (1969). Information Literacy: Definition, CILIP, London. [www.cilip.org.uk/professionalguidance/informationliteracy/definition/](http://www.cilip.org.uk/professionalguidance/informationliteracy/definition/) (accessed on 11<sup>th</sup> March, 2014).
  18. Kasyap, M M (1969). Planning of survey Library Herald, 2 (1&2), 195-199.
  19. Martin, A. and Rader, H. (2003) Information and IT Literacy: enabling learning in the 21st century. London: Facet.
  20. Seetharama, S. (1999). Information management: Tools and techniques. In: National Workshop on Information Management including ISO 9000 QMS, held at Documentation Research and Training Centre, Bangalore.

## **A Study on Significance of Industrial Training with Special Reference to the Hospitality and Tourism Students**

**Dr. Dhanraj Kalgi<sup>1</sup> Mr. Pranavkumar Shete<sup>2</sup> Mr. Sarang Mulawekar<sup>3</sup>**

<sup>1</sup>Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

<sup>2</sup>Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

<sup>3</sup>Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

**Corresponding Author- Dr. Dhanraj Kalgi**

Email- [ghanraj.kalgi@gmail.com](mailto:ghanraj.kalgi@gmail.com)

DOI- [10.5281/zenodo.7264908](https://doi.org/10.5281/zenodo.7264908)

### **Abstract:**

Industrial training is a way for hospitality and tourism management students to familiarize themselves with what they have been doing in college. Industrial training is very helpful for hospitality and tourism management students to acquire practical knowledge and grow as hospitality and tourism professionals. The purpose of this study is to analyze the importance of hospitality and tourism management industry training as part of the hospitality and tourism industry and to identify gaps between hospitality and tourism management agencies and the hospitality and tourism industry. In addition, the study also aimed to determine hospitality and tourism satisfaction with the trainees' performance during the training program and to assess the impact of hospitality and tourism management trainees on hospitality and tourism operations. Most of the data was collected from hospitality and tourism employees of star category hotels and hospitality and tourism management students in Pune City. The results used after the study were presented in tabular form and illustrated using graphics. All the results presented here are true, the question was asked to hospitality and tourism staff and students from various universities who had successfully completed their commercial education. Later, the results are explained in more detail along with other information. The study was about hospitality and tourism management and all knowledge was considered essential for a bright future.

---

**Keywords:** Industrial Training, Trainee, Hospitality and Tourism Management, Education Curriculum, Practical Knowledge

---

### **Introduction**

A city's vibrancy can easily be measured by its restaurants and hospitality standards. Pune has made a big leap in this regard. There are now several national and international grocery chains and star hotels in the city. With a stable supply of population migrating to Pune in terms of education and employment, the growth of international players in the hospitality industry has greatly enhanced the urban development and lifestyle quotient. The growth of the hospitality sector has been quite vibrant, especially in the eastern part of Pune as hotels like Hyatt, Radisson, Parc Estique, Ibis, Novotel have established their premises here. Standards for hotels and

restaurants have also been raised. International hotel chains have moved into Pune city, increasing competition. This has created a need for knowledgeable and efficient personnel to face such capabilities. Hospitality is an important pillar of tourism and a good source of economy for any city. While some cities are very good at promoting themselves, others still have some work to do. The hospitality industry is a hugely profitable industry wherever you are. It is responsible for much of the country's economic growth. Various drivers of the hospitality industry attract foreign tourists, opening millions of doors of opportunity for both cities and countries. Cultural exchanges, overseas cooperation,

and employment opportunities for local residents are just some of them. The hospitality and tourism Management Program is designed to bring in world-class hospitality students and prepare them to enter the hospitality industry under supervision. The hospitality and tourism Management Program provides interpersonal Designed to develop skills. Hospitality management training helps students know how to work in different areas of the hospitality industry and how different jobs are done. The hospitality and tourism management education covers topics that help students oversee their position in the hotel and catering industry and provides a background related to management functions. Equipped with skills in hospitality management, students are empowered to work against any standards the job requires. Industrial education will help students understand the different factors used in the hospitality industry, the different departmental procedures in which standard operating procedures are learned, their readiness to become professionals in the hospitality industry, and economic factors. Helps you learn about cost control measures to improve and business success. It helps us set the standard for the quality of service we offer our customers. Knowledge of hospitality management develops a positive attitude towards positive impact transactions and the confidence to handle tasks, making you a successful entrepreneur in a variety of businesses. Hospitality and tourism management training can be obtained through practical or theoretical studies. This paper uses the analysis of quantitative research methods to obtain different results for research and later presents the results in graphs and pie charts. This paper brings some facts about the education of hospitality and helps students to develop for their future. Industrial training helps students to combine theory with practical work experience to better understand the

processes of the sector help you to Industrial training also helps provide opportunities to develop professional work habits, understand corporate culture, analyze the international business environment, and provide a platform for the workforce. In addition, when industrial education takes place internationally, it offers the privilege of observing business differences and how projects are handled in different cultures. Industrial training can be implemented in a number of ways. That means your hometown, your home country or where your trainee is learning hospitality and tourism management.

#### **Objectives of the Study**

Exploring the significance of industrial training with special reference to the hospitality and tourism students

#### **Research Methodology**

The current research seeks to explain the significance of industrial training with special reference to the hospitality and tourism students. This is a conceptual study based on a literature review.

#### **Sources of Data**

Secondary data collected from journals, research articles, and publications.

#### **Review of Literature**

**Prashant Khullar (June, 2013)** stated “It is not just about providing training, but the overall development of the person to be able to handle more and more responsibilities,”

**Dr. Mohinder Chand (May – June 2013)** explained, Set of Recruitment and selection , Manpower planning , Training and development , Performance appraisal and Compensation may constitute the most important HRM practices in the MNE,s Hospitality enterprises operating in India.

**Colin Pinto (January - May 2013)** explained that , Seeing is believing is a proverb that is widely acknowledged , and practioners should emphasize that this should be mode of teaching for hotel management curriculum; where students are required to have hands on activities as part of program. With this, students would begin to better comprehend knowledge

being delivered to them. This is because what they see in hotels, is what is being taught by lecturers who already have real life industry experience. The process of learning will be more effective when the students are being exposed to real working conditions by practically applying their knowledge.

**Dr. Manoj A. S. (April, 2013)** explored, Hospitality, being a service industry is 100 percent people driven. Professional training is an essential requirement, especially in current dynamic and highly competitive environment. The rate of job growth and job change in hospitality industry is among most rapid compared to any other industry. The work of hospitality employees will continue to change as new technology develops.

**Manisha (March, 2013)** states, every organization needs to have well trained and experienced people to perform various activities. If the current job occupant can meet this requirement training is not important but when this is not the case it is necessary to raise the skills levels and increases their capability and adoptability of employees. Inadequate job performance requires some type of training efforts. As the jobs become more complicated, the training needs also increase. In a rapidly changing society, employee training is not only an activity that is desirable but also an activity that an organization must commit its resources to if it to maintain a viable and knowledge workforce.

**Ashok Singh and Nikita Maheshwari (January, 2013)** stated, Training offers great scope in strengthening the services rendered by the hotels. In this age of cut throat competition training helps the companies to drive competition advantage a service separates a great hotel experience from an average one. Services provided in the hotels are highly influenced by training programs.

**Jog Amol (January, 2013)** explained Training has assumed a significant importance in the world of business,

especially during the last two decades. The business has recognized the need for training in enhancing productivity and improving organizational functioning.

**Suvidha Khan (January, 2013)** says A well trained and competent staff in hotel can simplify the execution of quality service. So the hotels should continuously be working on training and retraining of its staff in terms of customer relationship management and service quality.

**Rajeev Menon, Area V.P. Marriott International in his interview to Sanjeev Bhar, in Express hospitality (September, 2012)** states the importance of making the HR training more humane, thereby striking a balance between imparting technical knowledge and emotional support to employees for them to deal with the work environment better.

**Pandey and Suruchi (August, 2011)** said Training makes its best contribution to the development of the individual – and through them to the organization for which they work when well motivated if rate of development is to further accelerate , the quality of management has to keep pace with this progress. Training is the act of increasing the knowledge and skill of an employee for doing a particular job. Training is a short term educational process and utilizing a systematic and organized procedure by which employees learn technical knowledge and skills for a definite purpose. The increasing completion amongst other things increases significance of training.

**Manoj Chawla(September, 2009)** has quoted in the Times of India , that organizations are showing interest in retaining their good talent and do not shield away from investments in relevant training.

**Aishwarya Mudaliar (March, 2008)** has stated her opinion on Express hospitality. Com that since the hospitality industry is grappled with high attrition rates, a trainer can assist the HR functioning in retaining employees.

**Praveen Singh (December, 2007)** proposes in an article in Express hospitality.com that the training methodologies that will survive the coming years is the empowering of the employees by hotel companies with powerful skills to help them connect with guests on a basic level.

#### **Observations and Discussions**

**Objective of industrial training** is to provide to students the feel of the actual working environment and to gain practical knowledge and skills, which in turn will motivate, develop and build their confidence. Industrial training is also expected to provide the students the basis to identify their key operational area of interest.

#### **Importance of industrial training**

Due to the limited type of exposure in hospitality and tourism management agencies, learning opportunities in the industry during an apprenticeship are considered high. This also helps build student confidence. It has also been observed that after industrial education, students' self-confidence improves significantly in various aspects. Their 6 months internship as a hospitality and tourism management trainee proves satisfactory, but not enough to make them a good graduate and not enough to give their confidence in their job.

#### **Level of application of theoretical knowledge during industrial training**

The training takes place in the second and third years, so trainees already know the basic theoretical knowledge, expertise and the type of work they have to acquire during their training.

#### **Skill sets of the students (skills developed in college)**

The hospitality and tourism management program includes training in different hotel departments such as food manufacturing, food and beverage service, housekeeping, reception and maintenance. Hospitality and tourism management institutes provide

students with the basic skills of the institute itself training course.

#### **Attitude towards job (professionalism gap in college and industry)**

During training, hospitality and tourism professionals learn industry professionalism and develop it further after training. This development will help them during their internship and build a positive and honorable attitude towards the hospitality industry.

#### **Nature of work (operations done in practical and during training)**

During their commercial training, students will work in various hospitality and tourism sectors. Core subjects are studied by students as part of an internship at the Institute during the first year of study. Therefore, hospitality and tourism management students know basic hospitality and tourism operations, but their skills are developed through continuing education in the industry.

#### **Operational / Industrial updates, Infrastructure and Global Trends**

The hospitality and tourism Management Institute keeps you up to date on the latest industry developments, events and technologies employed. The infrastructure provided by most institutions corresponds to the industrial infrastructure. Current hospitality and tourism management students feel that they will get an international experience during their industrial education as they will have the opportunity to train in international brands of hospitality and tourism s in international destinations and meet people from all over the world is attracting attention. Get to know different international cultures.

#### **Guest interaction, Responsibility and Accountability**

Since then, hospitality and tourism management students have always had the opportunity to interact with guests. Your department may not be included in the training program. Under such circumstances, there are many students who have the opportunity to interact with

guests. This trend is more pronounced in international training. Students are given enough responsibility and held accountable during training.

### **Learning opportunities and Confidence building**

Due to the limited type of exposure in hospitality and tourism management agencies, learning opportunities in the industry during an apprenticeship are considered high. This also helps build student confidence.

### **Responsibilities of the Hospitality and Tourism Trainee**

Should be punctual.

Should maintain the training logbook up-to-date.

Should be attentive and careful while doing work.

Should be keen to learn and maintain high standards and quality of work.

Should interact positively with the hospitality and tourism staff.

Should be honest and loyal to the hospitality and tourism and towards their training.

Should get their appraisals signed regularly from the HOD's or training manager.

Gain maximum from the exposure given, to get maximum practical knowledge and skills.

Should attend the training review sessions / classes regularly.

Should be prepared for the arduous working condition and should face them positively.

Should adhere to the prescribed training schedule.

Should take the initiative to do the work as training is the only time where you can get maximum exposure.

Should, on completion of Industrial Training, handover all the reports, appraisals, logbook and completion certificate to the institute.

### **Responsibilities of the Hospitality and Tourism Institute**

Should give proper briefing to students prior to the industrial training

Should make the students aware of the industry environment and expectations.

Should notify the details of training schedule to all the students.

Should coordinate regularly with the hospitality and tourism especially with the training manager.

Should visit the hospitality and tourism, wherever possible, to check on the trainees.

Should sort out any problem between the trainees and the hospitality and tourism.

Should take proper feedback from the students after the training.

Should brief the students about the appraisals, attendance, marks, logbook and training report.

Should ensure that change of I.T. hospitality and tourism is not permitted once the student has been interviewed, selected and has accepted the offer.

Should ensure that change of I.T. batch is not permitted.

Should ensure trainees procure training completion certificate from the hospitality and tourism before joining institute.

### **Responsibilities of the Hospitality and Tourism Industry**

**First exposure:** A young trainee's first industry exposure is likely to be the most influential in that person's career. If the managers / supervisors are unable or unwilling to develop the skills young trainees need to perform effectively, the latter will set lower standards than they are capable of achieving, their self-images will be impaired, and they will develop negative attitudes towards training, industry, and – in all probability – their own careers in the industry. Since the chances of building successful careers in the industry will decline, the trainees will leave in hope of finding other opportunities. **If on the other hand, first managers/supervisors help trainees achieve maximum potential, they will build the foundations for a successful career.**

**Hospitality and Tourism Industry:**

Should give proper briefing session/orientation/induction prior to commencement of training.

Should make a standardized training module for all trainees.

Should strictly follow the structured training schedule.

Should ensure cordial working conditions for the trainee.

Should co-ordinate with the institute regarding training programme.

Should be strict with the trainees regarding attendance during training.

Should check with trainees regarding appraisals, training report, log book etc.

Should inform the institute about truant trainees.

Should allow the students to interact with the guest.

Should specify industrial training's "Dos and Don'ts" for the trainee.

Should ensure issue of completion certificate to trainees on the last day of training.

### **Conclusion**

This research on the influence of hospitality and tourism management students' industrial training on hospitality and tourism management is based on the hospitality and tourism management students' industrial training program and is proceeding according to the course designated by the university. A study to find out what the fundamental effects of industrial training programs are on students themselves and on hospitality and tourism industry. This research project focused on the problems that the trainees faced during their training at the hospitality and tourism industry, and asked whether the hospitality and tourism employee trainee's job effectiveness was efficient for the hospitality and tourism, and whether the training reflected the character of the hospitality and tourism. I checked to see if it has improved. Will you be an outstanding graduate? After analyzing trends in industrial training programs for hospitality and tourism management

students in Pune and perceptions about it by various hospitality and tourism employees, the study concludes: Industry workers say they find hospitality and tourism management students happy because they have the right attitude towards work and the ethics associated with the job and expressed that they spend less time training hospitality and tourism management students than other institutions. The knowledge and technical skills of the hospitality and tourism management are excellent. This training program not only saves time in recruitment and hiring, but has proven to be economically beneficial for meeting temporary staff needs. Both trainees and the hospitality and tourism industry are satisfied with the industrial education of hospitality and tourism management students, but satisfaction could be even higher if the hospitality and tourism industry and institutions in Pune properly coordinate and cooperate. Feedback from industry workers helps in effective, hands-on curriculum planning that institutions can follow to develop student skills. The hospitality and tourism industry said it puts less effort into educating its students because they are very adaptable as they already have the knowledge to carry out the tasks and duties given to them. Feedback from both sources proved to be positive, with knowledge satisfaction for students and performance satisfaction for industry.

### **Recommendations**

The following points are useful for hospitality and tourism management students, colleges and universities alike. Hospitality and tourism industry trainees become Hospitality and tourism specialists.

- Educational institutions need to be updated with new technologies and teaching styles to improve quality teach students of hospitality industry and after that, only qualified persons who meet the hospitality and tourism 's requirements can be produced industry.

- Hospitality and tourism management agencies may include training programs of one year rather than six months as they are more effective. Trainees should also be given the opportunity to become Hospitality and tourism professionals, as the Hospitality and tourism industry only accepts qualified professionals.
- Trainees are given the opportunity to work in all departments of the hospitality and tourism and must assume job responsibilities. This builds confidence and creates a positive attitude towards the hospitality industry. The hospitality and tourism HR department should interact with trainees more frequently by motivating them and providing motivational assessments, briefings and motivational talks active in the hospitality industry.
- Hospitality and tourism human resources departments also need to interact more frequently with institutions. The hospitality and tourism management degree curriculum needs to be updated in alignment with the industry. Ongoing feedback on the learning process from Hospitality and tourism management trainees is also encouraged.

#### **References**

- Prashant Khullar, Director – Human Resources, Luxury Hotels, Taj Hotels Resorts and Palaces. 14 June, 2013 Published on express hospitality.com
- Colin Pinto, January – May 2013. “Transition of tradition curriculum to a more practical approach I n hotel schools”, S Vol 5 no1, ISSN 1906 – 1838.
- Dr. Mohinder Chand, May – June 2013, Title: Human Resource Management in hospitality multinational enterprises: An empirical analysis, IOSR Journal of business and Mgmt (IOSR – JBM), Vol: 10, pp 22.
- Dr. Manoj. A.S. April, 2013. Title: A study on the efficiency of training in hospitality- A Kerala Tourism Development Corporation (KTDC) experience. Trivandrum, Kerala Published: international journal of advance research in management and social science. Vol:2 /no.4/ ISSN :2278-6236. pp 2
- Manisha, 28 March, 2013 .Title: Employees attitude towards training and its impact on their transfer of learning. Published in Shodganga. pp 3
- Ashok Singh Rathore and Nikita Maheshwari, January, 2013. Title: Assessment of training needs for the hospitality industry: A case study of hotels in Rajasthan. Journal : Sajth, Vol : 6(1)
- Jog Amol, 24 January, 2013. Title: An analytical study of the impact of corporate training compared to mainstream education on the employability today with special ref. to Pune Mumbai Kolkata , Delhi and Bangalore, pp 16
- Khanna Suvridha, January 2013, Title: Hotel employee attitude and the quality service: an impact framework with empirical investigation. Advance in management Vol: 6(1), pp 53.
- Sanjeev Bhar, September, 1-15, 2012. Title: “Happy at work”, Express Hospitality, Vol: 4, pp 37.
- Pandey and Suruchi, 30 August, 2011. Title: Status report on training activities in selected hospitality industry units in Pune. Published in Shodganga.
- Manoj Chawla, 23 September, 2009. Title : “The slowdown is also a time for employees to showcase their differential capabilities”, The Times of India, Ascent pp 2.
- Aishwarya Mudaliar, March 1-15, 2008 Title: “Training for retention ”, Express hospitality .com.
- Praveen Singh, December 16-31, 2007, Title: “Employees empowerment ”, Express hospitality.com

## **A Study on the Significance of Academic Research in Hospitality and Tourism Education in India**

**Dr. Dhanraj Kalgi<sup>1</sup> Mrs. Ashwini Talaulikar<sup>2</sup> Mr. Pralhad Botre<sup>3</sup>**

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

**DOI-10.5281/zenodo.7264908**

### **Abstract:**

In academic world, not only the faculty but also the learners are challenged to grasp evidence-based education as well as engaged learning experiences through academic research. It is very known fact that, research is in shambles in institutes and universities. On sycophants, the divinity of fortune smiled. The approach out to this academic difficulty does not depends in splitting research from education at the level of undergraduate. The purpose of research in to inform action. Therefore, your education should strive for to investigate its conclusions inside the greater frame of academic research. The academic research essentially constantly be of great superiority in order to cultivate acquaintance that is related separate of the setting of research. Worthy research provides an answer to a good question, solution to a difficulties as well as offers to our acquaintance of the globe. Research have to be at the fundamental as well as necessarily be contributory in producing a foremost boundary through the academic and business domain. The experience of undergraduate research is one of numerous experiences that can influence the upcoming profession selections of undergraduate students who are pursuing hospitality and tourism programs. It is crucial to establish research department in the hospitality and tourism Institutes in institutes as well as universities. The information of economy recognizes information as the greatest significant system of wealth as well as research carried out in a university is one of the utmost essential foundations of innovative acquaintance. Any university which is very research intensive works hard to fascinate the very finest as well as most capable professors as well as researchers in order to retain its position in the academic world. New skills and sources of research will be able to achieve more evidences as well as beyond all diverse sources of research provides diverse kind of information to comprehend the matter as well as disclose the conclusions. Research attracts its strengths from the actuality that it is factual even than simply conjecturing about what might be operative or what could function, researchers of hospitality and tourism go into the industry as well as design good quality curriculum that offer policymakers accurate information on which they can form their instructions.

---

**Keywords:** Academic, Research, Education, Hospitality, Tourism

---

### **Introduction**

In academia, both faculty and students are challenged to embrace engaging learning experiences and evidence-based education through undergraduate research. This allows students to achieve professional and personal development not possible in traditional lecture and laboratory courses. The benefits of good research include more fact-checking, more facts, a greater framework of understanding, and quicker insight. Universities have served society for many years and have undergone great changes during that time. Research is important because it provides direction on how to address a given problem. Arguably, alongside government research, educational and

institutional research is also more valuable. Educational research is conducted through doctoral programs offered by the university, making research an integral part of multinational organizations. Research-oriented studies are essential for discovering talent in college. It's no secret that university research is a mess. Lady Luck smiled at the toad. The solution to this academic malaise does not lie in the separation of research and teaching at the undergraduate level. Most universities offer science majors the opportunity to gain research experience. While some universities have formal processes for placing undergraduates in labs, the best way to find out is to find professors whose work interests you and contact them

directly. Purpose of research to inform behavior. Therefore, your research should seek to place its findings in the larger research area. To produce knowledge that is applicable outside the research environment, it must be of consistently high quality. For both faculty and students, a good starting point for initiating, encouraging, and improving research culture in colleges and universities is to ask basic questions such as: B. What are the goals of research? How does good research contribute to classroom instruction? Until we answer these elementary questions, we cannot understand the irreplaceable role research plays in education. The goal of education in general, and research in particular, is to instill an inquisitive mind in students so that they can ask relevant and uncomfortable questions related to their field, society, identity, and nation. Good research provides solutions to problems, answers to good questions, and increases our knowledge of the world. If graduate and graduate schools don't direct students toward research and original ideas, but suddenly encourage them to develop new ideas and perspectives for master's and doctoral degrees, they're going to fail miserably. What is needed now, therefore, is to encourage research by both students and teachers from the university level itself and gradually turn it towards the production of knowledge. Research should play a central role and help create important contacts with academia and business. Undergraduate research experience is one of several experiences that can influence an undergraduate's future career choices. Research opportunities are not limited to your home university. Research is an important theme that runs from the first year of university to graduation. Research experiences provide students with opportunities to gain deeper knowledge of research techniques and processes, apply classroom learning to real-world contexts, explore academic literature, and develop meaningful relationships with faculty and professional researchers provide the opportunity to build Pursuing a research project can be a challenging and rewarding experience. This opportunity allows students to explore and delve into topics that interest

them. Before explaining how research is conducted, it is important that prospective researchers are aware of ethical issues and use proper ethics. He must follow four standards of

- (1) Being objective,
- (2) Avoiding harmful research,
- (3) Being honest in conducting and reporting research, and
- (4) Maintaining confidentiality.

Developing and maintaining an undergraduate study program benefits students, faculty leaders, and the university. Of course, the research process influences valuable learning goals that have a lasting impact on students' preparation for professional service. In India, technical education institutions recognize the urgent need to bridge the gap between institutional and industry requirements and require students to be aware of the latest technologies. The inclusion of a research component in addition to a solid academic foundation equips students with independent critical thinking skills and oral and written communication skills. Independent thinking can give college students the confidence to draw their own conclusions based on available evidence.

### **The Role of Research in Hospitality and Tourism**

Years of research in hospitality and tourism have shed new light on various areas such as management, human behavior, finance, planning and marketing. Some have called it an interdisciplinary field of research that advances the perspectives of different disciplines, and the research community, by critically evaluating itself as an important field of scholarly inquiry, It suggests that we should seize the opportunity to reevaluate the fundamental role of research. More experimentation and sharing are needed to develop ways to make research more accessible and trustworthy for the world. Is required. Currently, research objectives in this area are also of interest to editors and scholars of hospitality journals. Scholars therefore need to conduct more causal studies using correlative or experimental designs investigating the hospitality industry. This is in contrast to topics that are of little use in solving real-world, current challenges. Over

the years, tourism education has developed rapidly, making tourism and hospitality education an important area of study in most countries. This increase in numbers is due to the fact that research is not only a central source of knowledge in tourism and hospitality, but also a personal development and career path for researchers. With the proliferation of hospitality programs, there is a constant emphasis on training students on the mechanics of running a hospitality organization and on research-focused postgraduate degrees. This applied research focus serves as a foundation for exploring hospitality studies in a balanced environment and as a vehicle for practitioners and scholars to analyze information. For many academic institutions, research is seen as a fundamental assessment tool for evaluating faculty. Aside from the hospitality program, the emphasis continues to be on training students on the mechanics of running a hospitality organization and on research-focused postgraduate degrees. This applied research focus is essential for exploring hospitality research within a balanced framework that provides practitioners and academics with the means to analyze the information. For many academic institutions, research is viewed as an important assessment tool for evaluating faculty. In academic institutions, research is used to generate funding, so there can be confusion and misunderstanding about the purpose of research. However, these practices were not criticized in this study. Instead, it is used to emphasize the idea that research also provides valuable information.

### **Objectives of the Study**

Exploring the Importance of Academic Research in Indian Hospitality and Tourism Education

### **Research Methodology**

The current research seeks to explain the importance of Academic Research in Indian Hospitality and Tourism Education. This is a conceptual study based on a literature review.

### **Sources of Data**

Secondary data collected from journals, research articles, and publications.

### **Review of Literature**

From the above discussion, it is clear that research is a scientific and systematic tool for research and of immense value in education.

Pedagogical studies help us understand each subject and its principles better and more easily, and we encounter new questions. By looking for answers to these questions, you can learn new theories about each subject.

- Research helps identify research and learning gaps at different levels of the education system and seeks to bridge the gap between what is there and what is expected.

**Morris (1967)** argues that research on the social dimension of education guarantees child development and educational methods.

- Research in the social sciences is a social, social and educational Contribute to the welfare of the institution. As **Rathnakar points out, g (2018)**.

- Findings may be useful to teachers, teacher educators, administrators, policy makers, parents and other stakeholders involved in the education sector. Research findings can be implemented into classroom learning processes to fill learning gaps. The results can also be used to develop teacher training programs, curriculum development programs, and educational policy as proposed by **Pramodini, D.V. and Sophia, K.A. Mentioned. (2012)**.

- Research methods provide teachers with tools to analyze practice and make informed decisions. Research supports the professional development of teachers and teacher educators, and can also direct and prepare them to acquire 21st century skills to implement new teaching strategies and assessment techniques in the education system. . Lecturers should be able to use and integrate relevant findings and scientific theories from educational research into professional action and decisions (**Diery, 2018**).

Educational research helps analyze the perceptions and attitudes of student-teachers, teacher-educators, parents and other stakeholders on a variety of issues related to the education sector, the community and the global environment. The research findings therefore identify and suggest possible solutions to these problems, taking into account the views of relevant stakeholders.

## **Observations and Discussions**

### **Educational Research**

**Meaning.** Educational research refers to a systematic attempt to gain a better understanding of the educational process, generally with a view in improving its efficiency. It is an application of scientific method to the study of educational problems.

#### **Definitions.**

**1. Good.** "Educational research is the study and investigation in the field of education."

**2. Munroe.** "The final purpose of educational research is to ascertain principles and develop procedures for use in the field of education."

**3. Mulay.** "Any systematic study designed to promote the development of education as a science can be considered educational research."

**4. Crawford.** "Educational research is a systematic and refined technique of thinking, using special tools in order to obtain a mere adequate solution of a problem."

**5. J. W. Best.** "Educational research is that activity which is directed towards development of a science of behaviour in educational situations. The ultimate aim of such a science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods."

**6. W. M. Traverse.** "Educational research is that activity which is directed towards the development of science of behaviour in educational situations."

#### **Characteristics.**

1. Educational research aims to solve problems in educational settings. You can answer questions and determine relationships between two or more variables.

2. It emphasizes the development of generalizations, principles, or theories that help predict future events.

3. Educational research usually goes beyond the subject, group, or setting and derives characteristics of the target population from observed samples.

4. Educational research includes collecting new data from primary or direct sources or using existing data for new purposes.

5. We only accept educational research that can be verified by observation. Certain interesting questions do not apply to research procedures.

6. Investigative activities, while sometimes haphazard and unstructured, are often characterized by carefully designed processes that always use rigorous analysis. It often involves trial and error, but rarely is research a blind, deliberate investigation trying to see what's going on.

7. We strive to be objective and logical in our research and use all possible tests to verify the procedures used, data collected and conclusions drawn. Researchers try to remove personal biases.

8. Research requires specialized knowledge. Researchers know what is already known about the problem and how others have studied it.

9. Educational research involves searching for answers to unsolved problems. Pushing the boundaries of ignorance is their goal, and originality is often the quality of a good research project.

10. Educational research is based on insight and imagination. It requires the ministry of a present-day visionary.

11. Education and research require an interdisciplinary approach. It refers to the study of complex relationships with facts.

12. Educational research is not as rigorous as the natural sciences. The latter allows you to control events, which is not possible in educational research.

13. Educational research covers a wide range of fields. Educational psychology, educational philosophy, methodology, class organization and management, child development, and other topics are areas of study in pedagogy.

#### **Need and Importance of Academic Research.**

As in any other field, research in education is essential to providing useful and authoritative knowledge that can make the educational process more effective. There are several considerations that underscore the need for research in education.

1. Education is rooted in fields such as philosophy, history, economics, psychology and sociology. A solid theory can be developed through an intensive scientific inquiry process of the philosophical, historical, economic, psychological, and sociological implications of various aspects of education. 2. Education is considered both a science and an art. As a science, it has a body

of knowledge. Since education depends on the body of knowledge, it must be enriched and strengthened by adding scientific knowledge. Teaching as an art aims at the effective transmission of knowledge. For example, "How can teachers play an effective role inside and outside the classroom?" is an important question for educators. Careful research efforts are needed to improve teacher effectiveness. 3. The slogan of democratizing the education system led to the expansion of the education system. It has caused many problems, such as individual difference problems, enlargement problems, building problems, and discipline problems. Solutions to such problems by trial and error or by experience from tradition and authority have often led to erroneous results. Needs research-based solutions. 4. The need for educational research is increasing as the concept of education changes. The International Commission for Educational Development, in its report "Learning To Be" (UNESCO 1972, p. 143) emphasizes that: "Going forward, education can no longer be defined in terms of fixed content that needs to be absorbed, but must be thought of as the process by which people learn to express themselves, communicate, and question the world. To experience and to realize more and more and more and more and more and more and more of ourselves, it is not only economics and sociology, but also that human beings are imperfect beings and that we can only develop ourselves through continual learning. It is also rooted in the findings of psychological research that show that it is possible, if so, education takes place at all ages, in all situations and circumstances: it is complete and lifelong, returning to its true nature, and has been around for centuries. Transcending the limits of the institutions, programs and methods imposed on them by formal and traditional forms of education into informal and innovative systems based on ecological and cybernetic models; with the rapid development of science and technology, there have been great changes in the last 20 years. Education must play a key role in enabling us to embrace change smoothly. This can be achieved by improving existing curricula, textbooks, teaching methods and assessments.

### **Levels of Educational Research** **Basic or Fundamental Research**

Fundamental research is intended to complement organized scientific knowledge and does not necessarily immediately lead to results of practical value. Fundamental research is primarily the formulation of a theory or contribution to an existing body of knowledge. Its main goal is to obtain and use empirical data to formulate, extend, or evaluate theories. Some classify this research as pure or basic. This research draws its patterns and spirit from the natural sciences. It represents a rigorous, structured type of analysis that uses careful sampling techniques to extend knowledge across groups and situations, and develops theory by discovering established generalizations and principles. . The main purpose of basic research is to discover knowledge just for knowledge's sake. She cares little about the application of the results or the social benefits of the results.

### **Applied Research**

Applied research aims to solve pressing, concrete and practical problems. It is done under real-life circumstances in relation to the current problem. The purpose of applied research in the sense of supplementing scientific knowledge is only of secondary importance. It highlights the issue here and now. Applied research also uses scientific research methods. It has most of the characteristics of basic research. However, its methodology is not as rigorous as basic research. Moreover, their findings should be evaluated in terms of local applicability rather than universal validity. The main objective of applied research is to contribute in a practical way to improving school practice and increasing teacher effectiveness. Most problems faced by teachers, policy makers, and administrators are solved by applied researchers.

### **Action Research**

Action research is aimed at immediate application rather than theory development or general application. I've been focusing on this issue, but now it's a local setting. Their results should be evaluated for local applicability, not for universal validity. Its goal is to improve school practices while improving those who seek to improve their

practices. It means combining research processes, habits of thought, the ability to work harmoniously with others, and professionalism. If most classroom teachers are involved in research, it will likely be action research. Modest research can be done to improve local educational practices. Many teachers are unlikely to have the time, resources, or technical background to delve into the more formal aspects of research work. Basic research must continue to make an essential contribution to behavioral theory and applied research in order to improve educational practice. However, these activities are primarily a function of research professionals, many of which are funded by universities, private and government agencies, professional associations and charitable organizations. Many observers dismissed behavioral research as little more than the application of common sense or good management. But whether or not it deserves the word research, it applies scientific thinking and methods to real problems, and greatly reduces the teacher's subjective judgments and decisions based on folklore and limited personal experience. To conclude this discussion, it is important to recognize that studies can be conducted at varying levels of complexity. Serious research studies can be a simple descriptive mode of fact-finding leading to useful generalizations. In fact, much of the early work in behavioral science helped provide necessary generalizations about the behavior and characteristics of individuals and groups. Subsequent experimental studies of a more complex nature required this basic information to propose hypotheses for further analysis.

### **Steps in Educational Research**

Because educational research is the application of scientific methods to the study of educational problems. Therefore, the teaching and research procedure is almost the same as that of the scientific method. Below are the steps commonly found in educational research.

**1. The research problem.** Educational research begins with the selection of problems. Below are the areas to look for problems for research. Classrooms, schools, homes, communities, and other places are

obvious sources. b. Social development and technological change are constantly creating new research opportunities. c. Records of previous investigations should also be referenced. This includes educational research encyclopedias, dissertations, and similar publications. Classroom discussions, seminars, and exchanges of ideas with faculty and fellow students and students give rise to many exciting problems to solve. e. Advice from experts, research supervisors, research guides, or experienced scientists can also be helpful.

**2. Formulation of hypothesis.** Educational research requires the use of carefully formulated hypotheses. This can be formally stated or implied. hypothesis. A hypothesis is a tentative assertion based on available evidence or a reasonable guess that a researcher seeks to prove through research.

**3. Methods to be used.** Choosing which research method to use is paramount in the research process. Refers to the general strategy followed when collecting and analyzing the data needed to solve a problem. Research methods generally fall into three categories: (1) historical, (2) descriptive, and (3) experimental. The methods used in research depend on the nature of the problem and the type of data required to answer questions related to the problem.

**4. Data Collection.** Whereas Research Methodology describes the general approach to the problem, this step describes the procedures and techniques used to collect the data. This relates to the type of sample selected for the study and the selection and development of data collection tools such as tests, questionnaires, rating scales, interviews, observations and checklists.

**5. Analysis and interpretation of data.** Good research is characterized by careful analysis and interpretation of data. This includes the selection of appropriate quantitative and quantitative techniques used to process data collected for research.

**6. Reporting the results.** This is the final and most important step in the research process. It is characterized by carefully formulated inferences, conclusions, or generalizations. Researchers must be able to communicate their methods, results and conclusions as objectively as possible to

others who may be interested in their research and its results.

### **Challenges of Hospitality and Tourism Research in Present Educational Context**

**The political nature of education:** The issue of effectiveness of educational research begins with the political partisan character of education. Public education is a social structure that is accommodated and regulated by governments. It is difficult to examine the social and political ideals embedded in the education system in the form of educational goals and standards.

**The problem of lack of definition of research as a science:** From the beginning, there was an expectation that educational research would solve educational problems and influence educational practice. In this respect, educational research in the social sciences is often neglected and devalued compared to science-based research.

**The dislocation between educational research and the practice of education:** A third argument that explains the inefficiency of educational research has to do with professional practice. There is a gap between research embedded in the education system and teaching practice in schools, colleges and other institutions. For the most part, educational processes, assessment techniques, and ongoing practice of teaching-learning materials deviate from research proposals.

**There are many complexities beneath which Hospitality and Tourism educational research works.**

- The learning and teaching experience should be research and evidence-based, but at the risk of theory, ideology, convenience and prejudice.

- Although the primary purpose of research in education should be to promote freedom, democracy and equal opportunity, in practice biases and other influences affect researchers.

- Education has the sole responsibility of developing active citizens. In practical contexts, however, there is a risk that following the ideological path narrows options, undermines the very purpose of education, and makes the system obsolete and less future-oriented.

- Learning is complex and success is influenced by many factors, including social and family background, personality, age, gender and location.

Theories should be applied to understand the availability of funding and resources, the impact of national policies and regulations, the depth of knowledge and level of understanding of researchers, the implementation of policies and their willingness to apply research findings to real-world scenarios. It must be combined, tested and challenged. Administrators, policy makers, teachers, ethical issues, plagiarism, and many other issues are also relevant to research in contemporary contexts that need to be transposed to ensure the positive impact of research in education.

**It is necessary to include Hospitality and Tourism research curriculum with the following items:**

1. Understanding the research process.
2. Understanding how scientist work on problems
3. Learning lab techniques
4. Developing skills in the interpretation of results
5. The ability to analyze data
6. The ability to integrate theory and practice.
7. Use of Library resources

The findings of the research study may have implications for policy and future project implementation. The knowledge economy sees knowledge as the most important form of capital, and university research is one of the most important sources of new knowledge. Another important role of research-intensive universities is to set standards and benchmarks for research quality. Research-intensive universities work hard to attract the best and most talented educators and researchers to maintain their position. In modern society, research studies are receiving unprecedented attention and attention, and research methodologies provide effective solutions to problems. More importantly, the research questions posed by researchers and the methodologies they use to find solutions are the most valuable parts of their research work. Time, money, and patience may be researchers' biggest limitations. Those who are enthusiastic about

research must overcome these barriers to tackle their work.

The great miracle is how technical knowledge is created and disseminated in Japan. Hidenori Fujita examines the characteristics of Japanese schools and educational institutions, and strategies for combining research and practice. These are the most likely to contribute to the relatively high performance of Japanese students in international comparisons. He discusses his three characteristics of Japanese education that relate to the use of systematic evidence in educational practice.

1. Centralized decision-making for educational policy and practice;
2. Improved prestige, pay, and training of teachers;
3. Many institutional mechanisms for interaction between practitioners and researchers.

The major economic and social contributions of the university are the movement of its graduates into the wider labor market, the attainment and application of the knowledge, skills and attitudes it has transmitted, and the direct and indirect contribution of the research it conducts derived from the application of Transfer of information technology to other sectors nationally and internationally. Research-rich universities with international reputations can also raise funding well beyond their region.

Often, when discussing a research project with a consultant or colleague, you will find that you need to add new research questions, omit variables, or make other changes. To ensure a holistic approach to the research question, it is important to look at research methods and data from multiple angles. A major advantage of attending a university with strong research ties, especially for master's students, is the opportunity to write quality dissertations through teaching. Students who work side by side with professors in research activities learn side by side as partners, while undergraduates have the unique opportunity to become researchers themselves. These experiences are invaluable and will definitely boost your employability after graduation. The openness of a university contributes to the vitality of

the society and culture in which it exists by providing a safe environment to encourage creativity, questioning and the freedom to try new things. It empowers universities to act as independent critics of society and helps create an environment in which ideas and technologies can thrive.

### **Conclusion**

#### **Why Hospitality and Tourism Research is Important?**

A Relevant, Modern Curriculum Doesn't Work Without Research

Existence.

An opportunity to make a difference and open to all you will succeed with different approaches and perspectives.

Research fosters the growth of professional excellence.

A faculty member critical to providing excellent student education and training.

When our next generation/young generation conducts research

meticulous processes and requirements of critical thinking skills,

They will be better students and the best will be prepared for them

Challenges and opportunities for the future.

Mainly research, discovery, enlightenment, evaluation, the knowledge, ideas and techniques necessary to promote the future of society and mankind.

One of the University's key tasks was to make these changes possible. By educating large segments of the population, broadening their horizons, generating new insights, new technologies and options for action through research, and providing a wealth of knowledge and services that can be used throughout society. Significant progress has been made, allowing reforms to adapt teaching methods to their needs. She contributes immeasurably to the understanding of different cultures and the impact of cultural values, attitudes, ideals, personal development and human behavior. Research is needed to further explore the potential impact of decentralization. In our technological society, each gender is expected to play multiple roles and promote equality goals for the development of strong self-concepts for women and girls. You can influence a large number of students in a

way. Indeed, this is a unique opportunity that educators can offer, giving students a thirst for knowledge to the point where they want to make discoveries of their own, rather than just consuming existing knowledge. Indeed, developing talented young students into current and future generations of researchers is another way faculty efforts in the classroom can yield long-term research outcomes. Needless to say, the spirit and practice of the university is meritocracy. Universities are not simple tools of social engineering or engines of economic growth, but their influence is essential for sustainable social and economic development. Universities have the autonomy and freedom to pursue ideas and research, without constraints imposed by the need for immediate utility or rapid results, wherever the ideas and research may go.

#### **References**

1. Best, J.W., & Kahn, J.V. (1998). Research in Education.
2. Boykin , L. (1972). Why Research in Education?
3. Kapur, Radhika. (2018). Significance of Research in Education.
4. Mortimore, P. (2000). Issues in Education Research: Problems and possibilities. Oxford Review of Education.26:3-4, 503-507.
5. Morris, B. (1967). The Role of Research in Education. The Irish Journal of Education / Iris Eireannach an Oideachais, 1(1), 5-14.
6. Ponce, Omar. & Pagán Maldonado, Nellie. (2017). Educational research in the 21st century: challenges and opportunities for scientific effectiveness. International Journal of Educational Research and Innovation. 8. 24-37.
7. Pramodini, D.V., & Sophia, K.A. (2012). Evaluation of Importance of Research Education. International Journal of Social Science & Interdisciplinary Research, 1(9), 1-6.
8. Rathnakar, G. (2018). Research in education its necessity of and importance - a study.
9. ICTACT JOURNAL ON MANAGEMENT STUDIES.4 (1), 675-678.

## **A Study on the Significance of Work Life Balance of the Employees in the Sector of Hospitality and Tourism**

**Dr. Dhanraj Kalgi<sup>1</sup> Dr. Vijaykumar Dhole<sup>2</sup> Dr. Akhilesh Kumar Pandey<sup>3</sup>**

<sup>1</sup>Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

<sup>2</sup>Dean, Sinhgad Institute of Business Administration & Research, Pune

<sup>3</sup>Academic Counsellor, Indira Gandhi National Open University

**Corresponding Author- Dr. Dhanraj Kalgi**

**DOI- 10.5281/zenodo.7264916**

### **Abstract:**

Work-life balance is a work-life balance phenomenon that has become more and more attractive in recent decades. Promoting work-life balance is proving to be a difficult and daunting task for the hospitality industry. Work and income have become important factors for people, and as a result, they unwittingly sacrifice work-life balance in favor of more favorable incentives and opportunities. The hospitality industry is known for its demanding working hours, emotional work and highly stressful work environments. Hospitality professionals expect their employees to do their best despite the personal crises they face. We encountered major obstacles in trying to balance the needs of our employees. As the world's largest sector, the hospitality industry is greatly impacted by positive or negative changes occurring in the area of work-life balance. It's a well-known paradox that people working in the industry have different views on work-life balance issues, even though many agree that positive progress has been made. This research paper is an overview of research in the field of work-life balance. In the 21st century, work-life balance is of paramount importance in today's work scenario for professionals struggling to prioritize their personal and professional lives. This global shift in the work environment is impacting how organizations and day-to-day operations are managed. Employee expectations and behaviors regarding work and home responsibilities are also changing. These changes have forced organizations to implement better working conditions and various employee benefits and policies to achieve a healthy work-life balance. Achieving a healthy work-life balance isn't something you can do in a day. Instead, it is an ongoing process that can be achieved through the joint efforts of the organization and its employees. If there is a win-win situation, it is a mutual compromise struggle. In today's fast-paced work environment, most of us are under pressure to do more, faster, and more with fewer resources. The pressure to succeed seems to be greater than ever. While doing the work of two or three people at work, we are being exemplary parents, enriching our personal lives, raising perfect children, enjoying our hobbies, volunteering in our communities, and taking care of our bodies and minds. , are expected to improve themselves and heart. Finding balance is a great goal, but not a realistic one for most people. Instead, it has become just a "to do" on an ever-growing guilt-inducing list. Sometimes you have to work more than usual, other times you have more time. Sometimes you can focus more on your hobbies and passions. Otherwise, other priorities take precedence. Sometimes you really take care of yourself and other times it loosens up a bit. There are times when we give our family more attention, and times when we have less energy and less time each day to focus on them. The goal of balance is to live a balanced life, regularly renewing and refreshing your creative energy so that you can reach your highest potential. If you have enough time to pursue both interests, you can achieve a balanced life. But when one side of your life feels like it's using too much energy, it can make you feel stressed, less productive, and strain your relationships. This white paper examines the risks associated with work-life balance, the benefits of a healthy work-life balance, and the strategies you can adopt to maintain a perfect work-life balance.

---

**Keywords:** Work Life Balance, Stress Management, Employee Productivity, Hospitality and Tourism

---

## **Introduction**

Across organizations and homes, the challenge of work-life balance is raising awareness among many employers and employees. In today's fast-changing society, HR professionals can have a positive impact on a company's bottom line, boost employee morale, retain employees with valuable company knowledge, and stay abreast of workplace trends. I'm looking for a way to keep up. This article provides HR professionals with historical organizational and employee perspectives, data, and possible solutions to work-life balance. His three factors – global competition, personal life, family values and an aging workforce – pose challenges that make work-life balance difficult. This article provides a perspective that HR professionals can help organizations capitalize on these factors by leveraging work-life initiatives to gain a competitive advantage in the market. Work family: A term that was more common than it is today. The current trend is to use titles containing the phrase work-life to either use broader work-life connotations or relate to specific support areas (quality of life, flexible work options, life balance, etc.). It is to use a designation to do. Work-family conflict is a back-and-forth between work and home responsibilities. Work-life balance is the ability to manage resources to meet the demands of family and work so that individuals can demonstrate that they can participate effectively in both areas of life. Work-life balance from the perspective of employees: The dilemma of managing work commitments and personal/family responsibilities. Work-life balance from an employer's perspective: The challenge of creating a supportive corporate culture that allows employees to focus on their tasks while at work. Family-friendly perks: Social benefits that give employees the freedom to fulfill their personal and family obligations without jeopardizing their professional responsibilities. Work-life balance is learning the act of balancing paid employment with other activities that are important to us, such as spending time with family, sports and leisure, volunteering, and education. And

improving the balance between our work and non-work lives can bring real benefits to both employers and employees. It helps build strong communities and productive businesses. In a society full of conflicting responsibilities and obligations, work-life balance has become a major issue in the workplace. Three main factors contribute to the importance and concern of taking work-life balance seriously: global competition; a renewed focus on personal values of family life; and an aging workforce.

## **Objective of the Study**

To study the significance of work life balance of the Employees in the sector of Hospitality and Tourism

## **Research Methodology**

The current research seeks understand the significance of work life balance of the Employees in the sector of Hospitality and Tourism. This is a conceptual study based on a literature review.

## **Sources of Data**

Secondary data collected from journals, research articles, and publications.

## **Review of Literature**

**Joanna Hughes, Nikos Bozionelos (2015)** aims to explore the views of male workers in male-dominated occupations on work-life balance issues. Work-life balance was found to be not only a source of concern, but also a major source of participant dissatisfaction. Additionally, participants demonstrated a clear link between work-life balance issues and withdrawal behavior, including exhaustion and unreasonable sick leave.

**Kanware et al. (2014)** on work-life balance and job satisfaction burnout in the context of the information technology (IT) and IT-enabled services (ITES) industries. Burnout is measured using three dimensions: meaninglessness, low motivation, and exhaustion. Male employees were more satisfied with their jobs than female employees. Interestingly, the IT group had lower levels of work-life balance and job satisfaction and higher levels of futility, motivation and fatigue compared to the ITES group. We show that work-life balance and job satisfaction are positively correlated, while demotivation, fatigue, and feelings of

worthlessness are negatively associated with job satisfaction.

**Yadav et.al (2013)** found that respondents reported an average level of work-life balance and were generally satisfied with their working conditions. Findings show that balancing care and work impacts career development. Manager behavior as a barrier for members to achieve adequate work-life balance and WLB under consideration are important determinants of intrinsic aspects of job satisfaction. Most employees enjoy their work and feel comfortable at work. Studies have shown that it is important for employees to maintain a healthy work-life balance.

**S. Padma et.al (2013)** emphasized the role of family support in work-life balance, and this study indicates that family support plays an important role in work-life balance says. Employees with adult children can more easily compensate for this than those with younger children. Similarly, employees who have aging parents/in-laws to manage their health have lower work-life balance than their peers. The study concluded that poor balance can lead to higher absenteeism, lower job satisfaction, and sometimes higher employee turnover. Organizations with a collaborative work culture can help you find the right work-life balance.

**K. Santhana et.al (2013)** highlighted four factors that distort work-life balance. Marital status, working hours, need for flexibility, additional working hours, and overtime. This is unique to married women, as the extra work at the organizational level robs them of the time they need to care for children and other dependents. Of the factors broken down into components, the factors listed above alone influence work-life balance by over 38%. The survey further shows her three factors: number of dependents, childcare, and reasons for working overtime. H. Married women's work-life balance can be affected by the number of household dependents. This is compounded by the number of small children that have to be cared for. The more dependents you have, the lower your reward and vice versa. A supporting executive officer is always helpful in minimizing work-life balance consequences.

**Jain (2013)** conducted a comparative study of work-life balance among CAs, doctors, and teachers and found that working conditions, time management, family support, and role expectations were most associated with professional work-life balance found to be an influencing factor. Researchers also found that work-life imbalance affects professional job satisfaction. Findings show that there are differences in work-life balance among CAs, doctors, and teachers, and these differences are also found in family and professional status.

**V. Madhusudhan et.al (2013)** identified factors responsible for work-life balance, including dependent people, time flexibility, role clarity, employee support, family culture, working hours, and head support. I have discovered that work life balance is the cause. Management should focus on time flexibility, role clarity, employee support, working hours and supervisor support to manage work-life balance.

**G. Kanthi (2013)** found that a significant number of respondents expressed feeling positive or confident enough to perform their daily tasks smoothly/comfortably. Some respondents said they were unable to balance work due to the economy, family issues, inefficiency and lack of commitment. Studies show that it affects employees in the form of long working hours, forced overtime, stress-related work fixation, inflexible working hours, overtime, turnover, frustration, low morale and low motivation. It has been shown that other factors that give to both work and life imbalance. Happy, healthy employees secure more sales, make better decisions, and contribute positively to company goals.

**Pandu et al. (2013)** analyzed the work-life balance of a woman working in IT and ITES based on demographic information, workload, and work environment, attitudes toward work, dependents, and absenteeism. Sectoral regression analysis showed that feelings about work, family, and absenteeism were the strongest factors in workers' sense of balance. However, no significant association was found between work environment and work-life balance.

**Madiperi and others. (2013)**, in a study of the causes of work-life balance in school

teachers, showed that most teachers experience stress from too many job demands, working conditions, and long working hours. The multiple roles women play at work and at home reflect boredom, frustration and stress, leading to work-life imbalance. Marriage relationships, attitudes, husband and family cooperation are powerful influencing factors that create imbalances among working women.

**Ajit (2013)** Work-life balance on IT staff role prioritization, show that a better work-life balance policy means that employees are able to fulfill their professional and personal duties simultaneously. I was. The relationship between work-life balance policies and role prioritization was important. This study was conducted using variables such as travel time, depression, temperament and work to identify the relationship between work-life balance and stress management.

**Kumari Lalita (2012)** found that WLB factors such as psychological stress, organizational change, working hours, leadership style, job responsibility, overwork, work-life conflicts, and personal financial problems affect job satisfaction. It has been shown to give and predict. From the data, it can be concluded that overall WLB policies are significantly positively correlated with job satisfaction, indicating that improved work-life balance increases job satisfaction. The results also show changes in perceptions of work-life balance and job satisfaction. In the past, pressures at work and demands at home often compete with each other, making it more difficult for employees to balance.

**V. Varatharaj et.al (2012)** stated that work-life balance includes achieving a balance between professional work and other activities to reduce friction between official duties and family life. said. Researchers found that the majority of respondents felt comfortable at work, regardless of minor personal and workplace stimuli. Work-life balance increases efficiency and increases employee productivity. You will be happier at work and in your personal life. According to Fatima et.al (2012), factors affecting work-life balance, partner support, peer support, and work resources were positively correlated with work-life balance, and unfair criticism

at work was associated with work-life balance. is negatively correlated with Balance. Research shows that male employees are more satisfied with their work-life balance than female employees when it comes to partner support. Female employees have a heavy burden of work due to childcare, and it was found that women's burden on the elderly is twice as much as that of men.

**Tariq (2012)** surveyed the vast amount of knowledge related to work-life balance theory and practice from an extensive meta-analysis of the literature and found that work-life balance is important for both organizations and their employees. Did. scenario. It helps organizations improve productivity, efficiency, competitiveness and morale, thereby gaining a competitive advantage. Similarly, employees benefit from work-life balance initiatives through increased job motivation, increased satisfaction, empowerment, and ultimately greater engagement with the company.

**Thriveni et.al (2012)** examined the effect of demographic variables on work-life balance and examined all demographic variables (age, experience, marital status, income, family type, number of dependents, relative to work). recognition). - Employee life balance. This indicates a significant association between demographic variables and work-life balance.

**Santhi and Sundar (2012)** in a study on the work-life balance of female employees in the IT21 industry, analyzed that programs conducted by her IT company in Chennai satisfied different categories of employees in different ways. Data was collected from her 350 female employees working at various of her IT companies. The survey measures respondents' satisfaction with various work-life balance parameters. His 55% of employees are very satisfied with their current work-life initiatives.

**Ignacia Levy (2012)** in her study of working mothers and their work-life balance, found that while the age of the child is not so important, childcare support is an important factor in determining whether work-life balance is maintained. showed that there is The study also highlighted another

parameter that negatively impacts work-life balance, called role conflict.

**Chawla and Sondhi (2011)** in a survey of teachers and her female BPO professionals, showed that professional autonomy and organizational commitment are positively correlated with work-life balance. The study found that more proactive schools/BPO companies that value the contribution of actively engaged and contributing people need to provide more autonomy to their employees to maintain work-life balance was shown. Workload and work-family conflicts were suggested to be negatively associated with work-life balance.

**Murphy and Doherty (2011)** showed that it is impossible to measure work-life balance in absolute terms, as personal circumstances influence perceptions. Long working hours and presenteeism are “part of the job” when accepting higher-level roles. However, modern technology helps this to some extent by allowing senior management to reach out to them even when they are not in the office.

**Albertsen et al. (2008)** investigated the relationship between working hours and work-life balance and found a strong association between increased working hours for women and decreased work-life balance. For men, the results were less conclusive, but the mixed-sex group strongly supported an association between overtime and poor work-life balance. Abnormal working hours have been found to negatively affect work-life balance, and there is some evidence to suggest that it negatively affects children's well-being and marital satisfaction.

According to **Dessler (2006)** unlike most men, women also have to make 'work versus family' decisions. Because child-rearing and housework are still women's responsibilities. Balancing work and family is a big challenge for women. A manager's behavior and attitudes play an important role in her work-life balance.

**Bradley.L et.al (2006)** explored key strategies for negotiated leave for personal reasons, special arrangements for dealing with emergencies, engagement, satisfaction, commitment, and work-life. We have identified the factors that influence work-life balance from a management perspective. Employee balance.

**Jane et.al (2004)** have explored relationships between work-life balance, work non-work conflict, hours worked and organizational commitment concluded that, although graduates seek work/life balance, their concern for career success draws them into a situation where they work increasingly long hours and experience an increasingly unsatisfactory relationship between home and work. The article discusses the causes and potential consequences of this predicament and in particular how work non-work conflict is linked to hours worked the state of the psychological contract and organizational commitment. It highlights the role of organizations' policy and practice in helping to manage the relationship between work and non-work and the development of organizational commitment through support for younger employees' lives out-of-work and effective management of aspects of the psychological contract.

**Hymans and Summers (2004)** found major problems associated with practical implementation of work-life balance i.e. unevenness of adoption across different sectors and organizations, lack of formalization of policies at organization level, restricted employee's voice, primary focus on business needs than on employees, no evidence of reduction in working hours, tangible and intangible work interruptions into domestic life. Finally, domestic responsibilities are still conducted primarily by women irrespective of their employment status.

**Varuhas. J. et.al (2003)** analyzed that organizational culture is the most important factor influencing work-life balance. If the organizational culture isn't really family-friendly, the measures generally have little effect. From the above studies, it is clear that measuring work-life balance and implementing work-life balance policies are necessary to meet the needs and desires of individuals in their work and personal lives.

#### **Observations and Discussion Factors affecting poor work-life balance of hotel employees:**

##### **• 24/7 Service Industry:**

The hotel industry runs his round the clock. Therefore, employees have to work shifts. Shift hours may be irregular, discouraging

employees from working that shift. Additionally, if an employee on a particular shift is on vacation, the duties must be performed by someone from the previous shift. In such cases, the person who worked the previous shift has to work 2 shifts several times in a row in the 3rd shift. As this is prevalent in the industry, employees generally have to work long hours, which has a significant impact on WLB. They often have to cancel personal appointments due to unforeseen professional circumstances.

• **Seasonal opening:**

The industry operates around the clock, but faces peak and off-peak seasons throughout the year, depending on hotel type, business and clientele. However, it is not really possible for hotels to manipulate their staff according to seasonal requirements. It is common for hotels to hire employees for average needs. As a result, there is a significant shortage of staff during peak periods, which may be supplemented by temporary employment. But for obvious reasons, casual jobs cannot replace existing employees. Therefore, full-time employees have to do a lot of work during the busy season. These employees often have to work long hours, from 16 hours for her to 36 hours for her at a time. Also, during the high season, it becomes very difficult to get a week off, and in such a situation, employees work together for weeks without a break. Missed weekly breaks may be reclaimed in the future, but it will be very stressful and difficult for them. This obviously has a direct impact on the WLB situation.

• **Labor shortage:**

As already mentioned, due to the seasonal nature of business, the industry is working with fewer workers compared to its needs. Additionally, the challenge of working with unions and other commitments related to employment is preventing the industry from hiring more workers during peak seasons. It creates a huge imbalance in family and social life.

• **High turnover:**

The industry is known for its high turnover rate. In some cases, turnover can be as high as 25-30%. With this high volatility, filling vacancies with the right people is a big challenge for HRD. Finding the right person

can take time, putting pressure on existing employees to share the burden of those who have left. Since this is an ongoing and recurring situation, there are many uncertainties in employee working hours. Also, due to accumulated stress and limited time for personal life, extra burden and time are affecting family and personal life.

• **Job Instability:**

The hotel industry as part of the service industry deals with providing services to guests. The biggest challenge is meeting the diverse demands of guests. The ever-changing and unpredictable nature of these requirements makes hotel employees' jobs less secure. Unlike other industries where work-in-progress tasks can be handed off to employees on the next shift, in the hospitality industry employees leave guest relationships incomplete so that guests are fully satisfied. You cannot leave your job until or carry it over to your next shift. Employees may have to work longer hours. As such, job insecurity is a major factor in hotel employees' inconsistent working hours, further hampering WLB.

• **Hard work:**

Working in a hotel is very exhausting, especially because of the constant contact with customers. Staff are expected to be hardworking, active, engaging and as fresh as they are in dealing with guests. Whether your employees have just arrived at work properly or are continuing to work two shifts, they should be comfortable on their faces so they don't feel overworked or tired after long hours of standing or walking their shifts. You have to put a smile on your face. This is a very stressful job and the biggest challenge for hotel employees, and the problem doesn't stop there. This employee comes home exhausted and spends most of his time relaxing or sleeping. Therefore, he has little time for his family, which causes frustration and cuts him off from this family and social life.

• **Constantly changing and unusual work shifts:**

It is said that the hotel industry never sleeps. Therefore, in such scenarios, employees have to work different shifts based on their job demands. Each department has a small number of employees, so each must be willing

to work any shifts, and these shifts can change daily or weekly, depending on the nature and requirements of the job. Most of the time, employees are not sure about their shifts for the next day, so they cannot make personal appointments. In addition, shifts may be different, such as evening, break, and cemetery shifts, if employees are expected to return home at unusual times. The hotel offers a home visit service for night shift women, but this service is not for men. As a result, remote employees may prefer to wait at the hotel until the early hours of the morning, further shortening their break time.

#### **Aspects of work-life balance in hotel industry:**

- **Scheduling Conflicts:** The most important aspect of her WLB for hotel employees is scheduling conflicts. A common scheduling conflict occurs when two events compete for an employee's attention. Incidents of this kind can stress staff and negatively impact productivity. Hotel employees often face the problem of not having time for their personal lives due to unstable and long working hours. Moreover, most of the time the shift change makes him not have enough rest between two shifts, which leads to stress and frustration, which may lead the employee to quit the job. Below are the most common reasons for conflicting appointments, busy work schedules, or lack of time for personal and social isolation.

- **Pressure of multiple roles:** (Work-family conflicts, home-work conflicts) Work-family interference and work-family conflicts are "a form of conflict between roles in which the pressures of work and family roles are incompatible and one cannot participate in work." is defined as One role [home] is made more difficult by participating in another [work]" (source – Greenhaus and Beutell, 195, p. 77). Work-family conflicts arise when work experiences interfere with family life. B. Long, irregular or inflexible working hours, overwork and other forms of work stress, interpersonal conflicts at work, long business trips, job changes, uncooperative supervisors or organizations. . Conflicts between family and work arise when family experiences interfere with work. B. Presence of young children, primary responsibility for

children, responsibility for caring for the elderly, interpersonal conflicts within the family, unsupportive families. For example, parents can take time off from work to care for a sick child. Work can interfere with home and family life. However, workaholics can negatively affect relationships with partners. Impact of work-life balance on hotel employee productivity.

When your brain is tired or stressed, it doesn't cope very well and they dissolve. Studies show that a tired brain looks the same as a restful brain. A focused, organized and energetic mind gets more done in less time. A report by the Corporate Executive Board, which represents his 80% of Fortune 500 companies, found that employees who felt their WLB was good worked 21% harder than those who didn't. I was. Work-life policies should support working in the most effective way, including reducing stress, increasing energy, improving time management skills, improving morale and commitment, and making it easier to manage work and personal responsibilities and increase people's efforts. Higher job satisfaction means more engagement and better results. From this, it can be summarized that the employee's good WLB has a large positive impact on productivity. Measures taken by the hotel industry to improve the WLB situation for employees.

The hotel industry recognizes the importance of improving an employee's WLB situation. Therefore, the hotel has developed a policy and taken steps to address this issue in the following ways.

- **Provision of additional weekly offs:** Recently some hotels have introduced a system of giving 6 weekly offs in a month which means that the employees get a two day off in every alternate week. This practice is highly welcomed by the employees since they can devote more time for their family and friends.

- **Optimum work timings:** The hotel recognizes that working long hours is the number one factor that exacerbates an employee's WLB. To address this issue, hotel management has taken conscious measures to discourage long hours and streaks. Supervisors are instructed to effectively manage task forces and assign optimal

working hours to employees. Most hotels, especially international chains, have instructed their employees not to work overtime, and in compelling circumstances, supervisors may allow employees to work overtime must obtain prior management approval. This limits unnecessary rewards over time, and bosses are more cautious about managing their subordinates' time.

- **Effective Training / Counseling:** The industry focuses on effective training as a tool for employees to manage work stress and manage multiple roles effectively. Employees are encouraged to work smart and spend quality time at work rather than a lot of time. Training also helps employees manage their time effectively. Employees receive regular counseling to raise awareness about mental health and what it means in the long term.

- **Provision of flexible work timings:** This practice applies to employees who work in departments where workloads change daily. Banquet department employees were free to work flexible shifts based on the department's schedule. The role of this department is to organize events, company meetings/events. Times for these events are not fixed and may vary daily. Therefore, if employees working in this department have the opportunity to work flexible hours, they can be allowed to work different hours with deadlines. This gives employees the freedom to work flexible hours and eliminates unnecessary staffing during less busy times of the day. However, for obvious reasons this possibility cannot be extended to all employees.

- **Organizing family get-togethers / spouse clubs:** This is an important tool for dealing with work-family conflict issues. When family members are invited to the hotel for meetings, they have the opportunity to connect with other employees' families and get a sense of the spouse's work culture. This practice goes a long way in bringing employees closer to their families.

### **Conclusion**

In light of available research, it is clear that work-life balance issues persist due to a variety of factors, including work culture and environment, HR policies, job instability, and compensation packages. Employees face a lot

of stress when it comes to balancing work and personal life, which not only affects their performance at work, but also their performance at home. Employees need to excel in both career and home to set goals and achieve work-life balance. It requires the efforts of many partners: employees, the organizations they belong to, their families, friends, and the society in which everyone is embedded. Their study found that age, marital status, and number of dependents have a significant impact on work-life balance. This supports the findings of studies that include various demographic variables such as gender, age, marital status, education and income of employees have a significant impact on their work-life balance. In recent years, personal and family life have become important values for individuals. Employees are willing to sacrifice their family and personal lives for work. Over time, employees are beginning to change their working hours and are willing to dedicate all their time to work learning and managing the complexities of modern life so that they can balance their personal and professional lives. The study also supports the idea that work-life balance has a very strong impact on an employee's family. As a result, people are looking for options that allow them to have both their personal and professional lives, and are looking for ways to balance the two. WLB is about maintaining a sense of balance, or overall harmony in life. The research also shows that compensation factors such as salary and financial benefits have a significant impact on work-life balance. The more satisfied an employee is with their salary package, the greater the effort to maintain his work-life balance. This research shows that employee-centric work-life balance solutions can help organizations design and enforce work-life balance policies. Helps reduce overtime, stress and workload at work while increasing flexibility and family and leisure time at home. WLB impacts professional success and personal well-being and organizations need to take the WLB agenda seriously. Employee well-being and satisfaction should be an organization's top priority.

**The findings can be summarized as follows.**

The findings of the research can be concluded as under:

1. Long and strenuous working hours and shortage of manpower are the major factors responsible for poor WLB amongst hotel employees.
2. Scheduling conflicts and pressure of multiple roles are the major components of poor WLB of hotel employees.
3. The hotel industry is concerned about the issue related to WLB of its employees; however, the measures taken to improve the situation are not very effective.
4. Employment practices pertaining to areas of WLB are rated as second most important on the basis of its ability to enhance employee productivity in hotels.
5. Employees belonging to the 'Manager' category feel that Employee leisure clubs and family get-togethers are the most effective measures to improve WLB that would lead to better employee productivity.
6. Employees belonging to the 'Associate' category feel that additional leaves / holidays / weekly offs and fixed number of working hours are the most effective measures to improve WLB that would lead to better employee productivity.

#### **Suggestions and Recommendations:**

Based on the responses received by the employees of the hotel industry on the issues related to WLB in hotels, the following suggestions and recommendations can be made:

1. The management of hotels should analyze the issues related to the WLB of its employees and should design and implement policies to resolve the issue.
2. Management of hotels should focus on provision of employment practices pertaining to WLB that have a greater impact on enhancing productivity of its employees.

#### **References**

1. Ajith, M. & Patil, V. S. (2013). An Empirical Study on Work Life Balance for Role Prioritization of IT Employees. *RVIM Journal of Management Research*, 5(1): 31-40
2. Albertsen, K., Rafnsdóttir, G.L., Grimsmo, A., Tómasson, K. & Kauppinen, K. (2008). Workhours and Work Life Balance. *SJWEH Suppl.* (5):14-21.

3. Chawla, D. & Sondhi, N. (2011). Assessing Work-Life Balance among Indian Women Professionals. *The Indian Journal of Industrial Relations*, 47(2): 341-351.
4. Dessler, G. (2005). *Human Resource Management*. New Jersey: Pearson Education.
5. Fatima, N. & Shahibzada, S.A. (2012). An Empirical Analysis of Factors Affecting Work Life Balance among University Teachers. *Journal of International Academic Research*, Volume 12, No.1.
6. Gautam, A. & Khurana, C. (2017). Emotional Intelligence: The essential ingredients to employees' professional success. *Vidya International Journal of Management Research*, Vol. 5, No. 1, pp. 78-88.
7. Gautam, A., & Jain, S. (2016). Performance management system in telecom industry: comparison of Indian public and private sector undertakings. *International Journal of Research in Commerce, IT and Management*, 6(12), 1-5.
8. Gautam, A., & Khurana, C. (2017). Emotional intelligence as core competency for entrepreneurial development, *Proceedings of national conference on development of women entrepreneurship in India*.
9. George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th ed.). Boston: Allyn & Bacon.
10. Hyman, J. & Summers, J. (2004). Lacking balance: Work-life employment practices in the modern economy. *Personnel Review*, Vol. 33 Issue: 4, pp.418-429, <https://doi.org/10.1108/00483480410539498>
11. Jailaxmi & Gautam, A. (2017). Work Life Balance of Bank Employees as Related to Age, Gender and Marital Status. *International journal of management, and business studies*, 7(1), 44-46.
12. Jain, P. (2013). A Comparative Study of Work Life Balance among CA, Doctors and Teachers. *IRC'S International Journal of Multidisciplinary Research in*

- Social & Management Sciences, Volume: 1, Issue: 4, pp 58-65.
13. Jain, S., & Gautam, A. (2014). Performance management system: A strategic tool for human resource management. *Prabandhan Guru*, 5 (1&2), 28-31.
  14. Jain, S., & Gautam, A. (2016). Comparison of performance management systems in public and private sector: A study of manufacturing organizations. *International Journal of Management, IT and Engineering*, 6(5), 111-128.
  15. Jain, S., & Gautam, A. (2016). Employees' perception towards performance management system: A study of selected PSUs of Uttarakhand. *International Journal in Management and Social Science*, 4(3), 235-245.
  16. Jane, S., Brown, J. & Lee, C. (2004). *The Second Work-Life Balance Study: Results from the Employees' Survey*, Employment Relations Research Series, Department of Trade and Industry, UK. ISBN:085605 3937.Pp.101.
  17. Kumari, L. (2012). Employees' Perception On Work Life Balance And It's Relation With Job Satisfaction In Indian Public Sector Banks. *IJEMR*, Vol: 2, Issue: 2, pp. 1-13.
  18. Madhusudhan, V. G. & Nagaraju, K. (2013). Work Life Balance of Teaching Faculty with Reference to Andhra Pradesh Engineering Colleges. *Global Journal of Management and Business Studies*, Volume 3, Number 8, pp. 891-896.
  19. Madipelli, S., Sarma, V. & Chinnappaiah, Y. (2013). Factors Causing Work Life Imbalance among Working Women-A Study on School Teachers. *The Indian Journal of Industrial Relations*, 48(4): 612-633.
  20. Murphy, F., & Doherty, L. (2011). The experience of work life balance for Irish senior Managers. *Equality, Diversity and Inclusion: An International Journal*, Vol.30 Iss: 4, pp.252-277, Emerald Group Publishing Limited.
  21. Pandu, A., Balu, A. & Poorani, K. (2013). Assessing Work-Life Balance among IT & ITeS Women Professionals. *Indian journal of industrial relations* 48(4):611-620
  22. S. Padma, M. S. (2013). Role of Family Support in Balancing Personal and Work-Life of Women Employees. *IJCEM International Journal of Computational Engineering & Management*, Vol. 16 Issue 3, May 2013, pp 93-97, ISSN: 2230-7893.
  23. Santhana, L. K., Gopinath S. S. (2013). Work Life Balance of Women Employees with reference to Teaching faculties. *International Monthly Refereed Journal of Research in Management and Technology-II*.
  24. Santhi, T and K. Sundar (2012), "A Study on the Work Life Balance of Women Employees in Information Technology Industry", *Zenith International Journal of Business Economics and Management Research*, 2(1):82-96.

## **Significance of Faculty Development Programmes on the Development of Proficiency and Competency of Faculty of Hospitality and Tourism**

**Dr. Dhanraj Kalgi<sup>1</sup> Mrs. Asmita Patil<sup>2</sup> Mrs. Ashwini Talaulikar<sup>3</sup>**

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

**Corresponding Author- Dr. Dhanraj Kalgi**

**DOI- 10.5281/zenodo.7264923**

### **Abstract:**

Faculty development programs (FDPs) are an important prerequisite for continuous, longitudinal professional growth of the faculty. Development refers to change in an individual over a period of time and faculty development has been referred to as “any endeavor designed to improve faculty performance in all aspects of their professional lives - as scholars, advisers, academic leaders, and contributors to institutional decisions.”<sup>1</sup> Need for faculty development may be driven by institutional policies, self-perceived need, demand by the students’ need, or a change in educational policies. Faculty development brings about a change in the institute while bringing in the necessary innovations, paradigm shifts and change in the curriculum, teaching, assessment and evaluation programs in any institution. “Impact” as a term is often used in professional development literature to denote goals and achievements of a number of activities. Most evaluations of FDPs are limited to immediate vicinity of the program, including participant satisfaction, short-term gain in knowledge, application of the newly acquired skills and effects on student learning. The long-term studies of the impact have been sparse. Current perspective has been planned with an objective to highlight reported long-term effects of FDPs. Faculty development programs (FDPs) have proven to be successful for improving teaching skills in higher education. This review article summarizes literature reviews and resource books on faculty development. It tackled why FDP is important, history of FDP in the past years, and questioned whether FDP produced any positive effect on students' academic achievement as well as the different methods to assess FDPs effectiveness. The review also discussed how to establish FDP, presented its ideal structure, features that make FDP effective, and outlined the barriers to its successful implementation as well as the future vision. This research also highlighted the situation of FDP in India. Finally, the review concluded that professional FDPs produce promising outcomes in the learning and teaching practices and recommended that teachers in higher education should attend FDP training activities on regular basis and that the scope of planned FDPs should extend beyond the health professions discipline, to include social skills necessary for collaboration, professional growth as well as management, and leadership abilities.

**Keywords:** Faculty Development Programme, Proficiency, Competency Hospitality, Tourism

### **Introduction**

It has always been believed that education is the key to success and nothing beats the value of the education system. And the key to a good teaching system is the value that faculty add to the development of the entire module. In short, they are the most important and fundamental faculty in driving growth, success and positive change as far as a solid education system is concerned. They are the most important resource any institution can invest in. However, until recently, it was thought that only students or learners needed to improve and update their knowledge. It was strongly believed, or rather assumed, that the

competent scientist or physician was of course the best and most effective teacher. We recruited faculty for their skills. However, over time it became clear that many of these teachers were often criticized for their teaching deficiencies. Several other cases have shown that even after her ten to her fifteen years of teaching the same subject, teachers and teachers are less well received by students and are more likely to be criticized. This is mainly because teachers, unlike students, do not update and update themselves over time. Today, engineering institutions face increasing demands to be tech-savvy, creative, good researchers, and to deliver great teaching. This requires faculty

to acquire new knowledge, acquire new skills, be ready and able to receive education. Here, we find that faculty must be adequately prepared through some kind of faculty development program (FDP) to deal with rapid changes and paradigm shifts in medical education, healthcare systems, and clinical practice. Without such training, education is often reduced to lecturers presenting subject matter understanding through one-sided lectures. In recent years, it has been observed that teacher training programs are evolving rapidly and gradually expanding. Data indicate that there were sporadic efforts to provide such training in the first half of the 20th century, but the true FDP (Teacher Development Programme) began in 1975 and has grown steadily over the past 25 years.

### **Significance of Faculty Development Programme in India**

In recent years, there has been growing evidence that traditional teaching methods are ineffective. The importance of these programs was given to their better response to criticism of advanced situations and topics. We are making our assessment procedures more acceptable, understandable, timely and rigorous. In India, teacher training programs are aimed at achieving sustainable development and higher growth rates for the Indian higher education system. This can be made possible through the creation, transmission and dissemination of knowledge. Higher education at all levels in the country is witnessing a steady growth pattern marked by the establishment of new institutions and the improvement of existing ones. The demand for qualified teachers and faculty over the next few years will be significant and will be critical for the state to expand not only the infrastructure, but also the current institutional capacity of qualified and trained faculty. Therefore, to complement the transition and rapid growth in the field of technical education, it is imperative that faculty are well-skilled, well-trained, up-to-date and able to meet the demands. It's about building the ability to teach using technology.

### **Objective of the Study**

To study the Significance of faculty development programmes on the

development of proficiency and competency of faculty of Hospitality and Tourism

### **Research Methodology**

The current research the significance of faculty development programmes on the development of proficiency and competency of faculty of Hospitality and Tourism. This is a conceptual study based on a literature review.

### **Sources of Data**

Secondary data collected from journals, research articles, and publications.

### **Review of Literature**

India's higher education system is the third largest in the world after the United States and China. India's higher education system grew rapidly in the decade from January 2000 to November 2010 with nearly 20,000 colleges and her more than 8 million students. The 12th Five-Year Plan of UGC Document, 2012-2017, Comprehensive and Qualitative Expansion of Higher Education, devotes an entire chapter to improving the quality and excellence of higher education. The chapter preface states: The greatest challenge to excellence lies in improving the quality of teaching and learning at most non-elite universities, which continue to recognize an overwhelming proportion of talented students but are underserved. This requires that research, teaching and learning should be encouraged to address the challenges of effectively promoting the conditions and needs of our societies, traditions of knowledge and constitutional values. Teachers, of course, form the basis of this teaching-learning trade. The Higher Education Department (MHRD) is responsible for the overall development of the basic infrastructure of the higher education sector, both in policy and planning. As part of its planned development process, the sector has an interest in expanding access and improving the quality of higher education through world-class universities, colleges and other institutions. The committee recommended the implementation of UGC-funded programs at several selected universities. Such programs are aimed at conducting courses of professional education for different categories of teachers. Organization of summer workshops and non-professional programs in technical content

and vocational training. Work closely with several schools of all kinds to advance research and develop better curricula and teaching methods. Promoting education and research, especially through an interdisciplinary approach. The committee also proposed the following principles to improve the quality of teacher education.

- Reorientation of subject-knowledge;
- Vitalization of professional studies;
- Improvement in methods of teaching and evaluation;
- Improvement of student-teaching;
- Development of special courses and programmes; and
- Revision and improvement of curricula.

The Government of India is constantly introducing reforms and innovations to improve the quality of education, meet the changing demands of the people and meet the demands of the workplace. However, one of the main factors constraining reform in higher education, especially at the undergraduate level, is the colonial legacy of the affiliation system, in which university curricula are controlled by universities with which they are affiliated is still dominant. "In this vast country, where education is managed centrally, meeting the diverse educational needs of people from different backgrounds is becoming increasingly difficult, leading to a growing awareness of curriculum trivia, distortions and omissions. For example, feminist activists are calling for gender dimensions to be included in textbooks and gender biases corrected, as well as human rights and other social issues conspicuously absent from the curriculum. . Another limiting factor in the Indian system is the emphasis on exams and grades at the expense of meaningful learning for personal growth. Except for a few sensible autonomous universities, the inclusion of diversity issues in the curriculum has been completely neglected" (**Beckham, E.F., 2000**). The quality of higher education undoubtedly depends on the quality of teachers. To do. The higher education system attaches great importance to the training of trainers. The education policy of the Government of India is focused on improving the quality of teacher education and on capacity development programs for teacher

growth and development. (**Bergquist, W.H. & Phillips, S.R. 1975**) proposed an approach to faculty development based on the assumption that significant change in faculty must occur at her three levels: attitude, process and structure. Effective development programs often result in teachers reassessing their life goals and values. He may also seek to improve his interpersonal skills and ability to be creative and take risks in designing and delivering course programs.

In the past, three approaches have dominated teacher training. Cutting student and faculty quotas, acquiring expensive new teaching techniques, and perhaps recruiting new graduate students with fresh ideas. Lowering the student-faculty ratio has a double effect. Some teachers believe that class preparation is less important when the number of students is small, and focus more energy on research and publication. Concerned teachers, on the other hand, may find that smaller classes allow them to spend more time with each student and her one-on-one. However, we know that lowering this ratio does not necessarily improve the quality of education. Teachers can only benefit from this approach if they are trained in small group dynamics and one-on-one tuition faculty and staff should be provided with opportunities to discuss meaningful and important changes. Finally, of course, faculty must be supported and rewarded by the organization to develop these new skills. The approach of acquiring new educational hardware for teacher training has failed to deliver on its promise in higher education. There were many reasons for this. First, few academic institutions have the financial, artistic, or technical resources for these teaching techniques. Second, many college teachers are unaware of the possibilities of teaching technology, either through their own indifference or through the failure of their institutions. "On many campuses, new audiovisual centers are a source of administrative pride and a must-see for visiting curators. Unfortunately, centers are rarely visited by students and faculty." (**Bergquist & Phillips, 1975, p. Four**).

Research shows that teachers who see themselves primarily as providers of information may feel that their position is

directly threatened by new technologies. Teacher training also meant introducing new faculty and women into the system with new ideas and fresh perspectives, and we hoped that these people would act as catalysts for flexible and constant change in the department. This strategy is based on two of her premises: Firstly, there is the continual growth of the university, and therefore always the status of new faculty members, and secondly, these new faculty members are sources of innovation in education. I'm here. With so many young people qualifying for teaching every year, there are not enough positions for young teachers in today's universities. Second, young teachers are often inexperienced teachers. "Almost by definition, young faculty are those who are well adapted to a traditional academic environment. Innovation in curriculum and course design often requires a certain level of risk on the part of the innovator, so tenure can be non-intrusive. It is unrealistic to expect new faculty members to have no official authority or influence, no knowledge of organizational roles and norms, and even no knowledge of their peers. There are certainly exceptions, but if innovative ideas are not lost in the learning process of organizational survival, newcomers should be expected to first "learn the basics" and then innovate (**Bergquist & Phillips, 1975, p. 5**). Teacher training has focused primarily on the teaching process, the most common teaching methods and techniques, and student assessment of teaching. But teachers' attitudes towards teaching also play an important role. Research shows that people who don't feel valued in teaching or who don't see themselves primarily as teachers spend time improving their skills as teachers and exploring alternative teaching methods and techniques. It is not. He/she may also be afraid to show his or her shortcomings as a teacher must be dealt with.

Wilkerson, (**L & Irby, D M 1998**) suggests that "workshops and students' ratings of instruction, coupled with consultation and intensive fellowships, are effective strategies for changing teachers' actions. A comprehensive faculty development program should be built upon

- (1) Professional development (new faculty members should be oriented to the university and to their various faculty roles);
- (2) Instructional development (all faculty members should have access to teaching-improvement workshops, peer coaching, mentoring, and/or consultations);
- (3) Leadership development (academic programs depend upon effective leaders and well-designed curricula; these leaders should develop the skills of scholarship to effectively evaluate and advance medical education);
- (4) Organizational development (empowering faculty members to excel in their roles as educators requires organizational policies and procedures that encourage and reward teaching and continual learning).

Comprehensive faculty development, which is more important today than ever before, empowers faculty members to excel as educators and to create vibrant academic communities that value teaching and learning." Research also suggests that a comprehensive program of faculty development is the one which consequently provides training for faculty in improved classroom performance, which assists the faculty member in developing a supportive environment within his academic organization, and which allows him to examine and reflect on his own personal values and attitudes as they influence his professional life. Instructional development, organizational development, and personal development thus become the essential components of any effective program of faculty development (**Bergquist & Phillips, 1975**). It is suggested that to make a faculty development program effective, course content, the preferred teaching style of the faculty member, the preferred learning styles of the students, and the educational environment in which the course is held must be taken into account. Each of these four factors interacts with the others to help or hinder the amount of learning that will ultimately take place. Apart from these four factors, the skills, knowledge, and motivation of the teacher and students are critical to effective education. The primary goals of any faculty development program should be then to provide faculty members with the knowledge and tools that enable them to plan

for and implement instructional approaches that are responsive to various learning, content, and environmental styles. An effective teacher education program is one that contains elements that are directly applicable to the core functions of the teacher. H. Classroom lessons. Faculty members often encounter limitations and barriers in transferring newly acquired knowledge and skills due to organizational, departmental, or departmental policies, standards, and procedures. In other words, he faces the structural constraints of the organization he works for. "Often, faculty members who have just returned from her exciting one-week faculty development workshop are immediately met with skepticism, mistrust and outright hostility. Even a faculty development program which is not based on workshops but rather tries to work within the system will encounter organizational resistance if it is all successful. Ironically, the success of many faculty development programs can be measured in their early stages precisely by the degree of resistance they encounter" (**Bergquist & Phillips, 1975, p. 141**). A faculty development program needs to deal directly with the organizational issues that are associated with change and most of the times these issues are not systematically confronted by higher education. Thus the successful transfer of the learning of faculty development program depends very much on the organizational development which has three interrelated aspects: team-building, decision-making, and conflict-management. Research suggests that only when the organization adopts methods and relevant norms for the management of conflict can effective decision-making take place. Similarly, team-building is a useful precursor of conflict-management, and an organization needs to proactively confront and deal with all this issues. (**Bergquist & Phillips 1975**) suggested that the different departments of the colleges can be interviewed not only about their teaching but also about their perceptions of their own department. This information can be summarized and given back to the departments in a general meeting; this procedure often stimulates department-wide changes in teaching and

administration and can aid in the process of team-building. Research also suggests that there is a fourth aspect of organizational development is managerial training which an important component of faculty development is also. "Of the various managerial approaches which seem to be particularly appropriate to higher education, management by objectives (MBO) clearly stands out. Given the diffusion of mission and goals in most academic departments, an MBO program may be particularly helpful in providing clarity and consistency to often chaotic management. A management development program might alternatively focus on the financial aspects of administration" (**Bergquist & Phillips, 1975, p. 141**). Any process of bringing change has to be preceded with a thorough evaluation of the system. Thus any organization that wishes to change in a systematic and thoughtful manner must continually assess the discrepancy between current operations and desired outcomes. Student evaluation is probably the most commonly used method of instigating change in faculty performance. But two other sources of evaluation, by the instructor himself and by his peers, are both used more sparingly. Student evaluations of teaching hold great importance as it draws attention directly to teacher instruction.

It is to teach the "fighting opportunities" for research as the basis for faculty performance evaluation. When conducted effectively, student assessments provide data that allow valid comparisons between educational performances. It also helps increase teacher "accountability" in the classroom. Student assessment can also provide a new medium for student-teacher interaction and we hope it helps educators develop their teaching skills. He gets new information about his skills and style. The instructor is then accountable to the student, and the student is responsible for providing the instructor with valid and useful information regarding their teaching performance. Teacher performance in the classroom is often not directly or fairly evaluated. Student assessment contributes equitably to classroom performance, albeit in a limited way, and is therefore useful for both

assessment and teacher development. Students often bring a unique perspective to their classroom observations that other faculty members cannot provide. "When the lecturer receives informative and explanatory information about his teaching from the student diagnostician, he finds himself in a situation where he is learning from the student. It means that you are collaborating with students as a colleague about Faced with this potential role shift, many teachers may begin to change their general attitudes toward students and, more generally, their conceptions of the learning process." (Bergquist & Phillips, 1975, p. 88). But the self-assessment process by the trainer is also important. An effective teacher training program should include phases in which teachers are asked to assess their own strengths, weaknesses, and areas for improvement. Faculty and staff may be asked to complete the same assessment instruments that their peers and students complete. Therefore, discrepancies between your own rating and those of others can be identified, as well as between your own rating and your desired rating. This process becomes essential for both personal growth and educational development. It is no exaggeration to say that readiness for change in classroom performance occurs only when teachers are presented with information that contradicts self-image but does not compromise self-esteem.

Universities should create an environment in which this information is requested by trainers rather than compulsory. It is descriptive rather than evaluative. It is specific rather than general. It is presented in the context of trust, not threat. The process of change only occurs when trainers are presented with information, training, and advice that directly relate to their perceived needs. (Andrew J.H., Patricia A., Angi M., Peter D.T. 2013) reported that formal mentoring programs for prospective teachers were an effective way to develop their competencies. However, many conditions contribute to successful mentoring, including the selection and preparation of effective mentors. Reported by (Vivienne C., Ekaterina K., Yu-Hao K.L., Lorraine L., Ian M., Liz N. & Irena Z. 2010), there are

three emerging trends aimed at expanding teacher learning and improving practice through continuous professional development.

Rethinking globalization, mentoring and teacher evaluation. However, teachers cannot bring about the necessary changes without organizational and systemic change. i.e. cooperation with government agencies and other institutions. (Vivienne C. et al. 2010) argued that the transformation of schooling in the 21st century will require increased teacher involvement in educational policy-making, consistent government policy across government agencies, and coordination for career-supported professional development. It suggests that education relies on improved educational policy through targeted and differentiated models. The FDP's importance has only increased with the introduction of credit-based systems in higher education. UGC suggested switching from an annual exam system to a semester system if possible. Equally important is the change in student testing and assessment. Through student tutorials, essay writing, seminars, and presentations, it is recognized that the main elements of internal assessment must be introduced, followed by a reduction of the written element. All these new developments in the higher education system also require teachers to hone their skills. UGC states in its Action Plan for Education and Public Administration Reform: These can be addressed by introducing credit-based courses and credit accumulation.

In order to offer with a few diploma of pliability to novices, we want to offer for route length in phrases of credit score hours and additionally a minimal in addition to a most permissible span of time wherein a route may be finished through a learner. The Choice-Based Credit System (CBCS) imminently suits into the rising socioeconomic milieu, and will efficiently reply to the academic and occupational aspirations of the approaching generations. "The UGC has given in a nutshell, the motive for the advent of CBGS: more desirable studying opportunities, capacity to suit novices' scholastic desires and aspirations, inter-group transferability of novices(following the of entirety of a

semester), part of entirety of an educational programme within side the group of enrolment and part of entirety in a specialized (and recognized) group, development in instructional great and excellence, flexibility for operating novices to finish the programme over an prolonged duration of time, standardization and comparison of instructional programmes throughout the country, etc. With this history of literature on FDPs, the researchers initiated a case observe on a unmarried Mumbai College affiliated to the Mumbai University to analyze the floor fact of the software of such FDPs for cutting-edge university instructors and additionally their mindset closer to such programmes.

### **Observations and Discussions**

#### **Acknowledging the Importance of Faculty Training and Development**

Faculty are the lifeblood of an educational institution. You are directly responsible for delivering the world-class knowledge and education the school promises to its students. Their passion, hard work and genuine interaction will help maintain the reputation your institution has built.

These academics have the best minds in their respective fields. But technology and learning experiences evolve every year, so it's unreasonable to expect to keep up with the latest trends and educational strategies without proper preparation. To enable them to provide the best education for their students, they need to invest in the best education for them.

Teacher education and development is often overlooked at the higher education level, but is becoming increasingly important as higher education pedagogy evolves rapidly.

#### **The benefits of investing in faculty training and development**

Higher education teachers have literally built their careers around learning, so they understand the importance of continuing education. Many trainers seek out learning opportunities on their own if their educational institution does not offer these options. However, in today's ever-evolving higher education environment, schools are beginning to recognize the importance of investing in teacher education.

**“Faculty attends conferences, reads industry publications, and shares best practices with individual faculty communities.”**

When institutions take the lead in providing training and development opportunities for teachers, the impact is far-reaching. Get to know some of the notable benefits.

#### **1. Instructors are equipped to adapt to new teaching methods**

In today's new normal, this is perhaps the most obvious benefit for schools. Distance learning options have been on the rise in recent years, but restrictions due to the pandemic have greatly accelerated this change.

Educational institutions are being forced to adopt new technologies and learning styles in order to continue to provide the quality education students deserve. However, no instructor can be expected to succeed in these situations without proper training. By investing proactively in teacher education and development, we can prepare teachers to thrive in an innovative environment.

#### **2. Consistent student experiences can be established and maintained**

Providing training to all faculty and staff fosters consistency across the institution. This enhances the school's brand and student experience.

The faculty at each school is very diverse. This is a great advantage for students. But if each instructor can frame things differently, it becomes more difficult for the students.

“Universities are able to embrace this diversity while still providing unique instruction.”

#### **3. Institutional leaders are cultivated**

By providing educators with ongoing training opportunities, we can build a growing pool of effective leaders who are ready, motivated, and ready to take on new roles and responsibilities. Of course, if we invest in the development of existing faculty, they can be promoted to leadership roles.

Whether you need a new dean or someone to lead your campus task force committee, you can choose from among our in-house talent. This is especially helpful given the recent trend towards shorter tenure.

#### **4. Faculty burnout is less likely**

Faculty burnout has always been a problem in higher education, but the threat is even greater in the current environment. There are several factors that contribute to burnout, some of which can be minimized by providing proper training and professional development opportunities.

These initiatives will help provide trainers with successful strategies and techniques to teach more effectively and avoid some of the stress associated with planning and presenting information in new ways. Aside from the practical benefits of improving tasks, the institution's prioritization of professional development makes teachers feel more valued and valued. In general, there is a strong correlation between training and job satisfaction.

#### **5. Internal advocates can help influence other associates**

In addition to Institute-wide training, it is also beneficial to provide specific faculty with more personalized professional development opportunities. By identifying individuals who are passionate about a particular development area, you can establish subject matter experts who can share their knowledge with their peers.

"The best teacher education engages faculty in development and creation", "Faculty who become early adopters and actually participate in educating others increases engagement and contributes to skills acquisition."

Consider the following example. Your school's brilliant professors are passionate about exploring ways to implement new technologies and media in the classroom. By sending them to seminars on this subject, she expands her knowledge of the subject so that she can take it home and share real-life examples with her fellow faculty members.

#### **6. Improved student outcomes**

It is true that teacher education has many benefits for professors and institutions, but there is much more.

Sports coaches are constantly researching and perfecting new coaching strategies and training techniques to get the best possible performance out of their players. Improving the training capacity of instructors can likewise lead to improved student performance.

Research shows that investing in teacher training can improve student performance. By implementing more effective teaching strategies, students are able to absorb more subject matter.

#### **Conclusion**

#### **Invest in your faculty**

Prioritizing teacher training and development is a win-win scenario. When teachers teach more effectively, students do better in the classroom. And when students do well, institutions thrive.

"Proficiency development helps ensure consistent, high-quality teaching, resulting in satisfied students who make the most of their learning experience."

Do not leave faculty to fend for themselves. Cultivating a culture of continuous learning benefits all aspects of an institution.

#### **References**

1. Andrew J. H., Patricia A., Angi M. & Peter D. T. (2013). Mentoring beginning teachers: What we know and what we don't. Teaching and Teacher Education. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0742051X0800156X>
2. Bergquist, W. H. & Phillips, S. R. (1975). A Handbook For Faculty Development. Shell Companies Foundation, New York.
3. Dee F. L. Orientation Programs for New Faculty. [www.deefinkandassociates.com/files/NEW\\_FAC\\_OR\\_PROG.doc](http://www.deefinkandassociates.com/files/NEW_FAC_OR_PROG.doc)
4. Education And National development, Report of the Education commission, 1964-66. National council of educational research and training (1970)
5. Higher education in india - Issues related to expansion, inclusiveness, quality and finance, University Grants Commission, New Delhi (2008)
6. <http://mhrd.gov.in/overview>
7. Manual on Choice Based Credit Systems (CBCS) and Grading implemented in University of Mumbai,
8. University of Mumbai (2011).
9. Rashtriya Uchcharitar Shiksha Abhiyan (2013). Ministry of human resource development.
10. Vivienne C., Ekaterina K., Yu-Hao K. L., Lorraine L., Ian M., Liz N. & Irena Z.

(2010). Professional development for teachers: a world of change. doi:10.1080/02619760802553022. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/02619760802553022#.VNOB6NLLcbY>

11. Wilkerson, L. & Irby, D M. (1998). Strategies for improving teaching practices: a comprehensive approach to faculty development. Association of American Medical Colleges. Retrieved from [http://journals.lww.com/academicmedicine/Abstract/1998/04000/Strategies\\_for\\_improving\\_teaching\\_practices\\_\\_a.11.aspx](http://journals.lww.com/academicmedicine/Abstract/1998/04000/Strategies_for_improving_teaching_practices__a.11.aspx)

## **To Study the Role of Social Media Marketing on the Hospitality and Tourism industry of India.**

**Dr. Dhanraj Kalgi<sup>1</sup> Dr. Vijaykumar Dhole<sup>2</sup> Mr. Sandeep Naik<sup>3</sup>**

Assistant Professor Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune  
Dean, Sinhgad Institute of Business Administration & Research, Pune

Assistant Professor, Dr. D. Y. Patil Institute of Hotel Management & Catering Technology, Pune

**Corresponding Author- Dr. Dhanraj Kalgi**

**DOI- 10.5281/zenodo.7264927**

### **Abstract:**

Social media marketing requires uploading and sharing product posts according to the standards of the social media platform. Get high engagement from many social media platforms such as Instagram, Facebook, and Reedit. Social media marketing is he one of the best digital marketing strategies. Social media marketing tool for multiple corporate brands since 2005. Its main function is to generate content and share it with friends, and as it is a multidimensional platform, it is secondarily used by marketers to improve sales, search rankings, leads and traffic. . Social media marketing refers to the process of getting her website traffic and attention through her website on social media. Social media marketing programs usually focus on creating content that grabs attention and encourages readers to share it on their social networks. Social media allows marketers to rethink the traditional one-way communication flow of marketing messages and how social media can help them incorporate new interactive communication flows into their marketing strategy. The growth and expansion of social media and the role of social media in marketing can be very effective for your business. All sectors use communities, social networks, blog marketing, etc. Hospitality accommodation resides on social media marketing platforms and leverages them with innovative ideas to effectively maximize and globalize your campaigns in social media marketing. This research report explores the impact of social media in the context of the hospitality lodging sector.

**Keywords:** Social media marketing, Market study, Digital marketing, online media platforms. Role of social media.

### **Introduction**

Today, the use of the Internet and social media has become an integral part of business strategy. Social media marketing has evolved into a modern marketing tool. The advent of the Internet/Information Technology revolution has changed the way business is done and justified the adoption of new technologies by businesses. So today companies use internet/information technology to sell their products and services. Social media marketing comes with low costs. It saves marketers time compared to other marketing tools. The Internet has revolutionized communication, enabling individuals and organizations to break down geographic and time barriers. This keeps customers and businesses connected with the world at all times. Online communities allow people to meet over the Internet for various purposes. It allows you to find and share information, discuss common topics, and exchange fun things. With rapid changes in information technology, online activities are

being conducted using new communication technologies called "Web 2.0" and social media. The Internet revolution, led by Web 2.0, has made business practices more complex and interactive.

### **Social Media Marketing**

Social media marketing uses social media websites to increase your online visibility and promote your products and services. Social media sites help build social (and business) networks and share ideas and knowledge. Social media marketing uses podcasts, wikis, blogs, online videos, photo sharing, news sharing, message boards, and posts on social networking sites to reach a large audience or target audience.

### **Hospitality Industry**

Hospitality is the relationship between guest and host. Hospitality is the act or practice of showing hospitality. The tourism and hotel industries are linked. Hospitality is the act of welcoming, accepting, entertaining, and showing hospitality to guests. Hospitality reflects courtesy and respect for guests.

Hospitality includes local services such as entertainment, accommodation and meals for tourists. This is a business that provides catering, accommodation, entertainment services, receives guests, entertains or entertains them. Hospitality is a broad sector category within the service industry that includes accommodation, event planning, theme parks, transportation, cruise ships, and other sectors within the tourism industry.

### **Social Media Marketing in Hospitality Industries**

In the hospitality industry, social media is the best way to promote your business. These social media platforms are very powerful platforms as they are generally easy to find your target audience. The hospitality industry is using social media marketing as a new approach for hotels and resorts to promote their business. Social media makes it easy to reach your customers, build brand awareness, promote your products and services, and build customer loyalty. Acquire new customers and increase sales in terms of value and volume. Social networks such as Facebook, Twitter, YouTube, Instagram and blogs are the most used. Customers can learn more about resorts and hotels. Customers can also learn more about the hospitality industry thanks to their social media presence, fan base, guest reviews, and more.

### **Objectives of the Study**

To understand the concept and to study the current social media practices in the hospitality and tourism industry

### **Research Methodology**

The current research seeks to explain the concept of social media marketing in the hospitality and tourism industry and its marketing strategy. This is a conceptual study based on a literature review.

### **Sources of Data**

Secondary data collected from journals, research articles, and publications.

### **Review of Literature**

**Leon et al. (2013)** in their research work. In "The Marketing Effectiveness of Social Media in the Hospitality Industry: Facebook vs. Twitter", he examines the marketing effectiveness of two different social networking sites (Facebook and Twitter) in the hospitality industry. According to the

study, hotel customers who use social media are influenced by their attitudes toward hotel brands.

**Mandy et al. (2012)** in their article Social Media Marketing in Selected UK Luxury Hotels states that social media marketing is one of the fastest growing online marketing in the UK hospitality sector. . UK hotels are incorporating these networks into their overall marketing strategy. The study explores how his 4- and 5-star hotels in the UK incorporate social media networks into their marketing strategies, revealing why guests use social media and how social media indicates how the page should be presented. Research shows that UK hotels are using social media to stay in touch with existing target market expectations, attract new customers and stay ahead of the competition.

**Iva et al. (2012)** in an article titled "Social Media Marketing in a Hotel Company: A Case Study of an Innovative Approach to CRM via Facebook in Maistra Inc. Croatia," identified social media as an innovative approach to CRM. It verifies the involvement of entertainment staff in marketing. Facebook. According to their research, entertainers are the only employees whose primary role is to entertain guests. So Maistra Inc hired an entertainment staff to implement a social media marketing strategy.

**Kalasker (2013)** reveals a marketing strategy for a resort, referring to Marketing Strategies for Independent Hotels: The Mayur Aaditya Resort in Dharwad, India. Traditional marketing strategies do not serve their purpose. Researchers have proposed new marketing strategies and plans, including online hotel marketing, creating a Facebook page, opening his Twitter account for marketing, uploading videos, blogs, images and social media. These help independent hotels like Mayur Aaditya Resort to compete and thrive in this dynamic and competitive world.

**Roxanne (2013)** in his research paper, Effectiveness of Social Media Her Marketing as a Branding Tool for Hoteliers, identifies innovative practices in the Maltese hospitality industry. Researchers also examine the effectiveness and scope of using social media marketing to promote potential

branding. The study found that social media marketing is effective in driving a company's branding strategy.

**Inversini et al. (2014)** in an article titled *Selling rooms online: The use of Social Media and Online Travel Agents*, examines why hoteliers choose online travel agents (OTA) and social media for their sales. This research shows that innovative social booking technology can increase awareness and sales.

**Preetika et al (2015)** in their article, *Social Media Channels Used by Hotels*, identify details of the social media tools that hotels use for marketing. The research shows that social media marketing has become a popular marketing tool for hotels in this country. Hotels should keep in mind that they need to keep in touch with their customers regardless of whether their reviews are positive or negative. It is very important for each hotel to maintain and maintain existing and potential customer relationships on an ongoing basis.

**Aarti (2015)** in her article, *Hotel Industry in India: Transformed by Digital Marketing*, examines how Indian hotels are using digital marketing as a marketing tool. According to the study, social media is having a greater impact on the hospitality industry as most people today use social media for things like booking and hotel bookings. We also use media to find out about the facilities offered by hoteliers. Hotels in India need to use social media as a marketing strategy to increase brand awareness, gain followers and reach customers easily. You can have a warm relationship with your customers.

Research article "Social Media Challenges and Opportunities in the Hospitality Industry" by Andrea (2015). Romanian Northeast Study "This study focuses on the main benefits and challenges of social media in the hospitality industry. Hotels need to consider how effectively social media can be used to reach customers and retain both existing and potential customers.

**Richard et al. (2015)** examines the use of social media by Chinese restaurants in a research paper, "Restaurant Social Media Use in China: A Study of Industry Practices and Consumer Preferences." It also examines the extent to which consumers use them to

obtain information. Their research shows that restaurants are using social media to increase their presence and update their service on all parameters. We also want to build better relationships with our customers.

**Kavitha et al. (2016)** Examines the concept of social hotel and its relevance to Indian hospitality in an article titled "Is Social Hotel the Future of Indian Hospitality?" They are trying to understand the future of social media marketing and the relevance of social hotels. According to her research, social media concepts offer a way for hotels to build loyalty and improve engagement with guests. To stand out from the competition and successfully connect with customers, hotels need to integrate social media tools into their operations.

**Saman et al. (2016)** analyzes the benefits of member participation in her research paper, *Effectiveness of Social Media Marketing in the Hotel Industry: A Conceptual Model for the Development of Effective Online Her Communities*. They explore the relationship between community participation and brand loyalty in the hotel's online community. According to their research, members who participate in online communities desire certain benefits of functional, social, psychological, hedonic, and monetary nature. It also analyzes consumer submissions on brand pages and suggests strategies such as taking immediate action based on complementary reviews and service complaints.

**Andrea (2015)** in his research article *Research article "Social Media Challenges and Opportunities in the Hospitality Industry"*. Romanian Northeast Study "This study focuses on the main benefits and challenges of social media in the hospitality industry. Hotels need to consider how effectively social media can be used to reach customers and retain both existing and potential customers.

#### **Role of Social Media Channels in Promoting Hotel Industry**

The hotel began pursuing a social media marketing strategy as part of a marketing campaign to improve its brand equity. Social networking channels are a way for hotels to advertise themselves. There are various

channels that hotels use to communicate with their customers. The goal here is to choose the best channel and use it wisely to best serve your hotel. Social networking technology mainly focuses on her three media: mobile, web and desktop. Social media has become one of the most important and influential marketing tools of the last decade. The hotel industry has embraced this marketing tool as well, with nearly all hotels using it regardless of star rating. Social media has changed the entire hotel marketing scenario. Complaints from hotels are serious, as hotels now have to pay close attention to how they treat their guests, and a particularly bad experience can seriously damage their reputation. Previous research indicated that word of mouth from customers was the most powerful form of hotel marketing, but now, thanks to social media, millions of word of mouth influence the hospitality industry. In order to get good results from such marketing, it is very important to have the right and most appropriate social media channels for your hotel property.

#### **Classification of Social Media Networks**

Social media platforms are the medium through which the hotel itself markets. There are numerous channels used in the hotel industry to communicate with customers; the challenge is choosing the right social media channels and using them in the most profitable way for the hospitality industry.

The social media networks can be classified into three major categories:

- ✓ Official Website or blog
- ✓ Social Media Pages
- ✓ Review Pages/ Partner Channels

#### **• Official Website**

A social media platform is a website that presents information on everything a company does from its beginnings in history to the present day with its products, spaces and services. The platform is run by the organization itself and has all the comprehensive and up-to-date data of the company, so it has the best reputation. Providing your customers with hotel information and offering packages and loyalty programs is most helpful. Today's consumer is becoming more tech-savvy and knowledgeable, making it a challenge for the

hotel to continuously update his website or blog to meet customer needs. The hotel has made significant improvements in terms of website details and design to attract customers. They are just trying to include all necessary details on their home page for the convenience of their customers. Hotels need to use this medium wisely, as hotel websites create a great impression on both current and potential customers, influencing hotel stay decisions. The website contains all the important information on the home page, especially useful information for customers. The basic content of the hotel website is rooms, restaurants, banquets, leisure activities, her USP of the hotel, management, awards, local attractions, feedback selection, booking links, rate information. In addition, the hotel provided another social media option with information about the hotel's social media presence. To improve customer communication, hotel websites are often associated with presence logos on various social networks.

#### **Social Networking Sites**

Social networking sites are the primary means by which users can communicate over the Internet on desktops, laptops, or mobile devices. Facebook, Twitter, Instagram and Pinterest are the most popular sites and the list is endless. Networking sites have become very popular among people of all ages over the past decade. Today life depends on social networks. We are all connected to these networks 24/7. People share their joys, sorrows, likes, dislikes, experiences and frustrations online. The influence of such sites is so great that even if you sneeze, it will be shared on social networks. This method is very beneficial for the hotel industry as it facilitates communication with customers. Most hotels use Facebook in this channel segment. Each hotel has its own Facebook page, Twitter handle, Pinterest, Foursquare and Instagram. Social networking sites provide easy forums for interacting with customers. Negative messages and offensive language can cost not just one customer, but several, so it's also important for hotels to be cautious on social networks as well. These are open forums and clients can post their experiences on the hotel's personal account or page if they wish.

This method is also very useful for businesses as it allows hotels to quickly contact customers about new services, upcoming activities, special offers, etc. It is one of the quickest and easiest ways to communicate with customers. With the advent of social media, communicating with customers and promoting the hotel has become a major challenge. Such a network has helped the hotel build a large base of existing and future customers. Hotels can easily monitor popularity through options such as number of likes, followers, and website sharing on social networks.

- **Review Sites**

A review site is a website where people share their experiences in the form of ratings, photos, feedback, etc. In India, popular hotel review sites such as TripAdvisor and Trivago are ranked, and top hotel reviews are posted on the review sites, and further stays are considered. No matter who posts negative comments or criticisms, it is very important that the hotel is sensitive to both positive and negative comments. We will respond professionally to any request. If this channel is properly managed, it will be a channel that will enable you to expand your hotel business. Check out each social media platform to see which one is best for your business. Consider the following key considerations for each of them: The products or services we offer and the human and financial resources available. Social media is free, but do you think your time is worth it? Don't subscribe to every channel on social media. Because they are new or famous on the block. Decide which ones are most important to your business. Being good at 1 or 2 channels instead of 5 or 6 averages. Before deciding which social media platform to join, follow a simple, actionable plan.

- **Treat TripAdvisor like every other Site for Social Media.**

TripAdvisor is often integrated into the social media strategy of any hospitality business. As many hoteliers know, it's an excellent source of knowledge and understanding for your prospective guests. TripAdvisor ranks 3 most recently reported reviews, number of reviews, and quality of reviews. Rank hotels based on three factors. It can be difficult to get guests to use and rate your hotel (unless

they have a negative rating). While trends show that people are more likely to write about negative experiences than positive ones, our team has a program in place to address the volume and frequency of guest reviews. We used Google and TripAdvisor to create a review card and send it to each hotel team to give to their guests and hopefully inspire them to write about their experience on the site. Ultimately, the most important quality we hold is to make sure that all general hotel marketing managers are regularly aware of all comments, especially the less positive comments. It is one of the most valuable tools for improving hotel and guest services.

- **The Impact of Social Media Marketing on the Hospitality and Tourism Industry**

Searches increase as more travelers are encouraged to book hotel rooms. Therefore, it is more important than ever for hotels to maintain a strong online presence. Most people may only care about having her website that is intuitive and mobile-friendly with up-to-date information, or making sure the information they provide to OTAs is accurate. However, just covering these two areas is not enough to capture the attention of travelers. To be successful and gain a competitive advantage in the market, hoteliers need to leverage social media. With millions of users on platforms like Facebook and Instagram every day, there are many reasons why social media marketing is worth investing in. Once you understand the different ways travelers interact with your content, you can develop strategies that work for your business and ultimately increase your hotel's revenue.

- **Guests Understand Content Visually**

In the human brain, approximately 50% of the brain surface is devoted to visual comprehension, so visual content is processed faster than text. As a result, we remember visual information better than text, and online users are more likely to be forced to engage with eye-catching content. We live in the Information Age, with Internet users sifting through thousands of posts and articles every day. For this reason, text-based online forms of advertising do not generate engagement. Potential guests are more likely to stop and look at your post if you generate a

simple and attractive visual aid. Even without clicking, they are more likely to remember your business than your competitors. An important part of this process to remember is repeating the hotel name on social media over the course of several weeks. Switching between a steady stream of posts rather than inspiring an audience is a carefully considered, but necessary to build brand awareness. In fact, 72% of consumers say their products and services in video form rather than text whenever possible. Additionally, users spend 88% more of her time on her website, which includes videos, improving the overall impression of a memorable hotel.

### **Brand Awareness**

Without a strong and active social media presence, hotels miss the attention of guests who drive valuable conversions. Ads and posts appear in users' feeds based on their browsing history, leaving a digital footprint on nearly everyone who uses the internet occasionally or daily. Social algorithms take user data (search result clicks, website visits, likes and reshares, etc.) and aggregate it into experiences that further identify users based on their likes and dislikes. Their level of engagement helps the site define them and the business behind them to know which posts to display to ensure they are most likely to get their attention. But all of this wouldn't happen if you didn't have a post to share on social media. On platforms like Facebook, Twitter, and Instagram, algorithms prioritize post freshness. That means your social media marketing strategy only lasts a month or two. This is a long term commitment that will make a big difference for the hotel in the long run. We published a resource for hotels on how brand awareness can help her maximize ROI on her social media posts. It also includes useful advice on how to implement a stronger social media brand awareness strategy.

### **Increased Potential for Reach**

Users spend an average of about 2.5 hours a day on social media, and about 49% of the world's population regularly use the Internet. This opens up huge possibilities for hotels to reach exactly the people they need with customized ads targeting specific geographies and demographics. Social media has two

goals. A series of regular posts aimed at building and maintaining brand awareness crushes another series of posts aimed at inspiring potential guests. Motivate these viewers to travel by posting engaging and creative posts and they are more likely to book your accommodation. A consistent social media presence increases the trust your followers and future guests have in you as a company. If they have a question about your property or have an issue they want to address personally, they may not answer your call right away. Trying to express Looking at your active social profiles shows that you are a reliable company to keep in touch with. Social media is an important part of a hotel's marketing toolkit, but just posting his one-off posts about offers and services once in a while isn't enough. Establishing a strong social media presence can help you establish your brand in the minds of travelers and generate more revenue for your business. Our team of social media experts can help take the pressure off you so you can spend time face-to-face with your employees and guests. Visit our social media services page to learn how to easily manage your social media profiles.

### **Ideas to Increase Your Hotel's Online Visibility**

Social media is always changing. Stay on top of social marketing trends, keep up with them, and stay relevant. Video content is so popular these days that you need to incorporate video into your social media strategy. Find influencers relevant to your niche. They don't have to be celebrities. They are bloggers, experts, thought leaders, etc., have significant communities of followers and friends, and are able to influence their audience through their content platforms. It helps people decide what to do while traveling. Post local guides and tell people what's going on in the area to understand how your hotel's current guests spend their time, invite others to visit your town, and help you find your hotel room can be booked. Run a hotel blog and post information about attractions, shopping, activities, restaurants and nightlife in your area. You need to create great blog content that will outperform your competitors. It's important to post on a schedule and be consistent. Share this

content on social networks such as Facebook and Twitter.

Posting regularly on social media is good, but don't overdo it. It's important not to spam people's timelines. If you're considering social media marketing for a smaller hotel that doesn't have the budget for multiple media channels, start by reaching your existing customers. If you run a boutique hotel in a trendy vacation spot, Instagram is for you. You can create something like a video tour guide. Find interesting videos of your travel destinations and add them to your YouTube channel.

### **Conclusion and Suggestions**

From the above literature review, it is clear that social media has proven to be an effective communication and marketing technique for the hospitality industry. In today's competitive business environment, the hospitality industry must use social media as a marketing tool to promote business and reach potential customers. Therefore, the hospitality industry designs and hosts its own websites, opens accounts on Facebook, Twitter, and many other social networks to post informative photos and provide information about its company, facilities, and offerings. You need to be able to provide comprehensive information. You need to allow your customers to book online. The hospitality industry can leverage social media channels to communicate directly with customers, promote brands more effectively, build reputation, retain customers, and increase customer loyalty and increase sales. The amazing thing about social media is that it provides an ideal forum for communicating brands directly to consumers. By using a clever combination of the above tricks, you can target specific audiences by displaying targeted advertisements on mobile phones and build strong relationships in response to posts on Facebook and Twitter. , can generate followers through the event page. It is the highly personal and strong relationships we have with our customers that build trust in our brand and services. The hotel should go a step further and invest in his mobile app. What better way to build long-term customer relationships than through a direct channel of communication between two people? At approximately \$8

billion (a 6.5% improvement over last year's figure), direct bookings via mobile devices are becoming a major component of hotel balance sheets. While not a pure social media platform, an effective and well-maintained website is a basic requirement for any establishment wishing to remain profitable and competitive. And if done right, it can easily be the main driving force behind most reservations. But for now, the industry needs to recognize that people are becoming more autonomous in a technology-driven world. Hotels should adhere to this and strive to create a direct online booking channel for internet-savvy customers. It has become very important for hotels to have a properly run website, learn Facebook and Twitter, or at least think about smartphone apps.

Hotels should use a combination of these channels. This is because their primary customer base does not change throughout the process, so relying on either channel in the future will lead to losses. Another thing to remember is the knowledge each portal is trying to spread. Different websites should provide different and pertinent information. When everyone has the same comprehensive details, it leads to lack of customer interest and affects the hotel business. The third thing to consider is the contacts you need to make with your customers. This contact via social media can affect hundreds of customers, so maintaining a constant dialogue with customers, both now and in the future, is critical for hotels. It is important to be carefully aware of the channels your property takes over, choose them, and use them wisely. Social media can have both positive and negative effects on five-star luxury hotels and small businesses. Actions are important and quick responses to revalidation, and are useful when they are genuine and result in large payouts. This becomes important when it comes to brand identity. Many hospitality businesses have successfully leveraged social media. If the comments were positive or negative, they responded well to their advantage. With technology evolving rapidly, hospitality operators cannot afford to ignore social media. This is just the beginning and who knows where it will lead us. This is one area where ideas and hypotheses need to be

established and developed to support the increasingly fast-growing hospitality industry.

#### **References**

1. Mandy, L. C., Timothy, J., and Tim, K. (2012). Social Media Marketing in Selected UK Luxury Hotels.
2. Iva, T. S., and Drazen, A. (2012). Social media marketing in hotel companies: case study of an innovative approach to customer relationship management via Facebook at Maistra Inc. Croatia.
3. Sebastian, M., José, X. L., Antonio, F., and Andres, C. (2016). Hotel Assessment through Social Media: The case of TripAdvisor. *Tourism and Management Studies*, 12(1), 15-24.
4. Woo, K. G., Hyunjung, L., and Robert, B. A. (2015). The effectiveness of managing social media on hotel performance. *International Journal of Hospitality Management*, 44, 165-171.
5. Bulankulama, S. W. G. K., Ali, K., and Shokri, T. S. D. M. (2015). Evaluating the effect of hotel size for utilization of social media in Sri Lankan hotel industry. *International Journal of Scientific and Research Publication*, 5(4).
6. Preetika, K. C., and Kavitha, K. (2015). Social Media Channels Used by Hotels. *Indian Journal of Research*, 4(12).
7. Aarti, M. (2015). Indian Hotel Industry: Transformation Through Digital Marketing. *International journal of Business Management*, 2(1).
8. Preetika, K. C., and Kavitha, K. (2016). Is Social Hotel the future of Indian Hospitality? *International Research Journal of Management, IT and Social Sciences*, 4(1), 60-65.
9. Samaan, A., and Abdullah, A. (2016). The Effects of Social Media Marketing in the Hotel Industry: Conceptual Model for Development of an Effective Online Community. *International journal of Business and Management Invention*, 5(7), 1-12.
10. Leung, X. Y., Billy, B., and Stahura, A. A. (2013). The Marketing Effectiveness of Social Media in the Hotel Industry: A Comparison of Facebook and Twitter. *Journal of Hospitality and Tourism Research*, 39(2), 147-169.
11. Mohamed, N. A. (2012). Harnessing the power of social networks for branding hotel services: evidence from the Egyptian hotel sector. *Innovative Marketing*, 8(2).
12. Inversini, A., and Masiero, L. (2014). Selling rooms online: the use of social media and online travel agents. *International Journal of Contemporary Hospitality Management*, 26(2), 272-292.
13. Andreea, M. (2015). The challenges and opportunities of social media in the hospitality industry: A study of the North East Region of Romania. *European Integration- Realities and Perspectives. Proceedings*.
14. Nga, L., and Basak, G. D. (2011). Investigation of Social Media Marketing: How Does the Hotel Industry in Hong Kong Perform in Marketing on Social Media Websites? *Journal of Travel and Tourism Marketing*, 28(4), 345-368.
15. Kalaskar, P. (2013). Marketing Strategies for Standalone Hotels: With Reference to Mayur Aaditya Resorts, Dharwad, India. *Research Journal of Management Science*, 2(5), 14-19.
16. "Hospitality Industry, Development of Tourism in India, Indian Hotel Industry". *Ibef.org*. N.p., 2015. Web. 4 Nov. 2015.
17. Federation of Associations in Indian Tourism & Hospitality – Travel News Digest. (n.d.). Retrieved from <http://www.travelnewsdigest.in/?tag=federation-of-associations-in-indian-tourism-hospitality>

## ORIDONIN: A REVIEW OF ITS SCOPE IN ANTICANCER THERAPY

Fatema Safri<sup>1</sup>, Sanjay Gaikwad<sup>2</sup> and Rajendra V. Salunkhe<sup>3</sup>

1,2. Rajiv Gandhi Institute of IT & Biotechnology, Pune, Maharashtra state, India

3. Arts, Science & Commerce College, Indapur, Dist. Pune, Maharashtra state, India

**Corresponding Author- Fatema Safri**

Email id: [rvsalunkhe4444@gmail.com](mailto:rvsalunkhe4444@gmail.com)

DOI- 10.5281/zenodo.7264931

### **Abstract**

*Cancer is one of the leading causes of death, globally and poses a significant challenge to the health sector. Resistance to the available therapies and their side effects has shifted the therapeutic paradigm to the naturally available plant components. Oridonin, a component from a plant has been studied for years for its anti-inflammatory and anti-cancer properties. It regulates different signalling pathways such as ERK (extracellular signal-regulated kinase and Akt pathway, JAK-STAT (Janus kinase/signal transducers and activators of transcription) pathway, Wnt/ $\beta$ -catenin pathway and MAPK (p38 mitogen-activated protein kinase) in tumor cells eventually leading to cell death. Moreover, studies have been carried out to develop Oridonin analogues for cancer treatment. Further studies on understanding the precise action of Oridonin will unfasten the use of natural components in therapeutics. This review summarises the effect of Oridonin on different signalling pathways, its synergistic action with other chemotherapy and the development of Oridonin analogues for clinical trials.*

**Keywords:** Oridonin, Apoptosis, Signalling Pathways, Anticancer Therapeutics, Oridonin analogs

### **Introduction:**

The use of plants and herbs for the treatment of various diseases has been practised since ancient times. The written work describing the use of medicinal plants for the preparation of drugs has been found over 5000 years ago in Nagpur.<sup>[1]</sup> Traditional Chinese Medicine (TCM) and Ayurveda have been the roots of natural plant-based therapy for a lot of diseases. Various studies have been done on plants to understand their medicinal properties such as their anti-cancer, anti-diabetic, and anti-hepatotoxic effects.<sup>[1,2]</sup> For instance, *Panax ginseng* has been used for over 2000 years to treat cardiovascular diseases and diabetes.<sup>[2]</sup> Quinine isolated from the bark of *Cinchona* species was used by the Peruvian Indians to treat shivering since the 17<sup>th</sup> century. Furthermore, aspirin, a salicylic acid derivative obtained from the bark of a willow tree has been used in many cultures worldwide to treat inflammation and fever. Use of these traditional medicines set up the platform to develop therapeutics from plants and herbs, with lesser side effects.<sup>[3]</sup> Apart from anti-inflammatory and anti-diabetic effects,

the use of plants for the treatment of cancer has been practised for a long time. Vinca alkaloids obtained from *Catharanthus roseus* (Apocynaceae) initiated an era of cancer treatment using plants.<sup>[4]</sup> It has a cytotoxic effect by disrupting the microtubule function and causing cell arrest at the metaphase stage.<sup>[5]</sup> However, a limited understanding of the molecular basis of traditional medicines has restricted the development of cancer drugs from medicinal plants. Similarly, another plant compound Oridonin also has shown anti-cancer properties. Oridonin has an apoptotic effect on cancerous cells. The mechanism of action of Oridonin is not well understood however, it promises the application to treat various cancers. This review article focuses specifically on the current advances in Oridonin for cancer therapy. It summarizes the data from various experiments that depict the anti-cancerous properties of Oridonin.

### **Oridonin induces apoptosis in cancer cells:**

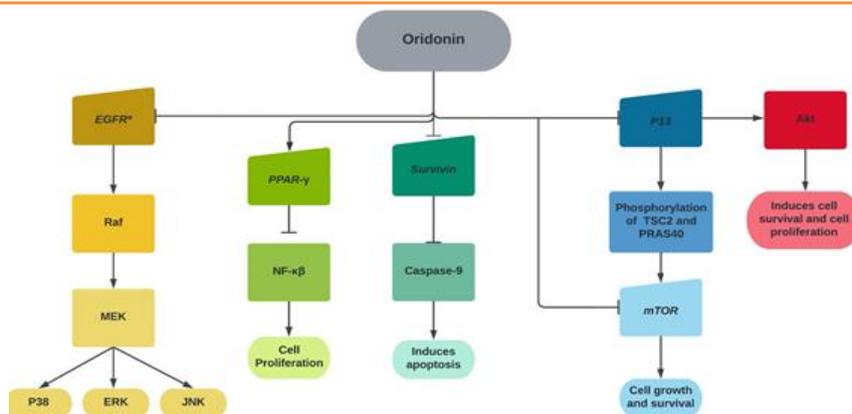
*Rabdosia rubescens*, also commonly known as *Don Ling Cao* in TCM, is being used by

Chinese folk since ancient times to treat wrestling injuries, stomach aches, pharyngitis, and sore throats and coughs.<sup>[6,7]</sup> In the last few decades, this herb has gained attention in the therapeutic field due to its antitumor effects. *Rabdosia rubescens* contains a variety of active components like diterpenoids, flavonoids, phenolic acids, triterpenoids, and other volatile oils.<sup>[8]</sup> Out of these active components, Oridonin (C<sub>20</sub>H<sub>28</sub>O<sub>6</sub>), a diterpenoid compound has been shown to modulate various signalling pathways and bring about antibacterial, anti-inflammatory, anti-cancerous, anti-fibrotic and neuro-regulatory actions.<sup>[9]</sup> Oridonin is reported to show an apoptotic effect on *in vitro* cancer cell lines such as colorectal, oesophageal, liver, uterine cervical, laryngeal, and lung cancer.<sup>[6,10]</sup> In addition, it has very little to negligible effect on normal cells like lymphoid cells and fibroblasts.<sup>[11]</sup> Experiments have demonstrated that Oridonin exerts an antitumor effect by mediating several pathways that regulate cell proliferation and apoptosis, such as JNK (c-Jun N-terminal kinase), MAPK (p38 mitogen-activated protein kinase), ERK (extracellular signal-regulated kinase) and Akt signaling pathways.<sup>[10,11,12]</sup> For instance, Oridonin is associated with cell apoptosis and cell cycle by upregulating p21 in prostate cancer and by downregulating the phosphoinositide 3-kinase/Akt pathway in the cervical cancer HeLa cell line.<sup>[12]</sup> Furthermore, Oridonin downregulates the ERK and Akt signaling pathways to suppress the proliferation of the osteosarcoma cells. Oridonin has also been shown to suppress the Ras-Raf JNK survival pathway in murine fibrosarcoma, eventually leading to apoptosis. It also shows antitumor function by regulating the activity of the Wnt/ $\beta$ -catenin pathway in central neurocytoma.<sup>[12,13]</sup> Moreover, Oridonin also targets PI3K/Akt pathway in prostate cancer cells<sup>[14]</sup> while Notch signaling in breast cancer.<sup>[15]</sup> Studies also

prove that Oridonin increases the level of Bcl-2 and active caspases and downregulates the Bax protein<sup>[12,16,17]</sup> A study on osteosarcoma inferred that Oridonin activates Peroxisome Proliferator-Activated Receptor  $\gamma$  (PPAR- $\gamma$ ). PPAR- $\gamma$  inhibits the activation of nuclear factor- $\kappa$ B (NF- $\kappa$ B) which is normally involved in cell proliferation and cancer development. Oridonin regulates multiple cellular pathways which makes it difficult to make targeted use of this molecule.

#### **Oridonin enhances the anti-cancer effect:**

Conventional use of chemotherapy is ineffective for a lot of cancer types due to various factors like drug resistance, side effects, and most importantly, the fact that different cancer types have different causes. Natural compounds in combination with other natural or synthetic compounds can overcome drug resistance and show significantly lesser side effects. For instance, overexpression of P-gp (P glycoprotein) is associated with increased efflux of cytotoxic drugs like doxorubicin, vincristine, etoposide, colchicine, camptothecins, and methotrexate.<sup>[18]</sup> The P-gp/MDR1 expressed in the NCI cell line does not resist the antitumor effect of oridonin, speculating that Oridonin is effective on the otherwise multidrug-resistant (MDR), unresponsive tumors.<sup>[18]</sup> Moreover, Oridonin inhibits the growth of tumors and metastasis by inhibiting angiogenesis- an essential phenomenon in metastasis. It inhibits VEGF (vascular endothelial growth factor) that normally activates the VEGFR (vascular endothelial growth factor receptor) which in turn promotes downstream signalling of cell proliferation, migration and tubular formation.<sup>[19]</sup> It also reduces the metastasis rate in ovarian cancer cells and reduces the levels of MMP-2 and MMP-9 (associated with metastasis).<sup>[20,21]</sup> It blocks the Notch-related signalling pathway which plays an important role in the induction of metastasis.



**Figure 1: Oridonin regulates various cellular signalling pathways\*: Oridonin in combination with cetuximab inhibits EGFR**

**Synergistic effect of Oridonin and other chemotherapy:**

Multiple studies suggest that natural compounds along with other chemotherapeutic agents increase the anti-cancer effect and reduce the side effects. A combination of natural compounds and other chemotherapy can be encouraged for more effective anti-cancer treatment. Doxorubicin along with curcumin inhibits the progression of hepatocellular carcinoma. Similar studies when done with Oridonin showed that it enhances the anti-tumor effect of doxorubicin in breast cancer by inhibiting angiogenesis and cell

growth.<sup>[20]</sup> Furthermore, Oridonin along with valproic acid showed caspase-dependent apoptosis of the leukemic cell. Homoharringtonine induces apoptosis in acute myeloid leukemia (AML); in combination with Oridonin, Homoharringtonine aided in the influx of oridonin thereby increasing the survival of mice with AML. Despite the enhanced effect of Oridonin with other chemotherapeutic drugs, it is essential to understand the exact mechanism of action and the dosage ratio because it may have an antagonist effect with varying dosages.

**able 1: Effect of Oridonin on different cancer cell lines**

| System                                      | Effect of Oridonin   | Mechanism  | Reference s |
|---|--|--|-------------|
| PC3 and DU145 prostate cancer cells         | Inhibition of cell proliferation by inducing cell cycle arrest at G2/M phase.                | Expression of CDK1 and p21 proteins- involved in cell cycle progression.                       | [14]        |
| PC3 and DU145 cells.                        | Effect on mitochondrial signaling (intrinsic) pathway leading to apoptosis.                  | Upregulation of Bax and downregulation of Bcl-2  | [14]        |
| MG-63 and HOS cell lines                    | Induces apoptosis; inhibits cell proliferation   | PARP-γ inhibits NF-κβ involved in cell proliferation.  | [16]        |
| Hepatic Stellate Cells                      | Antifibrogenic effects   | Inhibition of cell proliferation and suppression of collagen type I and fibronectin expression | [23]        |
| Hepatic Stellate Cells (LX-2)               | Anti-inflammatory effect   | Inhibits production of MCP-1, IL-6 and IL-18 (proinflammatory mediators) and ICAM-1 and VCAM-1 | [23]        |
| Central Neurocytoma cells                   | Inhibits cell proliferation and induces apoptosis  | Mediated by altering Wnt/β catenin signaling pathway   | [12]        |
| Cervical cancer HeLa cells                  | Suppression of cell proliferation  | Downregulation of IP3-kinase/Akt signaling pathway   | [12]        |
| 143B Osteosarcoma cells                     | Inhibition of proliferation and apoptosis  | Downregulation of Wnt/β catenin signaling; upregulation of Dkk-1 expression                    | [10]        |
| Ovarian cancer cell lines (SKOV3 and A2780) | Inhibits proliferation of ovarian cancer; reduced metastasis rate                            | Inhibits mTOR signaling pathway; upregulation of FOXp3 level.                                  | [21]        |
| H1975 lung cancer cell line                 | Anti-proliferative effect; inhibits metastasis of lung cancer cells (resistant to gefitinib) | Downregulates MMP-12 level by regulating the EGFR/ERK cell signaling pathway.                  | [23]        |

### **Therapeutic use of Oridonin and its analogues:**

The major drawback in the current chemotherapy is the chemo-resistance of tumors. These therapies also impose greater toxicity associated with the drugs and eventual side effects such as nausea and vomiting, gastrointestinal effects eventually leading to malabsorption, anemia, and fatigue. Moreover, ongoing chemotherapy and radiations pose toxic effects on healthy body cells.<sup>[24]</sup> These naturally derived compounds are being extensively investigated to overcome the drawbacks. Analogs and derivatives of Oridonin are being synthesized with its increased solubility, bioavailability and efficacy. Although Oridonin has been proven to show anti-inflammatory, anti-tumor activity, its oral bioavailability is lesser than 5% because of low water solubility.<sup>[25]</sup> An Oridonin derivative, HA0472 ester trifluoroacetate developed by Hengrui Medicine Co. Ltd has been approved into Phase I human clinical trials.<sup>[26]</sup> Geridonin, an oridonin-based analogue was studied to show the anti-tumour effect on gastric cancer cells. In combination with paclitaxel, it acts to upregulate PTEN (phosphatase and tensin homolog) and downregulate PI3K/Akt signaling pathway.<sup>[27]</sup> Nitrogen incorporated in the core of the Oridonin not only improved the solubility but also enhanced the apoptotic effect in triple-negative breast cancer, MDA-MB-231, and tumor in mice.<sup>[25]</sup> Another Oridonin analog CYD 6-17, targets the expression of  $\beta$ -catenin in the Wnt pathway in a transition cell carcinoma. It shows enhanced anti-cancer effects with increased aqueous solubility. Moreover, CYD 6-17 has been proved to be less toxic to normal cells as compared to Oridonin.<sup>[28]</sup>

Other oridonin-based derivatives were reported in which adiazene-1,2-diolate nitric oxide donor moiety was added and were demonstrated to arrest S phase cell cycle progression in hepatoma Bel-7402 cells. In 2017, spiro-lactone-type ent-kaurane derivatives were reported to be

able to induce apoptosis and arrest cell cycle progression in MCF-7 human breast cancer cells. Xu S. et al. also reported a modification with the trans-cinnamic acid moiety on the oridonin structure, which rendered the derivatives stronger anti-mycobacterial activity. Recently, a series of enmein-type diterpenoid amino acid ester derivatives were developed and tested in multiple human cancer cell lines. Among them, compound 19 was found to act against proliferation by inducing apoptosis and cell cycle arrest through a mitochondria-dependent pathway. Similarly, another two ent-kaurane derivatives, linking different H<sub>2</sub>S donors, also induced mitochondria-dependent apoptosis. These studies demonstrate that there are aroused interest in the synthesis and identification of potent oridonanalogs as potential cancer therapies.<sup>[25]</sup>

### **Limitation:**

Despite the promising effect and safety of Oridonin as a cancer treatment, there are some limitations due to which the Oridonin-derived drugs are still under clinical trials. Oridonin has limited aqueous solubility and bioavailability. It also has relatively moderate potency<sup>[29]</sup> and the precise mechanism of action is still unknown. The relationship between autophagy and apoptosis, and the functional relation between caspases and autophagy is still not well understood. This has hindered further clinical applications and preclinical development. However, definite research into the action of Oridonin on cellular pathways will expand the frontiers of cancer therapeutics.

### **Conclusion:**

Cancer is one of the major causes of mortality worldwide. Finding a better therapeutic to overcome the limitations of other cancer treatments has always been a challenge. Oridonin, a natural extract from a Chinese herb promises a potent anticancer activity. Previous studies unravel that Oridonin contributes to curbing tumor development by upregulating apoptotic pathways and downregulating cell survival pathways.

Moreover, Oridonin in combination with other anti-cancer drugs has shown promising signs of cure. Currently, there is limited knowledge of Oridonin's targets and its role in regulating cellular pathways. Thus, there lies a scope for further research to transform the potential candidate into a commercially available drug.

#### **Bibliography:**

1. Petrovska B. B. (2012). Historical review of medicinal plants' usage. *Pharmacognosy reviews*, 6(11), 1–5. <https://doi.org/10.4103/0973-7847.95849>
2. Zhang R, Zhu X, Bai H and Ning K (2019) Network Pharmacology Databases for Traditional Chinese Medicine: Review and Assessment. *Front. Pharmacol.* 10:123. doi: 10.3389/fphar.2019.00123
3. Corson, T. W., and Crews, C. M. (2007). Molecular understanding and modern application of traditional medicines: triumphs and trials. *Cell* 130, 769–774. doi: 10.1016/j.cell.2007.08.021
4. Shoeb, M., 2008. Anticancer agents from medicinal plants. *Bangladesh Journal of Pharmacology*, 1(2).
5. Moudi, M., Go, R., Yien, C. Y., & Nazre, M. (2013). Vinca alkaloids. *International journal of preventive medicine*, 4(11), 1231–1235.
6. Kang N, Cao SJ, Zhou Y, et al. Inhibition of caspase-9 by oridonin, a diterpenoid isolated from *Rabdosia rubescens*, augments apoptosis in human laryngeal cancer cells. *Int J Oncol.* 2015;47(6):2045-2056. doi:10.3892/ijo.2015.3186
7. Yaning, H., Fei, Z., Yuanyuan, L., Mei, Z. and Shasha, L., 2016. Inhibitory effect of oridonin on proliferation of RPMI8226 cells and the possible underlying mechanism. *Journal of Traditional Chinese Medicine*, 36(2), pp.225-230.
8. Wong, A. M., Zhang, Y., Kesler, K., Deng, M., Burhenn, L., Wang, D., Moro, A., Li, Z., & Heber, D. (2010). Genomic and in vivo evidence of synergy of a herbal extract compared to its most active ingredient: *Rabdosia rubescens* vs. oridonin. *Experimental and therapeutic medicine*, 1(6), 1013–1017. <https://doi.org/10.3892/etm.2010.145>
9. Liu, Xi, Jimin Xu, Jia Zhou, and Qiang Shen. "Oridonin and Its Derivatives for Cancer Treatment and Overcoming Therapeutic Resistance." *Genes & Diseases* 8, no. 4 (July 1, 2021): 448–62. <https://doi.org/10.1016/j.gendis.2020.06.010>.
10. Liu, Y., Liu, Y.-Z., Zhang, R.-X., Wang, X., Meng, Z.-J., Huang, J., Wu, K., Luo, J.-Y., Zuo, G.-W., Chen, L., Yin, L.-J., Deng, Z.-L., & He, B.-C. (2014). Oridonin inhibits the proliferation of human osteosarcoma cells by suppressing Wnt/ $\beta$ -catenin signaling. *International Journal of Oncology*, 45(2), 795–803. <https://doi.org/10.3892/ijo.2014.2456>
11. Bao, R., Shu, Y., Wu, X. *et al.* Oridonin induces apoptosis and cell cycle arrest of gallbladder cancer cells via the mitochondrial pathway. *BMC Cancer* 14, 217 (2014). <https://doi.org/10.1186/1471-2407-14-217>
12. Liang, J., Wang, W., Wei, L., Gao, S. and Wang, Y., 2018. Oridonin inhibits growth and induces apoptosis of human neurocytoma cells via the Wnt/ $\beta$ -catenin pathway. *Oncology Letters*,
13. Liu, QQ., Chen, K., Ye, Q. *et al.* Oridonin inhibits pancreatic cancer cell migration and epithelial-mesenchymal transition by suppressing Wnt/ $\beta$ -catenin signaling pathway. *Cancer Cell Int* 16, 57 (2016). <https://doi.org/10.1186/s12935-016-0336-z>
14. Lu, J., Chen, X., Qu, S., Yao, B., Xu, Y., Wu, J. ... Ma, C. (2017). Oridonin induces G2/M cell cycle arrest and apoptosis via the PI3K/Akt signaling pathway in hormone-independent prostate cancer cells. *Oncology Letters*, 13,2838-2846. <https://doi.org/10.3892/ol.2017.5751>

15. Xia, Shixin, Xiulan Zhang, Caihong Li, and Honglian Guan. "Oridonin Inhibits Breast Cancer Growth and Metastasis through Blocking the Notch Signaling." *Saudi Pharmaceutical Journal, Animal Models and Clinical Trials in Pharmaceutical Research*, 25, no. 4 (May 1, 2017): 638–43. <https://doi.org/10.1016/j.jsps.2017.04.037>.
16. Lu, Y., Sun, Y., Zhu, J., Yu, L., Jiang, X., Zhang, J., . . . Zhang, Q. (2018). Oridonin exerts anticancer effect on osteosarcoma by activating PPAR- $\gamma$  and inhibiting Nrf2 pathway. *Cell Death & Disease*.
17. Sun, Ke-Wang, Ying-Yu Ma, Tian-Pei Guan, Ying-Jie Xia, Chang-Ming Shao, Le-Gao Chen, Ya-Jun Ren, Hai-Bo Yao, Qiong Yang, and Xu-Jun He. "Oridonin Induces Apoptosis in Gastric Cancer through Apaf-1, Cytochrome c and Caspase-3 Signaling Pathway." *World Journal of Gastroenterology: WJG* 18, no. 48 (December 28, 2012): 7166–74. <https://doi.org/10.3748/wjg.v18.i48.7166>.
18. Kadioglu, Onat, Mohamed Saeed, Victor Kuete, Henry J. Greten, and Thomas Efferth. "Oridonin Targets Multiple Drug-Resistant Tumor Cells as Determined by in Silico and in Vitro Analyses." *Frontiers in Pharmacology* 9 (2018). <https://www.frontiersin.org/articles/10.3389/fphar.2018.00355>.
19. Abdullah, Nurul Akmaryanti, Nur Fariesha Md Hashim, Aula Ammar, and Noraina Muhamad Zakuan. "An Insight into the Anti-Angiogenic and Anti-Metastatic Effects of Oridonin: Current Knowledge and Future Potential." *Molecules* 26, no. 4 (January 2021): 775. <https://doi.org/10.3390/molecules26040775>.
20. Li, J., Wu, Y., Wang, D., Zou, L., Fu, C., Zhang, J., & Leung, G. P.-H. (2019). Oridonin synergistically enhances the anti-tumor efficacy of doxorubicin against aggressive breast cancer via pro-apoptotic and anti-angiogenic effects. *Pharmacological Research*, 146, 104313. <https://doi.org/10.1016/j.phrs.2019.104313>
21. Wang, Ye, and Zhiling Zhu. "Oridonin inhibits metastasis of human ovarian cancer cells by suppressing the mTOR pathway." *Archives of Medical Science* 15.4 (2019): 1017-1027.
22. Cummins, Claire B., Xiaofu Wang, Jimin Xu, Byron D. Hughes, Ye Ding, Haiying Chen, Jia Zhou, and Ravi S. Radhakrishnan. "Antifibrosis Effect of Novel Oridonin Analog CYD0618 Via Suppression of the NF-KB Pathway." *Journal of Surgical Research* 232 (December 1, 2018): 283–92. <https://doi.org/10.1016/j.jss.2018.06.040>.
23. Xiao, Xiangling, Zhongwei He, Wei Cao, Fen Cai, Liang Zhang, Qiuyue Huang, Chunsheng Fan, et al. "Oridonin Inhibits Gefitinib-Resistant Lung Cancer Cells by Suppressing EGFR/ERK/MMP-12 and CIP2A/Akt Signaling Pathways." *International Journal of Oncology* 48, no. 6 (June 1, 2016): 2608–18. <https://doi.org/10.3892/ijo.2016.3488>.
24. Nurgali, K., Jagoe, R. T., & Abalo, R. (2018). Editorial: Adverse Effects of Cancer Chemotherapy: Anything New to Improve Tolerance and Reduce Sequelae?. *Frontiers in pharmacology*, 9, 245. <https://doi.org/10.3389/fphar.2018.00245>
25. Liu X, Xu J, Zhou J, Shen Q. Oridonin and its derivatives for cancer treatment and overcoming therapeutic resistance. *Genes Dis.* 2020 Jul 5;8(4):448-462. doi: 10.1016/j.gendis.2020.06.010. PMID: 34179309; PMCID: PMC8209342.
26. Xu, J. and Xia, Z., 2019. Traditional Chinese Medicine (TCM) – Does its contemporary business booming and globalization really reconfirm its medical efficacy & safety?. *Medicine in Drug Discovery*, 1, p.100003.
27. Wang SQ, Wang C, Wang JW, et al. Geridonin, a novel derivative of

oridonin, inhibits proliferation of MGC 803 cells both in vitro and in vivo through elevating the intracellular ROS. *J Pharm Pharmacol.* 2017;69(2):213-221.

doi:10.1111/jphp.12678

28. Chen, W., Zhou, J., Wu, K., Huang, J., Ding, Y., Yun, E. J., Wang, B., Ding, C., Hernandez, E., Santoyo, J., Chen, H., Lin, H., Sagalowsky, A., He, D., Zhou, J., & Hsieh, J. T. (2016). Targeting XBP1-mediated  $\beta$ -catenin expression associated with bladder cancer with newly synthetic Oridonin analogues. *Oncotarget*, 7(35), 56842–56854.

<https://doi.org/10.18632/oncotarget.10863>

29. Kang, Ning, et al. "Inhibition of caspase-9 by oridonin, a diterpenoid isolated from *Rabdosia rubescens*, augments apoptosis in human laryngeal cancer cells." *International journal of oncology* 47.6 (2015): 2045-2056.

---

**PERFORMANCE OF FINANCIAL LITERACY AND CREDIT COUNSELLING  
CENTRES OF CANARA BANK**

**Ms. Vidya Bhat<sup>1</sup> Mr. Shrihari Karanth<sup>2</sup>**

<sup>1</sup>Research Scholar, Department of Studies in Commerce, Davangere university, Davangere,  
Karnataka, India

<sup>2</sup>Research Scholar, Department of Studies in Commerce, Davangere university, Davangere,  
Karnataka, India

**Corresponding Author- Ms. Vidya Bhat**

E-mail: [vidyabhat56@gmail.com](mailto:vidyabhat56@gmail.com)

DOI- 10.5281/zenodo.7264995

**Abstract**

Financial Literacy and Credit Counselling Centres (FLCCs) are in forefront of financial literacy. For effective financial inclusion, financial literacy is essential to ensure financial services should reach these unreached and under-reached sections of the society. Therefore, the Reserve Bank of India undergone through various efforts to make the people financially educated. The Canara Financial Advisory Trust (CFAT) are the sponsored centres of Canara Bank initiated in the year 2010. The main objectives of CFAT are to provide free financial education to the upliftment of rural as well as urban population. From the past 7 years the CFAT flourishing with 21,800 camps and educated lakh together people with 157 centres established in different part of the country.

---

**Key words:** Financial Literacy, Financial Inclusion, Canara Bank, FLCC, CFAT

**Introduction**

Financial Inclusion is gearing towards promoting financial literacy and making the credit available to productive sectors of economy including rural sectors. This is being done at the most affordable rates and it is ensured that the facilities of financial inclusion should reach every corner without any leakages. However, financial inclusion and financial literacy are the twin pillars to have a good financial strength of individuals and sustainability of a financial system. Financial literacy plays a vital role in efficient allocation of household savings and the ability to meet the financial crises. Financial literacy and credit counselling will help the backward people to practice the function of savings, credit, timely repayment of debt and management of debts for the betterment of household living and thus reach the mainstream of financial inclusion. Financial Literacy is a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decision and ultimately achieve individual financial well-being. In line with the objective of bringing the unbanked people into the banking fold, the strategy of conducting the literacy programs should also incorporate opening of accounts in camp mode followed by close monitoring of usage of accounts. In addition, a granular review would help in

identifying the factors inhibiting the frequent use of accounts. The strategy should also include sorting out all such issues at the earliest. Moreover, while organizing financial literacy events, the involvement of Local Government officials and other prominent persons in the villages is also highly recommended. The banks may also consider associating NGOs with proven track record in the field of financial literacy. However, the contents of this guide should be used as a standard text to be imparted to excluded people during the monthly financial literacy camps.

**Literature Review**

The financial literacy could be important instrument of financial development in a macro level and more conventional for the policy making for financial infrastructure development across the globe (Antonia Grohmann, 2018). According to Olubanjo Michael, (2019), they found that the financial literacy influences the savings and investment pattern of an individual in both formal and informal financial institutions. According to the research paper on financial literacy, financial inclusion and savings behaviour in Laos (Peter J. Morgan, 2020) financial literacy has statistically positive effects on financial literacy and savings behaviours of the people. One who is having financial literacy are more likely having good

savings at the formal financial institutions and vice versa. Adequate access but low frequency in usage of financial services shows the financial literacy is required among the country's population (Grohmann & Menkhoff, 2017). Low levels of Financial Literacy in conjunction with low incomes are among the main obstacles to greater Financial Inclusion (Babych, Grigolia, & Keshelava, 2018). According to Kapadia (2019) the financial literacy linked with the personal financial planning, operational Knowledge and information about various financial services and products.

#### **Research Objectives**

This paper is aimed to understand the functions and achievements of FLCC

initiation by Canara Bank and to analyse the motive behind the initiation and the achievements of FLCCs in India.

#### **Data Analysis**

#### **Canara Bank Initiative towards Financial Inclusion**

Reserve Bank of India, on 4th February 2009, came out with guidelines for opening Financial Literacy Counselling Centres and advised the Banks to open FLCCs in their Lead Districts and they are focus on credit counselling. Canara Bank promoted Canara Financial Advisory Trust on 8th October, 2010 to administer and monitor FLCCs opened by the Bank as well as those opened by its sponsored RRB.

**Table 1.1, State wise Programs Conducted by CFAT**

| Sl. No | Name of the State | No. of Centres | No. of Programs Conducted | No. of people Educated |
|--------|-------------------|----------------|---------------------------|------------------------|
| 1.     | Karnataka         | 87             | 476                       | 49,325                 |
| 2.     | Kerala            | 22             | 117                       | 8,181                  |
| 3.     | Tamil Nadu        | 08             | 47                        | 4,997                  |
| 4.     | Uttar Pradesh     | 13             | 75                        | 5,769                  |
| 5.     | Haryana           | 10             | 59                        | 3,802                  |
| 6.     | Delhi             | 03             | 30                        | 2,773                  |
| 7.     | Bihar             | 01             | 08                        | 465                    |
| 8.     | Telangana         | 02             | 14                        | 1,843                  |
| 9.     | Andhra Pradesh    | 10             | 57                        | 4,029                  |
| 10.    | UT (Lakshadweep)  | 01             | 02                        | 76                     |
|        | <b>Total</b>      | <b>157</b>     | <b>885</b>                | <b>81,260</b>          |

(Source: Annual reports of CFAT)

The above table depicts that, the number of FLCCs in India is 157. Karnataka stands first and Kerala stands second in the list. It is identified that, the performance of Bihar state is not so appreciable because, only 08 camps are conducted and among them only 465 people are educated through the FLCCs. At the end of the financial year 2020-21, the CFAT reached 81,260 people with the help of 885 camps and the established centres are 157. The gradual

development of Canara Financial Advisory Trust is explained with the help of below table.

**Table 1.2, Performance Of Financial Literacy and Credit Counselling Centre**

| Sl. No | Particulars                                       | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 |
|--------|---|---------|---------|---------|---------|---------|---------|---------|
| 1.     | Number of Centres                                 | 65      | 71      | 71      | 72      | 72      | 82      | 157     |
| 2.     | Number of States & UT Covered                     | 6       | 7       | 7       | 7       | 7       | 8       | 10      |
| 3.     | Number of Persons Counselling (in lakh)           | 0.8     | 0.95    | 1.44    | 0.94    | 1.04    | 0.87    | 0.75    |
| 4.     | Number of persons Educated or Contacted (in lakh) | 9.87    | 10.18   | 11.61   | 14.51   | 15.72   | 20.15   | 12.91   |
| 6.     | Number of Camps Conducted                         | -       | -       | 12,483  | 11,176  | 12,954  | 13,952  | 21,800  |

**(Source: Annual Reports of Canara Financial Advisory Trust)**

In the year 2014 -15, the total number of Literacy Centres by CFAT were 65 and now it is increased by 92 centres at the end of 2020-21. There is a gradual increment in the numbers of centres opened as well as the coverage of states and UT by year on year. Up to 2019-20, the performance of CFAT was appreciable. Total Number of persons educated in the year 2017-15 was only 9.87 lakh, but at the end of 2019-20, the CFAT educated more than 20.15 lakh people all over the country. Financial year 2020-21 was witnessed an unanticipated pandemic COVID-19 and had a pooled lockdowns and traveling/participation restrictions. Though, the number of programs increased by the CFAT, they could able to reach only 12.91 lakh persons because a greater number of persons are not invited to the program to follow the COVID-19 protocol. So, CFAT showed the reasonable performance for the year 2020-21.

#### **Findings And Suggestions**

The Financial Literacy and Credit Counselling Centre (FLCC) scheme of Canara bank was an excellent initiative and performing accordingly to the guidelines made by the Reserve Bank of India. The provided data disclose that, the performance of Canara Financial Advisory Trust is gradually growing and the number of beneficiaries also increasing day by day. Further, some of the suggestions for Canara Financial Advisory Trust for its future improvement are;

1. The CFAT can use some innovative methods like issuance of family budget books, access and usage of banking

services by people with duly verification by the authority, instead of using standard camps.

2. After conducting the financial literacy and credit counselling camps, there should be a continuous follow ups by the counsellors of the CFAT to get the effective results.

#### **Conclusion**

Financial literacy and credit counselling centres are helpful for unbanked and illiterate people to knock the doorstep of banks. Therefore, the Reserve Bank of India undergone through various efforts to make the people financially educated. The financial literacy centre of Canara bank concentrated more on preparing the people aware about systematic borrowings with the knowledge of responsible repayment. So that, the credit score of the borrower could be maintained. Along with that the people of the society should access and effectively use the financial services facilitated under the financial inclusion. Not only the Canara bank but also other commercial banks like State Bank of India, Central Bank, Bank of Baroda and some of the private banks and regional rural banks are also sponsoring the financial literacy centres. The FLCC of Canara bank have a tremendous opportunity in the context of inclusive growth and sustainable development.

#### **References**

1. Antonia Grohmann, T. K. (2018, June 24). Does financial literacy improve financial inclusion? Cross country. *World Development*, 84-96.

- doi:<https://doi.org/10.1016/j.worlddev.2018.06.020>
2. Babych, Y., Grigolia, M., & Keshelava, D. (2018). Financial inclusion, financial literacy, and financial education in Georgia. *ADB Working Paper*. Retrieved from <http://hdl.handle.net/10419/190270>
  3. Jann Goedecke, I. G. (2017, May 03). Why Do Financial Inclusion Policies Fail in Mobilizing Savings from the Poor? *Development Policy Review*, 36(S1), 0201-0219. doi:<https://doi.org/10.1111/dpr.12272>
  4. Peter J. Morgan, T. Q. (2020, March 26). Financial literacy Financial Inclusion and Savings behaviour in Laos. *Journal Of Asian Economics*, 68. doi:<http://dx.doi.org/10.1016/j.asieco.2020.101197>
  5. SAMUEL TAWIAH BAIDOO, E. B. (2018). Understanding the Determinants of Savings in Ghana: Does Financial Literacy Matter? *Journal of International Development*. doi:10.1002/jid.3377
  6. Trust, A. R. (n.d.). *Annual Reports of Canara Financial Advisory Trust*.

## FINANCIAL LITERACY – GLIMPSE OF SHIFT

**Kulkarni Bhagyashree<sup>1</sup> Dr. D. B. Bharati<sup>2</sup>**

<sup>1</sup>Research Scholar, Savitribai Phule Pune University.

<sup>2</sup>Director, Rajgad Institute of Management Research and Development, Pune, India.

Corresponding Author- Kulkarni Bhagyashree

Email- [bhagyaashri18@gmail.com](mailto:bhagyaashri18@gmail.com)

DOI- 10.5281/zenodo.7265033

### **Abstract:**

This research article is an attempt to examine the change due to the financial literacy initiatives in India in recent years. The significance of financial literacy for individuals, businesses, and the contribution towards the growth of the economy as a whole. Research also indicates the various initiatives' outcome and how positively it correlates to the financial literacy level. The paradigm shifts in the outlook of India's prospect in the world and the basis to achieve it.

**Keywords:** Financial Literacy, Financial Education, Initiatives and change

### **Introduction**

The literal description of "Financial literacy" is understanding and application of Money. It is the ability of an individual to effectively manage a variety of financial skills, such as personal finance management, budgeting, and investing. It is an essential instrument to make a positive shift in people's lives. Financial literacy improves money management skills, confidence, well-informed investment decision, and ultimately economic elevation which contributes to national growth. The recent advancement in technology through various mediums has boosted the improved rate of financial literacy among the youth and techno-savvy population in India. The national-level drives are channelized by Central Government through the Reserve Bank of India, Securities Exchange Board of India, Insurance Regulatory and Development Authority of India (IRDAI) and Pension Fund Regulatory and Development Authority (PFRDA) etc. are actively facilitating the workshop, schemes and financial literacy courses offered from school children to adults. The interactive information and assistance are available online and through mobile applications of service providers or intermediaries, which has helped to have maximum reach. This has improved the awareness of financial literacy. According to RBI report, the share of digital transactions in the total volume of non-cash retail payments increased to 99.3% during 2021-22 and digital

payments recorded 29% annual growth at March end of 2022. According to the Minister of State for Finance, India's FinTech adoption rate is at 87% as against the global average of 64%. Furthermore, the value of fintech transactions is expected to rise at a CAGR of 20% to US 138 billion in 2023.

Financial Literacy and its significance for India

### **Growth contribution through MSME:**

Financial literacy can help small businesses to grow and also contribute to the innovation to bring into the market. The MSME exports 50% of its volume and contributes nearly 30% of India's GDP.

### **Developmental Role:**

Reaching to excluded and rural populations for inclusive growth, and working on their development is achievable through financial literacy. The essence will be making people aware of available resources and the application or utilization appropriately.

Ease of commercial transactions:

The promotion of cashless transactions to a great extent became possible with the addition of more than 280 million bank accounts. This has been made possible under PMJDY (Pradhan Mantri Jan Dhan Yojana) scheme. According to RBI report, nearly 40% of the population borrowed money from informal sources with high-interest payments. Financial literacy can make informed decisions for such borrowers and can lead to ease of doing business

Improved quality of life:

The shift from a saver to an investor is the major outcome of an informed decision of a financially literate person. It also improves the quality of life as it yields wealth creation.

**Speat of capital market participation:**

Capital markets are the barometer of the economy. Retail category participation has surged dramatically over a couple of years, which indicates that the investors are shifting from traditional means of investing to the high-risk-high returns periphery. According to the business standard report, the number of active dematerialized accounts in the country jumped 63% to 89.7 million in FY2022. As of March 31, the Central Depository Services (CDSL) managed 63 million accounts with assets under custody (AUC) of Rs 37.2 trillion. Meanwhile, the National Securities Depository (NSDL) handled 26.7 million accounts with AUC of Rs 302 trillion.

**Financial Literacy and social media**

Social media enabled interaction, content-sharing, communication, and collaboration. It has a massive impact on spreading financial literacy to the masses. Stock market training, YouTube channels, mobile applications, and websites have been founded by realizing the power of informed decisions through financial literacy. An increase in mobile penetration and the internet subsequently triggered the popularity of various investment options in India and abroad. All age categories which are tech savvy, are getting attracted to the secondary markets and mutual funds. The share of retail investors on NSE reached an all-time high of 7.42% as of March 2022. Social media has created a huge impact in reaching the farthest and creating a sense of understanding of the importance of financial literacy.

**Financial Literacy and Initiatives:**

Government initiatives to strengthen and inclusive growth have been on cards under the financial inclusion drive. The goal accomplishment is expected to be an ongoing process and all the regulatory bodies are involved in this agenda. The awareness of

financial literacy among citizens is the basic drive where RBI, SEBI, IRDAI, PFRDA and other intermediaries are playing an evident role. To make citizens equipped with basic financial literacy; RBI initiated the financial education series and covered basic and sector-specific education programs. Financial well-being concepts like Inflation, Time value of money, Savings, Compounding, Interest etc. are explained through posters, comic stories, videos, and very simplified financial literacy guides. The business aid and support system are through innovative and secure payment systems, financial awareness messages or alerts, Ponzi schemes etc.

The watchdog of capital and securities markets; SEBI initiated the financial literacy awareness programs through workshops, seminars, training, media campaigns etc. It also focuses on Basic and advanced financial literacy among investors and their protection. The majority of the contents for financial literacy are developed by IRDAI. It also organizes seminars, training, and quiz as a tool to improve on financial aspects for informed decisions. To create the importance and awareness among citizens for retirement planning and post-retirement perspective, Pension Sanchay, a dedicated website is launched. It is proposed to be a very effective tool to create awareness among citizens as a shift from defined benefits to defined contributions. Apart from the various initiatives, the Government launched various national-level drives like Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY), Atal Pension Yojana, Jovan Jyoti Beema to promote financial inclusion. Financial literacy education for school children is the biggest facility to make the next generation equipped with informed financial decisions. According to a report by payment solutions provider ACI Worldwide, data analytics firm GlobalData, and the Centre for Economics and Business Research (CEBR), India made 48.6 billion real-time payments through 2021 – which is over 2.6 times higher than China, which is at the second place with 18.5 billion real-time transactions. The Reserve Bank of India's

(RBI's) composite financial inclusion index (FI-Index) which captures the extent of financial inclusion across the country, rose to 56.4 in March 2022, up from 53.9 in March 2021, reflecting growth across all sectors. The FI-Index is responsive to ease of access, availability and usage of services, and quality of services, comprising in all 97 indicators. A unique feature of the FI-Index is the quality parameter, which captures the quality aspect of financial inclusion as reflected by financial literacy, consumer protection, and inequalities and deficiencies in services.

#### India's Prospects

A recent survey conducted by SEBI indicates that only 27% of India's population is financially literate. According to a survey by S&P, more than 75 % of Indian adults do not adequately understand basic financial concepts. The gap is more when it comes to women, standing at 80%. Furthermore, it is evident that certain subgroups, like women and young people, are excellent targets for financial literacy programs because of the stark vulnerabilities present throughout the nation. The next generation of consumers, employees, and citizens must be informed, and financial education is an essential building block for increasing financial literacy. One important lesson is that there is no one-size-fits-all approach to financial education. Initiatives to promote financial literacy must be extensive, scalable, and consistent to be successful. Financial literacy should be regarded as being as vital to basic literacy, or the capacity to read and write, in the modern

world. It is necessary for people and civilizations to develop to their maximum potential. Financial prowess might spur broader economic expansion and raise living standards. India may achieve great things if its workforce is well-educated in financial matters. An economically astute India would have significant global influence.

#### References

1. <https://www.business-standard.com/article/markets/india-s-demat-account-tally-up>
2. <https://www.businessworld.in/article/Financial-Literacy-s-Growing-Importance-In-India-Opportunities-And-Gaps/22-08-2022-443114/>
3. <https://investor.sebi.gov.in/national-inclusion-eng.html>
4. <https://www.rbi.org.in/FinancialEducation/>
5. <https://www.ibef.org/blogs/india-s-growing-financial-literacy>
6. <https://www.outlookindia.com/national/india-now-among-select-nations-that-shape-global-financial-sector-trends-pm-narendra-modi-news-212875>
7. <https://www.outlookindia.com/business/rbi-s-financial-inclusion-index-rises-reflects-growth-across-all-parameters-news-213640>
8. <https://www.livemint.com/news/india/40-of-global-real-time-payments-originated-in-india-in-2021-report-11650973119569.html>
9. <https://economictimes.indiatimes.com/markets/stocks/news/financial-education-and-its-importance-in-making-investing-accessible-across-india/articleshow/91792025.cms?from=mdr>

## THE USE ICT TOOLS IN TEACHING, LEARNING AND EVALUATION

**Dr. Prashant Tanaji Chavare<sup>1</sup> Prof. Tanaji Sambhaji Deokule<sup>2</sup>**

Asst. Professor, Dept. of English, College of Arts, Bhigwan

Assoc. Professor, Dept. of English, Chhatrapati Shivaji College Satara. (Autonomous)

**Corresponding Author- Dr. Prashant Tanaji Chavare**

Email- [chavareprashant@gmail.com](mailto:chavareprashant@gmail.com)

DOI- 10.5281/zenodo.7265043

### **Abstract:**

Now-a-days, we are using the ICT tools in our day to day teaching learning and evaluation. This integration of Information and Communication Technologies makes an amazing range of media available to us for quick, effective and reliable communication, data storage and retrieval to the greater access of quality education. So the main purpose of the ICT is to promote learning to learn i.e. the acquisition of knowledge and skills that make possible continuous learning over the lifetime. Information and Communication technologies include as Recorded audio/video cassettes, radio, Television, teleconferencing, telecollaboration, computers, the Internet and M-learning etc. We can also use the google classroom, classmarker, kahoot, google forms; google meet etc. in our teaching-learning and evaluation process. The focus of the present paper is the use of Information and Communication technologies in teaching-learning process to improve the quality education.

---

**Keywords:** Teaching, Learning, Communication, Technologies, Information

---

### **Introduction:**

The teaching-learning process is now shifted from teacher-centric to learner-centric. So the learners are more freedom to express their views and ask the questions related to the academic. It gives rise to self-learning. And now blending of technology and its application in the delivery of education have increased the productivity of individual and also the quality of curriculum transaction and learning experiences. It is possible to have greater access to quality education because integration of Information and Communication Technologies makes an amazing range of media available to us for quick, effective and reliable communication, data storage and retrieval. It is also possible to take education to all. It gives rise to the A-3 scenario namely Anyone, Anytime, Anywhere. Everyone can be connected to other through networks. It has made possible to ensure access and equity in matter of education for the large masses. With access and equity comes the question of quality. But we can use ICT in an organized way so as to achieving access while maintaining the quality at a desired level.

### **Information and Communication Technologies:**

ICTs stand for Information and Communication Technologies. ICTs are defined as a diverse set of technological tools

and resources used to communicate and to create, disseminate and manage information. Information and communication technologies in education mean implementing its equipment in teaching and learning process as a media. Information and communication Technologies in education deal with the use of information and communication technology within educational technology. ICTs such as open source software, satellite technology, local language interfaces, easy to use human-computer interfaces, digital libraries are used as e-learning or online learning or mobile-learning.

### **Purpose of Information and Communication Technologies:**

The purpose of ICTs in education is to generally make students familiar with its use and how it works. The use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real world problems. It improves the perception and understanding of the world of the student. Information and Communication Technologies can be used to prepare the workforce for the information society and the new global economy. So the main purpose of the ICT is to promote learning to learn i.e. the acquisition of knowledge and skills that make possible continuous learning over the lifetime. The global changes also put pressure on all

groups to constantly acquire and apply new skills. The effective integration of ICTs into the educational system is a complex and multifaceted process. It involves not just technology but also curriculum and pedagogy, institutional readiness, teacher competencies and long term financing.

### **ICTs Tools:**

ICT can be used as a tool in the process of education in a different way. The informative tools are used to store the data. They prove vast amount of data in various formats such as Audio, Video Documents, video clips, you tube videos etc. Then there some situating tools. They create situating which the student experiences in real life. Thus simulation and virtual reality is possible. The constructive tool is one of the tools that are used to manipulate the data and generate analysis. And the communicative tools can be used to remove communication barriers. Information and Communication technologies include as Recorded audio/video cassettes, radio, Television, teleconferencing, telecollaboration, computers, the Internet and M-learning etc. The ICT enabled tools are Kahoot, Google Classroom, Blog, You Tube Channels, Classmarker, Google Forms, Googel Meet, Swayam/NPTEL, EPG Pathshala, Khan Academy, Infilbnet etc. Teachers can use ICT enabled online resources for effective teaching and learning process including ebooks, ejournals, enewspaper, CD ROM Databases, Computer based Electronic Networks, Infilbnet and other Resources, websites, Satalite Imaginaery, Educational Apps, N-list and NDL etc. With the help of ICT enabled tools and online resources, the teachers are using different types of student centric methods, such as experiential learning, participative learning and problem solving methods for enhancing learning experiences. The focus of the paper is the use of Information and Communication technologies in teaching-learning and evaluation process.

### **1. Audio and Videos Aids:**

The recorded audio/video cassettes are very convenient to use and affordable. We can explain or visualize the difficult concepts and issues very clearly in our presentation. These are very effective for conceptual learning and can significantly help slow as well as

physically-challenged learners. So the teaching can become more effective through the use of audio, video and CD-ROMs based programmes. In classroom teaching, we are also using the smart boards in which various types of software are available to present our topic and we can also save the data.

### **2. Laptop and Computer:**

Computer is a learning tool which promotes interactivity in teaching-learning. The computer is about to replace the books as our main repository of information and comes to occupy the central position in education. And it is also taking on many of the functions previously performed by the teachers. So computer has redefined the goals of education. In the recent times, we are now using the laptops and also the tabs.

### **3. Internet:**

In a recent time, computer assisted learning is used in our teaching-learning process. Actually, it came with the availability of Internet in 1996. Internet combines various media technologies and creates a new virtual world. It has now emerged as the most successful educational tool because it offers a global open platform for information storage, display and communication. It integrates text, graphics, audio and video with communication tools to promote synchronous and asynchronous one to one, one to many and many to many interaction. Internet has become world's most valuable knowledge repository because the leading institutions are now using it to provide individualized learning at a distance and upload their courseware as open resource. So the every learner can surf the information, interpret it and share the knowledge with many and varied users. They can become the multi-skilled. In face to face teaching-learning, the use of internet increases flexibility in interaction. Internet brings large amount of current and relevant information to the learners. However, it fumbles as a pedagogical leader for content with wider and multiple perspectives and open-ended questions and answers. So the student's perspective and their reactions can be easily seen which helps to develop the teaching-learning. The different ICT methods such as PPT, Kahoot, Class Marker, Google Classroom, You Tube , Moodle cloud, Blog,

Slideshare etc. are used in our teaching-learning and evaluation process.

#### **4. Mobile learning:**

Mobile learning is now creating a new wave of educational development. It is based on the convergence of mobile technologies and wireless infrastructure. M-learning implies shift from mouse –and –click to pen–and –voice interface. It also implies different things to different people. So mobile phones, personal digital assistants (PDAs), smart phones should be regarded pocket-sized computers and as such have ability to provide access to online systems and services. We can use Google forms and Google meets for conducting the lectures and in the evaluation process.

#### **Conclusion:**

These technologies have given us new opportunities as well as new challenges. These developments and advancements have brought the classrooms to homes so that the traditional walls of the classrooms are collapsing. So it is not just important of using these technologies, but properly organizing them into a well-defined instructional strategy which is the essence of ICT-enabled teaching and learning to keep the quality in education. According to UNESCO-integrating technology into education can help to bring quality education to everyone, everywhere- a key goal of the education for all initiative. The citizens of the future must be equipped with sufficient knowledge to keep up with technological advances. UNESCO also believes that recognizing innovative ICT in education practices can encourage and enhance even more educational innovations. But today information is resource and knowledge is power. ICT provides any one to access vast information resource available on Internet and Networking to make one self powered in knowledge.

#### **References:**

1. Bates, A. W. , Technology , Open Learning and Distance Education
2. Bottino, R.M. , 'ICT National Policies, and Impact on Schools Teachers' Development'
3. Chandra, S & Patkar, V. , 'ICTs :A catalyst for enriching the learning process and library services in India'.

4. Fahy, P . Planning for Online technology in Open and distance Learning, Global E-Journal of Open, Flexible and Distance Education, 1(1), 3-17

## Emerging Trends and Practices in English Literature

Dr. Prashant Tanaji Chavare<sup>1</sup> Dr. Manisha Tanaji Chavare<sup>2</sup>

<sup>1</sup>Asst. Professor, Dept. of English, College of Arts, Bhigwan.

<sup>2</sup>Asst. Professor, Dept. of English Sangameshwar (Autonomous) College, Solapur.

DOI- 10.5281/zenodo.7265054

### Abstract:

This paper aims to focus on modern emerging trends in English literature. During the course of time the literature too has seen many notable changes. As one of the definitions of literature is, "*Literature is the reflection of society*". Students and teachers of literature need to understand the recent trends in literature, not only in India but around the world. The writers are influenced by the evolution of literature and many of them in turn contribute to new trends. There are many trends which have emerged already like Micro Fiction, Flash Fiction, Six Words Novel, Two Minutes Love Story, Twitter Fiction, Graphic Fiction, blogs, hypertext and so on. At one side it made easier for writer as well as reader but other side it degraded the language badly. The grammar has lost its value to disappear in this technology world. SMS language has destroyed the function of vocabulary and spellings. The attention span of the reader has been decreasing. It has been a method of conveying messages to other individuals throughout the world, through a language that is understood within society. Everyone become impatient and it is the biggest challenge to a writer to hold the attention. To meet the new challenges in literature has taken in turn now a day.

**Key words:** Modern, emerging, practices, trends, literature

### Introduction:

Literature has changed at a more rapid pace today ever before because of innumerable pandemic, political, social, cultural and technological changes happening in the world. The field of literature has been changed. New trends are replacing the linear, solitary and closed reading with the internet, e-book, and social media causing a transformation in the way literature is written, perceived and read. We are going to discuss emerging trends in English literature so that you can stay updated with new trends appearing in English literature. Globalization and communication revolution has transformed literature. The internet has created micro literature to cope with bending span of the reader. Flash fictions and micro fictions are some product of internet age. Moreover these are the days of six words stories and there are twirlers instead of thriller, Twaikus instead of Haikus and twistories instead of short stories. The technology and increasing use of internet brought a revolution in literature. The changing face of literature is hard to trace as it's determined by controllable factors dictated by technology. Moreover people has no space and time today for reading Thomas Hardy's description of nature or Dickens's description of characters

rooted in the local scene. Long descriptions have been replaced by short and micro one.

### Micro Fiction or Flash Fiction:

Micro fiction is also called as flash fiction. A style of literature in which stories are extremely short and often consists of less than 300 words. Flash fiction challenges and tests the artistic caliber and creative ability of a writer by compelling his or her genius to create a polished, intense and impactful piece of literature within a limited space of a few words. Famous example of flash fiction is *Aesop's Fables*. Most of the peoples liked this inferred moral in concise form. Even famous writers like Ernest Hemingway, Anton Chekov, O'Henry are flash fiction writers. Some of the worth reading flash fictions are Debbble Young's '*Quick Change*', Tara Campbell's '*Angels and Blueberries*', Ya Hua's '*As the North Wind Howled*' Franz Kafka's '*Give it up!*' Flash fiction is one of the most fascinating creative mediums in those days and age.

### Twitter Fiction:

Twitter fiction is being classified into certain new literary genre. Similarly to a flash fiction, which is typically a story comprised of up to 100 words, twitter fiction is a test of a writers skill in condensing a complete narrative or sentiment into an impossibly small word limit. The main characteristics of Twitter fiction states the elements like

brevity, multiple meanings and inter-textual ties. To meet the changing test of the reader Neil Gaiman using the platform as early as 2009, writers have taken to twitter to produce short stories in just a single tweet of 140 characters. In the same way that a short Tweet can summaries a person's mood or a notable moment. Twitter fiction presents a complete fictitious narrative. Barnes and noble's 'Gift Card' Philip Pullman's 'of His Dark Material', Teju Cole's 'Open City' and 'Every Day for the Thief'. The first twitter novel, both Tweeted in 2007 and 2008, are said to be 'Small Places' by Nicholas Belardes and 'The Good Captain' by Jay Bushman.

#### **Graphic Fiction:**

Another new trend in English literature is Graphic fiction. A graphic novel tells a story using a comic book format. Basically it is another way to tell a story. Graphic novels are not the genre of their own. Graphic novels can be any genre fiction, nonfiction, history, fantasy any genre can be made into a graphic novel. Graphic novel is a format not a genre. In the graphic novel a story is told in a frames/ panels, dialogues in speech bubbles, illustrations follows the a sequences of events, and the story has beginning, middle and end. While reading the graphic novel reader cannot become bore. The use of four elements done very effectively in graphic novel theses is characters, plot, setting and tension. Art Spiegel man's 'Mauls', Maryanne Satrapy's 'Persepolis', Debbie Drechsier's 'Daddy's Girl', Batman's 'The Dark Knight Returns' are the examples of graphic novels.

#### **Pandemic Fiction:**

As we know that everything was going well before 2019 but as the Covid- 19 emerged. The first wave decreased and we have seen the party popper. The covid -19 returning to India and this time covid- 19 dressed in Omicron variant. We have the stories of isolation, the stories of quarantine, and the stories of lockdown, the stories of long distance relationships or the people we have lost in our lives the dear ones we have lost. Some writer, authors went one way forward and write down their own stories which we call pandemic fiction. The famous pandemic fiction which are trending is Siddhartha Gigolo's 'Love in time of Quarantine', Shobha De's 'Lockdown Liaisons', Sarah Hall's 'Burnt

coat', Gary's 'Our Country friends', Jodi Pacolet's 'Wish You Were Here'.

#### **Six Words Novel:**

A new challenging genre for writers to do trial is easy to write a long narrative fiction but no one can think to write the novel of six words need an extra ordinary talent and creative sense. A six word story is an entire story told in a six words. It is a short narrative that can have all of the emotional themes of longer stories from funny to dramatic, sad to scary, While these quick stories don't have the classic beginning, middle and end of a traditional storyline, they have a subject and verb that give the reader a sense of what's happened and a bit of conflict. Most famous examples of a six word story is frequently credited to Earnest Hemingway 'For sale: baby shoes. Never worn' in simple six words a heartbreaking narrative is told - from the few words nut also from what is left out. Here are another short stories in this format: 'Thirteenth birthday, I laughed and cried', 'I'm dating him; she is my girlfriend', 'Google to inflate a lift raft!' How can we forget Rebecca James novel 'After she died, he came alive', and 'One gun, two shots, three dead' by Marcy. Six words novel made the reader curious and thoughtful.

#### **Conclusion:**

This study has discussed about the emerging trends in English literature. The literature has evolved using digital platform. There has been significant impact on literature as a result of pandemic, political, social, cultural, global and technological changes happening in the world. Literature is kind of creative thinking and writing. The above mentioned writings are new trends of enhancing skills. It is not like a conventional type of writing because it has varied, demanding and very spontaneous form of literature. It has also brought massive reputation. It provides us the pleasure of knowledge and illuminates your creativity in a short period of time.

#### **References:**

1. Kiran and N. Kumar, "Emerging Trends and challenges in English Literature", IJRMT, Vol.2, Oct. 2021.
2. Arnold sandra. 'Do it in a Flash : An essay on the History and definition of Flash fiction.'TSS publishing, 12, Aprl. 2018, The short story.co.uk/do-it-in-a -

flash-an-essay-on-the-history-and-  
definition-of-flash-fiction-by-sandra-  
arnold/#.Accessed 17 April 2020.

3. <http://falwriting.com/new>
4. Sinha, Sunita, 21<sup>st</sup> century Literature :  
Emerging Trends , 2014. print.
5. <http://bookriot.com/twitterature/>
6. Rajmmal, P. Pandia, ' *Emerging Trends in  
English Literature* ', Aut Aut Research  
Journal, Vol. IX , Issue IV, April 2020.

## **Healthy Water for Healthy Life**

**Dr. Sunita R. Mukkawar**

Assistant Professor, Dept. of Microbiology, B. Raghunath ACS College, Parbhani 431401

**Corresponding Author- Dr. Sunita R. Mukkawar**

E-Mail ID: [mukkawarsunita@gmail.com](mailto:mukkawarsunita@gmail.com)

DOI- 10.5281/zenodo.7265060

### **Abstract:**

Water is termed as an elixir of life. It is one of the most important components to human survival. Water quality performs important role for all living beings. Waterborne diseases are very important in India due to high levels of biological contamination of water. Annually about 37.7 million Indians are affected by waterborne diseases, 1.5 million children die of diarrhea and 73 million working days are lost leading to an economic burden of \$600 million a year. It has been an old practice in India that people dispose of their waste into river side and open defecation has been found very common. This practice cause pollution of nearby water bodies. The consumption of polluted water is usually connected with the occurrence of many deadly diseases. Rapid and uncontrolled population growth in India is a key factor to the main problem of water pollution. This paper provides a review on water pollutant load, causes of water pollution in India as well as the diseases resulting from the use of polluted water helpful to create awareness among people for maintaining healthy water to live healthy life.

**Keywords:** Elixir, water pollution, microorganism, sewage, diseases, cholera

**Introduction:** Water is an essential resource which is absolutely necessary for human survival. According to the 2021 World Water Development Report released by UNESCO, the global use of freshwater has increased six-fold in the past 100 years and has been growing by about 1% per year since the 1980s. Before industrial revolution, it was possible to take out and consume water from the water bodies for everyone's satisfaction. However, times have changed and over the past few decades most of the countries of the world are facing the problem of human population explosion, increasing urbanization and infinite industrialization. Due to tremendous increase in population growth and with the increase of such huge water consumption, water quality is also facing severe challenges. Industrialization, agricultural production, and urban life have resulted in the degradation and pollution of the environment, adversely affecting the water bodies (rivers and oceans) which are necessary for the life, consequently affecting human health and sustainable social development<sup>1</sup>. Globally, an estimated 80% of industrial and municipal wastewater is discharged into the environment without any prior treatment, with deleterious effects on

human health and ecosystems. This proportion is very high in the developing countries, where sanitation and wastewater treatment facilities are severely lacking and alarming flow of municipal sewage and industrial waste discharged into rivers, lakes and aquifers and greatly polluting water bodies.

UNESCO<sup>2</sup> defines water pollution as the introduction into water of any substance in undesirable concentration not normally present in water, for example, microorganisms, chemicals, waste or sewage, which renders the water unfit for its intended use. Simply, water pollution is defined as alteration in the physical, chemical and biological characteristics of water which may cause harmful effects on human and aquatic life. Certainly, water pollution has become a serious environmental problem all over the world and its impact has traditionally been related to public health hazards. India as also faces the distressing problems of water scarcity and water pollution on a large scale because of rapidly growing cities, An estimated 70 per cent of the available water of the Indian rivers is polluted because of improper disposal of untreated sewage and industrial wastes directly into rivers and streams.<sup>3</sup> Although water is essential for

all forms of life, for many it becomes a source of disease burden. In this context this paper focuses on the main causes of water pollution in India and the diseases succeeding from water pollution accordingly to control water pollution and contamination and preserve the availability of India's precious water resources.

#### **Water resources of India**

The availability of water in India is dependent on the annual rainfall from the southwest (June-September) and northeast (October-December) monsoons and there is much variation in rainfall at the station level. The annual rainfall varies from 10cm in west Rajasthan desert to 2500cm in Cherrapunji hills in northeast. About 76 per cent of the rainfall occurs during the southwest monsoon, June to September<sup>4,5</sup>.

#### **Growth of human population and fresh water accessibility in India**

The data on population tells us that India's population has increased by more than 5 times in the last 110years, from 238.4million in 1901 to 1210 million in 2011. India's population is now rising at about 1.63% every year this means that the population of India will be 1540 million by 2025 and will become the world's most populous country. The growth of population has decreased the availability of fresh water in India. The water availability per capita in India has gone down from 6372m<sup>3</sup> per annum in 1951 to about 1902m<sup>3</sup> in 2011The phenomenal growth in population has got its environmental cost in terms of water depletion and water pollution.

#### **Mechanisms of water pollution**

Rainfall is the only source of water in streams, lakes, tanks, ponds, springs, large reservoirs, and shallow and deep wells. The rainwater that becomes available for use from these water bodies accommodates lots of impurities and higher concentrations of some chemical substances which can have several deleterious effects on human health. Water pollution occurs when any substance in undesirable concentration not normally present in water e. g

microorganisms, chemicals, waste or sewage enters into water and make the water unfit for its intended use.<sup>2</sup> Rainwater carries dissolved (O<sub>2</sub>), (CO<sub>2</sub>), and other gases from the atmosphere as well as suspended particles. The water dissolves the clay, mud, organic and inorganic substances to varying degrees after falling on the ground and when begins to flow over the soil and rock. Again, when it flows in streams, it skims over with decomposed vegetables, and dead human and animal bodies. Thus, organic matter gets mixed in the rainwater and this subsequently increase its dissolving capacity and thus some of the major type of chemical salts such as Carbonates, Sulfates, Chlorides and Nitrates of Calcium , Magnesium , and Sodium get dissolved in water in concentrations greater than 1milligram per litre (mg/l). Furthermore, there are minor and trace salts of some metals such as Aluminium , Copper , Iron , Manganese , and Zinc that regularly occur in water. Excessive use of pesticides and fertilizers may also contaminate the water bodies. The introductions of these substances into the water render the rainwater hard, alkaline and saline and make the water unsafe for domestic (including drinking) use. In addition to these, certain harmful bacteria known as pathogenic microorganisms are also sometimes enter into the water which causes water-borne diseases and epidemics. Water borne diseases are spread by contamination of drinking water systems with the urine and faeces of infected animal or people. The germs in the faeces can cause the diseases by even slight contact and transfer. The waterborne diseases are the major cause of death globally.

#### **Main causes of water pollution in India**

There are four distinct causes of water pollution in India's water bodies.<sup>3</sup> These comprise human activities, industrial discharge, India's religious and social beliefs and agriculture which are briefly described as follows:

##### **Human activities**

Generation of wastes is a part of human activities and its disposal over the land and in water bodies has been a normal practice in India from ancient times. Rapid growth of population and urbanization in India during the recent decades has given rise to a number of environmental problems such as water scarcity, wastewater generation and its collection, treatment and disposal. People have therefore been dumping all sorts of waste matter that includes industrial waste, municipal sewage, residues of chemical fertilizers into our rivers and greatly polluting the river waters as also damaging the urban environment. These wastes are both solids as well as in dissolved state. Moreover, most of the sewage of towns and cities is directly dumped into water sources without any treatment furnishing the water downstream unfit for drinking as well as for bathing. In urban areas water is supplied for domestic and industrial use from rivers, streams, lakes, ponds, wells etc. Nearly 80% of the water supplied for domestic use passes out as wastewater. A part of it percolates into the ground and contaminates the ground water<sup>3</sup>.

Facilities of piped water have been provided in many towns and even in some villages during the last two decades. This has resulted in the use of flush-toilets and much larger use of water in homes for bathing, washing of clothes, utensils etc., and generating large quantities of wastewater. The use of soaps and detergents and amounts of various food materials going to sink have also grown considerably with improved standards of living. But sewerage has lagged far behind water supply. Situations in big cities are intensified by the migration of people from the surrounding rural areas. According to an estimate by Central Pollution Control Board (CPCB) which is India's national body for monitoring environmental pollution only about 40-50% of the population of the major cities like Delhi, Mumbai, Kolkata, Chennai, and Bangalore are served by sewer systems. Extensive pollution of rivers is turning

them into septic drains posing serious threat to the health of millions of people.

#### **Industrial discharge**

Many industries in India are located on river banks and use the rivers as open sewers for their effluents. The rivers are majorly polluted by this kind industrial wastes or effluents. All these industrial wastes are toxic to life that consumes this water. The major industries responsible for water pollution in India include pharmaceuticals, distillery fermentation, fertilizer plants, sugar industries, iron and steel industries, textiles, pulp and paper mills, engineering, paint and food. The total waste water generated from all major industrial sources is 83,048mld<sup>3</sup>.

#### **India's religious and social beliefs**

Most religious beliefs and social activities add on the pollution of our river waters from remote ages. Carcasses of cattle and other animals are disposed in the rivers. Dead bodies are cremated on the river banks. Partially burnt bodies are flung into the river. All this is done as a matter of religious faith and in keeping with ancient rituals. These practices pollute the river water and adversely affect the water quality. The problem peculiar to Varanasi city arises from the Hindu belief that the dead incinerated here attain liberation. This results in hundreds of bodies being incinerated at the river bank every day. This amounts to nearly 15,000 tons of ash per month which is dumped into the river.<sup>3</sup> Mass bathing in a river during religious festivals is another environmentally harmful practice. Studies have revealed that the biochemical oxygen demand (BOD) goes up drastically when thousands of people simultaneously take a holy dip. Religious beliefs in India also demands that offerings from religious prayers be immersed in a river. It is now common to see people immersing offerings in plastic bags which are very dangerous and further add to the pollution load of the river.

#### **Agriculture practices**

Agriculture is one of the most widespread human activities in India that affects surface water bodies. The agriculture practices include the cultivation of crops,

cattle and poultry farming, fish farming, logging, etc. The use of chemical fertilizers and pesticides, the storage and disposal of manure, stockpiling of materials is dispersed throughout the river basin and that surface water resources get affected. According to the Agricultural Research Institute (IARI), New Delhi, farmers often indulge in excess usage of fertilizers and pesticides. Apparently, when these are used more than the recommended doses, they pollute water, land and air.

#### **Occurrence of diseases from water pollution in India**

UNESCO<sup>1</sup> definition of water pollution is introduction into water of any substance in undesirable concentration not normally present in water, for example, microorganisms, chemicals, waste or sewage, which renders the water unfit for its intended use. About 80% of stomach diseases in India are caused by the lack of safe water with inadequate sanitation. Water pollution adversely affects the health and life of man, animals and plants alike. Polluted water is also harmful for agriculture as it adversely affects the crops and the soil fertility. Consumption of polluted water is a major cause of ill health in India through waterborne diseases. Waterborne diseases occur worldwide and are caused by pathogenic micro-organisms that often come in water from human or animal waste. Some of the deadly water borne diseases is Cholera, Typhoid, Paratyphoid fever, Dysentery, Diarrhea, Tuberculosis, Jaundice, and Amoebiasis etc. Waterborne diseases are single most important factor responsible for nearly 80% of human mortality in India. Children are badly affected, especially in rural areas as well as urban slums. Unsafe drinking water contributes to high infant mortality when it is contaminated with excreta or fecal matter. The lacks of safe water with inadequate sanitation combined with poor environmental status determine transmission of the cholera disease. Cholera and water environmental pollution issues therefore are closely linked Cholera is presently one of the main causes of morbidity and mortality in

India. Cholera is a reportable disease in most of the countries. Even today cholera epidemics occur regularly in India and it is unlikely that cholera will be eradicated. Nevertheless, recently mass vaccination against cholera has been added to control cholera.

#### **Conclusions**

The rapid growth of population in India has driven a number of waters related problems which are pertinent to public health. Despite of an improvement in life expectancy and provision of potable water there still remains a great deal of progress to be made. The main hindrance to improvement appears to be cultural rather than technical or economic. The Indian Government should strive to educate the younger generation in schools, colleges and universities in order to avoid the cultural practices of the past they could still be carried out in a more controlled and less water polluting way. The care of people is most important to all civilizations regardless of their cultural and religious background.

#### **References**

1. Xu, X., Yang, H., and Li, C. (2022a). Theoretical Model and Actual Characteristics of Air Pollution Affecting Health Cost: A Review. *Ijerph* 19,3532.doi: 10.3390/ijerph19063532
2. UNESCO. *International Glossary of Hydrology*. 2nd edn, UNESCO, Paris, France; 1992. p. 413.
3. Khullar DR. A *comprehensive geography*. 2nd edn, Kalyani Publishers, New Delhi; 2005.
4. Dhar ON, Rakhecha PR. A review of hydro meteorological studies of Indian rainfall. *Proc. Second World Congress on Water Resources organized by International Water Resources Association, held at New Delhi, 1975;3:449-462.*
5. Dhar ON, Rakhecha PR. A review of rainfall relationship based upon Indian data. *Water Resources Journal ESCAP, Bangkok*. 1979;16-25.
6. Rao KL. *India's Water Wealth*. Orient Longman, New Delhi; 1975.

7. Central Ground Water Board (CGWB). Bhu Jal News (Special issue on groundwater statistics). Ministry of Water Resources Publ. Government of India. 1991;6:1–162.
8. Chadha DK. *Development of groundwater resources of India: A overview*. Groundwater modeling and management. Capital Publishing Company, New Delhi; 2006.
9. Ministry of Information & Broadcasting (MIB). *A Reference Manual*. MIB Publ Government of India, New Delhi; 2012.
10. Kishore J. *National health programs of India*. 9th edn, Century Publications, New Delhi; 2011.
11. World Health Organization (WHO). *Guidelines for drinking water quality, recommendations*. Geneva, Switzerland; 1984. p. 130.
12. Bureau of Indian Standards (BIS). *Drinking water specification*. IS 10500, New Delhi; 1992.
13. Paul R. Hunter<sup>1\*</sup>, Alan M. MacDonald<sup>2</sup>, Richard C. Carter<sup>3</sup> PLoS Medicine | [www.plosmedicine.org](http://www.plosmedicine.org) 1 November 2010 | Volume 7 | Issue 11 | e1000361

**A STUDY OF REASONS AND CATEGORIES OF CODE- MIXING**

**Mr. Bapuso. S. Savase<sup>1</sup> Dr. I. M. Khairdi<sup>2</sup>**

<sup>1</sup>Research Scholar, Department of English PAH, Solapur University, Solapur

<sup>2</sup>Asst. Professor, Department of English C. B. Khedgi's College, Akkalkot

**Corresponding Author- Mr. Bapuso. S. Savase**

**Email- [iftekharkhairdi@gmail.com](mailto:iftekharkhairdi@gmail.com)**

**DOI- 10.5281/zenodo.7265074**

**Abstract**

This study highlights the sociolinguistic approach of Code-mixing. It deals with the code-mixed theories in and Indian literature. It analyses the data of code-mixed words. Various thoughts, views and opinions of renowned scholars regarding code-mixing has been considered in the present study. Multilingualism and Bilingualism theories are used in Indian novels. The novels are the mirror of the society and there is no urban society which is fully monolingual. So, more than two codes or languages are used regularly. Many factors motivate Indian writers to use two or more languages in their Literatures. Consciously or unconsciously a bilingual speaker chooses the appropriate language, while talking to other. In bilingual setting language choice is given to writers. As per the demand of the situation the speaker uses from a language variety to another. In the same way Indian novelists uses the code mixed strategy in their novels to express deep meaning of the novel and it is expressed by the characters in the novels.

**Introduction**

Existing Language is the reflections in the society and its norms. Language is the mean of communication for the human in society. There is an interconnection between Language and society. It also varies at cultural and language level, Attitudes and mental abilities of people affects the language use. The 'code' refers to the system of language which is used in society. In everyday communication, different codes in different situations are used by the people for expressing their feelings. We can say the code means a language, dialect, style, register or variety. In bilingual communities two or more than codes are used in communication. It means that a person living in this situation may speak more than one language.

**Code-mixing**

The concept of code mixing is defined by many scholars "Code mixing entails transferring linguistic units from one code into another. Such transfer is mixing results in developing a new restricted or not so restricted code of linguistic interaction" (Kachru Braj B 194) "A Phenomenon of switching from one language to another in the same discourse" (Numan and Carter 275). "Code-mixing occurs when conversant use both languages together to the extent that they change from one language to the other in the course of a single utterance"

(Wardhaugh101). There are four types of code mixing Pidginizations, Englishization, Sanskritization, Persianization. Bokamba uses "The concept to refer to the embedding of various linguistic units such as affixes words, phrases and clauses from two distinct grammatical systems within the same sentence and speech event" (278). Crystal defines "Code-mixing as a linguistic behavior that involves the transfer of linguistic elements from one language into another" (66). "The term code-mixing to refer to all the cases where lexical items and grammatical features from two languages appear in one sentence" (Muysken 01).

**Reasons of Code-mixing**

The writer of any literary part is not using Code-mixing deliberately. The intention is to help reader in understanding the novel in detail. This strategy gives deep meaning in the given context. It is depending on situation as per the need of writer and reader. There are some reasons and categories of using code-mixing.

**a. Talking about Particular Topic**

According to Hoffman (116), "the reason of code-mixing is that people prefer to talk about a particular topic in one language rather than in another. Sometimes, a speaker feels free and more comfortable to express emotional feelings in a language that is not everyday language of the user". A speaker is talking in Hindi and used English in between his communication as per the need or situation.

### **b. Lack of Facility**

The second reason for code-mixing is Lack of Facility. It means the lack of vocabulary. Lalita Malik (16) says “that bilinguals or multilingual usually explain the reason of mixing their languages is the lack of facility in one language when talking about a particular topic. They mix the languages when they cannot find an appropriate expression or when the language being used does not have the items or appropriate translation for the vocabulary needed”.

### **c. Habitual Expressions**

Code mixing is used due to speakers' habit. Habitual Expressions include greetings, blessings, & greetings, which are related to the Indian culture. It is happened because of bilingual and multilingual society and their habits.

### **d. To Conceal Speakers' Identity**

The next reason of Code-mixing is used to hide the Speaker's identity. Annamalai (1978), in his article “The Anglicized Indian Languages: A Case of Code-mixing’ notes his observation that code-mixing is used to conceal speaker's religious, regional or caste identity.”

### **e. Incompetence**

If the speaker is not competent in use of English language in their communication then it

Takes place. A speaker finds difficulty to find or recall the suitable word then he tends to use the vocabulary of mother tongue.

### **f. Emphatic**

Hoffman says, “Usually, when someone who is talking using a language that is not his native tongue suddenly wants to be emphatic about something, he/she, either intentionally or unintentionally, will switch from his second language to his first language. On the other hand, there are some cases where people feel more convenient to be emphatic in their second language rather than in their first language.” (116)

### **g. With the certain Audience**

Any speaker wants to talk only to certain community. If that speaker wants to avoid the interference

of other community he use another language intentionally.

Thus, by understanding the reasons of code-mixing we can say that there are specific

reasons for it. Two languages used together and it's depend on the speakers Language background, culture, religion, caste, generation, origin, geographical reason, education, occupation etc.

### **Code-Mixed Words and their Categories**

There are few categories like reasons of code mixing. The examples from selected novels will be analyzed as per the reasons and categories.

#### **a. Representation of Cultural**

In any culture there is a huge difference in living style, traditions, customs, rituals and habits of the people in society. The writers form the various cultural represent his or her culture and adopt his style, words, traditions and habits in their literature. Writer uses his or her language or mother tongue in writing though the English words are available. For examples, *Satyagrah*, *Tallaq Purdah*, *hartal*, *nikah*, *salaams*, *namaskars*, *henna*, *mehendi*, *zindabad*, *pallu*, *haveli*, etc.

#### **b. Identity Markers**

To mark identity of their profession writer used such words like *doodhdwala*, *dhobi*, and *bhangi* etc. **c. Words from Myths or Religion.**

The next category of code-mixing words Myths or Religion. The author used may words from myths or representation of various religions. For example words such as *maya*, *shakti*, *kaliyuga*, *mahayuga*, *mantras*, *avatar*, etc.

#### **d. Words in Kinship**

In every community or culture specific language and Kinship terms can be used by speaker. They use such terms to address their family members. Through these words they show affection and love towards family members and relatives. The kinship terms such as *abba*, *abboo*, *mamu*, *Amma*, *ammi*, *mumani* which represents Muslim culture and words such as *pappachi*, *ammai*, *mammachi*, *ammachi*, etc. from South Indian culture.

#### **f. Honorific words**

Honorific words are used by Indian writers while writing in English use the terms of respect or honorifics as code-mixed words. The honorifics show respect for the person for whom they are used. In Indian context, the suffix ‘ji’ is used with proper noun or common noun to show honour or is used as a mark of

respect. The honorifics like sahib, maharaja, maharani, masterji, Kochamma, Modalali, guru, memsahib, pitaji, papaji, huzoor, etc. are used by the Indian writers while writing in English.

#### **g. Occupational Titles**

In the context of Indian multilingual and bilingual community a speaker or writer use the strategy of code mixing for a specific professional words. For example, *chaiwallah*, *paanwallah* *fishwalla*, *zamindar*, etc.

#### **h. For Places**

The next category of code-mixing is names of places. As per the culture and sociolinguistic approach the nouns can be used for example *dhobighat*, *Busti*, *muhalla*, (part of the town), *gompa* or *ashram* (name of the religious buildings), *ghat* etc.

#### **i. Code mixing in Costume**

Code mixing is used in clothing related words, Names of clothing are formed as per the religion and region, There is a proverb in Marathi, “*Kos kos per badale pani, sat kos per badale wani*” (Language). *Burqa*, *lungi*, *kamiz*, *topi*, *dhoti*, *odani*, etc. are the examples of code-mixing.

#### **j. Code- mixing is done in Food and Drink**

Code-mixed is used with the Indian food and drink. In life food is required to live. As per choice and desire we enjoy a dish. *parathas*, *khichri*, *parippu*, *vada*, *pakorras*, *samosa*, etc are the Indian food items.

#### **k. Use of Abusive Words**

The slang or abusive words are used in Indian community for impacting their expressive feelings. It is used as per the mood and sentiments of the speaker and listener. There are two sides of the coin. Like positive and negative manner. For example *gadhas*, *machoots*, *bhenchoots* etc.

#### **Conclusion**

Code-mixing is a sociolinguistic approach which used to facilitate the way of communication and establish the deep meaning of Indian novels in English. In this century the sociolinguistic strategy of code mixing is used by the most of the Indian writers and novelists Through this strategy we understand the culture, religion, and region of the speaker. This study result that there are various reasons and categories of the code mixing. It benefits native audience but make hurdle to non native audience.

#### **Works Cited**

1. Hoffman C. *An Introduction to Bilingualism*, New York: Longman, 1991.
2. Hudson R.A. *Sociolinguistics*. U of Cambridge P. 1996.
3. Kachru Y. *Code-mixing, Style repertoire and Language variation: English in Hindu poetic creativity*. World Englishes, 1989.
4. Khan, Sami. A., *Aliens in Delhi. Novel*. Juggernaut/Niyogi Books, New Delhi, 2017.
5. Malik Lalita , *Socio-linguistics: A Study of Code-switching*, Anmol Publication,1994.
6. Muysken P. *Bilingual speech: A Typology of Code-mixing*. U of Cambridge P, 2000.
7. Trudigil, P. *Code – Switching and Code-Mixing as communicative Strategies in Multilingual Discourse*, world Englishes,1980.
8. Verma, S. K., *Code- Switching: Hindi-English*, Lingua, 1976.
9. Yule, George, *The Study of Language*, Cambridge UP, 2006.

## STUDY OF THREE TRACE METALS IN SOME FISHES OF KALI ESTUARY, KARWAR, KARNATAKA, INDIA

Sambhaji H. Bhosale<sup>1</sup> Rajendra V. Salunkhe<sup>2</sup>

1. Associate Professor, Department of Zoology Shankarrao Mohite Mahavidyalaya, Akluj, Dist. Solapur, Maharashtra, India. Pin-413101, email- sambhajib1964@gmail.com

\*2. Associate Professor, Department of Zoology Arts, Science and Commerce College, Indapur, Dist. Pune, Maharashtra, India.

**Corresponding Author- Sambhaji H. Bhosale**

Email- [rvsalunkhe4444@gmail.com](mailto:rvsalunkhe4444@gmail.com)

DOI- 10.5281/zenodo.7265078

### Abstract

Manganese, Chromium and Copper concentration in the gill, muscle and whole body samples of four estuarine fishes, namely, *Mugil cephalus*, *Sillago sihama*, *Leiognathus brevisrostris* and *Gerromorpha setifer* were determined during the period July- November, 2014. Concentration of these metals in different body parts varied from species to species. The three trace metals in *M. Cephalus*, *S. Sihama* and *L. brevisrostris* in the whole body were in the order Mn > Cr > Cu whereas in *G. setifer* the abundance was in the order Cr > Cu > Mn . Significant correlation was observed between concentration of metals in gills and whole body in all species except *M. Cephalus*. Considering the trace metals concentration in relation to wet weight, all the metals are within safety limits in edible part.

**Key words:** *M. Cephalus*, *S. Sihama*, *L. brevisrostris*, *G. setifer*, Trace Metals.

### Introduction:

Trace metals are normal constituents of marine environments and traces at least are always found in marine organisms. Although at suitable concentration some trace metals are essential for enzyme activity, they also form an important group of enzyme inhibitors when normal concentrations are exceeded. Some metals such as Cu can act in either a stimulatory or inhibitory way depending on their level of availability (Engel et al., 1981). Cons frequently, most trace metals, whether essential or not, become potentially toxic at higher concentrations to living organisms, and also to human beings through the food chain. Trace metal concentrations in fishes have been studied by Bagley & Lockey (1967), Simpson et al. (1979) and Barber et al. (1972). Investigation into the interaction between trace metals and marine organisms have been intensified recently because of increased anthropogenic inputs of these metals into the aquatic systems (Patin, 1982; Moore & Ramamurthy, 1984). In the present investigation, the trace metals namely, Mn , Cr and Cu in the gills, muscles and whole body of *Mugil cephalus*, *Sillago sihama*, *Leiognathus brevisrostris* and *Gerromorpha setifer* collected from Kali estuary were determined, keeping in view the relative

biological importance of the above trace metals and also the food value of these fishes.

### Materials and Methods:

Four species of fishes namely, *M. Cephalus*, *S. Sihama*, *G. setifer* and *L. Brevisrostris* were caught by cast net and were immediately cleaned in sea water. They were taken to the laboratory and kept in refrigerator (at 0°C) before processing. Totally 16 fishes were collected comprising four numbers for each species. Before dissection, they were washed thoroughly with tap water and later by double distilled water. They were then aseptically dissected using clean dissection tools. Gills and muscle were dissected out and kept in clean watch glasses. They were dried in dessicator first for 10-15 days at room temperature and then dried at 65-70°C in an oven for 24 h to remove all the moisture. A known quantity (100 mg) of each dried sample was taken in a 100 ml beaker. To this 8 ml of concentrated HNO<sub>3</sub> and 2 ml of perchloric acid were added and then heated on a hot plate to near dryness, till about 1 ml of solution remained in the beaker. Then about 50 ml double water was added to each beaker and filtered through whatman 42 filter paper (Martin & Knauer, 1937) in case of whole body samples (gut sometimes contained sand particles ) and finally made upto 100 ml using double

distilled water. For whole body samples, the dried fish were crushed to fineness in mortar and pestle and well mixed sample was taken for the analysis. Concentration of Mn, Cr, and Cu in different samples was determined by Atomic Absorption Spectrophotometer (G B C – 902 model, Australia) , using air acetylene flame, at their respective wave lengths. The results are expressed in ppm dry weight of tissues.

**Result and Discussion:**

Table 1 shows the mean concentration of copper, chromium and manganese in gills,

**Table 1: Mean trace metal concentration in gills, muscle and whole body of four fishes (ppm dry weight)**

| Species                | Sample     | Mn          | Cr         | Cu         |
|------------------------|------------|-------------|------------|------------|
| <i>M. cephalus</i>     | Gill       | 5.75±3.46   | 8.78±2.43  | 3.93±1.84  |
|                        | Muscle     | 2.30±0.90   | 8.65±2.31  | 5.27±1.70  |
|                        | Whole body | 15.90±14.38 | 8.28±2.46  | 5.46±1.98  |
| <i>S. sihama</i>       | Gill       | 7.70±4.64   | 16.83±8.85 | 9.72±4.74  |
|                        | Muscle     | 0.40±0.22   | 6.63±1.61  | 5.15±1.56  |
|                        | Whole body | 11.69±7.10  | 11.01±4.59 | 7.74±2.71  |
| <i>L. brevirostris</i> | Gill       | 11.65±4.82  | 10.22±4.30 | 6.46±2.37  |
|                        | Muscle     | 1.40±0.94   | 6.52±1.63  | 3.77±0.61  |
|                        | Whole body | 11.96±6.51  | 9.42±2.66  | 6.86±2.02  |
| <i>S. setifer</i>      | Gill       | 4.85±1.27   | 18.54±4.00 | 12.53±8.02 |
|                        | Muscle     | 0.53±0.24   | 6.05±1.57  | 4.37±2.95  |
|                        | Whole body | 5.20±3.59   | 2.29±1.83  | 11.83±4.29 |

Note: The S.D. refers to variation between sampling periods (July, September, October and November 2014)

The type of metal and its concentration in fishes depend on the type of its diet (Cross et. al., 1975) and bioavailability of trace metals (Sunda & Guillard, 1976; Anderson and Morel, 1978) Taking into consideration, the average metal concentration in edible part (muscles) of these fishes, Cu was 5.3 ppm, Cr was 8.7 ppm and Mn was 2.4 ppm. Further, average moisture content of these fishes was about 72% in whole body and about 85% in muscle. Hence on the basis of wet weight, the concentration of these metals in different body part, especially in muscles are within the safety limits.

**References:**

- Anderson, D.M & Morel, F.M.M (1978) Limnol. Oceanogr. 23, 283.
- Bagley, L.N & Lockay, G.E. (1967) Bull. Environ. Contam. Toxicol. 2, 297
- Barber, P., Vijayakumar, A. & Cross, P.(1972) Science Wash. 178, 636
- Bryan, G.W. (1976) in Marine Pollution (R. Johnston., Ed.) P.185, Academic Press, London.
- Cross, F.A., Wills, J.N., Hardy, L.H. , Jones, N.Y. & Lewis, J.M. (1975) Chemistry, Biology and Estuarine System in Estuarine Res. Vol. 1.45.
- Engel, D.W., Sunda, W.G. & Fowler, B.A. (1981) in Biological Monitoring of Marine Pollutants.p.127 Academic Press, London.
- Jaffar, M & Ashraf, M. (1988) Indian J. Mar. Sci. 17, 231.
- Martin, J.H. & Knauer, G.A (1973) Geochim, Cosmochim, Acta 37, 1639.
- Moore, J.W. & Ramamurthy, S. (1984) Heavy Metals in Natural Waters. p.287, Butterwork Scientist, London.
- Simpson, V.R., Hunt, A.E. & French, M.C. (1979) Environ. Poll 18, 187.
- Sunda, W.G. & Guillard, R.R.L. (1976) J. Mar. Res.34, 511.

12. Zingde, M.D. Singbal, S.Y.S., Moraes, C.F. & Reddy, C.V.G. (1976) Indian J. Mar. Sci. 5, 212.
13. Cardona, L (2001), Non- Competitive coexistence between Mediterranean grey mullet evidence from seasonal changes in food availability, niche breath and trophic overlap. J. Fish. Biology 59; (3) 729-744.
- A. S. S.B (2002) Evaluation of heavy metals in fish of sepetiba and liha Grand Bays, Rio de Janeiro Brazil. Ennr, Research section A, 89 171-179.
14. Vesey DA (2010) Transport pathways for cadmium in the Intestine and Kidney proximal tubules; Focus on the interaction with essential metals. Toxicol. Letters; 198(1) 13-19.
15. Saha N and Zaman MR (2011) Concentration of selected toxic metals in grandwater and some cereals grown in shibganj area of chapai Nawabganj, Rajsahi, Bangladesh. Curr. Sci. 101, 427-431.
16. Rajkowska M and Protasowicki M (2013). Distribution of metals (Fe, Mn , Zn, Cu) in fish tissue in two lakes of different trophy in Northwestern Poland. Environmental Monitoring and Assessment, 185(4), 3493-3502.

## WEB BASED LIBRARY SERVICES IN 21<sup>ST</sup> CENTURY FOR SUSTAINABLE DEVELOPMENT

Gaikwad Manisha Khandu<sup>1</sup>

<sup>1</sup>Arts Science and Commerce College, Indapur

Corresponding Author- Gaikwad Manisha Khandu

[gaikwadmk11@gmail.com](mailto:gaikwadmk11@gmail.com)

DOI- 10.5281/zenodo.7265094

### Abstract:

*With the advance technological development and emergence of World Wide Web (www) and use of internet opened the new horizon of services for providing improved information services and resources for the users. The web technology and Internet has changed the way of information is stored, retrieved and communicated in the libraries. As more libraries move towards traditional services to digital services to improve more advance services. This paper discusses what are web base services, its advantages and disadvantages.*

**Keywords:** Digital services, Web based library services, Electronic library services, ICT communication

### Introduction:

Twenty First Century is known as the information age. Technological growth has changed the whole world into information society. Information plays a vital role in education field. A basic need of humans is air, bread and water but now it can be said that it is added by need of information. Application of Information Technology to Library and Information Science revolutionized the traditional concept of library as a merely warehouse of books to an information house. Every human needs information within no time. After 1990's World Wide Web (www) and fast development of information communication Technology has changed the world's face and role of information managers. ICT development forced to change the library services globally. Use of internet reduced the physical boundaries and library services become open to all. Due to internet any one can access the information from any place of globe. New innovation in Technology increased rate of conversion of knowledge, database and information into electronic services. The

Information and Communication Technology not only affected traditional housekeeping operations of libraries but facilitates communication through networks for collection, storage and dissemination of information. Revolution in ICT has influenced to every profession including library profession. Library professionals tried to cope up with technological development as well as high expectations of information seekers. Fast development changes Technology rapidly so librarians have to upgrade their personal and professional knowledge and awareness according to new technological development to provide better services to their users. Due to technological development, users can connect to the library at any time from any place in the world. In the course of time, the term like Digital library services, Internet library services, Electric library services and Web based library services are developed with same meaning. Now a day's, library is moving from traditional services to electronic services due to digital environment. So library services are

upgraded into internet-based online services using web-based technology.

### **What are web-based Library Services?**

According to Madhusudhan, (2012) “Web based Library Services means library services provided using internet as medium and library website as a gateway with the help of integrate library management system.” Web based library services are provided through the library portal which is a gateway to web based library resources. It collects a variety of needful information resources into a single platform that allows users to customize their information need.

### **Library Resources for Web based Services:**

There are different kinds of web based reference resources and services for accessing information from library as bellows

#### **Web Portal**

A web portal is a web-based platform specially designed website that collects information from different sources into a single user interface from diverse sources achieved through integration of existing services by using binding agents. The result is a personalized service which allows to access content to both print and electronic base systems. Web portals are either commercial or free web facilities that provide information services to their users.

#### **Web OPAC**

On Line Public Access Catalogues is an online database of materials held by a library on the web. This catalogue allows users to search for the bibliographic records contained within a library’s collections by connecting to Uniform Resource Locator (URL) of Web OPAC at anytime from anywhere in the world. Some OPAC also provide access to electronic resources and

databases, in addition to the traditional services.

#### **Gateways**

A gateway is a platform that allows access to network based resources in a special subject area. Gateways provide a single interface search facility and enhanced service through a resource database and searched through a web based interface. Gateways cover a wide range of subjects

#### **E Journals**

Electronic journals form a large part of the collection of a library providing web based services. Library explores e-journal service by taking consortia facility. Now a days many journals are available electronically some are full text and some contain only bibliographic information with abstract. E-journals can be accessed via web enabled PC, through which more users can availed the facility of e-journals. E-journals offered full text searching and downloading articles.

#### **Online Databases**

These are large collections of machine-readable data of online resources like a collection of abstract, newspaper articles, maps etc maintained by commercial agencies and are accessed through communication lines. Libraries can subscribe e-database to fulfill the needs of library users and can get the information as and when they required.

#### **Search Engines**

Search Engines are software system where huge databases of web page files that have been assembled by machines whereas the subject directories are human compiled and maintained. Search engine indexes website and subject directories linked to homepages. A search engine is computer software that searches a collection of

electronic materials to retrieve citations, documents or information.

### **Digital Reference Services**

Digital reference service is the provision of e-reference services alliance between library users and librarian in an electronic environment. Digital transaction is a computer-mediated communication via e-mail, web forms etc.

### **Web Forms**

Web forms are good examples of Interactivity. Most of the library websites have web forms for inviting feedback from the users such as: feedback for services; users' survey; Requests for library to acquire books or library materials; Reference materials; Inter library loan or other document delivery services; Suggestions on the websites for any improvement.

### **Online Document Delivery**

Document delivery service (DDS) refers to the physical or electronic delivery of a document from a library collection to their place or residence of library users.

### **Bulletin Service**

A bulletin board is an electronic communications forum or web page where users can post comments, messages, and articles of a common theme or interest subject. It allows users to post or retrieves messages to all or particular users. The bulletin board system is also used as an interactive interface to invite suggestions on activities and services of a library. It can also use for marketing of library services.

### **Ask a Librarian**

Ask-A-Librarian services are Internet based question and answer service that connects users with individuals who possess specialized subject knowledge. Users can ask question either through web form or by an e-mail address provided by the service.

The responses are either send to the user's email account or is posted on the web so that the user can access it after a certain period of time.

### **Advantages of Web based services**

1. Saves the time of the users.
2. Numbers of users are helped by using web based library services.
3. Library professionals can fulfill information requirements.
4. Threat of stolen the collection is minimized.
5. Faced the less library budget.
6. Less dependent on the library staff for getting the required information.
7. Easy to marketing the library services.

### **Disadvantages of Web based services**

1. A large number of information is generated every minute
2. Requires training for users to use special equipment
3. Required technical training to library staff
4. Network disturbance
5. Use is limited by copyright laws

### **Conclusion:**

Prime function of the library is to provide quality information service to satisfy their end users to provide right information at the right time. Web based library service is a new trend to find, locate, evaluate and use information effectively. To meet these challenges the librarians have to upgrade their technical knowledge to provide better web based library services to their techno savvy users.

### **References:**

1. Kumari, N. (2016). Web-based services in library and information science. *International Journal of Next Generation Library and Technologies*, 2(1), 1-18.

2. Jain, P. (2013). A paradigm shift in the 21st century academic libraries and librarians: prospectus and opportunities. *European Journal of Academic Research*, 1(3), 133-147.
3. Madhusudhan, M., & Nagabushnam, V. (2012). Use of web based library services in select university libraries in India: A study. *International Journal of Library and Information Studies*, 2 (1).
4. Bhatnagar, Anjana. (2005). Web Based Library Services.3rd convention PLANNER-2005, Assam University, Silchar, Ahmedabad
5. Li, L. (2006). Leveraging quality web-based library user services in the digital age. *Library management*.
6. Börner, K., & Chen, C. (2002). Visual interfaces to digital libraries: Motivation, utilization, and socio-technical challenges. In *Visual interfaces to digital libraries* (pp. 1-9). Springer, Berlin, Heidelberg.
7. Kuny, T., & Cleveland, G. (1998). The digital library: myths and challenges. *IFLA journal*, 24(2), 107-113.

**INSTITUTIONAL DEVELOPMENT: TO CREATE EXCELLENCE IN EDUCATION  
FOR THE 21<sup>st</sup> CENTURY**

**Dr. Anjana Sinha**

Assistant Professor, Department of Psychology Kristu Jayanti College (Autonomous), Bengaluru

E-mail- [anjanasinha1111@gmail.com](mailto:anjanasinha1111@gmail.com)

DOI- 10.5281/zenodo.7265107

**Abstract**

India has the ability to lead the world in technology. The Indian economy has been expanding between 7% and 9% annually. The Indian economy has improved its ability to compete internationally in a number of industries, increasing its proportion of the global market. The success of India's technical education system would be a key influence in this. Development and expansion are driven by engineering and technology. Since those who work in the technology industry generate income and thus contribute to the welfare and prosperity of the nation, technology will become the currency of power that transforms the economy. Appropriate policies are required to foster and direct the growth of technical education in order to ensure the profession of engineering grows healthily. India still has to provide for the fundamental necessities and ambitions of its one billion citizens at the dawn of the twenty-first century. Over one-third of the people lives in poverty, despite having one of the largest economies in the world. This study attempted to determine the effectiveness of institutional development activities implemented in self-financing colleges and deemed universities. There is no significant model available for the development of institutes in order to achieve the stated vision and mission. When comparing self-financing colleges, the universities have excelled in academic performance. The autonomy granted to the deemed universities contributes to their improved performance. However, it is stated that an appropriate model for an institutional development that provides a road map for their growth and contribution is required. Based on feedback and discussions with stakeholders, a model for institutional development for both affiliated colleges and deemed universities has been developed.

**Introduction**

It is acknowledged that raising living standards is impossible without successfully competing in the highly interdependent global economy. Every sector of the Indian economy needs to undergo significant reorganization in order to increase effectiveness and efficiency through the careful and extensive use of science and technology. This will result in more production, which should open up more employment opportunities and improve the overall quality of life. India has legally acknowledged the value of higher education, research, and technology for the advancement of the country and has committed to the improvement of its scientific, technical, and human resources. One of the largest higher education systems in the world has been developed over the past fifty years with full policy backing and

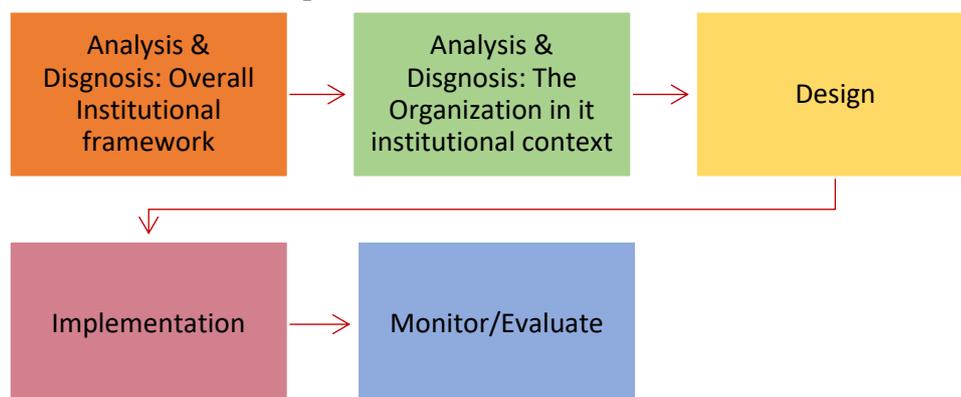
enormous public funding from the nation. The model concentrates on the essential performance elements so that effectiveness can be added. The proposed model has received approval from a number of Institutions' intellectuals.

*The significant components of the model are:*

- i) Academic Committee for each department
- ii) Industry-Institute-Partnership Unit
- iii) Faculty Development Unit
- iv) Student Services Cell
- v) Research and Development Cell
- vi) Academic Audit Unit

The model could be adopted by leading deemed universities and self-financing colleges (affiliated with State Technical Universities), government-aided colleges, and State Universities.

### **Institutional Development**



#### **Role of the Institute:**

Creation of adequate infrastructure: -  
Appointment of qualified teachers  
Planning of teacher-training programs  
Upkeep the teaching-learning environment  
Adoption of audio-visual teaching methods in addition to the traditional chalk and talk method  
Resource material creation  
Establishing relationships with industries  
Developing continuous assessment methods that will aid in the improvement of learner quality.  
Student progress monitoring  
Appointment of an appropriate person as the institute's Principal/Director

#### **Affiliating University's Role:**

Curriculum development and revision are extremely slow.  
The university must expedite this process.  
Conducted examinations without malpractice.  
Degree awarding.

#### **Government Role:**

No admission should be granted to undeserving students  
Fee structure should be announced in advance  
The government should not interfere with the college's routine.  
The government should not grade colleges because it does not have the necessary expertise.  
have the manpower to do the institutes' grading justice  
Their experts are inexperienced, and gradations are frequently biased.  
Any institution's goal is to produce great human resources with a strong scientific

bias, a diverse skill set, and an awareness of social needs. The eminence of a technical institution is determined by its capability and achievements in shaping end products to the aforementioned aims and goals in the context of current physical, economic, social, political, and environmental conditions. To achieve these objectives, institutions must organize and carry out necessary activities such as academic, co-curricular, managerial, and so on. The cognitive skills, competencies, values, and attitudes of human resources are critical prerequisites for carrying out these activities successfully. Innovations in mobilization, utilization, and management of facilities, operations, and resources can lead to significant improvements in performance. Education quality is a multifaceted concept. It should include all of its functions and activities, such as planning curricula for programs, teaching, research, recruiting, and developing faculty and staff, students, buildings, facilities, equipment, and services to the community and the academic environment. Internal self-evaluation is essential for improving quality. Specific institutional development activities should be given careful consideration in order to understand their potential for growth and development. Institutional development activities provide insight into various methods and opportunities for an institution to improve its strengths and develop its potential in order to meet changing global needs and create centres of excellence. This research study would assist the institution in truly evaluating its activities, identifying its weaknesses, and assisting in its

improvement. Institutions must work to achieve their mission of giving all aspiring young people educational opportunities to succeed in life by fostering academic excellence, fostering values, creating civic responsibility, instilling environmental concern, and developing global competencies in a dynamic environment.

### **Recommendations**

The following suggestions for improvement are drawn from the analysis of data gathered from various sources, conversations the researcher had with the leaders of associated colleges, students, faculty, alumni, and employers, as well as his own observations:

A technical institution's vision and objective must be clear, pertinent, consistent, exacting, and widely accepted.

Creation of an innovative, responsive, participatory, and accountable management culture through decentralization of authority, encouragement of innovations, and empowerment and accountability of particular departments (and faculty).

Creating efficient quality assurance systems for instruction, teacher hiring, curriculum updates, and student evaluation; requiring transparent, but not centralized, required oversight of the standard of academic and physical facilities; and, if necessary, remedial action.

### **Instruction and Curriculum**

The curriculum could be evaluated and revised as needed to address the difficulties of globalization and equip graduates for the difficult changes in technology.

Industry participation in the curriculum review will increase the quality of technical programs.

Entrepreneurship-related courses will be added to the curriculum.

The internship concept - introduction of summer training in the students' associated areas of specialization is possible.

A faculty mentor must frequently visit the business where the student is receiving training to carefully monitor his work and what he is learning there.

The focus of instruction can be the students. It is possible to combine practice with education.

Establish partnerships with local firms and industries to determine the curriculum's

gaps, needs, and difficulties that upcoming engineers will have to overcome.

Creating a curriculum that is market-driven and based on current industrial demands.

Assessing the students using acceptable, reliable methods and legitimate tools.

### **Capability Development**

Faculty with relevant professional and industrial experience is needed in technical institutes.

A combination of the main faculty and adjunct faculty from the industry may be used. There is a chance that industry and national laboratories may supply a fourth of the faculty.

A group of organized programs for faculty development in the field of teaching abilities may exist.

### **Students Services**

Soft skills (communication, leadership, teamwork, interpersonal, and emotional intelligence) need to be addressed through classroom exercises and interactive activities like group discussions, seminars, debates, games, and other similar activities.

Every technical program must include student placement. Every college must create a placement cell that will help students choose a career and deal with interview questions.

### **Development of Resources**

Forming coalitions through the networking of various local companies and holding seminars and conferences.

### **Educational Resources**

Every institution should have a well-stocked library and documentation center with textbooks, reference books, national and international journals, a collection of videos and CD ROMs, the ability to access journals online, and other amenities like multimedia in reading rooms.

Classrooms with public address systems, overhead projectors, video, and LCD projection systems are equipped with useful educational tools.

Each department has access to approved multimedia programs in addition to internal creation. Each department may have a computer centre with internet connectivity that was properly thought out.

### **conclusion**

an institution should be able to offer a safe, trusting environment where students can learn and develop. It should also make sure that young people have the opportunity to identify and develop their skills, get ready for employment and career advancement, and develop into well-rounded individuals who are intellectually capable, spiritually mature, physically strong, and socially aware. It must be able to inspire people to learn throughout their lives, transform society for the better, and support the country's economic growth and environmental sustainability. By inspiring young people to reach their potential and make constructive contributions that advance the prosperity of society and the country as a whole, an institution must make sure to give intellectual and moral leadership. In the fight for structural poverty reduction and sustainable development, institutional development is a crucial weapon. Even while donor agencies have agreed on this and it has

been reflected in the new policy, there is still a long way to go until it is really implemented. The deployment of traditional supply-driven quick-fix technology solutions frequently results in the decapitation of regional institutions.

#### **References**

1. M. Blase (1986) *Institution building: a source book* (Columbia: University of Missouri Press), p. 329.
2. Salmen, L. F. (1992). *Reducing poverty: an institutional perspective*. The World Bank.
3. Birnbaum, R., & Edelson, P. J. (1989). *How colleges work: The cybernetics of academic organization and leadership*.
4. Bossuyt, J., 2001, 'Mainstreaming Institutional Development: Why is it important and how can it be done?', European Centre for Development Policy Management (ECDPM).

## **Assessing the prevalence of overweight among Yemeni students in Aurangabad, India, using fuzzy C-mean Clustering.**

**Ahmed M. AL-Hammadi<sup>1</sup>, Dr Chhaya D. Sonar<sup>2</sup>**

<sup>1</sup>Department of Statistic, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS), 431001, India

<sup>2</sup>Department of Mathematics, Faculty of Education and Science Al-Mahra, Hadhramout University, Yemen; institution

**Corresponding author- Dr Chhaya D. Sonar**

Email- [a.alhammadi@hu.edu.ye](mailto:a.alhammadi@hu.edu.ye)

DOI- 10.5281/zenodo.7265143

### **Abstract**

The process of data mining is largely dependent on data clustering. Data of the same kind are clustered together, whereas data of different types are clustered separately. Clustering is the process of organizing data into groups with high internal similarity and low external dissimilarity (hence the term "cluster"). The clustering procedure as a whole must adhere to the following two characteristics. Property inside the cluster is high, whereas property across clusters is low. Each item of data will be given a membership value. Data clustering is a crucial part of the data mining process. Similar data are clustered together, while dissimilar data are clustered apart; this is an example of unsupervised research. The fuzzy C means technique is a powerful fuzzy logic-based clustering approach. This paper presents a comparison and contrast of Data, analyzing their shared features and distinctive distinctions. In this study, we employ Fuzzy C-Means to inquire about the prevalence of overweight among young Yemeni attending Colleges in Aurangabad, India. From November 2021 to May 2022, FCM was used to study the prevalence of overweight Yemeni students studying in Aurangabad, India.

**Keywords:** Clustering, fuzzy C- means, R studio and obesity rates

---

### **Introduction**

When it comes to public health, obesity is one of the top 10 problems in the world (WHO, 1998). As a second point, in the year 2000, smoking was the single most preventable cause of death. In America, poor nutrition and a lack of exercise accounted for the second-highest mortality toll. The social, psychological, and economic costs of obesity are substantial. It's not simply an issue in the industrialized world, and it affects men and women of all ages and social levels. An estimated 1.1 billion people worldwide are either overweight or severely underweight, making this the first time in human history that these two extremes have existed side by side [1, 2]. People who are overweight or obese are more

likely to suffer from significant chronic illnesses and impairments, have worse health, live shorter lives, and produce less in their work, all of which slow down the advancement of a country. The Body Mass Index (BMI) categorizes body fat based on the ratio of a person's weight in kilograms to their height in square meters. There are four distinct classifications of adult body mass index: underweight (BMI 18.5), normal (BMI 18.5), overweight (BMI 25.9), and obese (BMI 29.9). Clustering analysis organizes data into groups with similar characteristics via the use of unsupervised learning. Samples may be contained in a smaller region of feature space if they are categorized into groups based on their similarities[3,4]. Cluster analysis is one of the most efficient

techniques for reducing and extracting information from large datasets. It is possible to use Clustering as an exploratory method in data analysis to learn more about the interrelationships between different variables. data of the same kind is clustered together, whereas data of different types is clustered separately. Clustering is the process of organizing data into groups with high internal similarity and low external dissimilarity (hence the term "cluster"). The clustering procedure as a whole must adhere to the following two characteristics. Property inside the cluster is high, whereas property across clusters is low. Each item of data will be given a membership value. Data clustering is a crucial part of the data mining process. Similar data are clustered together, while dissimilar data are clustered apart; this is an example of unsupervised research. The fuzzy C means technique is a powerful fuzzy logic-based clustering approach. This paper presents a comparison and contrast of Data, analyzing their shared features and distinctive distinctions. It's important to minimize the occurrence of local minima. Clustering is an exploratory data analysis

**Fuzzy C -mean cluster**

Let  $\mathfrak{L}_{L_1}(X), \mathfrak{L}_{L_2}(X), \dots, \mathfrak{L}_{L_n}(X)$  be a set of N data objects featured in the form of n-dimensional vectors

$$\mathfrak{L}_{L_{ik}}(X) = (\mathfrak{L}_{L_{1k}}(X), \mathfrak{L}_{L_{2k}}(X), \dots, \mathfrak{L}_{L_{nk}}(X))^T$$

A n x N data Matrix is then constructed from a collection of N feature vectors such that  $\mathfrak{L}_{L_{ik}}(X)$  is real number

$$A_i = \begin{bmatrix} \mathfrak{L}_{L_{11}}(X) & \mathfrak{L}_{L_{12}}(X) & \dots & \mathfrak{L}_{L_{1N}}(X) \\ \vdots & \vdots & \ddots & \vdots \\ \mathfrak{L}_{L_{n1}}(X) & \mathfrak{L}_{L_{n2}}(X) & \dots & \mathfrak{L}_{L_{nN}}(X) \end{bmatrix}$$

Data  $A_i$  Is partitioned into C fuzzy clusters by a fuzzy clustering technique, resulting in a fuzzy partition. FCM is one of the latter representations [11,12,13]. Data clustering is done using FCM, where

method used in the first phases of a data analysis project to discover recurring themes or clusters. To avoid producing incorrect clustering results that do not faithfully represent the structure of the data set, the clustering process should be as self-guided as possible. Use the number as a method of unstructured research [5, 6,7]. The relevance of Clustering has been extensively documented across many disciplines, including taxonomy, medicine, geology, commerce, engineering systems, and image processing. To reflect this ambiguity, Zadeh established the notion of a membership function in 1965 with his creation of the fuzzy set theory. With the use of fuzzy sets, it's possible to collect ambiguous data about class membership. The time has come for fresh ideas. Memory use and execution speed are two factors that decrease if actual Data is replaced by integer values or if Data is sampled and simplified. If you take the most useful features from both fuzzy and big data clustering methods, you get optimal results. As an alternative to the tried-and-true procedures, fuzzy and massive data clustering techniques are inefficient because they need more processing power to utilize [8 ,9 ,10] .

each data point has a membership grade that indicates how closely it is linked to a cluster. This technique explains how to group together data points spread across several dimensions into manageable

groupings. Allows progressive grouping of data points with degrees in the [0,1] range, which is the primary benefit. This allows us to state that data points might belong to several clusters at the same time [14].

$$D_r (W, U) = \sum_{i=1}^n \sum_{j=1}^m (w_{ij})^r (\mathfrak{z}_{L_i}(X) - \mu_j)^T \beta_j (\mathfrak{z}_{L_i}(X) - \mu_j)$$

Such that

$$\beta_j = \frac{\sum_{i=1}^n (w_{ij})^r (\mathfrak{z}_{L_i}(X) - \mu_j) (\mathfrak{z}_{L_i}(X) - \mu_j)^T}{\sum_{i=1}^n (w_{ij})^r}$$

Using the cluster covariance matrix, the cluster volume

may be calculated using determinant  $\beta_j$

. Due to the fact that  $\beta_j$  is a positive definite and symmetrical matrix,  $r$  any real number higher than one,  $\mathfrak{z}_{L_i}(X)$  is the  $i$ th of the  $d$ -dimensional measured Data,  $w_{ij}$  In what degree does the cluster

$i$  include the value  $\mathfrak{z}_{L_j}(X)$  And The cluster's  $d$ -dimension centre is  $\mu_i$ . Iterative optimization of the objective function given above is used for fuzzy partitioning, with membership  $w_{ij}$  and cluster centres  $\mu_i$  Being updated by:

$$w_{ij} = \frac{1}{\sum_{k=1}^m \left[ \frac{(\mathfrak{z}_{L_i}(X) - \mu_j)^T \beta_j (\mathfrak{z}_{L_i}(X) - \mu_j)}{d_{iK}} \right]^{\frac{2}{r-1}}}$$

$$\mu_j = \frac{\sum_{i=1}^n (w_{ij})^r \mathfrak{z}_{L_i}(X)}{\sum_{i=1}^n (w_{ij})^r} \quad [14, 15, 16].$$

**Fuzzy C-Means clustering analysis data.**

From November 2021 to May 2022, real-life data was collected to research the overweight (obesity) of Yemeni students in Aurangabad, India, using FCM. The data were analyzed using R Studio. For

the purpose of determining the prevalence of obesity, data on height, weight, age, walking distance, food intake, Liquid intake, and sleep time were gathered from students. The results of the investigation are listed below.

**fuzzy C-mean clustering analysis in R studio**

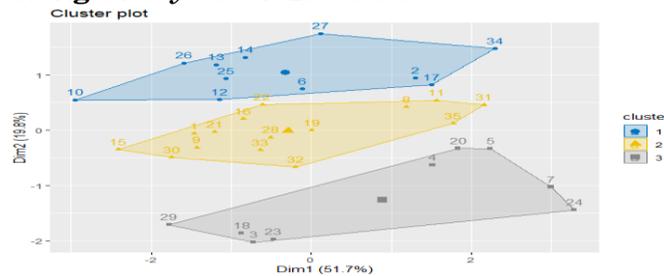


Figure 1 Fuzzy C-Mean Clustering with 3 clusters with 36 observations

Figure 1 was shown that in small sample sizes, fuzzy c-means were less successful than hierarchical clusters because the degree of difference and similarity between the samples was less clearly

defined. Compared to the hierarchical cluster, in this case, the fuzzy c-mean is less accurate due to the smaller sample size

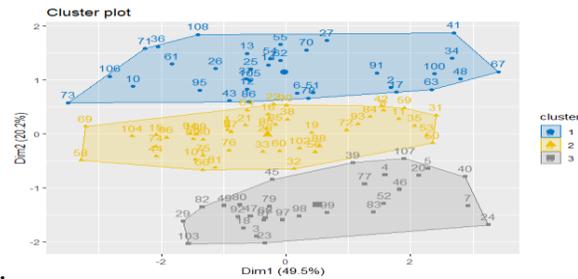


Figure 2 Fuzzy c- mean Clustering with three clusters and 109 observations

Figure 2 Due to the more precise depiction of the degree of difference and similarity across the samples, it was shown that fuzzy c-means performed better than hierarchical clusters in large sample sizes. It is more accurate to utilize fuzzy c-means rather than hierarchical clusters in this case due to the larger sample size.

### Conclusion

Through the above study, it was found that most of the Yemeni students are not overweight (obese), and they share many similar characteristics with the rest of the students. The study showed that they are in excellent physical condition in general. The fact that they were placed in groups with students who share their advantages is clear, as the Yemeni students are close to each other in the quantity and quality of food they eat. They drink sufficient fluids proportionate to their body needs and sleep an average of seven hours each. Most of them exercise almost daily and walk in the early morning and evening. Moreover, most of the Yemeni students included in the research belong to the youth group known for its high level of health. And the Fuzzy C-mean (FCM) algorithm has the significant benefit of clustering large data sets. The efficiency of its operation improves as the number of clusters grows. However, these prerequisites are met when researchers just consider quantitative quantities in their findings. In the case of categorical

data, the hierarchical Fuzzy clustering approach was used, and the FCM method was used to give rank values to each of the categorical attributes. This procedure begins with the transformation of categorical data into numerical values by the assignment of rank. In terms of how quickly it processes large datasets while still producing high-quality clusters, the FCM approach is superior to other clustering techniques. When compared to the performance of the Hierarchical Clustering Technique, the FCM algorithm is superior. When applied to clusters of certain (noisy) data, every algorithm exhibits some degree of uncertainty. When working with really large datasets, the quality of every algorithm improves to a very high level. FCM is extremely vulnerable to the presence of noise in the dataset. The algorithm has a tough time Clustering the data into appropriate clusters because of this noise, which in turn has an effect on the output that the algorithm produces.

### References

1. Rosin, O. THE ECONOMIC CAUSES OF OBESITY: A SURVEY. *J. Econ. Surv.* **22**, 617–647 (2008).
2. Wang, Y. FUZZY CLUSTERING ANALYSIS BY USING GENETIC ALGORITHM. *ICIC Express Lett.* **2**, 331–337 (2008).
3. Klawonn, F. Fuzzy Clustering:

- Insights and a New Approach. *Mathw. Soft Comput.* **11**, 125–142 (2004).
4. Xie, X. L. & Beni, G. A validity measure for fuzzy Clustering. *IEEE Transactions on Pattern Analysis and Machine Intelligence* vol. 13 841–847 (1991).
5. Yang, M.-S. A Survey of Fuzzy Clustering. *Mathl. Comput. Model.* **18**, 1–16 (1993).
6. Kim, D.-W., Lee, K. H. & Lee, D. Fuzzy clustering of categorical data using fuzzy centroids. (2004) doi:10.1016/j.patrec.2004.04.004.
7. Chiang, J.-H. & Hao, P.-Y. A New Kernel-Based Fuzzy Clustering Approach: Support Vector Clustering With Cell Growing. *IEEE Trans. FUZZY Syst.* **11**, (2003).
8. Ayed, A. Ben, Halima, M. Ben & Alimi, A. M. Survey on clustering methods : Towards fuzzy Clustering for big data.
9. Pedrycz, W., Member, S. & Waletzky, J. Fuzzy Clustering with Partial Supervision. *CYBERNETICS* **27**, (1997).
10. Kaymak, U. & Setnes, M. Extended Fuzzy Clustering Algorithms.
11. Ali, A., Karmakar, G. & Dooley, L. Review on Fuzzy Clustering Algorithm. *J. Adv. Comput.* **2**, 169–181 (2008).
12. Gustafson, D. E. & Kessel, W. C. FUZZY CLUSTERING WITH A FUZZY COVARIANCE MATRIX. *Proc. IEEE Conf. Decis. Control* 761–766 (1978) doi:10.1109/CDC.1978.268028.
13. Chen, N., Xu, Z. shui & Xia, M. mei. Hierarchical hesitant fuzzy K-means clustering algorithm. *Appl. Math.* **29**, 1–17 (2014).
14. Jyoti Bora, D. & Kumar Gupta, A. Comparative study Between Fuzzy Clustering Algorithm. *Int. J. Comput. Trends Technol.* **10**, (2014).
15. Izakian, H. & Abraham, A. Fuzzy C-means and fuzzy swarm for fuzzy clustering problem. *Expert Syst. Appl.* **38**, 1835–1838 (2011).
16. Mathur, B., Ant, P., Kaushik, M. & Mathur, M. B. Comparative Study of K-Means and Hierarchical Clustering Techniques Related papers K-Mean Evaluat ion in Weka Tool and Modifying It using St andard Score Met hod Int ernat ional Journal IJRIT CC k-AT T RACT ORS: A PART IT IONAL CLUST ERING ALGORIT HM FOR NUMERIC DATA ANALYSIS Comparative Study of K-Means and Hierarchical Clustering Techniques. (2014).

## **SCREENING OF MUNGBEAN GENOTYPES FOR RESISTANCE AGAINST LEAF SPOT UNDER FIELD CONDITIONS**

**Rahul Singh Raghuvanshi<sup>1</sup> Subhash Chandra<sup>2</sup>**

<sup>1,2</sup> Department of Plant Pathology College of Agriculture

Acharya Narendra Dev University of Agriculture and Technology, Ayodhya, Uttar Pradesh.

**Corresponding author- Rahul Singh Raghuvanshi**

**E-mail: [raghuvanshir22@gmail.com](mailto:raghuvanshir22@gmail.com)**

**DOI- 10.5281/zenodo.7265157**

### **Abstract**

Other names for mungbean (*Vigna radiata* L.) include mung, moong, and mungo. After chickpea and pigeonpea, it is the third most significant pulse crop in India. The mungbean is a significant short-duration grain legume that is planted throughout the nation for both grain and green manuring. The mungbean crop is plagued by a wide variety of pathogens including fungal, bacteria, virus, and nematodes in which mungbean *Cercospora* leaf spot causes major losses. It is an exceptional source of easily digestible proteins with low flatulence. The greatest way to prevent the spread of the disease is to use resistant genotypes. Keeping this in mind, the resistance of 100 genotypes of mungbean to *Cercospora* leaf was examined.

### **Introduction**

The mungbean, also known as the green gramme, maash, or mudga in Sanskrit, is a member of the legume family of plants. Its scientific name is *Vigna radiata* L., R. Wilczek. One of many species that was recently transferred from the genus *Phaseolus* to *Vigna* is mungbeans. Depending on the temperature throughout the day and night and the relative humidity, the disease begins to manifest around 30 days after sowing. This disease's primary symptom is the development of angular lesions on leaves with radish coloured margins that range in colour from grey to brown. On branches and pods, similar dots can be seen as well. When compared to *Cercospora cruenta*, *Cercospora canescens* has more but smaller leaf dots. In extreme cases, the patches cluster and take on a burnt appearance. The fungus severely spots and defoliates leaves.

### **Methods and Materials**

From the Pulse Section and Indian Institute of Pulses Research, Kanpur, seeds of

various mungbean genotypes were obtained. The Department of Genetics and Plant Breeding, A.N.D. University of Agriculture and Technology, was the site of the field experiment. Ayodhya's Kumarganj. During the 2019 Kharif season, a total of 100 genotypes (Table-3.1) were assessed in R.B.D. with three replications. A row of Kopergoan (a mungbean variety sensitive to *Cercospora* leaf spot) was planted after each genotype, and the experimental plot was also bordered by two rows of Kopergoan to ensure uniform spread of the disease. The rows were 4m long, 30 cm apart, and 15 cm apart from one another. Observations on illness severity were made every 15 days from the time symptoms first appeared until the disease reached maturity of crop using Mayee and Datar's 1–9 rating scale. Following germination, observations were made on a regular basis for up to 30 days to look for the disease's initial symptoms, i.e. leaf spot *Cercospora*. The disease was quantified using a 1–9 scale as per the description in.

**Table 1. Disease rating scale for CLS (Mayee and Datar, 1986).**

| Sl. No. | Grade | % Foliage affected | Reaction         |
|---------|-------|--------------------|------------------|
| 1.      | 1     | No infection       | Free             |
| 2.      | 2     | 0.1-5              | Highly Resistant |
| 3.      | 3     | 5-10               | Resistant        |

|    |   |          |                        |
|----|---|----------|------------------------|
| 4. | 4 | 11-15    | Moderately Resistant   |
| 5. | 5 | 15-20    | Moderately Susceptible |
| 6. | 6 | 21-30    | Susceptible            |
| 7. | 7 | 31-50    | Susceptible            |
| 8. | 8 | 51-75    | Highly Susceptible     |
| 9. | 9 | Above 75 | Highly Resistant       |

### Result and Discussion

Total 100 genotypes of mungbean were screened against the cercospora leaf spot disease. Out of One hundred genotypes were screened for their reaction to *Cercospora canescens* in the field that out of total test entries screened 2 genotypes viz., SKNM 1502, COGG 13-39 were found highly resistant, while 6 genotypes viz., AKM 12-24, IPM 02-3, IPM 04-1, PM 14-11, IGKM 2016-1, MDGGV 18, were found resistant, 20 genotypes were found moderately resistant, 34 genotypes were found moderately susceptible, 13 genotypes were found susceptible, 2 genotypes viz., PM 1522, Pusa 0672 were highly susceptible, and rest of 2 genotypes viz., PM 1511, Type 44, Kopergoan were found highly susceptible to cercospora leaf spot caused by *C. canescens*. Additionally, many genotypes from various regions of the country were reported to be resistant to the

*Cercospora* leaf spot disease by various employees. Additionally, Mew et al. (1975) discovered resistance in ML-3, ML-15, and ML-5. 4 genotypes, specifically, according to Sandhu et al. Sidhan et al. (1999) examined 260 genotypes of mungbean and discovered that 9 genotypes were resistant and 28 genotypes were found to be somewhat resistant to this disease. ML-231, ML-5, ML-267, and ML-337, found resistance with good seed output. Five varieties, Co-4, CO-5, ML-515, BM-4, and TM-98-50, were resistant to *Cercospora* leaf spot out of one hundred eighteen mungbean germplasms tested, while nine genotypes, LM-1, LM-319, LNM-729, HUM-6, SG-1, AAU-34, V-461, and VC-3944, were moderately resistant (Anonymous, 2005-06). Additionally, Gupta et al. (2007), Singh and Gurha (2007), and Iqbal et al. (2007) observed comparable findings (2008 & 2009).

**Table 2. Reaction of mungbean genotypes against *C. canescens*.**

| Rating scale | Name of Reaction     | No. of germplasm | Name of germplasm   |
|--------------|----------------------|------------------|---|
| 1.           | Free from infection  | 0                | Nil   |
| 2.           | Highly resistant     | 2                | SKNM 1502, COGG 13-39   |
| 3.           | Resistant            | 6                | AKM 12-24, IPM 02-3, IPM 04-1, PM 14-11, IGKM 2016-1, MDGGV 18  |
| 4.           | Moderately resistant | 20               | IGKM 5-6-27, IPM 02-14, IPM 410-9, JLM 707-5, K 851, KM 2241, KM 2355, LGG 450, LGG 630, MGG 399, MH 2-15, ML 818, OBG 101, Pusa 171, VGG – 17009, VGG 16-055, SVM 6133, NMK 15-08, JAUM 0936, IPM 14-7 |
| 5.           | Moderately           | 34               | COGG 912, DGGV 59, IPM 512-1,   |

|    |                    |    |  |
|----|--------------------|----|--|
|    | susceptible        |    | JAUM 936, Kopergaon, LGG 450, MH 1323, MH 1344, ML 2479, ML 2483, NDMK 16-324, NVL 855, OBG 56, OBG 58, Pant M-6, PKVAKM 4, Pusa M1871, Pusa 1872, SKAU M-365, SKNM 1504, SML 1808, SML 1901, SVM 6262, TRCM 171-B-B-12-6, VG 17002, VGG 16-036, LGG 607, PM 14-3, AKM 12-28, VGG 16-036, Pusa 171, Pusa 172, RMG 1092, RMG 1097, JLM 302-46, IPM 312-19, IPM 312-20, MGG 387, Barabanki Local |
| 6. | Susceptible        | 13 | AKM 1604, AKM 8802, IGKM 06-18-3, MH 1142, OBG 102, Pant M-4, RMB 12-07, SKNM 1514, SKNM 1516, T 44, TMB 126, LBG 450, DGG 7   |
| 7. | Susceptible        | 1  | RMG 1087,  |
| 8. | Highly susceptible | 2  | PM 1522, Pusa 0672   |
| 9. | Highly Resistant   | 2  | PM 1511, Type 44   |

### Reference

1. Sandhu JS, Dhiman JS, Sharma SK, Bar JS. Screening of mungbean genotypes for resistance against major mungbean disease. *Crop Improvement* 1996;23:293-294.
2. Sidhan GS, Hoda I, Parashar RD. Screening Of mungbean genotypes against cercospora leaf spot, *J Mycol. Pl. Pathol* 1999;29:130-132.
3. Singh RA, Gurha SN. Stable sources of resistance to cercospora leaf spot in mungbean. *Ann. P1. Protec. Sci* 2007;15(2):469-539.
4. Iqbal U, Iqbal SM, Zahid MA, Khan SH. Screening of local mungbean germplasm against cercospora leaf spot disease. *Pak. J of Phytopath* 2009;21(2):123-125.  
Gupta RP, Kumar S, Singh RV, Yadav BC. Evaluation of mungbean genotypes for their reaction of yellow mosaic and cercospora leaf spot. *Indian phytopath* 2007;60(3):393-394.
5. Anonymous. Resistance against cercospora leaf spot of mungbean. *Annual Report, IIPR, Kanpur* 2005-06.

**A STUDY OF MOTOR FITNESS COMPONENTS OF RUNNERS AND  
SWIMMERS OF HIMACHAL PARDESH STATE**

**Dr. Ajay Kumar**

Assistant Professor, M.G.K.M. Shahi Sports College of Physical Education Jharkroudi, Ludhina  
Punjab

**Corresponding author- Dr. Ajay Kumar**

**Email- [ajaydhiman19582@gmail.com](mailto:ajaydhiman19582@gmail.com)**

**DOI- 10.5281/zenodo.7265171**

**Abstract**

The purpose of this study was to compare the Motor fitness of Runners and Swimmers of Hamirpur District of Himachal Pardesh State. The research was a descriptive comparative method. A total of 50 samples, in which 25 Runners and 25 Swimmers of age group of 18-25 years were selected purposively from the Hamirpur District Level competitions of Swimming and Running. Agility and Speed are the criterion measures adopted in this study. The shuttle run and 50 yard dash are used as data collection tools. Independent Sample 't' test was used for data analysis. The significance was kept at 0.05 for testing the hypothesis. The study revealed that no significant difference was found in the Motor Fitness Component Agility between Runners and Swimmers. But in the Speed Component significant differences between Runners and Swimmers were found. In the study the researcher finally concluded that the Runners were more fit as compare to Swimmers. This clearly shows that Running athletes are more fit as compare to swimming athletes.

**Key words:** Motor Fitness, Runners and Swimmers.

**Introduction**

Motor fitness may be defined as the successful adaptation to stresses of one's life style. The prerequisite of fitness is extremely specific for various sports. It is possible to feel fit and good when a rare scientific states would show that one was far from it in physiological terms. It may be also possible that a person is very fit is one of the sports such as Running and swimming, but when one swims a 100 meters quickly he/she gets out breath and feel quite tired. In the present study the purpose was to compare the Motor fitness of Runners and Swimmers of Hamirpur District of Himachal Pardesh State.

**Results**

**Table No.1.1, Descriptive statistics Analysis of Speed and Agility of Runners and Swimmers**

| <b>Motor Fitness Variables</b> | <b>Groups</b> | <b>N</b> | <b>Mean</b> | <b>Standard Deviation</b> | <b>St. Error Mean</b> |
|--------------------------------|---------------|----------|-------------|---------------------------|-----------------------|
| <b>Agility</b>                 | Runners       | 25       | 6.9600      | 1.24097                   | .24819                |
|                                | Swimmers      | 25       | 7.5600      | 1.04403                   | .20881                |
| <b>Speed</b>                   | Runners       | 25       | 7.1600      | 1.14310                   | .22862                |
|                                | Swimmers      | 25       | 8.0000      | 1.00000                   | .20000                |

**Table no 1.2**  
**Independent sample ‘t’ test of Agility and Speed of Runners and Swimmers**

| <b>Motor fitness Variables</b> | <b>‘t’ value</b> | <b>Df</b> | <b>Sig. (2-tailed)</b> | <b>Mean Difference</b> | <b>Std. Error Difference</b> |
|--------------------------------|------------------|-----------|------------------------|------------------------|------------------------------|
| Agility                        | -1.850           | 48        | .070                   | -.60000                | .32435                       |
| Speed                          | -2.765           | 48        | .008                   | -.84000                | .30375                       |

### **Findings and Discussion**

The researcher analyzed the collected data as per the objectives set for the research study. The statistical analysis of Motor Fitness components revealed that in the Component Agility there was no significant difference between Runners and Swimmers. But in Component speed there was significant difference between Runners and Swimmers. In the present the results also showed that in both the Motor fitness components like agility and speed, the Runners were found to be better than Swimmers.

### **Conclusion**

Finally the researcher concluded that the Runners were more fit as compare to Swimmers. This clearly shows that athletes of Runners are more fit as compare to athletes of Swimmers.

### **References**

1. Berger and Paradis, John, Samuel (2010) Sports fitness & training, *Rojet publication* New Delhi 110002(India).
2. Chung, Joanne WY; Chung, Louisa MY; Chen, Bob (2009) The impact of lifestyle on the physical fitness of primary school children. Retrieved on April 15, 2011.
3. Donald K. Mathew’s, “Measurement in physical education” ( London : W.B. Saunders Company 1973 ).
4. S. Mookherjee, “A study of physical fitness of boys 13-17 years of age” SNIPES JOURNAL. I (Appril 1978).

**EFFECTS OF A NOISE POLLUTION AND RESPONSIBILITY OF EVERY INDIAN**

**Sathe Sandip Vasantrya**

College of Arts, Bhigwan

**Corresponding author- Sathe Sandip Vasantrya**

Email- [sandipsathe3553@gmail.com](mailto:sandipsathe3553@gmail.com)

DOI- 10.5281/zenodo.7265177

**Introduction**

Noise pollution is defined as uneasy, unwanted and undesired, unwanted and undesired sound produced by natural and human activities. The today's developed technology and transportation automobiles lead to noise pollution. The ill effects of noise pollution is grown from mean values of 50dB at beginning of 1980's to about 70dB (L) in 1999. The noise level is frequently exceeds in residential areas of Indian cities. In urban centers the main identified sources of noise pollution are traffic, rude behavior of the neighbors and industrial establishment. The result of study shows that the 45% of the total numbers of inhabitants living in block type apartments who complained of moderate and sever level of disturbance due to noise pollution. The overarching source of most noise worldwide is generated by transportation systems principally by motor vehicle due to the wide variations in frequency and volume. The industrialization develops the urban centers and it has realized that noise pollution comes with this way. Noise has a short residence and decay time and hence does not remain in the environment for longer time. In the 19<sup>th</sup> century the development of Steam engine, Petrol engine and technology machineries in industry is increasing the noise pollution in environment. In 20<sup>th</sup> century the noise pollution further increased after development Diesel engines, Jet engines. The 130 dB, sound becomes noisy and painful. If the noise is causing trouble to large number of people, it is called annoyance. If a person continuously hears sound of levels beyond 130 dB suffers a number of serious adverse effects like incomplete sleep, mental stress, high blood pressure, heart attack, mental imbalance etc. The noisy sound climate leads to dwindling attention, fatigue, headache, vertigo, sleeping problems petulance. The psychological problems also related with noise pollution. The problems are neurosis, hypertension, actuate myocardium infarct, secretion and digestive motility disorders etc. The WHO suggest that noise can affect human health and well beings in a number of ways, including annoyance reaction, sleep disturbance, interference with communication, performance effects, effects on social behavior and hearing loss etc. The urban population in India has increased more than ten times from 26 million in 1901 to 285million 2001 where as total population has increased more than five times from 238 million to 1027 million from 1901 to 2001 respectively. In the same rate the number of Town had also increased from 1916 in 1901 to 2422 in 1951 & then to 4689 in 1991. The increase in urbanization problem creates various social and environment problems in Akluj Town (MS). The Akluj is well known for its commercial markets. The population in Akluj is beyond 40,000 marks. The sub-towns develops near to Akluj (MS) is indication of urbanization. That's why this research work analyzed the frequency of noise level in Akluj city for whole day. Accordance to this noise level we assume the noise pollution problem and its possible remedies. This research work also addressed sources of noise level in Akluj.

**Research Study Universe:**

The Grampanchyat of Akluj (MS) established on year 1922. According to 2001 census the population of is 42000 the Akluj laying on 17, 45' north latitude and 75, 1' east longitude. The Grampanchyat of Akluj Awarded as Asia biggest Grampanchyat. The Towns Akluj are known for biggest market place. The 14550 houses registered. The places at Akluj i.e. Sadubhau Chowk and Gandhi Chowk are selected for continuous noise monitoring for this research study.

**Objective:**

- 1) To measure noise level in research study universe.
- 2) To calculate the L den( Average noise level for day at specific location)
- 3) To find sources of noise level in study universe.
- 4) To criticize the L den in research study universe.

**Research Methodology:**

On research study universe for Four Sundays the noise level is measured for 24

hrs. The noise level (7am to 7pm) measured with the help of Sound Measurement Meter of also called as 'Acostimeter'. The measurement caused by sound waves. The Sound Measurement dome with meter SL-4010, having rang 0-130 dB Made-Taiwan. On study universe for every half an hour three times noise level measures. The Mean is calculated for representing noise level at a particular time on study universe.

The following arithmetic equation used for calculating L den  $L_{den} = 10 \log \left\{ \frac{1}{24} \left[ 12 \times 10^{\frac{L_{day}}{10}} + 4 \times 10^{\frac{L_{evening}}{10}} + 8 \times 10^{\frac{L_{night}}{10}} \right] \right\}$

1) L day is average sound level during the day (from 7am to 7pm)

2) L evening is the average sound level during the evening (from 7pm to 11 pm)  
3) L night is average sound level during the night (11pm to 7am)

The average for the whole day (24 hrs.) is denoted by L den (day, evening, night) coefficient 12 of the first term in the bracket is for the numbers of hours of the day time (7am to 7pm); similarly, the coefficient 4 for 4 hours of evening & the coefficient 8 for 8 hours of night.

**Discussion:**

Average noise level of day (Lden) of study universe

| Sr. No. | Day & Place                          | L den (dB)     |
|---------|--------------------------------------|----------------|
| 1       | 24 <sup>th</sup> September 2006      |                |
|         | A) Sadubhau Chowk<br>B) Gandhi Chowk | 74.3<br>65.62  |
| 2       | 1 <sup>st</sup> October, 2006        |                |
|         | A) Sadubhau Chowk<br>B) Gandhi Chowk | 72.02<br>61.31 |
| 3       | 8 <sup>th</sup> October, 2006        |                |
|         | A) Sadubhau Chowk<br>B) Gandhi Chowk | 69.46<br>62.23 |
| 4       | 15 <sup>th</sup> October, 2006       |                |
|         | A) Sadubhau Chowk<br>B) Gandhi Chowk | 70.53<br>62.44 |

1) 24<sup>th</sup> September- The L den of 24<sup>th</sup> September on Sadubhau Chowk is 74.3 dB while on Gandhi Chowk the Lden is 65.62 dB (Shown in above table), The Lday, Levening on Sadubhau Chowk is 79.77 dB, 74.73 dB, 62.67 dB respectively. The Lday, Levening and Lnight on Gandhi Chowkis 74.86 dB, 67.3 dB. The Lden of Sadubhau Chowk is higher than Gandhi Chowk. This clearly indicates that Sadubhau Chowk is noisy than Gandhi Chowk. This may be predicting that vehicle density of Sadubhau Chowk is higher and cause to increase noise level.

2) 1<sup>st</sup> October- The Lden of 1<sup>st</sup> October on Sadubhau Chowk is 72.02 dB while on Gandhi Chowk the Lden is 61.31 dB and at night g55.12 dB. The Gandhi Chowk average noise level of day is 77.59 at night 55.12 dB. The Gandhi Chowk average

noise level of day is 77.59 Gandhi Chowk , evening average noise level is 54.7 dB and night average noise level is 35.16 dB. The Lday noise level of Sadumhau Chwok and Gandhi Chowk huge gap, but Levening & Lnight values also shows huge gaps. The Sadubhau Chowk vehicle density is high due to Sugarcane carrying vehicles regularly passes the sadubhau Chowk.

3) 8<sup>th</sup> October- The Lden of 8<sup>th</sup> October on Sadubhau Chowk is 69.46 dB while on Gandhi Chowk the Lden is 62.23 dB. The Gandhi Chowk average noise level of day is 77.85 and at night 43.09 dB. The Gandhi Chowk average noise level of day is 77.59 Gandhi Chowk , evening average noise level is 54.7 dB and night average noise level is 35.16 dB. The Lday noise level of Sadumhau Chwok and Gandhi Chowk huge gap, but Levening & Lnight

values also shows huge gaps.

- 4) 15<sup>th</sup> October- The average noise level on Sadubhau Chowk for day is 74.9 dB, for evening it is 68.22 dB and for night it is 64.09 dB. The Lden of Sadubhau Chowk is 70.52 dB. The average noise level on Gandhi Chowk for day is 73.84 dB, and for night it is 64.09 dB. The Lden of Sadubhau Chowk is 70.52 dB. The average noise level is 62.75 dB and for night the average noise level is 39.34 dB. The average noise level for 24 hours at Gandhi Chowk i.e. Lden is 62.44 dB. The Lden on Sadubhau Chowk is higher than Gandhi Chowk.

The Lden value of noise level is highest on 24<sup>th</sup> September. The 1<sup>st</sup> October on Gandhi Chowk the Lden is recorded as lowest i.e. 61.31 dB during this research study. The average noise level on Sadubhau Chowk is 67.52 dB lowest and 74.3 dB highest. This clearly indicates that, the Sadubhau Chowk having less residential area therefore residential peoples not affected this noise pollution. The commercial establishments, schools gathered the Sadubhau Chowk that's why the people working, visiting peoples, Students are more affected the noise pollution. The Gandhi Chowk is gathered with petrol filling station, Commercial establishment, Parking Zones and some Residential areas. The average noise level for 24 hour on Gandhi Chowk is 65.62 dB highest and 61.31 dB lowest recorded during research study. The population of Akluj town is increasing from last four decades. The Town is developed around Akluj. The vehicle density of Akluj is increasingly. These are contributed to noise level. Therefore it is predicted that the noise pollution in Akluj will increase in future.

#### **Conclusion:**

The Sadubhau Chowk average noise level for day are 74.5 dB highest and 69.46 dB lowest observed during research study while on Gandhi Chowk the average noise level for day ranges in between 65.62 dB highest and 62.44 dB lowest. The vehicle density on Sadubhau Chowk is highest that's one of the reason for increasing noise level. The sources of noise population on study universe are automobiles, peoples gathering, uncontrolled traffic and

unregulated parking zones etc. The gravity of noise level on study region indicates the noise pollution problem in Towns like Akluj is increased. In future the noise pollution will create the many allied health concern problems. That's why it is clearly observed on that noise pollution problem area in Town is increased in developing country like India. That's why the issue of noise pollution it is concluded that then noise pollution will discuss in Towns and laid the restrictions for controlling the noise pollution for in towns in India.

#### **References:**

- 1) Bainton, D., and Baker, L.A., (1990). Traffic Noise, work Noise and Cardiovascular Risk-
- 2) Factors- The Caerphilly and Speedwell Collaborative Heart- Disease Studies. Environment International, 16, pp. 425-435
- 3) Babisch, W., Ising, H., Gallancher, J.E.J., Sweetnam, P.M. Elwood, Caerphilly and Speedwell studies, 10 years follow up.

## **IMPACT OF WORKPLACE SPIRITUALITY ON EMPLOYEE PERFORMANCE IN SUPERSPECIALTY HOSPITALS IN BILASPUR CITY**

**Devendra Kumar Sinha<sup>1</sup> Dr. Rahul Sharma<sup>2</sup>**

<sup>1</sup>Research Scholar (Management) Department of Commerce & Management Dr. C. V. Raman  
University Kargiroad, Kota, Bilaspur (C.G)

<sup>2</sup>Associate Professor Department of Commerce & Management Dr. C. V. Raman University  
Kargiroad, Kota, Bilaspur (C.G)

**DOI- 10.5281/zenodo.7265188**

### **Abstract**

*The three basic components of workplace spirituality—a feeling of connection, purposeful work, and inner life—were examined and studied in this investigation with the goal of determining how they relate to performance of employee. This study employed a survey methodology utilising questionnaire-based data gathering approaches. In order to examine the study data, multiple linear regression was used. This study's findings show that (1) workplace spirituality, as evaluated by facets of sense of belonging has a significant and beneficial effect on employees' achievement, (2) workplace spirituality, as evaluated by facets of meaningful work, also has a positive impact on employees' effectiveness, and (3) workplace spirituality, as evaluated by inner life, had no such impact. The implications of this research were that it would ultimately be costly for service organisations, particularly hospitals, to undertake spirituality-related training and maintain an office setting that can endorse workers' spirituality, thereby fostering a welcoming and pleasant working atmosphere for each worker.*

**Keywords:** Organizational Performance, Workplace Spirituality, Balanced Scorecard

### **Introduction**

One of the subjects that is extensively investigated in numerous nations is performance measurement. One of the most crucial elements in an organisation is performance measurement since it allows us to evaluate how successfully an organization's business and operations procedures are run. Different organizations have used profitability statements that characterize an organization's overall performance as a tool for performance assessment. According to Bradea and Mărăcine (2015), healthcare facilities, as organisations that offer medical services, differ from other types of organisations because the effectiveness of their organisations have to be capable of describing the quality of healthcare services, target strategic objectives, be efficient and effective, and produce the desired quarterly earnings.

The bulk of earlier studies on hospital performance employed the perceptual balanced scorecard as an assessment. The balanced scorecard have grown to be a popular performance assessments that is commonly employed in studies on performance of the organization since being originally presented by Kaplan and Norton in 1992. The balanced scorecard would be a

administrative instrument that, according to Alharbi et al. (2016), describes organisational condition and present capability in light of precise as well as focused aims and priorities. While traditional performance evaluation is a common and well-used strategic instrument, the balanced scorecard extends further than that. By facilitating improved strategy execution, the balanced scorecard's major ingredient, the strategy mapping, has shown to be advantageous for said business.

However a balanced scorecard approach to measuring effectiveness in hospitals isn't really original, preliminary studies really hasn't revealed any indication that utilising a balanced scorecard could be a way to boost hospital performance. According to Perkins et al. (2014), this occurs when administrators do not comprehend the causal links behind the balanced scorecard idea. Moreover, study by Porporato et al. (2017) produced different findings, finding that the health care industry might benefit from a comprehensive strategy relying on instituting a balanced scorecard with metrics focused for improving performance. It should be noted that the metrics utilised might be witnessed and derived on the core tenets of the institution's common goal, both prospects at the institutional level or within the root level.

In India solely, the healthcare still is plagued by a variety of weaknesses which are mirrored in its poor performance. These weaknesses include a dearth of community-accessible medical facilities, inadequate diagnostic supplies in certain local hospitals, an absence of financial benefits for physicians, as well as a sluggish risk attitude. Particularly for medical services at superspecialty hospitals in Bilaspur city, there seem to be issues with subpar medical care which have led to the neglecting of certain sufferers owing to a shortage of specialised medical personnel as well as delays in the delivery of medical services to the general public. Investigators consequently intend to correlate performance of employees with the parameter workplace spirituality in relation to the issues that present at this institution. This happens because, according to study by Garg (2017), workplace spirituality may assist firms in maximizing revenue by helping them meet their ethical responsibilities, provide welfare programs, engage in charitable endeavours, and uphold their CSR initiatives. It thus demonstrates that in achieving organisational goals, the organisation in this instance is attempting to do everything possible to do so. While it is undesirable to accomplish the firm's earnings aspirations, people would also attempt to accomplish this in a manner that is compatible with one's workplace's spirituality. Implementation of spirituality may assist staff members function better in order to accomplish organisational objectives without losing sight of the external conditions or disregarding the concerns of others, that will undoubtedly aid the business in this field by enhancing patient commitment.

In their study on workplace spirituality in the medical services industry, Faro Albuquerque et al. (2014) divided it into 3 important categories: inner life, purposeful job, and feeling of connection. These three aspects of workplace spirituality were proven to have an impact on organisational performance. They discovered that spirituality may modulate the interaction among an employees and its beneficiaries as well as the accomplishment of organisational objectives. Workers' religious desires and

requirements to stay connected to one another and one's workplace communities as well as their objectives and the purpose behind their job are at the heart of organisational religiosity. Therefore, it is clear that there's still a tight connection among spirituality and raising an individual's or company's effectiveness if we combine the points made by Ashmos and Dunchon (2000) using the goal-setting theory. This is due to workers who are spiritual would be capable of understanding one's tasks or own line of work and act as a motivational factor to enhance one's organisational performance. Workers would also perceive more satisfied with their positions as a result of one's spirituality since it will be capable of balancing the ability to accomplish objectives under all circumstances.

## **Literature Review**

### **1.1. Workplace Spirituality**

Academic' focus has been drawn to spirituality-related study subjects throughout the last ten years. Since the subject of this investigation was tied to religious or mystical, numerous investigators originally believed that this area was unacceptable. However, spirituality has become viewed as an essential component of the organisation. This is to ensure that workers, administrators, and corporate executives all over the world can derive larger relevance and value in existing employment through the practice of spirituality.

According to study on spirituality, promoting spirituality provides a number of advantages, such as increasing self-satisfaction, work satisfaction, innovation, devotion, and organizational productivity. The more spiritually connected a person is, the less likely they are to want to leave their jobs (Milliman et al., 2003), the more engaged they are at profession (Kolodinsky et al., 2008), and Rego and Cunha (2008) also show that spirituality can boost worker commitment to the organization. Workplace spirituality has indeed been characterized from both an organisational and personal standpoint. According to Giacalone and Jurkiewicz (2003), workplace spirituality is a set of organisational ideals used in cultures

which encourages employees to surpass themselves via their job activities but to have a sense of complete and joyful connectivity with those around. Out from perspective of the person, workplace spirituality is discovering one's fundamental reason to live, forging connections with anyone else, and adhering to organisational principles. Ashmos and Dunchon (2000) split the notion of workplace spirituality under 2 categories, in contradiction to several other scholars. First and foremost, workplace spirituality is acknowledging that employees are spiritual creatures with a desire for significance in their inner lives. Secondly, workplace spirituality encompasses something beyond simply employees' inner selves; this even refers to what's been known as the urge to belong as a member of society. The last definition of spirituality is the notion that fulfilling purposeful labour may satisfy people's desire for value. Examine all of the writings on every spirituality formation.

In addition to giving a description of workplace spirituality, Ashmos and Dunchon (2000) additionally separated workplace spirituality among 3 important categories: internal life, meaningful employment, and society. The internal life aspect shows that in addition to their demands for their bodily, psychological, and intellectual well-being, workers too have spiritual beliefs. The spiritual aspect of someone's personality, along with the social identification connected to the organisation, and particularly the organizational unit which permits to characterise the self-concept, are all parts of someone's internal existence. The second factor is purposeful employment. This component makes the assumption that workers appreciate their employment for selfless reasons (salary and bonus). According to Duchon and Plowman (2005), term relates to enhancing valuable work by including elements that workers receive in their personal lives and that can bring them joy. The feeling of togetherness is the final factor. Much of what improves spirituality is the sense of a community's belonging since it makes it possible to have rewarding connections. This component places a focus on the role that leaders play in building professional ecosystems where workers have

a sense of belonging, can relate to their objectives, and can form relationships with coworkers. Thus, this highlights the significance of interpersonal relationships as the cornerstone to discovering job by raising its spiritual component.

There seems to be disagreement over how spirituality is constructed, but many other researchers had also consented that this really comprised of morality, prerogatives, society, household, and individual (Khasawneh et al., 2010), connectedness with higher powers, humans, environment, and all living creatures (Liu and Robertson, 2011), as well as corporate social responsibility and internal marketing. Depending on the social and doctrinal teachings of the context in which investigators carry out their work, a person may select a variety of workplace spirituality categories.

### **1.2. Employee Performance**

Job-related actions which are required of a person as well as how successfully such tasks are carried out by an employee's working are referred to as job performance in the context of organizational behaviour. Given how crucial this accomplishment is to the development and results of the organisation. Campbell views job success as an anecdotal level element from a psychological standpoint. Performing, then, refers to the act a given individual performs. According to Campbell (1990), work performance comprised of the behavioural patterns people display at work that really are pertinent to the company's objectives. Effectiveness must be concentrated on behavioural patterns that produce the desired outcomes or benefits (Murphy 1989; Campbell et al., 1993). According to Campbell et al. (1993), work performance does not include the outcome of behavioural patterns, instead of the behaviour patterns itself. In other terms, performance refers to an employee's overall, observable, and quantifiable actions. The components of work performance, according to Campbell (1990), are: The activity specific behaviour, that encompasses the actions that an individual engages in when doing a work. Those seem to be the fundamental duties that distinguish each work from the other. On the contrary side, non-task particular action refers to actions that a person must

conduct which aren't specialized to a certain work. An person can gain OCB and do his greatest performance at work with the assistance of the organisation that supports mentally stimulating workplaces. A distinction among in-role and out-of-role performances is recognized, according to study studies on performance studies (Katz and Kahn, 1978). Extra-role functioning is also referred to as organisational citizenship behaviour (Smith, Organ, and Near, 1983) and encompasses a range of actions, including an individual's willingness to accept new commitments, compliance to standard operating procedures, and upholding and cultivating an optimistic outlook. Organizational citizenship behaviour supports organisational success and efficiency with the creation of assets, creativity, and adaptation, according to concepts and organisational theories (Gholamhosseini, 2009). Performance may be divided into task-based ability and situational ability, according to Borman and Motowidlo's (1993) study report. The efficiency by which workers carry out the tasks each of which is explicitly assigned to them and serve to the technical foundation of the business is referred to as work or job performance. Operations undertaken by an organisation those are voluntary, not required by the job, and don't immediately advance the technical core constitute situational performances (Organ, 1997). Actions that aren't technically related to the profession but are nevertheless extremely important for all tasks, like assisting, collaborating with everyone, and volunteer, are included in situational performance.

## 2. Aim and Hypothesis

This article's main goal is to determine how workplace spirituality affects workers' productivity at superspecialty hospitals. So, after reviewing the literature, the research hypotheses was formed:

**H1:** There is a substantial impact of sense of community over performance of employees

**H2:** There is a substantial impact of meaningful work over performance of employees

**H3:** There is a substantial impact of inner life over performance of employees

## 3. Methodology Adopted

The purpose of this investigation is to determine how workplace spirituality affects workers' performances at super-specialty hospital. Bilaspur city has indeed been chosen as the research site. Convenience sampling procedures were employed to pick 20 participants from each of five super-specialty hospitals in Bilaspur city, resulting in a sample of 100 participants for this research. The doctors, nurses, wardboys, and administrative employees from the hospital make up the sample. Information from the target participants present at the hospitals during the investigator's visit have been gathered through interviews through the use of standardised questionnaires. The hospital management has given its consent in advance to undertake the investigations. SPSS 21.0 was used to enter the interview-derived data for further analysis.

## 4. Data Analysis & Discussion

Table 1 displays the demographic information of the respondents. The table showed that there were about equal numbers of men and women engaged in the hospital and health care industry, with men making up the bulk of sample responses (52%), trailed by women (48%) The sample notably includes a sizable portion of persons between the ages of 31 and 50 (68%) who demonstrate a degree of maturity and competence for managing health concerns and trauma, trailed by those 50 years of age or older (11%) who demonstrate a level of understanding and skills in the sector. The sample also includes individuals under the age of 30 (21%), demonstrating the enthusiasm and involvement of young folks in the healthcare industry. The majority of respondents in the study (89%) are married, while 11% of participants are revealed to be single.

**Table 1: Demographic profile of the sampled respondents (n=100)**

| Demographic   | Frequency | %  |
|---------------|-----------|----|
| <b>Gender</b> |           |    |
| Male          | 52        | 52 |
| Female        | 48        | 48 |

| <b>Age</b>            |                       |    |    |
|-----------------------|-----------------------|----|----|
|                       | Upto 30 Yr            | 21 | 21 |
|                       | 31-40 Yr              | 33 | 33 |
|                       | 41-50 Yr              | 35 | 35 |
|                       | Above 50 Yr           | 11 | 11 |
| <b>Marital Status</b> |                       |    |    |
|                       | Married               | 89 | 89 |
|                       | Unmarried             | 11 | 11 |
| <b>Education</b>      |                       |    |    |
|                       | Diploma               | 22 | 22 |
|                       | Graduate              | 49 | 49 |
|                       | Post Graduate & Above | 29 | 29 |
| <b>Work Profile</b>   |                       |    |    |
|                       | Administration        | 21 | 21 |
|                       | Ward Boy              | 16 | 16 |
|                       | Nurse                 | 39 | 39 |
|                       | Doctors               | 24 | 24 |

In regards to education, it was discovered that the plurality of participants (49%) possess degrees up to the level of graduation, while 29% possess degrees at the post-graduate or higher level, while 21% possess diplomas. The sample showed showed that

the majority of participants (39%) were nurses, trailed by physicians (24%), while 16% of participants are ward boys and 21% worked in hospital management. The selection is varied broadly and ought to be a decent representative of the true population.

**Table 2: Predicting Workplace Spirituality**

| <b>Predictor</b>   | <b>Dependent</b>     | <b>B</b> | <b>SE</b> | <b>t</b> | <b>R<sup>2</sup></b> | <b>Adj. R<sup>2</sup></b> |
|--------------------|----------------------|----------|-----------|----------|----------------------|---------------------------|
| Sense of Community | Employee Performance | 0.76     | 0.06      | 12.22*   | .887*                | .851*                     |
| Meaningful Work    |                      | 0.72     | 0.09      | 6.87*    | .725*                | .714*                     |
| Inner Life         |                      | 0.66     | 0.06      | 4.16*    | .671*                | .659*                     |

To determine the effects of several workplace spirituality factors, including a feeling of belonging, meaningful work, and inner life, on employees' performance, the multiple regression technique was used. When determining the important factors influencing a performance of the employee, it was discovered that feeling of community components had a major impact. The model's modified R - square is 0.851, meaning that this aspect of workplace spirituality is responsible for 85.1% of the variability in employees' performance. The significant t-value (t = 12.22, p 0.05) demonstrates that the factors have a meaningful association. Attributes of meaningful work are discovered to possess a substantial impact on employees' performance when finding the main variables contributing for employees' performance. This model's adjusted R - squared is 0.714, meaning that this aspect of workplace spirituality accounts for 71.4% of the variability in employees' performance. The significant t-value (t = 6.87, p 0.05) demonstrates that the factors have a meaningful association. Aspects of the inner

life are discovered to have a substantial impact on the output of the employee after identifying the key factors contributing for those outcomes. According to the modified R - squared of this equation, which stands at 0.659, this workplace spirituality variable is responsible for 65.9% of the variability in employees' performance. The significant t-value (t = 4.16, p 0.05) demonstrates that the factors have a meaningful association.

### **Conclusion**

The findings of this research demonstrate that workplace spirituality on the whole has a substantial and positive impact on performance of employees. All three factors of workplace spirituality—sense of community, inner life, and meaningful work—show a substantial connection to worker outcomes, with sense of community being the biggest factor influencing employees' performance. Important work and inner life are the next two best indicators. These findings suggest that an individual's sense of belonging and community is the foremost significant component for motivates them to work joyfully and, of course, would increase

employee productivity, that will also ultimately enhance organisational performance. The findings of this investigation are consistent with those of studies by Faro Albuquerque et al. (2014), Hong (2012), and Karakas (2010) that demonstrated a favourable relationship between spirituality and organisational performance. There's a favourable correlation among spirituality & performance of employees since it improves workers' wellbeing and livability, offers them objectives and purpose at job, and makes them feel connected to the community where they operate (Karakas, 2010). Workplace spirituality therefore in particular instance has a major impact on employee performance since if an individual is capable of recognizing the spiritual existence in the organisation, those who will be capable of improving one's work efficiency. People will also be capable of cultivating a cognitive perspective to organisations and become even more fruitful toward them, which will of course be capable of increasing organisational performance. By giving workers a purpose for their job, making them feel associated with the company, and offering them a space to express their own views, workplace spirituality may also spur innovation and the company's profitability. The findings of this study have implications for organisations, particularly health service organisations like hospitals, which may be capable of carrying out programs that lead to spiritual practice and establish working atmosphere which can endorse the divinity of workers, in order to establish a welcoming and pleasant atmosphere for all of the employees of the company. In addition to that, organisations, particularly health facilities, may want to recognise using performance metrics.

#### References

1. Alharbi, F., Atkins, A., Stanier, C. & Al-Buti, H.A. (2016). Strategic Value of Cloud Computing in Healthcare Organisations Using The Balanced Scorecard Approach: A Case Study from A Saudi Hospital. *Procedia Computer Science*, 98, 332 – 339.
2. Ashmos, D. P. & Dunchon, D. (2000). Spirituality at Work: A Conceptualization and Measure. *Journal of Management Inquiry*, 9(2), 134–145.
3. Borman, W. C., & Motowidlo, S. J. (1993). *Expanding the criterion domain to include elements of contextual performance*. In N. Schmitand and W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71 -98). San Francisco: Jossey-Bass.
4. Bradea, I. & Mărăcine, V. (2015). Grey Incidence Between KPIs and Hospital Performance. *Grey Systems: Theory and Application*, 5(2), 234 – 243.
5. Campbell, J. P. (1990). *Modeling the performance prediction problem in industrial and organizational psychology*. In M. D. Dunnette and L. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology* (pp 687-732). Palo Alto, CA: consulting Psychologists Press, Inc.
6. Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). *A theory of performance*. In N. Schmitt and W. C. Borman (Eds.), *Personnel Selection in Organizations* (pp 35-70). San Francisco: Jossey-Bass.
7. Duchon, D. & Plowman, D.A. (2005). Nuturing The Spirit at Work: Impact on Work Unit Performance. *The Leadership Quarterly*, 16(5), 807-833.
8. Faro Albuquerque, I., Campos Cunha, R., Dias Martins, L. and Brito Sá, A. (2014). Primary health care services: workplace spirituality and organizational performance. *Journal of Organizational Change Management*, 27(1), 59-82.
9. Garg, N. (2017). Workplace Spirituality and Employee Well-being: An Empirical Exploration. *Journal of Human Values*, 23(2), 129–147.
10. Gholamhosseini, A. (2009). Affective factors, components and consequences of organizational citizenship behavior. *Journal of Human Development Police*, 7, 31 -40.
11. Giacalone, R.A. & Jurkiewicz, C.L. (2003). Right from Wrong: The Influence of Spirituality on Perceptions of Unethical Business Activities. *Journal of Business Ethics*, 46(1), 85.
12. Hong, Y.J. (2012). Identifying Spirituality in Workers: A Strategy for Retention of

- Community Mental Health Professionals. *Journal of Social Service Research*, 38, 175-186.
13. Karakas, F. (2010). Spirituality and Performance in Organizations: A Literature Review. *Journal of Business Ethics*, 94, 89-106.
14. Katz, D., and Kahn, R. L. (1978). *The social psychology of organizations*. New York: Wiley.
15. Khasawneh, S., Alrjoub, S.A.M & Al Zawahreh. A. (2010). A Exploratory and Confirmatory Factor Analyses of The Spirituality in The Workplace Questionnaire (SWQ): A Tool for Workforce Development. *Journal of Institutional Research South East Asia*, 8(1), 70-84.
16. Kolodinsky, R.W., Giacalone, R.A. & Jurkiewicz, C.L. (2008). Workplace Values and Outcomes: Exploring Personal, Organizational, and Interactive Workplace Spirituality. *Journal of Business Ethics*, 81(2), 465–480.
17. Liu, C.H. & Robertson, P.J. (2011). Spirituality in The Workplace: Theory and Measurement. *Journal of Management Inquiry*, 20(1), 35–50.
18. Milliman, J., Czaplewski, A.J. & Ferguson, J. (2003). Workplace Spirituality and Employee Work Attitudes: An Exploratory Empirical Assessment. *Journal of Organizational Change Management*, 16(4), 426–447.
19. Murphy, K. R. (1989). *Dimensions of job performance*. In R. F. Dillon and J. W. Pellegrino (Eds.) *Testing: Theoretical and Applied Perspectives* (pp. 218-247). New York: Praeger.
20. Organ, D. W. (1997). Organizational citizenship behaviour: It's construct cleanup time. *Human Performance*, 10, 85-97.
21. Perkins, M., Grey, A. & Remmers, H. (2014). What Do We Really Mean By Balanced Scorecard?. *International Journal of Productivity and Performance Management*, 63(2), 148-169.
22. Porporato, M., Tsisis, P., Maria, L. & Marin Vinuesa, L.M. (2017). Do Hospital Balanced Scorecard Measures Reflect Cause-Effect Relationships?. *International Journal of Productivity and Performance Management*, 66 (3), 338-361.
23. Rego, A. & Cunha, M.P. (2008). Workplace Spirituality and Organizational Commitment: An Empirical Study. *Journal of Organizational Change Management*, 21(1), 53–75.
24. Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behaviour: Its nature and antecedents. *Journal of Applied Psychology*, 68, 653-663.

## VIDEO RETRIEVAL USING TEXTUAL QUERIES AND SPOKEN TEXT

**Bere Sachin Sukhadeo**

Assistant Professor Department of Computer Engineering, DGOI, COE, Bhigwan,  
Pune, Maharashtra, India.

Email: [sachinbere@gmail.com](mailto:sachinbere@gmail.com)

DOI- 10.5281/zenodo.7265234

### **Abstract:**

The expanded accessibility of broadband associations has as of late prompted an increment in the utilization of Internet webcasting. Most webcasts are filed and got to various times reflectively. One test to skimming also searching through such documents is the absence of text transcripts of the webcast's channel. Transcription of lectures is challenging assignment, both in acoustic and in language demonstrating. Recording lectures and putting them on the Web for access by understudies has turned into a general pattern at different colleges. To take full pick up of the information database that is manufactured by these records involved inquiry usefulness must be given that goes past pursuit on meta-information level however performs an itemized examination of the relating multimedia reports. Videos and Texts demonstrated in lecture are nearly identified with substance of the lecture, gives important source for recovering lecture videos and indexing. Text substance may be separated, then analyze and deducted consequently by OCR (Optical Character Recognition) strategies. In this paper, for remedying lapses in the OCR Transcriptions, we investigated two separate systems connected just to unmatched question words. In the first place strategy produces a new set of n-gram strings to match the unedited OCR Transcriptions. These n-gram incorporate strings with an altered separation of 1 character and all conceivable n-gram substrings with no less than 3 characters. Second system for redressing OCR included the word reference of spelling adjustment strategy gave in MS Words. The peculiarities of MS Word 2000, an OCR perceived string was extended through an application program interface into its corrected spellings. An exceptionally progressive style, just growing words that MS Word had flag as erroneously spelled which we depict before. This significantly decreased the quantity of spurious word competitors and maintained a strategic distance from false matches.

**Keywords:** *-lecture videos; automatic text indexing; n-gram string; OCR; lecture video.*

---

### **Introduction**

In the previous decade, we have seen a drastic increment in the accessibility of on-line academic lecture material. These educational assets can conceivably change the way individuals learn students with any type of disability can upgrade their educational experience, experts can stay aware of late progressions in their field and individuals of all ages can fulfill their hunger for knowledge. In complexity to numerous other informative exercises be that as it may, lecture transforming has as of not long ago delighted in little advantage from the advancement of human language innovation. In spite of the fact that there has been noteworthy exploration controlled to audio indexing and retrieval. Embedded content in a feature grouping gives important data of foremost essentialness. Messages more often than not show up as logos, subtitles, inscriptions or pennants in the feature grouping. Illustrations of such educational embedded writings can be to a

great extent found in the news and other famous TV broadcastings. In spite of the fact that messages give extra data, not every one of them are essential as they may block critical allotments of a video. There are a few contrasts in the middle of news and lecture speech such as an abstract style and an accessible asset. These days, numerous telecast organizations give news cuts a comparing script through online administration. Since we can without much of a stretch form a preparing corpus utilizing this, telecast news retrieval has been a significant concentrate in talked report retrieval territory. In any case, they as of now give watchword hunt administrations utilizing a content search engine focused around the news script. Dissimilar to news, we can't undoubtedly get a script of lecture speech. In a business education site, an inquiry is performed utilizing a physically fabricated record. Text is a high state having semantic features which has regularly been utilized for

content-based information retrieval. In lecture videos, writings from lecture slides serve as a layout for the lecture and are critical for comprehension. In this manner in the wake of segmenting a video document into a set of key frames, the content detection method

will be executed on each one key edge, and the extricated content articles will be further utilized as a part of content recognition also slide structure investigation forms. Particularly, the removed structural metadata can empower more adaptable video browsing and video pursuit capacities. Speech is a standout amongst the most essential transporters of information in video lectures. Consequently, it is of unique focal point that this information can be sought programmed lecture video indexing. Furthermore, the majority of the current lecture speech recognition frameworks in the explored work can't attain to a sufficient recognition result. A lot of literary metadata will be made by utilizing OCR and ASR system, which opens up the content of lecture videos. To empower a sensible access for the client, the delegate keywords are further concentrated from the OCR and ASR results. For content-based video look, the look lists are made from distinctive information assets, including manual

#### **Related Work**

A texture-based system for detecting messages in images was exhibited by K. I. Kim, K. Jung, and J. H. Kim. The framework examines the textural properties of writings in images utilizing a SVM and spots the content regions by working CAMSHIFT on the texture classification results. The proposed system can encourage quick content detection, despite the fact that it doesn't accept the sort of media or the shade and textural properties of writings and is moderately uncaring to image determination. It additionally functions admirably in concentrating writings from mind boggling and textured foundations and was found to create a superior execution than some different methods. Nevertheless, the texture classifier did experience issues arranging little content or content with a low differentiation [1]. Content identification in image and feature with complex foundations and layering impacts is a troublesome and testing issue. D. Chen, H.

annotations, OCR and ASR keywords, worldwide metadata, etc. nowadays individuals have a tendency to create lecture videos by utilizing multi-scenes position, by which the speaker and his presentation are shown synchronously. This can be accomplished either by showing a video of the speaker and a synchronized slide record, or by applying a condition of the lecture recording framework, for example, tele-Teaching [10]. Anyplace Solution Kit such a framework which conveys two principle parts of the lecture: the principle scene of lecturers which is recorded by utilizing a video cam and the second which catches the desktop of the speaker as machine during the lecture through an edge grabber apparatus. The key advantage of the recent one for a lecturer is the adaptability. For the indexing, no additional synchronization in the middle of video and slide records is needed, and we don't have to deal with the slide position [11][12]. The paper is composed as takes after. Section 2 quickly depicts the related work of image, retrieval. In Section 3, we give a depiction of the Content Based Image Retrieval model with K-means. Test results and summary are introduced in Section 4. At last, Sections 5 talk about our conclusion and future works.

Bourlard, and J. Thiran had introduced a quick content identification algorithm based on support vector machine. The algorithm first incorporates the edge, and heuristic proofs to concentrate the hopeful content lines and after that recognizes these applicants by utilizing SVM. The algorithm portrayed in this paper does not utilize shade, albeit numerous frameworks additionally make utilization of color data in detecting content in color images. The principle reason is that the begin purpose of our framework, the edge proof, is basically originating from force in layered image. Changing the RGB color image to YUV shade space and performing edge detection in U or V image can without much of a stretch discover this. No worldly data is utilized as a part of our algorithm. Since content may have diverse developments in feature, content identification is typically performed before following the content among the feature frames. The algorithm exhibited here attains to high identification

rate and additionally low false caution rates. In quick content line extraction express, this algorithm is quicker than (or equal to) other quick content identification systems, despite the fact that the entire identification methodology is more CPU serious than region-based and edge-based routines. The assessment paradigm of the identification result introduced in this paper is on the premise of right benchmark restriction. This foundation is stricter than complete spread paradigm utilized as a part of past studies. With this basis, we can quantify the identification execution correctly without needing to demonstrate the last character distinguishes result [2]. In this study, another Farsi/Arabic text detection and localization methodology is proposed. Initially, with the assistance of edge extraction, fake corners are acquired and text dimension estimation is performed. Second, by consolidating discrete cosine transform coefficients, texture intensity based picture is made. Subsequently, another Local Binary Pattern (LBP) picture is acquainted with depicts the acquired texture design. The info picture is then separated into macro squares and a few features are extricated from them and sustained into Support Vector Machine (SVM) classifier to sort them into text and nontext groups. Trial results exhibit that the proposed half and half approach can be utilized as a programmed text detection framework, which is powerful to text dimension, textual style shade and foundation unpredictability [3]. Creator exhibit a two stage framework for programmed feature text removal to identify and remove installed feature texts what's more fill-in their remaining districts by fitting information. In the feature text detection stage, text areas in each one frame are discovered through an unsupervised clustering performed on the associated parts created by the stroke width transform (SWT). Since SWT needs a precise edge map, we create a novel edge identifier which profits from the geometric peculiarities uncovered by the bandlet transform. Next, the movement examples of the text objects of each one frame are broke down to confine feature texts. The recognized feature text

areas are deleted, then, the feature is restored by an inpainting plan. The proposed feature inpainting approach applies spatiotemporal geometric streams removed by bandlets to remake the missing information. A 3d volume regularization algorithm, which exploits bandlet bases in exploiting the anisotropic regularities, is acquainted with complete the inpainting scheme. The strategy does not require additional courses of action to fulfill visual consistency [4]. E. Leeuwis, M. Federico, and M. Cettolo had focused their exertion on dialect demonstrating.

A LM baseline was evaluated utilizing different sorts of information, which were all defective, however utilized as a part of such a path, to the point that their qualities were highlighted and not their lacks. Utilizing the ITC-irst WSJ AM adjusted on 8h of TED preparing information, it brought about a WER [5]. D. Lee and G. G. Lee had introduced a [6] Korean talked report recovery framework or secondary school math address features which utilizes the substance data. From ASR yields and address note, they constructed the general transformed list table, the substance table and the matching table. These tables are utilized for figuring the significance score. In the study [7] by J. Glass, T. J. Hazen, L. Hetherington, and C. Wang, they closed that the specialized dialect of scholastic addresses and absence of in-area talked information for preparing makes address interpretation a critical test that will require new systems for inferring a vocabulary and dialect model. Pong et al. [8] proposed the algorithm of segmentation in their work is focused around the differential degree of text and foundation areas. Utilizing limits they endeavor to catch the slide move. The studies depicted in Repp et al. [9] are focused around out-of-the-container business discourse different programming. Concerning such business programming, to accomplish fulfilling results for an extraordinary working space an adaption methodology is frequently needed, yet the custom expansion is once in a while conceivable.

Implementation Details

### A. System Architecture

Following Figure 1 shows proposed system architecture. The detailed description is as follows:

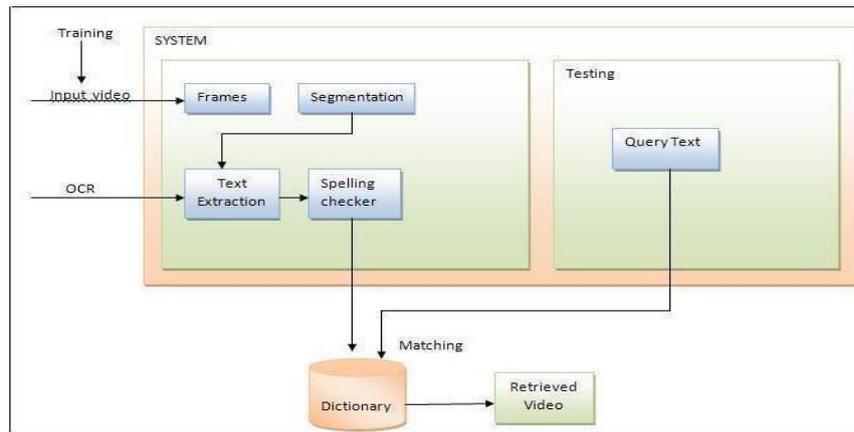


Figure1. Proposed System Architecture Working of the system is divided into two parts:

- 1) Training Phase
- 2) Testing Phase

#### Training Phase:

We can take numbers of videos in for training process as input. At training phase initially we train videos one by one, different frames are extracted from selected video and segmentation of this frames are performed. OCR: Optical Character Recognition is applied on the extracted frames. i.e. we extract the text from each frame, after extracting text we can check this text for spelling. Correction of unmatched word can be done in this phase. We are also retrieving text from audio by applying Automatic Speech Recognition technique. Indexing is performed on Text extracted from ASR and OCR and this indexing values are further stored in dictionary. It is used to compare it with user query.

#### Testing Phase:

In this phase user enters the input query text i.e. Text for video retrieval. If input query is incorrect we can correct it by applying n gram technique. Indexing of this text is formed and these indexing values are compared with information stored in directory and at the end related videos are retrieved. A. Algorithm/ Technique All non-title text line objects are further classified into three classes: content text, key-point and footline. The classification is based on the height and the average stroke width of the text line object, which is described as follows:

key-point if  $st > sh$  mean  $t > h$ mean footline if  $st < sh$  meant  $< hy$  mean  $= y_{max}$  content text otherwise; where  $s_{mean}$  and  $h_{mean}$  denote the average stroke width and the average text line height of a slide frame, and  $y_{max}$  denotes the maximum vertical position of a text line object.

#### Keyword extraction and Video search

##### Formula for calculating TFIDF score

$$tf\ idseg\ internal(kw) = \frac{1}{N} (tf\ idocr. \frac{1}{n_{type}} \sum_{i=1}^{n_{type}} (w_i + tf\ idasr. wasr) \dots) \dots (1)$$

Where  $kw$  is the current keyword,  $tf\ idocr$  and  $tf\ idfasr$  denote its TFIDF score computed from OCR and ASR resource respectively,  $w$  is the weighting factor for various resources,  $n_{type}$  denotes the number of various OCR text line types.  $N$  is the number of available information resources, in which the current keyword can be found, namely the corresponding TFIDF score does not equal 0.

### B. Mathematical Model

Let the system  $S$  is represented as:

$$S = \{T, F, S, T, C, R\} \dots \dots \dots (2)$$

1. Training input video

$T$  is a set of all training input videos given to the system,

$$T = \{t_1, t_2, t_3, \dots\}$$

Where,  $t_1, t_2 \dots$  are the number of input videos given.

2. Framing

$F$  is a set of framing input videos which are extracted  $F = \{f_1, f_2, f_3, \dots\}$

Where,  $f_1, f_2 \dots$  are the number of different frames.

3. Segmentation Phase

Let,  $S$  is a set of segments,

$S = \{s_1, s_2, s_3, \dots\}$

Where,  $s_1, s_2, s_3, \dots$  are the number of different segments

4. Text Extraction

Let, T is a set of extracting text

$T = \{t_1, t_2, t_3, \dots\}$  Where,  $t_1, t_2, t_3, \dots$  are the number of extracted texts.

5. Checking for Spelling

Let, C is a set for spelling check

$C = \{c_1, c_2, c_3, \dots\}$

Where,  $c_1, c_2, \dots$  are the number of checker for spelling.

6. Retrieved Video Output

Let, R is a set for retrieve videos  $R = \{r_1, r_2, r_3, \dots\}$  Where,  $r_1, r_2, \dots$  are the number of various retrieved videos as output.

C. Experimental Setup

The system is built using Java framework (version jdk 6) on Windows platform. The Netbeans (version 6.9) is used as a

development tool. The system doesn't require any specific hardware to run; any standard machine is capable of running the application.

**IV. Results And Discussion**

**A. Dataset**

We will use different video lectures which are done online in future. Videos lectures can also be downloaded from various standard websites available on web.

**B. Results**

In following Table I show precision, recall and f1 measure value. Various setups are considered for that. This bar graph shows the accuracy Evaluation of Task1 of the existing system, accuracy is measured by Recall, precision and F1 Measure. Table I. Table For Existing System

| Setup                  | Recall | Precision | F1 Measure |
|------------------------|--------|-----------|------------|
| Key frames and video   | 0.99   | 1         | 0.99       |
| Keyword and video      | 0.99   | 1         | 0.99       |
| All Features and video | 0.96   | 0.99      | 0.97       |
| Outline and video      | 0.87   | 0.95      | 0.91       |
| Video Only             | 0.81   | 0.83      | 0.82       |

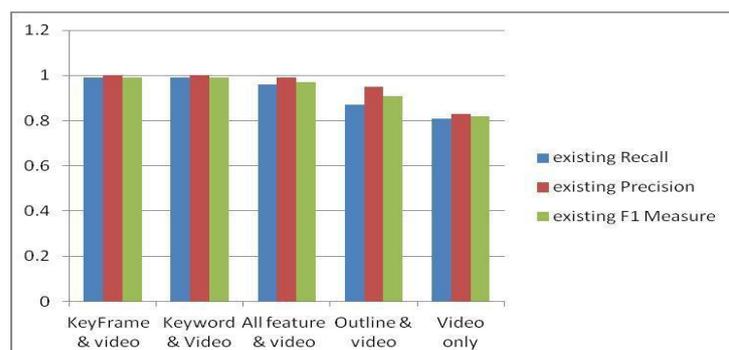


Figure 2. Graph for Existing System

Following Table II describes table and graph for the proposed system. This bar graph shows the accuracy Evaluation of Task1 of the proposed

system, accuracy is measured by Recall, precision and F1 Measure. This shows that the processing accuracy of the proposed system is greater than that of existing system.

Table Ii. Table For Proposed System

| Setup               | Recall | Precision | F1      |
|---------------------|--------|-----------|---------|
|                     |        |           | Measure |
| Key                 |        |           |         |
| frames and<br>video | 1.85   | 1.3       | 1.85    |
| Keyword             | 1.23   | 1.15      | 1.74    |
| and video           |        |           |         |
| All                 |        |           |         |
| Features            | 1.05   | 1.54      | 1.57    |
| and video           |        |           |         |
| Outline             | 1.14   | 1.25      | 1.62    |
| and video           |        |           |         |
| Video               | 1.7    | 1.4       | 1.03    |
| Only                |        |           |         |

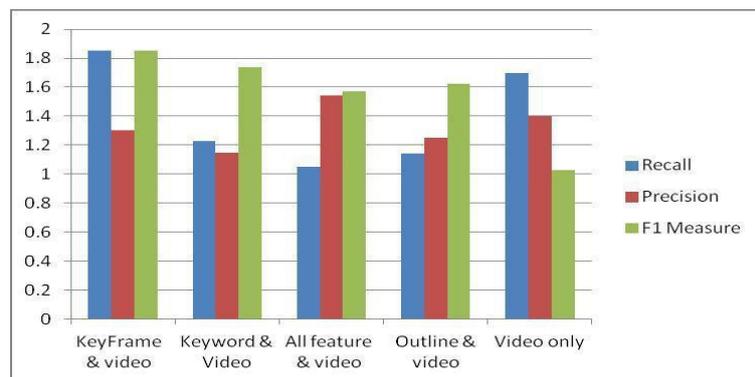


Figure 3. Graph for Time required for Training V. Conclusion And Future Work  
In this paper, we displayed a methodology for content based video of lecture indexing and recovery in expansive archives of lecture video. So as to check the examination theory we apply visual and additionally sound asset of address features for concentrating content based metadata consequently. A few novel indexing features have been created in an expansive video lectures portal by utilizing those metadata and a user study has been led. In our work, we use techniques for correcting errors in OCR transcriptions. This technique first generates n-gram strings for matching OCR unedited transcriptions. The ngram string contains all possibility for substrings having minimum 3 characters. The second method also contains dictionary of spelling check correction. For that MS word 2000 is used. It provides correction while spelling check. Our result proves that our technique reduces the number of false word candidates and also it avoids unauthenticated matching. This technique of

video retrieval using textual queries and spoken text is useful in TV broadcasting and internet video.

#### Acknowledgment

The authors would like to thank the researchers as well as publishers for making their resources available and teachers for their guidance. We are thankful to the authorities of Savitribai Phule Pune University and concern members of iPGCON2015 conference, organized by Sangamner for their constant guidelines and support. We are also thankful to reviewer for their valuable suggestions. We also thank the college authorities for providing the required infrastructure and support. Finally, we would like to extend a heartfelt gratitude to friends and family members.

#### References

[1] Kwang Kwang In Kim, Keechul Jung, Jin Hyung Kim, "Texture-based approach for text detection in images using support vector machines and continuously adaptive mean shift algorithm", Pattern Analysis and

- Machine Intelligence, IEEE Transactions on (Volume:25, Issue: 12 .
- [2] Datong chen, "Text Identification in complex Background Using SVM", IEEE, 2001.
- [3] Mohieddin Moradi, Saeed Mozaffari, "Hybrid approach for Farsi/Arabic text detection and localisation in video frames", IET Image Process., 2013, Vol. 7, Iss. 2, pp. 154–164 doi: 10.1049/iet-ipr.2012.0441.
- [4] Ali Mosleh, "Automatic Inpainting Scheme for Video Text Detection and Removal", IEEE Transaction on Image Processing, Vol. 22, No. 11, November, 2013.
- [5] E. Leeuwis, M. Federico, and M. Cettolo, "Language modeling and transcription of the ted corpus lectures," in Proc. IEEE Int. Conf. Acoust., Speech Signal Process., 2003, pp. 232–235.
- [6] D. Lee and G. G. Lee, "A korean spoken document retrieval system for lecture search," in Proc. ACM Special Interest Group Inf. Retrieval Searching Spontaneous Conversational Speech Workshop, 2008.
- [7] J. Glass, T. J. Hazen, L. Hetherington, and C. Wang, "Analysis and processing of lecture audio data: Preliminary investigations," in Proc. HLT-NAACL Workshop Interdisciplinary Approaches Speech Indexing Retrieval, 2004, pp. 9–12.
- [8] T.-C. Pong, F. Wang, and C.-W. Ngo, "Structuring low-quality videotaped lectures for cross-reference browsing by video text analysis," J. Pattern Recog., vol. 41, no. 10, pp. 3257–3269, 2008.
- [9] S. Repp, A. Gross, and C. Meinel, "Browsing within lecture videos based on the chain index of speech transcription," IEEE Trans. Learn. Technol., vol. 1, no. 3, pp. 145–156, Jul. 2008.
- [10] Haojin Yang and Christoph Meinel, "Content Based Lecture Video Retrieval Using Speech and Video Text Information", IEEE Transaction on Learning Technologies, Vol. 7, No. 2, April-June 2014.
- [11] A. Haubold and J. R. Kender, "Augmented segmentation and visualization for presentation videos," in Proc. 13th Annu. ACM Int. Conf. Multimedia, 2005, pp. 51–60.
- [12] W. H€urst, T. Kreuzer, and M. Wiesenh€utter, "A qualitative study towards using large vocabulary automatic speech recognition to index recorded presentations for search and access over the web," in Proc. IADIS Int. Conf. WWW/Internet, 2002, pp. 135–143.

## Editors

**Dr. Walunj Mahadeo**  
Principal  
College of Arts, Bhigwan ,  
Tal. Indapur Dist. Pune

**Dr. Ranjan Kalita**  
Principal  
Rangapara College, Amaribari  
Assam

**Dr. A. A. Keste**  
Principal  
Dattakala Group of  
Institutions  
Faculty of Engineering

**Dr. Prashant Chavare**  
IQAC Co-ordinator  
College of Arts, Bhigwan,  
Maharashtra

**Dr. Sharad Karne**  
Director.  
Dattakala Group of Institutions,  
Maharashtra

**Dr. Deka R. M.**  
Convener  
Vice- Principal  
Rangapara College

**Santosh P. Mane**  
Assistant Professor  
IQAC Coordinator & Head Department of Geography,  
Sameer Gandhi Kala Mahavidyalaya (Commerce & Science College) Malshiras,  
Solapur, Maharashtra, India



Jyotikiran Publication, Pune

Sr. No. 204, Sahajeevan Society,

Bhekrinagar, Hadpsar, Pune-8

Mob- 8888454089

Email-

[jyotikiranpublicationpune@gmail.com](mailto:jyotikiranpublicationpune@gmail.com)

Web Site-

<http://jkpublications.com>

Rs-1000/-

ISBN 978-9-39-481914-6



9 789394 819146 >