



ROOTS

International Journal of Multidisciplinary Researches

A Peer Reviewed, Refereed & Quarterly Journal

Vol. 8

No. 3

February 2022

ISSN : 2349-8684



**CENTRE FOR RESOURCE, RESEARCH &
PUBLICATION SERVICES (CRRPS)**

www.crrps.in

ROOTS

ROOTS International Journal of Multidisciplinary Researches (RIJMR) is a peer reviewed, refereed and quarterly journal. The Journal is assigned by *National Science Library / NISCAIR, New Delhi* and powered & published by *Center for Resource, Research and Publication Services (CRRPS) Tamil Nadu - India*. The journal provides a valid space for academics, researchers and professionals to share the latest developments and advancements in Multidisciplinary Subjects. It aims to foster the exchange of ideas on a range of important international subjects and to provide stimulus for research and the further developments and updating of international perspectives. The international perspective is further enhanced and enriched by the geographical spread of the aspiring contributors.

There are many practical reasons to publish the research articles. We don't really understand what we have discovered until we write it up, when we submit an article for publication, we get back reviews and criticisms from colleagues and readers which undoubtedly can often be very helpful and sometime point our mistakes or shortcomings in the applied logic therein. When we share the results of our efforts through publication, we become a part of the scientific community. We benefit from the exchange of ideas and learn about what others have already done. We can often establish valuable collaborations with people on the other side of the planet even without seeing them. If everybody kept their results and ideas secret, the progress of science would slow to a crawl. If we want to benefit from the work others have done before we, it's only fair that we contribute our bit too. The process of research publication creates a mindset that is vital for research progress.

The scope of the Journal is to facilitate the researchers, scholars, resource persons and practitioners to come on a strong potential platform and to share their findings of the research with the rest of the world. So that intellectual decisions can be instilled to enrich societies as a whole with attitude of magnanimity and openness.

Dr. S. Balakrishnan
Publisher and Managing Editor
journalroots4u@gmail.com
www.crrps.in
09944212131

ROOTS
INTERNATIONAL JOURNAL OF
MULTIDISCIPLINARY RESEARCHES

A Peer Reviewed, Refereed and Quarterly Journal

ISSN: 2349-8684, www.rootsjournal.com, 75400 77733.

EDITORIAL BOARD MEMBERS

Editors-in-Chief

Dr. M. DAVAMANI CHRISTOBER

Principal & Secretary
The American College
Madurai, Tamil Nadu, India

Dr. J. SURESH

Principal
The Madura College
Madurai, Tamil Nadu, India

Editorial Advisors

Dr. T. VENKATESAN

Principal & Chairman
Vivekananda College
Madurai, Tamil Nadu, India

Dr. P. KARTHIKEYAN

Principal & Senate Member
Government Arts and Science College
Dharmapuri, Tamil Nadu, India

Publisher and Managing Editor

Dr. S. BALAKRISHNAN

Founder Director, Centre for Resource
Research and Publication Services
(CRRPS), Tamil Nadu, India

Associate Editors-in-Chief

Dr. MANIMANGAI MANI

Senior Lecturer of English
Faculty of Modern Languages and
Communication
Universiti Putra Malaysia
Selangor, Malaysia

Dr. MAMTA BRAHMBHATT

Associate Professor & Head
B.K. School of Professional &
Management Studies
Gujarat University, Ahmedabad
Gujarat, India

Dr. B. J. GEETHA

Associate Professor
Department of English Studies
School of Social Sciences and
Humanities
Central University of Tamil Nadu
Thiruvavur, Tamil Nadu, India

Dr. S. THEENATHAYALAN

Associate Professor & Head
PG & Research Department of
Economics
The Madura College Madurai
Tamil Nadu, India

Dr. J. JOHN SEKAR

Associate Professor & Head of English
The American College Madurai
Tamil Nadu, India

Dr. SURESH FREDERICK

Associate Professor and UG Head
Department of English
Bishop Heber College (Autonomous)
Trichy, Tamil Nadu, India

Dr. J. KARTHIKEYAN

Associate Professor of English
Vellore Institute of Technology
Vellore, Tamil Nadu, India

Dr. PRADEEP WAGHMARE

Assistant Professor of History
Ramnarain Ruia Autonomous College
Mumbai, Maharashtra, India

Dr. K. KAVIARASU

Assistant Professor of English
Vivekananda College
Agastheeswaram, Tamil Nadu, India

EDITORS**Dr. GANGADEVI SENNIMALAI
MARIMUTHU**

Professor of foreign languages
Faculty of Arts and Humanities
Albaha University, Albaha Province
(1988)
Kingdom of Saudi, ARABIA

Prof. B. NIMALATHASAN

Professor, Dean of the Faculty
Management Studies and Commerce
University of Jaffna, Sri Lanka

Prof. T. BHAVAN

Professor of Economics
Faculty of Commerce and Management
Eastern University, Sri Lanka

Dr. J.S. ROHAN SAVARIMUTTU

Senior Lecturer in English
Department of Languages and
Communication Studies Faculty of
Communication and Business Studies
Trincomalee Campus
Eastern University, Sri Lanka

Dr. PON SASIKUMAR

Co-ordinator
Teck Whye Sec Tamil Language Centre
Singapore

Dr. VEERAMOHAN VEERAPUTHRAN

Senior Lecturer
Department of Foreign Languages
Faculty of Modern Languages and
Communication
Universiti Putra Malaysia, Malaysia

Dr. ESAYA BRITTO RAPHAEL

Assistant Professor of English Language
English Languages Institute
AL JAZAN UNIVERSITY
Jazan, Saudi Arabia

Dr. B. JEYANTHI

Associate Professor of English
Anna University, Regional Campus
Tirunelveli, Tamil Nadu, India

Dr. M. VASIMALAI RAJA

Professor
Department of Education (DDE)
Alagappa University
Karaikudi, Tamil Nadu – India

Dr. K. SADASIVAM

Associate Professor of Environmental
Economics
School of Economics
Madurai Kamaraj University
Madurai, Tamil Nadu, India

Dr.S. PAUL MARY DEBORRAH

Associate Professor of Physics
The American College, Tamil Nadu,
India

Dr. GAUTAM TENKALE

Associate Professor and Head
Department of Philosophy
Sathaye College (Autonomous)
Mumbai, Maharashtra, India

Dr. S. PALANI

Associate Professor & Head
Department of Economics
Mannar Thirumalai Naicker College
Madurai, Tamil Nadu, India

Dr. S KARTHIK KUMAR

Associate Professor of English
Annamalai University
Chidambaram, Tamil Nadu, India

Dr. A. JOSEPH CHARLIE AROCKIA DOSS

Associate Professor & Head
Department of Tamil
Arulanandar College, Karumathur
Tamil Nadu, India

Dr. J. HELEN RATNA MONICA

Associate Professor of Chemistry
The American College
Madurai, Tamil Nadu – India

Dr. V. DARLING SELVI

Associate Professor of Commerce
Rani Anna Government College for
Women Tirunelveli, Tamil Nadu – India

Dr. RENU VIJ

Associate Professor
College of Business Studies
Vidya Jyoti Institute of higher Education
Chandigarh, India

Dr. T. SUDHA

Associate Professor of Economics
Annamalai University
Chitambaram, Tamil Nadu – India

Dr. H. DEEPA

Associate Professor
Department of Education (DD&CE)
Manonmaniam Sundaranar University
Tirunelveli, Tamil Nadu, India

Dr. BINDU SANGRA

Assistant Professor of Law
The Law School
University of Jammu, Jammu & Kashmir
(UT), India

Dr. PRASENJIT PANDA

Assistant Professor
Department of English & Foreign
Languages
Guru Ghasidas Vishwavidyalaya
Bilaspur, Chhattisgarh, India

Dr. PUNAM PANDEY

Assistant Professor of English
Department of Basic & Social Sciences
College of Horticulture (BUAT)
Banda, Uttar Pradesh, India

Dr. INDIRA BANERJI

Assistant Professor of English
Yogoda Satsanga Mahavidyalaya
Ranchi University, Ranchi
Jharkhand, India

Dr. PRADNYA LOKHANDE

Assistant Professor of Chemistry
Bhavan's College (Autonomous)
Mumbai, Maharashtra, India

Dr. RAKESH KUMAR

Assistant Professor of English
Bhaderwah Campus
University of Jammu India

Dr. RITUSHREE SENGUPTA

Assistant Professor of English
Patrasayer Mahavidyalaya
Bankura, West Bengal, India

Dr. M. CHITRA

Assistant Professor of Econometrics
School of Economics
Madurai Kamaraj University
Madurai, Tamil Nadu– India

Dr. T. ANANTHA VIJAYAH

Assistant Professor of English
The Gandhigram Rural Institute
(Deemed to be University)
Gandhigram, Dindigul
Tamil Nadu, India

Dr. J. BALASUBRAMANIAM

Assistant Professor
Department of Journalism and Science
Communication
Madurai Kamaraj University
Madurai, Tamil Nadu – India

Dr. M. MEENAKUMARI

Assistant Professor & Head
Department of Sociology and Social
Work
Fatima College, Madurai
Tamil Nadu, India

Dr. K. VELLAICHAMY

Assistant Professor
Department of Education
Madurai Kamaraj University
Madurai, Tamil Nadu– India

Dr. S. ANGELIN SHEEJA

Assistant Professor of English
Centre For Research, Manonmaniam
Sundaranar University
Tirunelveli, Tamil Nadu, India

Dr. S. DIRAVIDAMANI

Assistant Professor of English
Periyar University College of Arts &
Science
Salem, Tamil Nadu – India

Dr. S. RAMANATHAN

Assistant Professor of English
VHNSN College
Virudhunagar, Tamil Nadu– India

Dr. S. RAJARAJAN

Assistant Professor of English
Kanchi Mamunivar Government
Institute for Postgraduate Studies and
Research U.T of Puducherry – India

Dr. M. MOOVENDHAN

Head of the Department
Department of English
Ayya Nadar Janaki Ammal College
Sivakasi, Tamil Nadu – India

Dr. Sr. M. FATIMA MARY

Assistant Professor of Mathematics
Fatima College, Madurai
Tamil Nadu, India

Dr. S.C.B. SAMUEL ANBU SELVAN

Assistant Professor of Commerce
The American College
Madurai, Tamil Nadu – India

Dr. N. SUNDAR

Librarian
Thiagarajar College of Preceptors
Madurai, Tamil Nadu– India

Dr. C. GOVINDARAJ

Associate Professor & Head I/c
Department of English
Periyar University PG Extension Centre
Dharmapuri, Tamil Nadu, India

Dr. R. VASANTHAN

Associate Professor & Head,
Department of English (UAP)
National College, Tiruchirappalli
Tamil Nadu, India

Dr. (Sr.) A. AMALA VALARMATHY

Assistant Professor of English
Auxilium College, Vellore
Tamil Nadu, India

Dr. N. RATHINAKUMAR

Assistant Professor of Tamil
The Madura College, Madurai
Tamil Nadu, India

Dr. S. BALAKRISHNAN

Assistant Professor of Tamil
The American College, Tamil Nadu,
India

Dr. K. MADHAVARAJAN

Assistant Professor of English
S.Vellaichamy Nadar College
Nagamalai, Madurai, Tamil Nadu, India

Dr. S. KARTHIKEYAN

Assistant Professor of Economics
The Madura College, Madurai
Tamil Nadu, India

Dr. P. KARTHIKA DEVI

Assistant Professor of English
The Standard Fireworks Rajaratnam
College for Women
Sivakasi, Tamil Nadu, India

Dr. S. AKBAR ALI

Assistant Professor of English
Jamal Mohamed College (Autonomous)
Tiruchirappalli, Tamil Nadu, India

Dr. P. PREETHU

Assistant Professor
Saraswathi College of Arts and Science
Thiruvananthapuram, Kerala, India

Dr. ELIZEBETH RENU JOSEPH

Assistant Professor of English
St. Michael's College, Cherthala
Kerala, India

Dr. S. KARTHIKA

Assistant Professor & Research Head,
Research Centre in English
Sri Parasakthi College for Women
(Autonomous), Tenkasi
Tamil Nadu, India

Dr. P. SULOCHANA

Assistant Professor in English
Mannar Thirumalai Naicker College
Madurai

Dr. Z. JAMILA TAJ

Assistant Professor
Department of English
ShriKrishnaswamy College for Women
Chennai, Tamil Nadu, India

Dr. P. ARULLAPPAN

Head in-charge & Assistant Professor
Department of Religion
Philosophy and Sociology
The American College
Madurai, Tamil Nadu

Dr. M.A. SHAHUL HAMEED

Assistant Professor
Department of Religion
Philosophy and Sociology
The American College
Madurai, Tamil Nadu, India

Dr. V. MALLIKA

Assistant Professor of Economics
Erode Arts and Science College
Erode, Tamil Nadu, India

Dr. H. LOURDURAJ

Assistant Professor
Department of Religion
Philosophy and Sociology
The American College
Madurai, Tamil Nadu, India

Dr. S. SUGANTHI

Associate Professor & Dean of Arts
Mangayarkarasi College of Arts &
Science for Women
Madurai, Tamil Nadu, India

Dr. K. MUTHUPANDI

Assistant Professor & Head
Department of Chemistry
Mannar Thirumalai Naicker College
Madurai, Tamil Nadu, India

Dr. A. KUBENDRAN

Assistant Professor of Social Sciences
School of Social Science and Languages
Vellore Institute of Technology
Vellore, Tamil Nadu, India

Ms. KUHELI MONDAL

Assistant Professor of English
Nandalal Ghosh B.T College
North Parganas
West Bengal, Tamil Nadu, India

M. RAJESH

Assistant Professor of Zoology
The American College
Madurai, Tamil Nadu– India

J. ALAGIRISWAMY

Assistant Professor of Economics
Loyola College
Chennai, Tamil Nadu– India

V.R. SURESH KUMAR

Head of the Department
PG & Research Department of English
St. Joseph's College of Arts and Science
Cuddalore, Tamil Nadu– India



ROOTS INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCHES

A Peer Reviewed, Refereed & Quarterly Journal

ISSN: 2349-8684 | www.rootsjournal.com | 0452-4395131

GUIDELINES TO AUTHOR

About Roots

ROOTS International Journal of Multidisciplinary Researches (RIJMR) is a peer reviewed, refereed and quarterly journal. The journal provides a space for academics, researchers and professionals to share the latest developments and– advances in Multidisciplinary Subjects. This journal is an excellent forum for intra disciplinary and interdisciplinary study of various aspects of Arts, Science and Professional Studies as intellectually stimulating open platform for academicians, consultants, researchers, and business practitioners to share and promulgate their research works. Journal of Roots seek to publish research findings and articles that would promote research awareness and understanding dissemination.

Subjects for Papers

ROOTS Journal expects qualitative and standardized publications of original papers on research in Multidisciplinary Researches. An Agriculture, Anthropology, Education, Geography, Advertising, Botany, Business Studies, Chemistry, Commerce, Computer Science, Communication Studies, Criminology, Cross Cultural Studies, Demography, Development Studies, Library Science, Mathematics, Methodology, Management Studies, Earth Sciences, Economics, Bioscience, Entrepreneurship, Fisheries, History, Information Science & Technology, Law, Life Sciences, Logistics and Performing Arts (Music, Theatre & Dance), Religious Studies, Visual Arts, Women Studies, Physics, Fine Art, Microbiology, Physical Education, Public Administration, Philosophy, Political Sciences, Psychology, Population Studies, Social Science, Sociology, Social Welfare, Linguistics, Literature, Zoology and other inspiring topics to meet the present trend and craze of aspirants to satisfy them.

Call for Papers

The journal invites balanced mix of theoretical or empirical, conceptual papers to publish including research articles, case studies, review papers, comparative studies, dissertation chapters, reports of projects in progress, analytical and simulation models, technical notes, and book reviews, leading academicians, business peoples, corporate sectors, researcher scholars and students from academic institutions, research organizations, non – governmental organizations (NGOs), corporate sectors, civil societies, industries, and others from India and abroad.

Submission of Manuscript

1. Submit your article by email to journalroots4u@gmail.com.
2. The manuscripts/papers should be research based or related, original and comprise of previously unpublished material and must be presented following scientific methodology.
3. Authors must send an abstract of the paper not exceeding 250 words, all manuscripts must be in font style of Times New Roman, size: 12, line spacing: double spaced and submitted only in MS Word 2003/2007 version.
4. All manuscripts should follow the MLA or APA style manual. The full paper must not exceed 3000 words, including tables and references.
5. The manuscript should be well-organized to have Title page, Abstract, Keywords, Introduction, Literature Survey, Problem Definition, Material & Methods, Findings & Results, Interpretation & Discussion, Conclusion and References.

6. All quoted, reproduced material should clearly be referenced.
7. All contents should be original – authors' own words, ideas, findings and arguments.
8. Tables and figures should appear in the document near / after where they are referenced in the text. All figures and tables must have an intelligible caption in relation to the text.
9. Photographs must be sharp, and exhibit good contrast.
10. Correct and complete referencing of quoted and reproduced material is the obligation of the author. In the text, references should be inserted in parentheses in full.
11. If author uses a reference from an out-source, author should cite relevant source giving credit to the original author/contributor.
12. **Review of Article/Manuscript**
 - The manuscript will be numbered and sent to the review committee for review-report.
 - The author will be intimidated of the review and the process will take a maximum period of 15 – 20 days.

Ethical Policy

1. Authors are advised to adhere to the ethics of publication of his/her article to be considered for publication.
2. Acknowledgement of the original ideas, borrowed from other sources is imperative.
3. The authors of original research work (previously unpublished / under process for the publication elsewhere) should be an accurate submission of the work carried out,
4. provide the rationale of the significance of the research work in context with previous works, and should contain sufficient details to allow others for further research.
5. It will be the wholesome responsibility of the authors for such lapses if any on legal bindings and against ethical code of publication or communication media.

Plagiarism Alert & Disclaimer

1. The publisher & editors will not be held responsible for any such lapse of the contributor regarding plagiarism and unwarranted quotations in their manuscripts.
2. All submissions should be original and must have a "*statement of declaration*" assuring their research paper as an original and fresh work and it has not been published anywhere else.
3. It will be authors are sole responsibility for such lapses, if any on legal bindings and ethical code of publication.
4. Contributors are advised to be aware about Plagiarism and ensure their paper is beyond plagiarism as per UGC norms.

Publication Policy & Peer-review Process

Peer review exists to ensure that journals publish article which is of benefit to entire research community. Peer reviewers' comments and recommendations are an essential guide to inform the editor's decision on a manuscript that revisions and improvement. They are part of the publication process and actually help raise the quality of the manuscript. It also helps the readers to trust the research integrity of the article.

1. The Editor-in-Chief will primarily examine each manuscript.
2. The editor-in- Chief will advise the authors about the acceptance of the manuscript by email.
3. The manuscript will be evaluated on parameters of originality, practical importance, subject relevance, scientific level and contribution to the current academic scenario.
4. If the manuscript is accepted following publication policies.
5. Accepted manuscript will be forwarded to the double-blind peer review process. Such that the journal does not disclose the identity of the reviewer(s) to the author(s) and does not disclose the identity of the author(s) to the reviewer(s).
6. The review committee is not responsible for stripping of any information during panel review as the original author is not known to the committee.
7. Manuscript/paper will be published only when the article is 'commended for publication' from the review committee/editorial board.

8. If necessary the copy-editing work will be done by the members of the Editorial Board.
9. The review process may take minimum 20 working days.
10. In case of acceptance of the manuscript and commended for publication favorably, the manuscript will be published in online mode of time. If paper/article/manuscript is not commended for publication, the rejected manuscripts shall not be returned.

Copyright Notice

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, will not be published elsewhere in the same form, in English or in any other language, without the written consent to the Publisher. The Editors reserve the right to edit or otherwise alter all contributions, but authors will receive proofs for approval before publication.

Copyrights for articles published in *ROOTS International Journal of Multidisciplinary Researches (RIJMR)* are retained by the authors, with first publication rights granted to the journal. The journal/publisher is not responsible for subsequent uses of the work. It is the author's responsibility to bring any infringement action if so desired by the author.

Indexed

The journal will be indexed as per database norms. The Indexing will provide the manuscript to achieve its purpose of being accessible to worldwide readers. Easy accessible will increase as manuscript's and journal's reputation. It will be a source of the quality information in respective areas/studies.

Privacy Statement

We may collect the contact details from authors like names, designation with Institutional address, email addresses, postal address, phone numbers and other information to understand needs and provide with a better service that are entered in this journal site and will be used exclusively for the stated purposes of this journal.

Frequency of Publication of the Journal

Roots are a quarterly journal, will be published in February, May, August and November on respective Years.

Review and Evaluation Committee

Quarterly review committee meeting will be convened by the editor-in-chief. Authors are expected to submit their manuscript before 20 working days of the publication of the respective month. The journal will be published regularly as per Journal publication policy.

No article-processing charge Policy

As per our journal policy, No article-processing charge (APC) or publication fee to publish your articles in Bodhi International Journal.

Get your Roots journal Subscription

We provide personal or institutional Subscription. Subscriber will get all issues within the current year as four issues. No automatic renewal, subscription will expire automatically at the end of the publication year. For subscription, contact email.

Article Submission

Authors are kindly advised to send manuscripts along with registration & copyright forms. (Duly filled-in Registration form is mandatory with the paper for acceptance) Soft copy of the papers should be mailed to journalroots4u@gmail.com

Conference Proceedings

Roots will be published as special issues for the national / international conference and seminars volumes. The group of papers also will be published in Roots journal.

ROOTS
INTERNATIONAL JOURNAL OF
MULTIDISCIPLINARY RESEARCHES

A Peer Reviewed, Refereed and Quarterly Journal

Vol.8

No.3

February 2022

ISSN: 2349-8684

Aim & Objectives

Academic Excellence in research is continued promoting in research support for young Scholars. Multidisciplinary of research is motivating all aspects of encounters across disciplines and research fields in an multidisciplinary views, by assembling research groups and consequently projects, supporting publications with this inclination and organizing programmes. Internationalization of research work is the unit seeks to develop its scholarly profile in research through quality of publications. And visibility of research is creating sustainable platforms for research and publication, such as series of Books; motivating dissemination of research results for people and society

Disclaimer

Contributors are advised to be strict in academic ethics with respect to acknowledgment of the original ideas borrowed from others. The Publisher & Editors will not be held responsible for any such lapse of the contributor regarding plagiarism and unwarranted quotations in their manuscripts. All submissions should be original and must be accompanied by a declaration stating your research paper as an original work and has not been published anywhere else. It will be the sole responsibility of the authors for such lapses, if any on legal bindings and ethical code of publication.

Communication

Papers/Enquiries should be mailed to
Journalroots4u@gmail.com

CONTENTS

| S.No | Titles | Page No. |
|-------------|---|-----------------|
| 1 | Revisiting the Pani Panchyat Movement: A Study of an Environment Movement in Maharashtra Dr. Sanjay Kamble | 1 |
| 2 | Study of Mouthparts and Feeding Behaviour of <i>Metapenaeus brevicornis</i> (H. Milne Edwards) Off Northwest Coast of Maharashtra Dr. Durga S. Patkar | 13 |
| 3 | Cancer Profile and Geographic Background of Breast Cancer Women Dr. A. Sangamithra & S. Thilagavathy | 24 |
| 4 | The Post-Truth Analysis of Farmers Suicides Explored in <i>Shoes of The Dead</i> by Kota Neelima Lalita K M & Dr. Charles Godwin | 30 |
| 5 | Dream of Hope Intertwined for Self- Liberation: Analysed in Jacqueline Woodson's <i>Brown Girl Dreaming</i> Jeni .S & Dr. J.G. Duresh | 46 |
| 6 | Study on Aircraft Accidents and Impact – A Birds Eye View K. Surya & Rajkumar .G | 50 |

| | | |
|----|--|----|
| 7 | Survey on Awareness of Solid Waste Management among Residents of Mumbai Thoppil Athira Sudhakaran & Dr. Nilima Gajbhiye | 57 |
| 8 | Survey Based air Pollution and Air Quality Awareness in Citizens Residing in or Near Mumbai Region Anuja Milind Kane & Dr. Nilima Gajbhiye | 65 |
| 9 | A Transition from Traditional Learning to Digital Learning: A Critical Analysis J. J. Akin Shibi | 73 |
| 10 | Underscoring Discourse Markers in a Short Story to Develop Writing Skills of the Students Dr. S. Hemalatha | 78 |
| 11 | Problems Faced by the Women Entrepreneurs During Start of the Business in Chennai District R. Subitha Rani & Dr. R. Dharmaragini | 86 |

REVISITING THE PANI PANCHYAT MOVEMENT: A STUDY OF AN ENVIRONMENT MOVEMENT IN MAHARASHTRA

Dr. SANJAY KAMBLE

Assistant Professor, Department of Sociology
P.V P College Kavthe Mahakal, Sangli

Abstract

This paper focused on a contribution of Pani Panchyat in the context of equitable distribution of minor irrigation. This study, based on field material collected from the Purandartaluka Pune district. It examines the revisiting the Pani Panchyat as environment movement, its replication on a wider scale. Its analysis of the local people struggle of farmers within the theoretical framework of new social movement, also with delineating the movement's ideology trends, leadership structure and present status. It addresses such questions how effects on drought eradication and equal water distribution in way irrigation and explain and effective function. This paper explores present status the process and underlying dynamics of Pani Panchyat in Purandartaluka.

Keywords: *water resources, equitable, Pani Panchyat, new social movement environmental movement*

Introduction

Several scholars writing in the collective and voluntary groups are working in the environmental movement, it greater attention on natural resource based on alternative sustainability equity in the present context. The center for science and environment report (1984) showing that the natural resources are degradation of the environment in countries. In this context, we see the human consequences of such degradation and shortage of natural resource based upon the equitable, alternative and sustainable development issues take by new environmental movements.

This new environmental movement's contribution on the manifestation of the consequences of environmental crisis related to the social conflicts. This

conflicts between competing groups of resource access of rich farmers and landless Labors caste, tribes and genders in social structure. This conflict related to spread this issue handled by the environmental movement in this country (Baviskar A 1995) this localized movement worked on voluntary based in way conservation of natural resource with alternative sustainable development in the society.

The privies study of the environmental movement like *Chipko* or *Narmada Bachao Andolan* have been well documented in environmental study. However the new social movement of environmental have unexplored or explained as claiming on natural resources such as an equitable water distribution with the sustainable

livelihood development. The present research paper attempted to analyze on such movement that occurred in the 1974 in Purandr taluka of Pune district in Maharashtra. The *Pani Panchyat* movement has major contribution in drought eradication land and water conservation community irrigation system based on equitable water distribution. In this paper examine the imprint that the ideology, organization, collective action and new policy making of *Pani Panchayat* in Purandar taluka Pune District. This paper tries to locate *Pani Panchayat* from the framework of new social movement bringing social ecological ideological construction.

The Conceptual and Theoretical Framework

Environmental movement defined as an organized social activity consciously directed toward promoting sustainable use of natural resources, halting environmental degradation or bringing about environmental restoration (Gadgil and Guha 1995: 98) the present *Pani Panchayat* organized social activity as environmental movement an inquiry into social basis of equal water distribution of irrigation in drought affected area. The analyzing environmental movement as new social movement to understanding their social basis single issue based movement, grass root movement alternative movement According to Claus Offe (1985:52) in his view on movement development fundamental, meta-political, social order and represent

democracy, challenging institutional assumptions regarding the conventional way of “doing politics” in the name of a radical democracy in the principal innovation of the new movement. “The new movement described here have, it is true, focussed on a single issue. They have frequently refused to describe themselves as “socialist” and have very often been resisting to grandiose terms such as “revolution.” (Gail Omvedt 1993: 12). Under this perspective the *Pani Panchyat* movement was development fundamental basic issues on social justice for deprived caste, class, gender in social structure in rural society, they can develop revolutionary scientific model of equitable water distribution through reconstruction of radical democratic political issue in new social movement as *Pani Panchayat* movement in Maharashtra.

Research Methodology

This paper applied qualitative research methodology for the descriptive writing on *Pani Panchyat* movement. This paper, based on primary and secondary data sources through in-depth interviews and discussions was conducted with including local people from Purandar taluka Pune district. With empirical work in the village's theater were the movement's local, several book unpublished documents, newspapers, magazine reports on the local history of the *Pani Panchyat* movement.

Pani Panchyat Movement: A Socio Historical Background

The Purandar taluka is located in Pune district in the state of Maharashtra in India. The Purandar Taluka Head Quarter is Purandar town. It belongs to Western Maharashtra region. Historically, the southwestern state has a numerical preponderance of the *Maratha-Kunbi* caste, and marginalized community which is half of the population. The main problem shows that degradation of ecological, agricultural and land using pattern, low rainfall zone area. Therefore, the drought affected people had migrated from Purandar to the big city for livelihood. It belongs to Pune Division. It is located 31 KM towards the South from District headquarters Pune.

The Purandar taluka belonging to drought affected taluka in Pune district in 1972. The Purandar is the smallest Village and Grade is the biggest Village. It is in the 585 m elevation (altitude) Pune. The total 556 mm and 4.32 percent rainfall in this area. The utilization of the land information shows that include total 11031 hectares land below include 2221 forest land, 8208 agricultural lands 2641hec non agricultural land with 5567hec cultivated agricultural land. The irrigation system shows to include 0 major project, 01 medium project, 0 small project, 0 percolation tank, 32 Kolhapuri dam, 9 internal storage, 1 lift irrigation, 116 irrigation well and 81 desial and 62 electrical agricultural pump set (irrigation department Pune).

The data shows about irrigated land include 5883hec surface level and 7152hec well water irrigated land, 13035 only irrigated sector under 89hec total irrigated land, total 16.4 % irrigated land in Purandar taluka.

The cropping pattern shows that different kind at irrigated and non irrigated land include 562hec sugarcane, 19 irrigated and 15 non-irrigated banana, 20 irrigated and 20 non irrigated hector land of grapes, 7662hector irrigated and 4177hector non irrigated under total vegetable crops, 75805hector productive irrigation and 22800hec total food crops In this area. (irrigation office Pune 2011-2012) the recurrent drought resulting from the cumulate effects of factors like de-forestation, scanty rainfall changing cropping patterns and agricultural practices several effects on livelihood of rural poor which depend on agriculture its lead to large scale migration of this area. Most of the people searching of employment as a manual work under the Employment Guarantee Scheme (EGS) in this year other people migrated for employment in Pune and Mumbai. (Brahme Sulbha 1973)

The Origin of Gram Gourav Pratishthan

Maharashtra had faced the drought in the year 1972-73, the government had employed the works of read construction under the *Government Employment Guarantee Scheme*, but this scheme had never focused on the scientific drought eradication

programme. The people had observed that the cycle of five years of drought. The government had never solved the paramount problem of drought eradication but they give sympathy to drought affected people. In this context, *Late Shree Vilashrao Salunkhe* an Electrical Engineer and Managing Director of Accurate Engineering Company decided the established the *Gram Gavrav Pratishtan* in 1974 at Naigaon drought prone area of Purandar Taluka Pune district the trust (voluntary group) was established with the donation from the different ideas and agencies, namely the *Gram Gavrav Pratishtan*. This pratishtan has basic aim to fight against drought eradication and to rise the socio-economic condition of the rural poor. (Interview with Smt. Kalpana Salunkhe 2015).

This pratishtan had worked on the scientific study of drought eradication, water and cropping pattern management, distribution and management of water experiment of drought affected area. *Late Shree Vilas Salunkhe* think about the experiment of equal water distribution to all farmers. How to map and store the rain water. He observed the condition of low water, rainfall zone area and uncertain rain fall, but this rain water had flowed down in other site without storing in this area, but this rain water had flowed down in other site without storing in this area. Therefore, *Shree Vilashrao Salukhe* think about how to store this insect water at a different kind level. He stays in *Naigaon* village to create a scientific based experiment of agricultural development, watershed

development, and crops and water management and drought eradication level (Santhanam, 1984 Gavankar Vina 2005).

The First Pani Panchyat Experiment in Nagao Village

The *Gram Gurav Pratishtan* hand worked on the experiment of scientific study of drought eradication at Naigaon. The project had inaugurated by *Bhausahab Newalkar* with local farmers at *Naigaon*. The Pratishtan had decided to collect at the *Sideshower* temple trust almost temple trust almost degraded temple land leased on Rs. 12,00 rant based fro experiment of drought eradication, distribution and management of water and land hill based *Naigaon* in Purandar Taluka. (Interview with Laxaman Khedkar 2015). The trust had gotten petition to make scientific experiment of watershed development, selected cropping pattern and agricultural production. This Pratishtan had constructed the percolation 13 meters diameter and about 17 meters of depth. This tanked setup diesel pump-set of 7.5 HP which was replaced into the electrical pump-set. The trust had investment of total capital 3,181 per acre including in the pipeline and field channels. This project had shows get results in 9.60 irrigated areas and 2.40 hectares under tree plantation as special forest. This trust had shown the increasing to provide the irrigation scheme of Eight months irrigation for the cropping production

and conservation of land and soil for sustainable environment development at drought affected area. (Pani Panchayat Report 1979).

The Concept of Pani Panchayat

The *Gram Gaurav Pratishtha* had developed the term of the *Pai Panchayat* which deals with the mobilization of a group of farmers for the formulation and implementation of community irrigation project. The term *Pani Panchayat* was introduced by "Water Association Committee" with the intention of supervising the first setup of *Gram Gourav Paratishthan* (GGP).

Literary meaning of the word *Gram* is a village where as the word *Gouerv* means respect. The word *Pratishthan* means a charitable trust formed by villagers. In short the *Gram Gourav Pratishthan* is a charitable social organization formed the villagers to raise their living standard. The second term *Pani Panchayat* means a group of wise people, who have been nominated by villagers to study the water issues exited in villages. The word *Pani* means water and the word *Panchyat* means a group of five wise people nominated (not elected through poll system) by villagers to run the village institute. The decisions taken by the *Panchayat* are mandatory on villagers. In other word, it forms a body like water council. Thus, the term *Pani Panchayet* actually deals with the mobilization of groups of farmers for the formulation and implementation of community irrigation project (Rasal Prasad, 2000).

The Characteristic of Pani Panchayat

R. S Deshpande and V Rana Raddy defined the characteristic of *Pani Panchyat*. They described the connection between socio-economic and socio-environmental development process.

- 1) Homogeneity: the *Pani Panchyat* linked the homogeneity with the socio- economic situation of people who struggled for their better life.
- 2) Cost efficiency: the cost efficiency related to the lift irrigation (below Rs 3,000) is one of the plus points as a number of farmers can share (as their share is below Rs. 600) this is useful for the small and marginal farmers to get over all benefits and support at village level.
- 3) Water right: it is the most important feature of *Pani Panchayat*. It is linked with the principle of water right given to the individuals on the per capita basis (0.50 acre per head with a maximum of 2.5 acres per family). It counteracted the refraction effect which is the root cause for the failure of the co-operative system in India. It is useful for landless people as well.
- 4) Commitment: the *Pani Panchayt* had collected 20% shares from the farmers to run this scheme. It has been observed that this scheme has been benefited villagers at the grater extend. They connected the scheme further.
- 5) Equal distribution: the *Pani Panchyat* elaborated new paradigm of equal water distribution. Water as

refraction effects of irrigation scheme. This water is shared availability of wall water as per the ultimate distribution system.

The *Pani Panchayat* has constructed new dimension of social equilibrium through alternative development, sustainable development and social equity under this equal right on water security. It is creating social unity for right on common resources as water sharing for agricultural sharing for agricultural development (Deshpande R.S and V. Ratna Reddy, 1989 pp. 59-60).

The Ideology of Pani Panchayat

The *Pani Panchayat* had developed the ideology principal, which is based on protective water management and equal water distribution water for community participation level. Basically, *Pani Panchayat* worked on drought eradication and equal water distribution issues. It has found the basic mobilization of traditional rural community. This is a reform movement to established social economic political equity in society. Late *Shree Vilasrao Salunkhe* stated that water as a basic need of human being but the landlord get the benefits of high water access by excluding small land holder and landless marginalized groups. The farmers whose fields are located close to the source of water get greater benefits than the farmer whose field is located away from the water source.

The principles of protocols for water management and demand management

following by GGP are following:

- Only community irrigation schemes are included rather than individual schemes.
- Decoupling the water and land rights: landless people were also given the water right (through lease of land to landless people) leading to increased productivities of land water and people.
- Water distribution on a per capita basis, for maximum of 2.5 acre land (grain need of a person is fulfilled from half an acre land with family size of 5 mebers).
- Ban on water intensive crops like sugarcane and banana.
- Community contributed 20% shares.
- No individual well in command area.
- Restriction sale of land: wherever land was sold, irrigation right was not passed on to the buyer.

Pani Panchyat principle cover equity demand management rights of landless community participation and sustainability of the resources. (Santhanam, M.L., 1984)

The Organization Structure & Leadership of Pani Panchayat

The *Pani Panchayat* had structural construction voluntary organization work on drought irradiation in Purandar taluka. It has organized informal groups of local farmers. They are not formally registered as co-operatives, society or trust. This organization without under the domination and control of authority

groups. In *Pani Panchayat* schemes the formulation of five member committee is chosen unanimously, without election, therefore in the organization never created internal problems in structural organizational level. The every member had taken responsibility to full-time positively contributed in active discussion making participation at the program level (Salunkhe Vilas 1979).

Organizational Structure of Pani Panchayat

The *Pani Panchyat* had structural construction voluntary organization work on drought irradiation in Purnadar taluka. It has organized informal groups of local farmers. They are not formally registered as co-operatives, society or trust. They organized without under the domination and control of authority groups. In *Pani Panchayat* schemes the formulation of five member committee is chosen unanimously, without election, therefore in the organization never created internal problems in structural organizational level. The every member had taken responsibility to full-time positively contributed in active of discussion making and participation at the programme level (Salunkhe V 1978).

The *Pani Panchayat* had organized the structural work at group level they appointed the structural level. The trust had established user groups to provide facilities from scheme implementation level. The main role of participatory

ways to control and manage irrigation schemes. The local people had appointed *Pancha* committee and *Gat Pramukh* take care of the routine management of Pani Panchyat. The *Gat Pramukh* had to routine management costs from the users based on their share in irrigation, arrange for the repayment of loans and supervise the work of technical assistance Earlier, the *Patkari* was attached to and guidance of the local *Gat Pramukh* and is accountable to him. Even his salary is paid by the local group. In the sense, local leadership has more leverage and autonomy in the participation in the operation of *Pani Panchyat*. It had conducted work on the basis of lift irrigation work duties of *Gat Pramukh* to collect information local level and contact village groups with the activist of *Pani Panchayat*. The *Gat Pramukha* had to collect the information local level and contact with village groups with the activist of *Pani Panchayat*. The *Gat Pramukh* had to collect 20 percent capital from member of *Pani Panchyat* and to distribute land among land owner family to get 50 percent government grant level. To get permission for well from *Talathi office* and utilization of electricity for electrical office and to provide without interest loan 50 percent form *Gram Gurav Paratishthan*(*Pani Panchyat Report 1981*). This is a participatory work of voluntary, self control and regulated than spontaneous and self-generative.

Activities and Programme of Pani Panchayat

The *Pani Panchayat* had led the different issue of drought eradication and water distribution to discuss with bureaucratic and political activist. This discussion of policy making of left irrigation scheme drought affected area. the *Pani Panchayat* activist and drought affected people had stated sit in agitation programme in the electrical office at *Sasvad* on October, 1983, the main demanded to allocate electrical service for community lift irrigation scheme. This irrigation scheme had created an alternative development of agricultural production. This agitation programme mainly demanded like 1) to allocate electricity for 22 community lift irrigation scheme 2) to relaxation of revenue return 3) to majority allocated electricity for community lift irrigation scheme. This normal demand for front of the state. Because the electricity office had stored the electrical material Rs 100 million in storage. Another state wills the relaxation Re 59 million lines of arable farmers.

The government had taken action against to demolition this agitation programme. They had employed the act 144 on October, 18, 19, 1982. They had first taken action to arrested 400 to 500 student then 200/300 man and women farmers in the custody, this agitation programme arrested that 203 student, 26 women, 129 men at *Sasvad* and 26 women, 200 man total 226 farmers *Yerawada jail* Pune belonging to 20 villages in Purandar taluka, but there is

no effects on the agitation programme. This arrested farmer includes 188 framers in 14 days in magistrate custody at *Yerwada Jail Pune*. The government had sanctioned the demand allocation of electrical power for community lift irrigation scheme and investment of capital in irrigation scheme. Therefore, the organizer of *Shree Sukhdev Kolte* declared to stop this agitation programme. The government had taken positive declaration about to sanction this demand. This agitation had successfully achieved these demands (*Pani Panchayat Report*, 1982).

Water Conference on 1983

The *Pani Panchayat* had organized the water conference held at *Jaiur, Karmala taluka Solapur* district on March on 1983. This conference was held under the leadership *Shree Vilashrao Salukhe*. This conference had mainly focused on the issue of allocation of *Krishna* basin water to allocation to *Karmala taluka Solapur* district. The drought affected people had faced several issues related to drinking and agricultural water in this area. Therefore the conference had demanded to allocate the *Ujani* water for drought affected areas of *Karmala taluka*. (*Pani Panchayat Reports* 1983)

The Restructuring of Purandar Lift Irrigation Scheme

The *Pani Panchyat* had worked on the restructuring the *Purandar* lift irrigation scheme of Maharashtra in 1996. This irrigation scheme had constructed advanced technical closed

pipe project for Purandar Taluka, but this scheme had never covered all 100 percent population of villages under this irrigation scheme only 40 to 50 percent population in this irrigation scheme. Therefore, *Shree Vilashrao Salunkhe* had development there restructuring the irrigation scheme. He said that to equal distribution water at the local level. (Pani Panchayat Report 1996)

Organic Farming Project

The Pani Panchayat had worked on the issue of organic farming project for sustainable agricultural production in 1997. Shree Vilasrao Salunkhe had focused on joint work of equal water distribution and organic farming project. He had strong support for the organic farming project to the state. He spread out the knowledge about the usefulness of organic farming for the minimum 40 percent water for sugar cane crop production with an internal cropping pattern for the agricultural production. This is increasing the irrigation sector under this organic farming process. (Pani Panchayat Report 1997)

The Chikotara Basin Project

The chikotara basin had located at Kolhapur district. This area mainly located high rainfall zone area, but the water is never accessed for agricultural production. The Chikotra Vally project for equitable distribution of water and water right to the village community as a unit was undertaken by Mr. Anandrao Patil of Shram Shakti

Prastishthan in Kolapur district. In this sustain the local people Shree Anandrao Patil had found the Shrmik Shakti Pratishtan in 1987 in Belwadi include 52 villages. He had lead the issue of construction of Chikotara basin and related to rehabilitation of dam affected people. He had argued the first dam affected the people rehabilitation then construction of the dam project. (Pani Panchyat Report 1997),

Maharashtra State Equal Distribution Water Conference

After let *Shree Vilashrao Salunkhe* the conference had found the *Maharashtra State Equal Distribution water conference* in Pune on Janvery 1, 2003. As an outcome a white paper on water policy was published in the conference. This conference led by *B.J Kolshepatil* precedence *Kalpanatai Salunkhe*, Shree *Anandrao Patil*, *Vijay Pranjape* etc. the conference had newly send letter on the issue of equal distribution water of *Chikotra* basin. The state had represented the Shree *Mahadev Chitale* commission on the issue of equal distribution water for river basin phenomena. This commission had discussed on the issue of the equal water distribution with the local government, PWD and local farmers. This report submitted to the government in 2003. This report had accepted the equal water distribution pilot project of the *Chikotra* river basin. (Pani Panchayat Report 2003).

Present Status of Pani Panchayat

The *Pani panchayat* had an innovative perspective of equal water distribution of water for social justice and alternative development paradigm for ecological balance with sustainable agricultural production. However, researcher in field visits to *Pani Panchayat* were associated in Purandar taluka. The exposed the real condition of *Nagaon, Shindewadi, Mahaur, Yadavwadi and Dhalewadi*. Which first represents the *Pani Panchayat* water association in Purandar taluka. The exposed the real condition shows as the changing nature of water association at villages. Specially, *Nagion* village had few water associations' cognitive work on the basis of equal water distribution because limited rainfall and electricity problem. The sufficient water could not be used for *Kharip* and *Rabbi* agricultural cropping pattern at present condition. Therefore, the local people arranged the separate irrigation scheme. The *Mahatma Phule* lift irrigation has proposed for *Dalit* people water access, but present condition this scheme so closed because limited water access and internal contradiction. But the other side *Ambedkar Water Association* of *Dhalewadi* has successfully utilized equal water distribution for agricultural production.

The showing nature of social relations of water at different level in during the field work. Which is like unity of *Savarn Caste* and *Higher Caste* people to associate water association of the *Thawal* water irrigation scheme in

Naigaon and Yadavwadi. But the different condition of *Mahur* village sees as *Dalit* people never interact with other caste peoples because they are made different from themselves. *Dalit* people never access water right on the irrigation tank because the contradiction between the *Severn* and *Dalit* people. These people can't access water because the lack of agricultural resource. *Shindewadi* is well known *Maratha* caste village which is operating good condition of water access for irrigation scheme. *Pani Panchayat* work of equal water association under the village of *Nagion* (8), *Pisarve* (2), *Rajuri* (3), *Tekawade* (1), *Malshiras* (1), *Pandeshor* (1) *Kothale* (2), *Dhodas* (1) *Lapatwadi* (2) *Mahur* (3), *Pilanwadi* (1) *Shindewadi* (1), *Kodit* (1) *Pawarwadi* (1), *Pargav* (1) *Dhalewadi* (2) and *Chikewasti* (1) etc at present condition the water associated the water associations include *Nayagon* (8), *Mahur* (3), *Shindewadi* (1), *Tekawade* (1), *Lapatwadi* (1), *Pilanwadi* (1), *Shindewadi* (1), *Pawarwadi* (1), *Pargaon* (1), *Dhalewadi* (2), *Chikanewasti* (1), *Pisarve* (1). Etc. The *Pani Panchayat* water association divided at distract vise include *Pune-Purandar* (11), *Satara* district (1), *Nandurbar* (3) and *Yavatmal* (2) etc. this is the present condition of water association of *Pani Panchaat* at different area. These water associations have limited working area because changing different condition show ecological issue, indusial irrigation scheme, less control of association and internal conflict in water association.

Conclusion

Finally, the *Pani Panchyat* movement is an unfinished, haphazard struggle with partial success in term equity, conservation and sustainability as a new social movement. The movement experiment with equitable water distribution was a revolutionary step in water management and to rethink our development strategies and resource-management policies ensuring the landless a right over water. The Pani Panchayat has commitment to sustainability promoted different project of *Panch Krosi* in selected five villages in Purandar taluka. This project work included like to emphasizing on the watershed development, CCT Project, Organic farming, seeding process, land, water and cropping pattern management, to create a community development project at village level. The *Pani Panchyat* movement may serve as a model to emulate by alternative to current practices of development programme still continue focusing on contributed in construction of equity and sustainability rural development.

(The author would like to thank Prof Balaji Kendare, Prof P G Jogdand, & Prof Ramesh Kamble from Department of Sociology, University of Mumbai, Mumbai for their comments and suggestion for this paper. The help and support provided by Smt. Kalpana Salunkhe family at Pune Shree Laximan Khedkar and local people from Purandar Taluka Pune).

References

1. Center for Social Science and Environment, 1884, *The State of India's environment: A citizens report*, Delhi
2. Baviskar A 1995, *In the belly of the river: Tribal confects over development in Narmada Valley*, New Delhi: Oxford University Press.
3. Gadgil, M. and Ramchandra Guha . 1995. *Ecology and equity" Use and abuse of nature*: Harmondsworth, Middlesex: Penguin Book.
4. Offe Cluse, 1985, "New Social Movements: Challenging the Boundaries of Institutional Politics" *Social Research*, Vol.52, pp. 817-868.
5. Omvedt Gail, 1993, *Reinventing Revolution New Social Movement and Socialistic Tradition in India*, New York, An East Gate Book.
6. Brahme, Sulbha., 1973, Drought in Maharashtra, *Social Scientist*: 1 (12) pp. 47-54.

Publication

7. <http://www.onefivenine.com/inida/village/Pune/Purancar>.
8. Interview with Smt. Kalpana Salunkhe 2015.
9. Santhanam, M.L., 1984, Community Participation-Case Study, *Social Change*, 14, No. 2.
10. Gavankar, Veena., 2005, *Bhagiratache Varishdar* Pune, Rajhounce
11. Interview with Laaximan Khedkar 2015.
12. Pani Panchayat Report 1979.

13. Rasal, Prasad., 2000, Role of NGO in Sustainable Village Based Development A Case Study of Pani Panchayat, tripod.com. in/ man-watershed/Pani Panchayat/html.
14. Deshpande, R.S. & Reddy V. Ratana., 1990, Social Dynamic and Farming Socceity: A Case Study of Pani Panchayat, Indian Journal of Agricultural Economics, 45(3), Pp354-361.
15. Santhanam, M.L., Community Participation-Case Study, Social Change, 14, No. 2,
16. Salunkhe, V., 1978, Pani Pachayat Scientific Model, Pani Panchayat 2,
17. Pani Panchayat Report 1981
18. Pani Panchayat Report, 1982
19. Pani Panchayat Report, 1983
20. Pani Panchayat Report, 1996.
21. Pani Panchayat Report, 1997.
22. Pani Panchayat Report, 2003.

STUDY OF MOUTHPARTS AND FEEDING BEHAVIOUR OF *Metapenaeus brevicornis* (H. MILNE EDWARDS) OFF NORTHWEST COAST OF MAHARASHTRA

Dr. DURGA S. PATKAR

Assistant Professor

Ramnarain Ruia Autonomous College

Matunga, Mumbai, Maharashtra

Abstract

Investigations about the mouth parts of commercially important organisms form an important aspect of their biology. These investigations reveal the nature of food, habitat of the organism as well as its trophic position in the food web (Nikolsky, 1963). Food is directly related to growth, maturation and reproduction. Feeding habits of any animal from different areas directly show the availability of food in that area and the food preferences by the animal. The mouth parts of *M. brevicornis* showed mandible, maxilla I, maxilla II, maxillipeds I, maxillipeds II, maxillipeds III. The study of feeding intensity of *Metapenaeus brevicornis* showed that actively fed and moderately fed prawns were more prevalent in nearshore and offshore areas, but in inshore areas poorly fed prawns were more. Among the two sexes the females showed more active feeding than the males in all the three fishing areas. It is therefore concluded that *M. brevicornis* from nearshore and offshore waters were almost $\frac{3}{4}$ or full stomach because of availability of a variety of food in the mentioned area.

Keywords: mandibles, feeding capacity, food availability, feeding intensity, maxillae, maxillipeds

Introduction

An important contributions on food of prawns were made by Patwardhan (1937), Chopra (1939), Gopalkrishnan (1952), Williams (1955), Mehendale (1959), Eldred *et al.*, (1961), Hall (1962), Dall (1968), George (1959, 1974), Tiews *et al.*, (1968), Kuttyamma (1974), Thomas (1980), Wassenberg and Hill (1987), Nandakumar and Damodaran (1998).

Food and feeding habits of marine organisms have been correlated to their mouthparts and structure of the alimentary canal. The oral appendages and gastric mill strongly influence the

nature of food (Patwardhan, 1937). In case of the penaeid prawns, the anatomy and morphology of structures related to the feeding habits were reported by Borraidaile (1917) and Kubo (1951). In India, the structure of oral appendages and anatomy of the foregut of prawns has been studied by Patwardhan (1935, 1937) and Reddy (1935).

Kathuria (1967) has described the same for *M. brevocornis* from inshore waters of Mumbai. In this research, the study of feeding habits of the same prawn from inshore, nearshore and

offshore waters of Mumbai was carried out.

Material and Methods

During January to December 1998, the fresh samples of *M. Brevicornis* were collected fortnightly from dol nets operated in inshore waters and weekly from the trawlers, which were operated in offshore waters at New ferry wharf. The samples were also collected monthly from hand trawlers operated in the near shore waters from Versova for the same time period, which represented the nearshore area. The samples were brought to the laboratory and preserved in 10% formalin. Before the analysis of gut, the prawns were segregated sexwise.

For studying the gut contents, the foreguts were removed, cut open and the gut contents were taken in a watch glass and observed under stereoscopic binocular microscope (10X). The gut contents were identified as far as possible up to group or generic level. By observing the distension of the foreguts, they were classified as 'full', '¾ full', '½ full', '¼ full', 'traces', and 'empty'. For the feeding intensity, prawns with 'full' and '¾ full' stomach were considered as 'actively feeding', '½ full' and '¼ full' stomach were considered as 'moderately feeding' while those with 'traces' and 'empty' stomach were considered as 'poorly fed'. For quantitative analysis, the points method (Hynes, 1950) was adopted. The points method was preferred to the

displacement method as suggested by Pillay (1952) since the volume of the gut is small in prawns. In this method, points were allotted for the fullness; 8 points were given to 'full', 6 for '¾ full', 4 for '½ full' and 0 for 'empty' stomachs.

The mouth parts of the prawn were removed carefully one by one, cleaned in dilute KOH to remove unwanted tissues and muscles, mounted in glycerol and observed under a binocular microscope.

Result and Discussion

During the period January-December 1998, a total of 972 males and 1,560 females in the size range of 50-113 mm and 55-163 mm respectively were analysed for the gut analysis. Among them, 423, 243, 306 males and 549, 249, 762 females were analysed from dol nets, hand trawl and offshore trawls, which represented inshore, nearshore and offshore areas respectively.

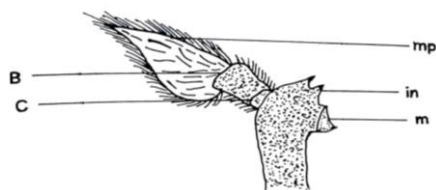
Mouth Parts

The alimentary canal of prawn begins with a ventrally situated mouth, which is surrounded by the mouthparts on its lateral sides. The mouthparts are modified biramous appendages, which help in the feeding process. There are six pairs of appendages, which are as follows:

Mandible

These are well developed. Each is made up of a molar process and an endopodite. The molar surface is well

calcified and bears an incisor process. It is flat on the masticatory surface and pointed at the postero-median angle of the masticatory edge. The incisor is thin, produced antero- ventrally from the basal surface of the molar process and separated from it by a deep triangular depression. It has two sharply pointed teeth. The endopodite is inserted on the surface between anterior basis of molar and incisor processes and is two segmented. The basal segment is thickened towards the distal end and its length is equal to that of the broadest region. (Fig. 1.1). The incisor is used for biting and cutting while the molar process is used for crushing and grinding the food material.



C- Coxa,
B- Basis,
m- molar surface
in- incisor surface
mp- mandibular palp (endopodite)

Fig.1.1 Mandible

Maxilla I or Maxillula

It is made up of proximal and distal gnathobasic laciniae and an endopodite. The proximal lacinia is thumb-like in outline, directed inwards and provided with thick setae. The distal one is larger than the proximal, widens towards apex, almost straight and bears setae similar to proximal

one. The endopodite is more slender than two gnathobasic laciniae and bears intermittent groups of thin setae (Fig. 1.2a). It is used for tasting and handling the food material.

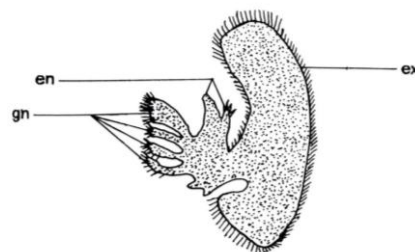
Maxilla II or Maxilla

It is made up of proximal and distal gnathobasic endites, endopodite and exopodite. The endopodite is in connection with three endites. The exopodite is inserted close to the posterior base of the endopodite, ear shaped with rounded anterior and posterior edge and fringed with setae along the entire margin (Fig 1.2b). It is generally used for handling the food particles and for baking out water from gill chambers.



en- endopodite
dgl- distal gnathobasic lacinia
pgl- proximal gnathobasic lacinia

Fig. 1.2a First Maxilla



en- endopodite
ex- exopodite
gn- gnathobasis (endite)

Fig. 1.2b Second Maxilla

Maxillipede I

It is made up of posterior and anterior laciniae, an endopodite and an exopodite. The inner laciniae are setose and are made up of upper basipodite and lower coxopodite. The posterior lacinia is divided into two lobules by a median depression. The anterior lacinia is larger than the posterior. The endopodite is slender and proximally armed with setae. The exopodite is foliaceous (Fig 1.3a).

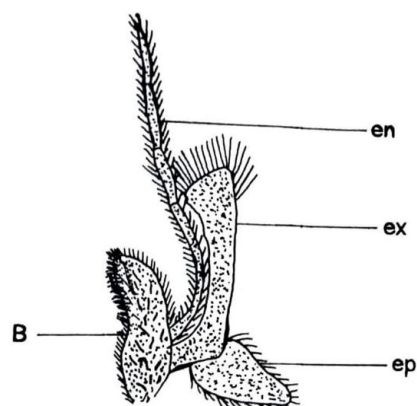
Maxillipede II

It is seven-segmented and inverted 'J' shaped. The carpus and propodus are subequal in size and length. The dactylus is longer than propodus and rounded at the apex. The exopodite is attached to the outer base of the ischiopodite (Fig 1.3b).

Maxillipede III

Like second maxillipede it is also setose and has seven segments. On the distoventral surface the propodus has short bristles. The exopodite is flagelliform. The last two segments of the exopodite have no appendages. The last segment is shorter than the propodus and has a little depression and is rounded at the apex (Fig 1.3c).

All the three maxillipeds help in handling the food particles.



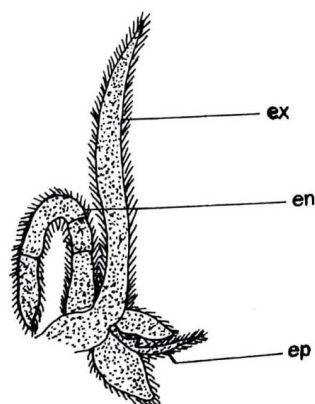
B- Basopodite

ep- epipodite

ex- exopodite

en- endopodite

Fig. 1.3a First Maxillipede

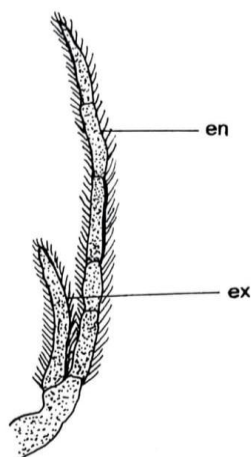


ex- exopodite

en- endopodite

ep- epipodite

Fig. 1.3b Second Maxillipede



ex- exopodite
en- endopodite

Fig. 1.3c Third Maxillipede

Feeding Intensity

Feeding intensity of prawns collected from different gears was as follows:

Inshore Waters

Month wise analysis of foreguts of males is given in Table 1.1 and shown graphically in Fig. 1.4. It showed that during the entire period, 11.36% were with 'full' stomach, 16.55% with '3/4 full', 17.26% with '1/2 full', 12.06% with '1/4 full', 13.48% with traces of food and 29.31% with empty stomach. It is seen that the maximum number of males with full stomach were present in January (25%) and minimum in June (2.27%). Males with empty stomachs were maximum in April (44.68%) and in January no males with empty stomachs were found. Month wise feeding intensity of males is shown in Fig. 1.5. It showed that the males fed actively in August and September. In January, February and May the feeding was

moderate and in the remaining months it was poor.

Month wise analysis of foreguts of females is given in Table 1.2 and shown graphically in Fig. 1.6. Among the females, 12.57% of females were observed with 'full' stomach, 11.84% with '3/4 full', 16.76% with '1/2 full', 15.48% with '1/4 full', 11.11% with traces of food and 32.24% with empty stomachs. It was observed that the percentage of females showing full stomach were maximum in January (45.83%) and minimum in February (4.23%). Females with empty stomach were maximum in July (58.33%) and in January no females with empty stomach were found. Month wise feeding intensity of females is shown in Fig 1.7. In January and March, females fed actively. In February, June and December the feeding was moderate and in April, July, August and October it was poor.

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|
| January | 7 (25) | 1 (3.57) | 8 (28.57) | 7 (25) | 5 (17.86) | 0 | 28 (6.62) |
| February | 3 (8.57) | 3 (8.57) | 10 (28.57) | 20 (57.14) | 2 (5.71) | 7 (20) | 35 (8.27) |
| March | 5 (17.24) | 3 (10.34) | 6 (20.69) | 2 (6.9) | 5 (17.24) | 6 (20.69) | 29 (6.86) |
| April | 3 (6.38) | 14 (41.89) | 7 (21.77) | 12 (36.36) | 8 (24.24) | 4 (12.12) | 47 (11.11) |
| May | 1 (5) | 1 (5) | 5 (25) | 5 (25) | 10 (50) | 6 (30) | 28 (6.62) |
| June | 1 (2.27) | 5 (11.36) | 9 (20.45) | 4 (9.09) | 11 (25) | 14 (31.82) | 44 (10.4) |
| July | 3 (10.71) | 5 (17.86) | 2 (7.14) | 0 | 4 (14.29) | 14 (50) | 28 (6.62) |
| August | 11 (18.33) | 21 (35) | 6 (10) | 4 (6.67) | 4 (6.67) | 14 (23.33) | 60 (14.18) |
| September | 8 (17.39) | 13 (28.26) | 8 (17.39) | 3 (6.52) | 1 (2.17) | 13 (28.26) | 46 (10.87) |
| October | 2 (8) | 0 | 13 (18) | 12 (16) | 5 (7) | 11 (15) | 25 (5.91) |
| November | 1 (2.94) | 6 (23.53) | 5 (14.71) | 2 (5.88) | 6 (18.52) | 12 (35.29) | 34 (8.04) |
| December | 3 (11.11) | 3 (11.11) | 7 (24.69) | 5 (16.67) | 5 (16.67) | 22 (72.22) | 45 (10.37) |
| Total | 48 (11.36) | 70 (16.55) | 73 (17.26) | 51 (12.06) | 57 (13.48) | 124 (29.31) | 423 |

Table 1.1 Monthwise fullness of gut (with % in parenthesis) in males of *M. brevicornis* from inshore waters

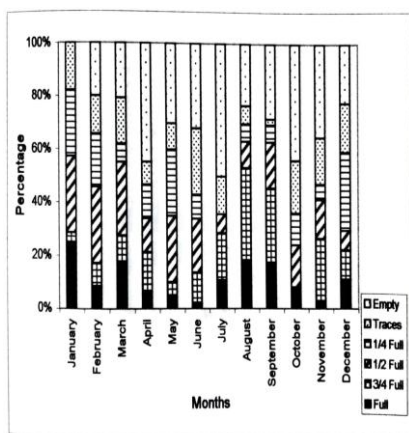


Fig. 1.4 Monthwise fullness of gut in males of *M. brevicornis* from inshore waters

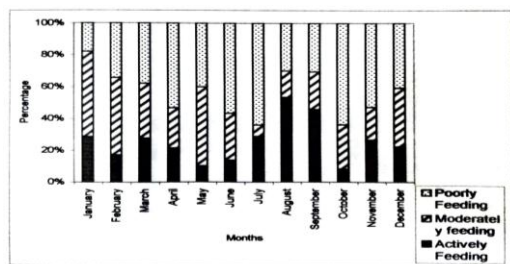


Fig. 1.5 Monthwise feeding intensity in males of *M. brevicornis* from inshore waters

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|
| January | 11 (45.83) | 1 (4.17) | 5 (20.83) | 3 (12.5) | 4 (16.67) | 0 | 24 (4.37) |
| February | 3 (4.23) | 6 (8.45) | 19 (26.76) | 16 (22.54) | 10 (14.08) | 17 (23.94) | 71 (12.93) |
| March | 2 (7.69) | 10 (38.46) | 7 (11.54) | 1 (3.85) | 2 (7.69) | 8 (30.77) | 26 (4.74) |
| April | 3 (5.36) | 7 (12.5) | 10 (17.86) | 10 (17.86) | 7 (12.5) | 19 (33.93) | 56 (10.2) |
| May | 3 (9.09) | 4 (12.12) | 6 (18.18) | 7 (21.21) | 2 (6.06) | 11 (33.33) | 33 (6.01) |
| June | 6 (10.71) | 4 (7.14) | 13 (23.21) | 14 (25) | 13 (10.71) | 13 (23.21) | 56 (10.2) |
| July | 4 (5.56) | 2 (2.78) | 6 (8.33) | 6 (8.33) | 12 (16.67) | 42 (58.33) | 72 (13.11) |
| August | 8 (18.18) | 8 (18.18) | 5 (11.36) | 1 (2.27) | 6 (13.64) | 16 (36.36) | 44 (8.01) |
| September | 5 (10.87) | 9 (19.57) | 9 (19.57) | 2 (4.35) | 15 (32.61) | 15 (32.61) | 66 (12.36) |
| October | 13 (20.63) | 7 (11.11) | 6 (9.52) | 9 (14.29) | 5 (7.94) | 23 (36.51) | 63 (11.48) |
| November | 7 (17.5) | 7 (17.5) | 7 (17.5) | 6 (15) | 4 (10) | 9 (22.5) | 40 (7.29) |
| December | 4 (22.22) | 0 | 3 (16.67) | 3 (33.33) | 6 (5.56) | 1 (22.22) | 18 (3.28) |
| Total | 65 (12.57) | 65 (11.94) | 85 (16.78) | 85 (16.48) | 85 (11.11) | 177 (32.24) | 549 |

Table 1.2 Monthwise fullness of gut (with % in parenthesis) in females of *M. brevicornis* from inshore waters

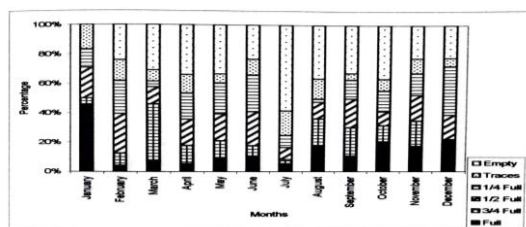


Fig. 1.6 Monthwise fullness of gut in females of *M. brevicornis* from inshore waters

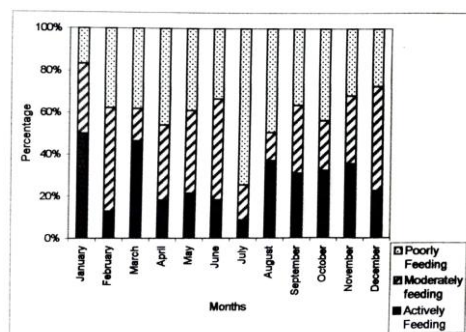


Fig. 1.7 Monthwise feeding intensity of females of *M. brevicornis* in inshore waters

Nearshore Waters

In these samples, 32.1% males showed 'full' stomach, 23.05% were with '3/4 full', 16.46% with '1/2 full', 13.58% with '1/4 full', 4.12% male with traces of food material and 10.7% with empty stomach.

Monthwise analysis of foreguts of males is given in Table 1.3 and shown graphically in Fig. 1.8. It is seen that in June, the percentage of males with full stomach was maximum (72.22%) and in January and February it was minimum (10.0%). Percentage of males with empty stomach was maximum in September (24.32%) and in January, March, June no males with empty stomach were found.

Monthwise feeding intensity of males is shown in Fig. 1.9. It showed that males fed actively throughout the year except in January, February and April.

Females from the same area showed following results: 49.0% were with 'full' stomach, 17.67% with '3/4 full' stomach, 13.65% with '1/2 full' stomach, 6.43% with '1/4 full' stomach, 5.22% with traces of food material and 8.03% with empty stomach.

Monthwise analysis of foreguts of females is shown in Table 1.4 and shown graphically in Fig. 1.10. Females with full stomach were maximum in November (82.61%) and minimum in February (22.73%). Females with empty stomach were maximum in December (22.73%) and in January, March and June females with empty stomach were not found. Monthwise feeding intensity of females is shown in Fig. 1.11. Females fed actively throughout the year except in February when the feeding intensity was moderate (40.9%). In July and August, samples couldn't be obtained due to the closed fishing season.

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|---------------|---------------|---------------|---------------|--------------|--------------|---------------|
| January | 3 (10) | 7 (23.33) | 12 (40) | 8 (26) | 2 (6.67) | 0 | 30 (12.35) |
| February | 3 (10) | 3 (13.33) | 6 (20) | 10 (33.33) | 6 (20) | 3 (3.33) | 35 (12.35) |
| March | 4 (23.53) | 10 (56.82) | 3 (17.65) | 0 | 0 | 3 (17) | 17 (7) |
| April | 2 (11.76) | 4 (25.53) | 26 (41) | 3 (17.65) | 0 | 3 (17.65) | 38 (23) |
| May | 8 (34.78) | 7 (17.39) | 3 (21.74) | 1 (17.39) | 0 | 2 (8.7) | 21 (9.47) |
| June | 13 (72.22) | 3 (16.67) | 5 (5.56) | 0 | 0 | 0 | 21 (7.41) |
| July | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| August | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| September | 16 (43.24) | 9 (18.92) | 0 | 5 (13.11) | 0 | 9 (24.32) | 37 (15.23) |
| October | 26 (26.17) | 7 (16.67) | 3 (12.5) | 4 (16.67) | 2 (8.33) | 4 (16.67) | 44 (9.88) |
| November | 11 (47.83) | 7 (30.43) | 3 (13.04) | 0 | 0 | 2 (8.7) | 23 (9.47) |
| December | 11 (45.83) | 6 (25) | 2 (8.33) | 0 | 0 | 5 (20.83) | 24 (9.88) |
| Total | 76 (32.1) | 54 (23.05) | 40 (16.46) | 33 (13.58) | 10 (4.12) | 20 (10.7) | 243 |

Table 1.3 Monthwise fullness of gut (with % in parenthesis) in males of *M. brevicornis* from nearshore waters

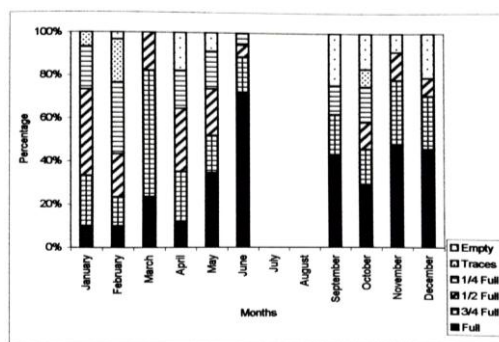


Fig. 1.8 Monthwise fullness of gut in males of *M. brevicornis* from nearshore waters

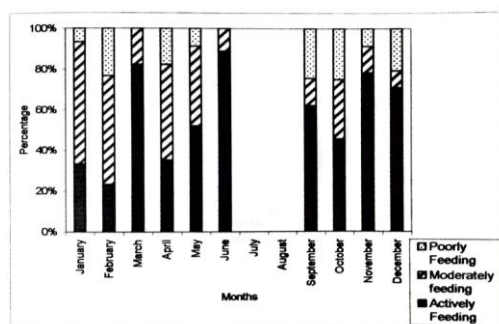


Fig. 1.9 Monthwise feeding intensity of males of *M. brevicornis* in nearshore waters

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|---------------|---------------|---------------|--------------|--------------|--------------|---------------|
| January | 13 (61.9) | 0 | 6 (28.57) | 0 | 2 (9.52) | 0 | 21 (8.43) |
| February | 5 (22.73) | 1 (4.55) | 5 (22.73) | 4 (18.18) | 5 (22.73) | 2 (9.09) | 22 (8.84) |
| March | 21 (80) | 9 (25.71) | 2 (5.71) | 1 (2.86) | 2 (5.71) | 0 | 35 (14.06) |
| April | 16 (45.71) | 6 (17.14) | 4 (11.43) | 2 (5.71) | 2 (5.71) | 5 (14.29) | 35 (14.06) |
| May | 12 (41.38) | 7 (24.14) | 6 (20.69) | 3 (3.45) | 0 | 3 (10.34) | 29 (11.65) |
| June | 18 (64.29) | 5 (17.86) | 4 (14.29) | 1 (3.57) | 0 | 0 | 28 (11.24) |
| July | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| August | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| September | 6 (46.15) | 5 (38.46) | 1 (7.69) | 0 | 0 | 1 (7.69) | 13 (5.22) |
| October | 5 (23.81) | 6 (28.57) | 4 (19.05) | 2 (9.52) | 2 (9.52) | 2 (9.52) | 21 (8.43) |
| November | 19 (82.61) | 1 (4.35) | 1 (4.35) | 0 | 0 | 2 (8.7) | 23 (9.47) |
| December | 7 (31.82) | 4 (18.18) | 1 (4.55) | 5 (22.73) | 0 | 5 (22.73) | 24 (9.88) |
| Total | 122 (49.0) | 44 (17.67) | 34 (13.65) | 16 (6.43) | 13 (5.22) | 20 (8.03) | 249 |

Table 1.4 Monthwise fullness of gut (with % in parenthesis) in females of *M. brevicornis* from nearshore waters

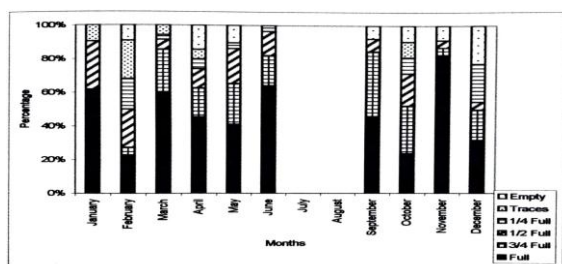


Fig. 1.10 Monthwise percentage of fullness of gut in females of *M. brevicornis* from nearshore waters

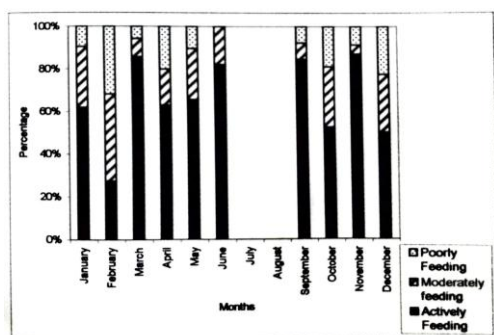


Fig. 1.11 Monthwise feeding intensity of females of *M. brevicornis* in nearshore waters

Offshore Waters

Monthwise analysis of foreguts of males is given in Table 1.5 and shown graphically in Fig. 1.12. In these samples, 20.92% males showed 'full' stomach, 25.49% were with '3/4 full', 18.95% with '1/2 full', 13.4% with '1/4 full', 9.15% male with traces of food material and 12.09% with empty stomach.

It is seen that in March, the percentage of males with full stomach was maximum (39.39%) and in May no males with full stomach were found. Percentage of males with empty stomach was maximum in September (36.36%) and in January, March,

October no males with empty stomach were found.

Monthwise feeding intensity of males is shown in Fig. 1.13. It showed that males fed actively during February, March, April, June, July, October and December. In January, May and November moderate feeding activity was shown. Whereas in September, it was poor.

Monthwise analysis of foreguts of females is shown in Table 1.6 and shown graphically in Fig. 1.14. From the trawl sample, 45.67% females were with 'full' stomach, 23.1% with '3/4 full' stomach, 11.42% with '1/2 full' stomach, 6.82% with '1/4 full' stomach, 5.25% with traces of food material and 7.74% with empty stomach.

Females with full stomach were maximum in March (77.08%) and minimum in December (33.33%). Females with empty stomach were maximum in September (15.31%) and in January, March females with empty stomach were not found. Feeding intensity of females is shown in Fig. 1.15. Actively fed females were found throughout the year. Prawns with active and moderate feeding were seen more in nearshore as well as offshore waters as compared to the inshore waters. In inshore waters, both the sexes showed relatively poor feeding. Among the two sexes, the females showed more active feeding than the males in all the three fishing areas.

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|---------------|---------------|---------------|---------------|--------------|---------------|---------------|
| January | 1 (3.23) | 3 (9.68) | 8 (25.81) | 11 (35.48) | 8 (25.81) | 0 (0.00) | 31 (10.13) |
| February | 7 (14.29) | 14 (28.57) | 14 (28.57) | 6 (12.24) | 5 (10.2) | 3 (6.12) | 49 (16.01) |
| March | 13 (39.39) | 9 (27.27) | 5 (15.15) | 4 (12.12) | 1 (3.03) | 0 (0.00) | 32 (10.78) |
| April | 5 (15.15) | 7 (21.21) | 5 (15.15) | 0 (0.00) | 1 (3.03) | 1 (3.03) | 19 (6.21) |
| May | 0 (0.00) | 2 (6.06) | 3 (9.09) | 2 (6.06) | 2 (6.06) | 2 (6.06) | 11 (3.59) |
| June | 16 (49.09) | 15 (45.45) | 7 (21.21) | 7 (21.21) | 5 (15.15) | 8 (24.24) | 58 (19.7) |
| July | 7 (21.21) | 5 (15.15) | 4 (12.12) | 4 (12.12) | 5 (15.15) | 4 (12.12) | 31 (10.13) |
| August | 0 (0.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) |
| September | 4 (12.12) | 6 (18.18) | 4 (12.12) | 5 (15.15) | 2 (6.06) | 12 (36.36) | 33 (10.78) |
| October | 5 (15.15) | 9 (27.27) | 2 (6.06) | 2 (6.06) | 0 (0.00) | 0 (0.00) | 19 (6.21) |
| November | 3 (9.09) | 4 (12.12) | 4 (12.12) | 4 (12.12) | 5 (15.15) | 1 (3.03) | 21 (6.86) |
| December | 3 (9.09) | 4 (12.12) | 3 (9.09) | 1 (3.03) | 5 (15.15) | 5 (15.15) | 21 (6.86) |
| Total | 64 (20.92) | 78 (25.49) | 58 (18.95) | 41 (13.4) | 28 (9.15) | 37 (12.09) | 306 |

Table 1.5 Monthwise fullness of gut (with % in parenthesis) in males of *M. brevicornis* from offshore waters

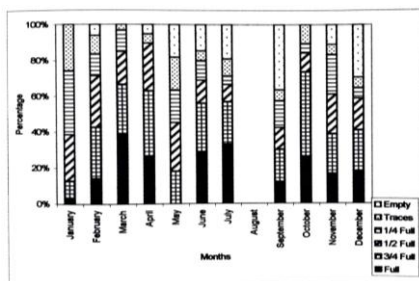


Fig. 1.12 Monthwise percentage of fullness of gut in males of *M. brevicornis* from offshore waters

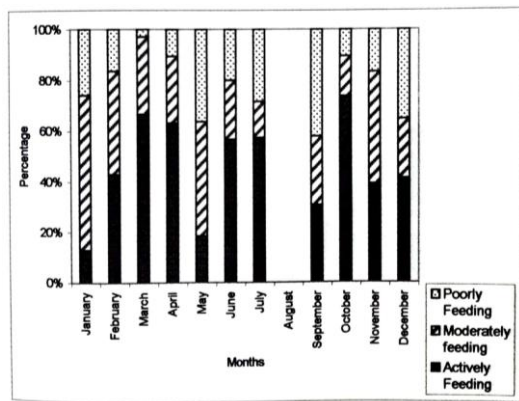


Fig. 1.13 Monthwise feeding intensity of males of *M. brevicornis* in offshore waters

| | Full | 3/4 Full | 1/2 Full | 1/4 Full | Traces | Empty | Total |
|-----------|----------------|---------------|---------------|--------------|--------------|---------------|---------------|
| January | 7 (56.33) | 2 (16.67) | 0 (0.00) | 3 (25.00) | 0 (0.00) | 0 (0.00) | 12 (1.57) |
| February | 27 (51.9) | 6 (11.54) | 9 (17.31) | 4 (7.69) | 7 (13.02) | 2 (3.85) | 55 (6.82) |
| March | 37 (77.08) | 8 (16.67) | 2 (4.17) | 2 (4.17) | 0 (0.00) | 0 (0.00) | 49 (6.3) |
| April | 28 (40.58) | 17 (24.64) | 13 (19.04) | 5 (7.25) | 6 (8.75) | 6 (8.75) | 69 (9.06) |
| May | 29 (36.25) | 26 (32.5) | 7 (8.75) | 12 (15.0) | 5 (6.25) | 5 (6.25) | 84 (10.5) |
| June | 24 (55.81) | 11 (25.58) | 4 (9.3) | 1 (2.33) | 0 (0.00) | 0 (0.00) | 40 (5.64) |
| July | 41 (56.94) | 13 (18.06) | 8 (11.11) | 0 (0.00) | 4 (5.56) | 6 (8.33) | 72 (9.45) |
| August | 32 (47.06) | 14 (20.59) | 7 (10.29) | 2 (2.94) | 8 (11.76) | 5 (7.35) | 68 (9.92) |
| September | 37 (37.78) | 25 (25.51) | 10 (10.2) | 5 (5.1) | 6 (6.12) | 15 (15.31) | 96 (12.86) |
| October | 37 (44.58) | 24 (28.92) | 11 (13.25) | 5 (6.02) | 1 (1.2) | 6 (6.02) | 83 (10.89) |
| November | 24 (38.71) | 15 (24.19) | 7 (11.29) | 3 (4.84) | 3 (4.84) | 6 (9.68) | 62 (8.14) |
| December | 25 (33.33) | 20 (26.67) | 13 (17.33) | 7 (9.33) | 5 (6.67) | 8 (10.67) | 78 (10.84) |
| Total | 348 (45.67) | 176 (23.1) | 87 (11.42) | 52 (6.82) | 40 (5.25) | 59 (7.74) | 762 |

Table 1.6 Monthwise fullness of gut (with % in parenthesis) in females of *M. brevicornis* from offshore waters

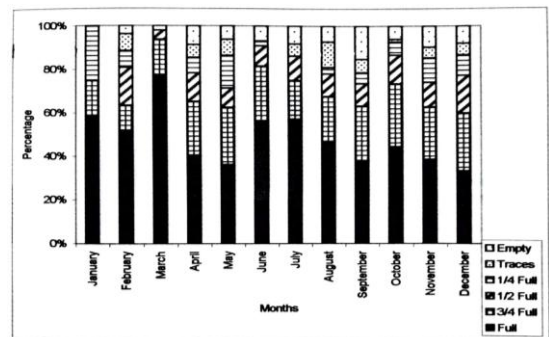


Fig. 1.14 Monthwise percentage of fullness of gut in females of *M. brevicornis* from offshore waters.

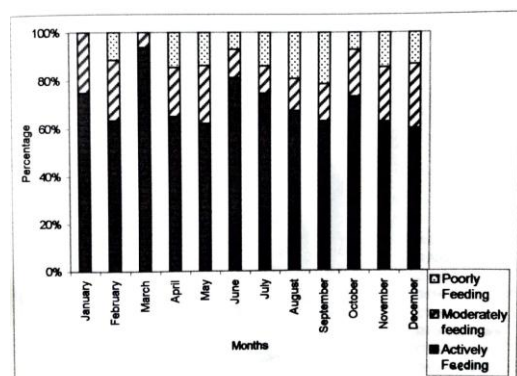


Fig. 1.15 Monthwise feeding intensity of females of *M. brevicornis* in offshore waters

Conclusion

The feeding intensity of *M. brevicornis* showed that the actively fed and moderately fed prawns are more prevalent in nearshore and offshore areas. But, in inshore areas poorly fed prawns are more. This may be due to the poor availability of food in the inshore waters than in nearshore and offshore waters. Among the two sexes the females showed more active feeding than the males in all the three fishing areas. Since the reproductive output of females is far higher, their metabolic requirement must be greater than that of males. Therefore in order to meet their higher metabolic requirements, the feeding intensity of females must be higher.

References

1. Borradaile, L.A. 1917. On the structure and function of the mouthparts of Palaemonid prawns. *Proc. Zool. Soc. London*.
2. Chopra, B.N. 1939. Some food prawns and crabs of India and their fisheries. *J. Bombay Nat. His. Soc.*, 41(2): 221-234.
3. Dall, W. 1968. Food and feeding of some Australian penaeid shrimps. *FAO Fish. Rep.*, 57(2): 251-258.
4. Eldred, B. et. al., 1961. Biological observations on the commercial shrimp, *Penaeus duorarum* Burkenroad, in Florida waters. *Proc. Pap. Ser. Mar. Lab. Fla.* 3:1-139.
5. Gopalkrishnan, V. 1952. Food and feeding of *Penaeus indicus*. *Madras Uni. J.*, 22 B: 69-75.
6. Hall D.N.F. 1962. Observations on the biology of some Indo west Pacific Penaeidae (Crustacea, Decapoda). *Fish. Publ. Colonial off.* London, 17: 1-229.
7. Hynes, H.B.N. 1950. The food of the freshwater Sticklebacks (*Gasterosteus aculeatus* and *Pygosteus pungitius*) with a review of methods used in the studies of the food of fishes. *J. Animal Ecol.*, 19:36-58.
8. Kathuria, J. 1967. Study of Bombay prawns, Ph. D. thesis, University of Bombay.
9. Kubo, I. 1951. Bionomics of the prawn *pandalus kessleri* Czerniavski. *J. Tokyo Univ. fish.*, 38(1): 1-26.
10. Kuttyamma. V.J. 1974. Observation on the food and feeding habits of some penaeid prawns of Cochin area. *J. mar. biol. Ass. India.*, 15(1): 189-194.
11. Mehendale, D.D. 1959. A study of prawns, M.Sc. Thesis. University of Bombay.
12. Nandakumar, G. and R. Damodaran 1998. Food and feeding habits of the speckled shrimp *Metapenaeus monoceros* (Fabricius). *J. mar. biol. Ass. India.* 40(1&2): 30-40.
13. Nikolsky, G.V. 1963. The ecology of fishes. *Academic Press, London & New York.* 352 p.

14. Patwardhan S.S. 1935. On the structure and mechanism of the gastric mill in Decapoda. The structure of the gastric mill in natantous Macrura, Penaeidea and Stenopodia, conclusion. *Proc. Indian Acad. Sci. Sec. B*, 2B. 155-174.
15. Patwardhan S.S. 1937. Palaemon, *Indian Zool Mem.* 6: 120p.
16. Pillay T.V.R. 1952. A critique of the methods for study of food of fishes. *J. Zool. Soc. India*, 4:185-200.
17. Reddy, A.R. 1935. The structure, mechanism and development of the gastric armature in stomatopoda with a discussion as its evolution in Decapoda. *Proc. Ind. Acad. Sci. B* (1): 650.
18. Thomas M.M. 1980. Food and feeding habits of *Penaeus semisulcatus* de Haan. *Indian J. Fish.*, 22: 133-142.
19. Tiews, K. *et al.* 1968. On the food and feeding habits of some Philippine shrimps in Manila Bay and San Miguel Bay. *Proc. IPFC.*, 13 (3): 85-91.
20. Wassenberg, T.J. and B.J. Hill. 1987. Natural diet of tiger prawns *Penaeus esculentus* and *P. semisulcatus*. *Aust. J. Mar. Freshw. Res*; 38,169-182.
21. Williams, A.B. 1955. A contribution to the life histories of commercial shrimps (Penaeidae) in N. Carolina. *Bull. Mar. Sci. Gulf Caribb.* 5(2): 116-146.

CANCER PROFILE AND GEOGRAPHIC BACKGRIUND OF BREAST CANCER WOMEN

Dr. A. SANGAMITHRA

Professor, Department of Economics
Bharathiar University, Coimbatore, Tamil Nadu, India

S. THILAGAVATHY

Ph.D Research Scholar, Department of Economics
Bharathiar University, Coimbatore, Tamil Nadu, India

"I laughed more in the hospital that I ever have in my life, making fun of all the weird things that were happening to me"

- Cristina Applegate on how humor helped her battle breast cancer

Abstract

Breast cancer mortality rates are decreasing in high income countries, despite it is increasing or stable incidence rates. In contrast and concern are the increasing incidence and the mortality rates in many countries, especially those who undergone rapid changes in human development. Wide variations in breast cancer rates and increasing trends reflect differences in the patterns of risk factors and access to the availability of early detection and timely treatment. Increasing the awareness about breast cancer and the benefits of early detection and improved access to treatment can be prioritized to successful implementation of breast cancer control programs, particularly in transitioning countries. The risk factors of breast cancer which includes heredity and genetics ,sedentary lifestyle, late or no pregnancy at all, use of oral contraception, early stage to menstruation, late menopause , excessive intake of alcohol, smoking ,increasing obesity among youngsters, stress and poor dietary intake, these are all the factors that have been attributed to increasing incidences of breast cancer affected women in India.

Keywords: Breast cancer, risk factors, diagnosed, treatment, women's health, stress.

Introduction

Breast cancer treatment is highly effective, when the disease is identified early. Breast cancer treatments consist of combined form of surgical removal and radiation therapy and medication to treat the microscopic cancer that spreads from the breast tumor through blood. Such treatment can prevent cancer growth and spread, which saves life. At the end of 2020, there were 7.8

million women alive who diagnosed with breast cancer in past five years, making the world's most prevalent cancer. Breast cancer occurs in almost every country of the world in women at any age after the puberty, but with the increasing rates in future. Breast cancer mortality changes from the year 1930's to 1970's. Development in survival begins in the year 1980's in countries with early detection programs

which combines in different modes of treatment to eradicate the invasive disease. Female gender having the strong breast cancer risks factor. Around 0.5 to 1 percent breast cancer occurs in men. Family history of breast cancer increases the risks, but the majority of women diagnosed with breast cancer do not have a well known family history of the disease. Breast cancer presents as a painless lump or thickening in the breast part. Breast cancer is present in a wide variety of ways, a complete medical examination is important. Women with persistent abnormalities should take tests includes imaging of the breast and in some cases tissue sampling determines a mass malignant or benign. Cancer cells spread to other organs including liver, brain, lungs and bones.

Review of Literature

Ataollahi MR, Sharifi J et.al (2015) analyzed the breast cancer and associated factors. The primary risk factors of cancer which includes high hormone level, age, race, economic status, and iodine deficiency in diet. In general, viruses are involved with different types of cancer. Breast cancer is one of the diseases with severe psychological impact, in which the thoughts of death and mastectomy cause fear and anxiety in the patient. Among the nutritional factors weight gain and high calorie intake are the two causes of breast cancer development. Breast cancer is highly heterogeneous/ different disease that is developed by

mutual impact of genetic risk factors and environmental factors, breast cancer is one of the important factors that risk physical, mental and social health status of women. To conclude breast cancer is a disease that involves the patient, community, family and wastes many financial and spiritual resources. Arzu Osoy et.al (2017) examined the relationship between breast cancer and risk factors. All the cases that presents to the imaging unit for diagnosis and screening purpose were included in this study. The screening was in an opportunistic type and included female cases that presents at their own will or were referred by the clinician. All the cases were included in the study towards the aim of creating more homogenous group. At early age of first menarche and late age of menopause increase the risk of developing breast cancer and endometrium cancer, the relationship between breast feeding and breast cancer is controversial. Similarly, in this study no relationships were identified in terms of the presence and duration of breast feeding when cancer cases were compared with non patient group. To conclude this study, the presence of breast cancer in family was found to be the most important risk factor among the risk factors for breast cancer. Graham A.Colditz et.al (2021) reported about the risk factors and family history of breast cancer patients. A family history of breast cancer is a risk factor for this disease and is used to identify women at a higher risk,

although the impact of risk factors of breast cancer among women with family history is defined. Among women with a family history of breast cancer, reproductive risk factors had associations that were different from those observed among women without a family history of the disease. Additional births after the first birth conveyed little protection for women with a family history. History benign breast cancer, past use of oral contraceptives, use of postmenopausal hormones showed the relative risks that did not suffer from women with a family history and those without a family history of the disease. Adverse effect of first pregnancy would be expected to be stronger among the subset of women with family history who have inherited a genetic predisposition. Among postmenopausal women, age at menopause, showed a strong relation with the risk of breast cancer among women with no family history of breast cancer than among women with a positive family history of breast cancer. Ranjan Kumar Prusty et.al (2020) analyzed about the knowledge of symptoms and risk factors of breast cancer among women, breast cancer (BC) is a leading cancer women in India, accounts for 27 percent of all cancers among women. Factors that make the policy makers and public health systems worried are raising incidence of breast cancer in India, and importantly high death rates among breast cancer patients. It is the most commonly diagnosed cancer among females is more than 150

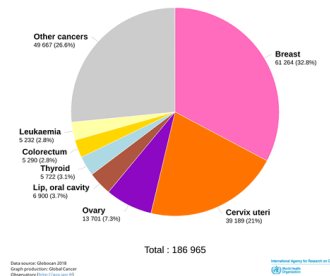
countries, out of these 150 countries breast cancer is the leading cause of mortality among all female cancers in 100 countries. According to “National Cancer Registry Programme” and GLOBOCAN, 2018. There were 1,62,468 new cases of breast cancer and 87,090 deaths were reported for breast cancer in India. Lack of knowledge of signs and symptoms is considered as one of the major reasons contributing to the late detection, pathways for diagnosis, lack of proper regional centers for treatment, incomplete treatment due to high out of pocket expenditures and several socio economic, geographical, and cultural barriers associated with women's health. To conclude this study, aimed to access breast cancer awareness and knowledge of danger signs, symptoms, risk factors of breast cancer among women in the community was low.

Breast Cancer in India

Breast cancer is the common type of cancer in urban Indian women and secondly common in rural women. The incidence of breast cancer is low in India, but it is increasing. Owing to lack of awareness about the disease, and absence of breast cancer screening program, Almost all type of breast cancers are diagnosed at a relatively advanced stage. There are some centers of excellence providing multiple protocol treatments at par with best anywhere in the world, majority of breast cancer patients undergo inadequate and inappropriate

treatment due to lack of high quality infrastructure, skills and sometimes financial resources. The quality of care is present for breast cancer patients varies according to where the patient is treated. The recent emphasis on early diagnosis of cancer, health education, and more public facilities for cancer treatments are expected to bring more improvement in breast cancer care in India. In India, the survival rates are low due to high population and low awareness ratio. One of the biggest reasons for high mortality rate is a lack of awareness and absence of proper breast cancer screening program, which is diagnosed at advanced stage and unavailability of medical facilities. Most of the breast cancer are diagnosed at a relatively advanced stage. Many patients in urban areas are diagnosed at stage II, when the lesions become palpable lumps, most of the cases from rural areas, the lesions are diagnosed only after the transformation to metastatic tumors. The risk factors for breast cancer patients includes genetics and heredity, sedentary lifestyle, late or no pregnancy, early start to menstruation, late menopause, excessive intake of alcohol, smoking, increasing obesity, stress and poor dietary intake, these are all the factors attributed to increase the incidences of breast cancer among the young Indian women.

Estimated number of new cases in 2018, India, females, ages 25-49



Risk Factors of Breast Cancer

A risk factor that increases a person's chance of developing cancer among breast cancer women. Though risk factors which influence the growth stage of cancer, do not directly cause cancer. Some people with many risk factors do not develop cancer, while others with no known risk factors do. Most breast cancers are sporadic, means they develop from damage to a persons genes that occurs by chance after they born. There is no risks of persons passing this gene on their children, as the underlying cause of sporadic breast cancer is an environmental factors. Inherited breast cancers are found less common, making up 5 percent to 10 percent of cancers. Inherited breast cancer occurs when the gene changes called mutations are passed down within the family from parent to child.

The following factors may raise a women's risks of developing the breast cancer:

- Personal History of Breast Cancer:**
 A woman who has breast cancer in 1 breast are having a high risk of developing a new cancer in the either breast.

- **Family History of Breast Cancer:**

Breast cancer may occur in the family in any of these situations

- 1 or more women were diagnosed with breast cancer from the age of 45 or younger.
- A women in the family is diagnosed with a second type of breast cancer in the same or the other breast and ovarian cancer.

- **Age:**

The risks of developing breast cancer increases as women aged, with most cancers developing in women older than 50 years.

- **Race:**

Breast cancer is diagnosed more in Caucasian women than women in other races.

- **Obesity:**

Obesity is a big risks factors for both men and women.

Environmental and lifestyle risk factors

- **Poor diet:**

A diet is high in saturated fat, lacking fruits and vegetables can increase the risks of breast cancer among women.

- **Lack of physical activity:**

A sedentary lifestyle pattern with small physical activity can increase the risks of breast cancer.

- **Drinking alcohol:**

Frequent consumption of alcohol can increase the risks of breast cancer. The more alcohol you consume, the greater the risks.

- **Radiation to the chest:**

Having radiation therapy to the chest before the age of 30 can increase the risks of breast cancer.

Risk Factors in Breast Cancer (BC) Development⁴

| Risk Factor | Associated Risk |
|--|---|
| Female vs Male | 100:1 risk |
| Increased age | Most breast cancers are found in women ≥55 years |
| Genetics | ~ 5%-10% of breast cancers suspected as hereditary |
| Family history | 1st degree relative with BC: ~2-fold increased risk Two-1st degree relatives with BC: ~3-fold increased risk |
| Race/Ethnicity | Caucasian, African-American women risk > Asian, Hispanic, Native American women risk |
| Breast tissue density | Dense breasts on mammogram: ~1.5-2-fold increased risk |
| Benign breast conditions | Non-proliferative and proliferative breast lesions |
| Early menarche (<12 years) or late menopause (>55 years) | Slight increased risk of BC |
| Chest radiation for other cancers (prior to 40 years of age) | Significantly increased risk of BC |
| Diethylstilbestrol (DES) exposure | Slight increased risk of BC |

Conclusion

The most common type of cancer related to death in women. Early detection of breast cancer and screening plays an important role. It is the most common among female cancer in majority of the countries irrespective of levels of development. Global control of breast cancer through the form of early detection, primary prevention, and improvement in the treatment is given high priority. The overall impact will lead to reduction in serious clinical and financial consequences and burden to women should she fail to detect breast cancer in the early stage. Substantial support for breast cancer awareness and some research funding helped to create advanced in the diagnosis and treatment of breast cancer. Breast cancer survival rate

increases, number of deaths which is associated with the disease is quite declining, this is due to factors such as early detection, new approach to treatment and better understanding of breast cancer disease.

References

1. Ferley J, Colombet M, Soerjomataram et.al. Global and Regional estimates of the incidence and mortality for cancers: GLOBOCAN 2018. Lyon: International Agency for Research on Cancer, 2018.
2. Jha P. Avoidable global cancer deaths and total deaths from smoking. Nat Rev Cancer, 2009; 9:655-664.
3. Parkin DM, Bray F, Ferlay, Jemal A. Cancer in the year 2012. Cancer Epidemiol Biomarkers Prev. 2014; 23:953-960.
4. Bray F, Mccarron P, Parkin DM. The challenging global patterns of female breast cancer incidence and mortality. Breast cancer Res, 2004;6:229-239.
5. Ravdin PM, Cronin KA, Howlader N, et.al. The decrease in breast cancer incidence in 2003 in the United States. N Engl Med, 2007; 356:1670-1674.
6. Schreuders EH, Ruco A, Rabeneck L, et.al. Colorectal cancer screening: a global overview of existing programmes. Gut, 2015; 64:1637-1649.
7. Dinmohamed AG, Visser O, Verhoeven RHA, et.al. Fewer cancer diagnosis during covid 19 epidemic. Lancet. Oncol. 2020; 750-757.
8. Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global Cancer Statistics. CA cancer J Clin. 2011; 61-69-90.
9. Brinton LA, Gaudet MM, Gierarch GL. Breast cancer. In: M Thun, MSLinet, JRCerhan, CAHaiman D Schottenfeld, eds. Cancer epidemiology and prevention. Oxford University Press; 2018:861-888.
10. Torre LA, Bray F, Siegel RL, Ferlay J, Lortet Tieulent J, Jemal. A global cancer statistics 2012. CA cancer J Clin. 2015; 65:87-108.

THE POST-TRUTH ANALYSIS OF FARMERS SUICIDES EXPLORED IN *SHOES OF THE DEAD* BY KOTA NEELIMA

LALITA K M

Research Scholar, Department of English, Jain University &
Assistant Professor (ad hoc), Department of English
C.M.S. Business School, Jain University
Gandhi Nagar, Bengaluru, Karnataka

Dr. CHARLES GODWIN

Associate Professor, Department of English
Center for Management Studies
Jain-Deemed-to-be-University
Lalbagh Road, Bangalore, Karnataka

Abstract

The infamous farmer-suicides in India, owing to the incapability of debt-repayment house a major concern in the nation. The irony of it is, although more than 70 per cent of the Indian working population is engaged in agriculture, this sector remains gruesomely neglected by the media attention as they do not benefit any profit or merit from them. The news narrative is generally predetermined by the media editors, curated to address the popular ideology of the dominant rule. Post- Truth claims that news is “manufactured truth” highly influenced by the emotional appeal as per theorist Lee McIntyre. Kota Neelima analyses the issue of farmer’s suicide from the journalistic reportage angle. The article studies subverted theory of post-truth in the indigenous scenario of her novels Shoes of the Dead. These novels present the dual narratives of the agriculturists as well as the policy-makers to bring out an approach to the reality at the ground level and the media projected level. The article encompasses a study of Marxist’ Reification’ by examining the political influences on the media-inconspicuous author exposing the moral blindspots that determine the reasons behind the suicides, and their coverage on national media. The fictional narrative of Kota Neelima infuses her journalistic influences reflecting on the tussle between media ethics of journalism and corporate political demands of the media editors. The current farmer’s protests regarding the repeal of the new Farm laws are an outcry of farmers disgusted by the failed promises of compensation of failed crops.

Keywords: post-truth, subversion, farmer-suicides, reification, journalistic-influences, media- ethics.

Introduction

One aspect of post-truth today is the political phenomenon or the modern political lies of authoritarian administrations within liberal democracies. The risks of Post-Truth scenarios are prevalent even in liberal economies and they undergo disputes and resistance even in liberal democracies. According to critic Jayson

Harson's essay *Post Truth*, (15), the new four new faces that have converged with the old in creating the post-truth environment include Technology and Attention Economy, Journalism, Promotional Culture and Professional Political Communication. In India the media is known as the fourth pillar, a strong backbone that helps in shaping the democracy.

In 1960, when Hannah Arendt wrote about post-truth, the era did not provide suitable terminology or technology to substantiate her argument.

Post-Truth is more like "belonging to a time in which the specified concept has become insignificant or inappropriate." (Bufacchi). Meanings have various shades and have been initiated in the mid-20th century in formulations of expressions such as post-national (1945) and post-racial (1971), in *Lying in Politics* (1972), the American critic Hannah Arendt designates defactualization as that the political domain is always in a battle with the truth, in every one of its structures. Arendt declares that "truth conveys inside itself a component of intimidation." (Arendt)

Anybody in force opposes the truth: "Seen from the perspective of legislative issues, truth has a dictatorial character. Despots appropriately dread the opposition of a coercive power that cannot hoard and partakes in a somewhat unstable status according to governments that lay emphasis on assent and hate compulsion."

(Bufacchi) Prompted by the Pentagon Papers; she claimed that "the many genres in the art of lying developed in the past: the innocuous one of the public-relations managers s in government who were influenced by their trade from the inventiveness of Madison Avenue."

The Oxford English Dictionary (O.E.D.) gives the following definition of Post-Truth: "an adjective defined as relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief." (Post-Truth)

It is the rekindling of trust, which makes society ponder upon political facts. Facts, that are not only more pragmatic entities but a varied mix of anxieties, misunderstandings, and myths. In this collage of partly empirical data, gossip is often mistaken for the gospel.

Truth relates to validating a claim; it is also an agreement among all prevailing and probable panelists. "It is an invention of the powerful, not the powerless" (Buffacchi, 354)

Contemporary philosopher Jurgen Habermas propounded the idea of post-truth as the "consensus" of an opinion. In the Donald Trump election propaganda 2014, America largely initiated the western narrative of the post-truth era. The era of 'alternative facts dawned in the postmodern world, with the understanding that the key driving force to change the truth was to

sway popular public opinion through the emotional show.

The researcher raises the questions in the contemporary scenario of the ongoing Farmer Protests as an outcry of the desperate, agitated, frustrated and exploited farmers, who no longer agree to give in to the false promises of the government. The protests have exposed not only the hypocrisy and profit-motives of the government but also the extent of lies, deceit and corruption involved in the bureaucracy. The novel under study by Neelima Kota *Shoes of The Dead* exposes such bureaucratic underpinnings. The researcher aims to bring out the objective of the research questions by an analysis of the novel; the journalistic influences can be reflected through the role of Nazar Prabhakar. The researcher locates a subversion of the post-truth scenario owing to Indian ideology. The suppressed and oppressed Gangiri also meets dire consequences like his brother Sudhakar Bhadrainin the struggle for justice and equality. The research questions are as follows: Does the mere culmination of facts, statements and figures lead to the consumption of the "Truth". How does the projected truth affect these "so-called" facts to be verified or subverted? Does the role of the prevalent alt-news channels like Desh Bhakth and Newslaundry remain merely for infotainment?

The researcher forms the hypotheses that truth has many shades and perspectives defending the

consumers' requirements. It cannot be verified as facts as the common man does not have access to the suitable sources of information and generally suffers at the hands of the authority while pursuing to expose their hypocrisies.

The Post-Truth Scenario in India

In 2014, the general elections brought with them a paradigmatic shift concerning the general elections. For ten years, the Congress-led U.P.A. govt had supposedly brought India to a standstill. The B.J.P. government, in association with the media and propagation, managed to create an alternate story of "Aache Din" to the Indian public with its launch in the ruling party position. The May 2014 results and the state assembly elections over the past four years only proved this point.

In 2014 India marked the late-onset in the scene of "mediated elections" acquainted to mediated democracy based on the American general elections. The general elections in India in the same year followed suit on the simulated model. Nearly 800 television channels (of which 300 are twenty-four-hour news channels) and 94,000 plus newspapers across twenty languages together with one of the fastest-increasing advertising industries in the world. (Chakravarty and Roy) Here I would analyse Baudrillard's theory of Simulacra, where the fourth stage of simulation bears no resemblance with the original; their differences are

distinct to such an extent that the original and the copy cannot be distinguished. (Baudrillard, 6)

Kota Neelima, an author and researcher has written vehemently on the issues of farmer suicides, gender and agricultural distress; her novels portray the harsh living realities of the crushed Indian farmer, driven to the extent of committing suicides and the helplessness of the family members even to claim compensation from the state. Her novels *Death of the Moneylender* (2016) and *Shoes of the Dead* (2013) examine that representation of data regarding farmer suicides are fudged to a large extent. Her groundbreaking novel *Widows of Vidarbha, Making of Shadows* (2018) examines farmer suicide households and presents the apathy of the farmers' abandoned families.

The idiosyncratic trait of the 2014 election in India was the change of government propaganda through social-media narratives. It is speculated that in his early career, Modi had "courted the media" successfully. This is with reference to the Gujarat massacre of 2002 that brought Modi and the media together.

In powerful ways, The B.J.P. government skillfully organised the media to erase the taint of nationalism based on ethno-religiosity and violence grounded in majoritarian opinions. The Modi-media alliance redefined India's growth with the "Gujarat model", assuring fast-track success on its basis.

The researcher equivalences this to Baudrillard's theory of Simulacra and Simulation. In his essay *The Precession of Simulacra*, he claims in the postmodern world, "It is no longer a question of imitation, nor duplication, nor even parody. It is an inquiry of substituting the signs of the real for the real" ("The Precession of Simulacra" 2). It has simulated with copies of images and 'signs' to such a great extent that the senses cannot perceive the differences between the real and the copy of the real. Baudrillard recognises a number of phenomena that generate this environment, like the contemporary media culture, exchange value of money, multi-national capitalism, urbanisation, and ideology.

The researchers trace these phenomena occurring to the recent scenarios in India, where the media-generated elections and glorification of the B.J.P government created simulated images of progress and development in the country, opposing the very grain of its ground reality.

The Farmers Protests in India

With the onset of the September 2020 Farm Bills, passed through an ordinance in the parliament, the country has witnessed numerous protests by farmers at the Singhu border, across the states of Punjab, Haryana and Western Uttar Pradesh.

The Indian media recently has been highlighting the farmer's protests in New Delhi and showcasing the B.J.P. Government in a bad light. Popular

media fabricates news to serve the interests of the sponsoring political agenda. The common public merely is a tool for its execution exercises. Capitalist ideas, consumerist-notions, speculative manifestations are the order of the day. Only the 'commercial' is rendered.

The Jawaharlal Nehru University (henceforth mentioned as J.N.U) has been in the limelight of the media for many of the protests like the Narmada Andolan or the 2013 Muzaffarnagar riots, the J.N.U. students have lent their backing to these activities and supplied to fact-finding reports.

J.N.U. always had a culture of organising political discussions and protests, although done democratically. This study aims to examine a democratic angle of the protests, structurally establishing the ideological dominance. This study aims to establish that the youth is being led to manipulate specific political-interests of the ABVP. They wanted to create polarisation.

According to the newspaper article in Hindu dated Feb 3 2020, *Farmers Protests no Internet yet at Delhi Borders, say Protestors* The farm laws passed in September, hundreds of protestors agitated to repeal the laws by demonstrating on the outskirts of New Delhi. Samyukta Kisan Morcha's leader, Darshan Pal, criticised the shutdowns of the internet, calling the move "undemocratic". (Mitra & Hollingsworth) There was an internet suspension. The 48-hour internet

shutdown had been imposed in the interest of keeping public safety and advertising public emergency. The internet ban after demonstrations pursued against the three farm laws passed in September.

"The government does not want the real facts to reach protesting farmers, nor their peaceful conduct to reach the world." (Mitra & Hollingsworth). Darshan Pal commented. "It wants to spread its false spin around farmers. It is also fearful of the collaborative "work of the farmers' unions across different protest sites and is trying to cut off communication means between them." (Mitra & Hollingsworth)

The world's greatest democracy has faced many internet shutdowns, which happened more so ever in Kashmir. The rule imposed a month-long internet blackout in Indian controlled Kashmir. These internet shutdowns have been confronted by the courts. Furthermore, there is a continuous struggle to change the country's regulations to make such shutdowns tougher to be enforced.

The reason the farmers are protesting had been a significant challenge to Modi. For decades, the Indian government gave actual prices to agriculturalists for certain crops, guaranteeing long-term assurance served in theory, allowed them to make investments for the next crop cycle. The original guidelines enable farmers to sell their goods to anyone for any price.

The farm workers claim that these rules will render them inferior by

making corporations stand in a stronger position to take advantage of agricultural workers and help corporate giants to manipulate prices. Although the farmer is free to trade crops at steep prices if the demand is high, they contradictorily could fight to procure the minimum support price in years when there are reduced market demands, owing to their high cost of production.

They slacken the standards around the deal, valuing and capacity of farm produce - which implies farmers can sell straightforwardly to private purchasers, rather than government-controlled business sectors where they get a base ensured cost. The public authority says the progressions will leave farmers good by making markets more proficient and drawing in the greater venture.

Postmodernism laid the justification for the egalitarians' demeanour to language, and thus, a significant part of the western Left's embrace of postmodernism helped libertarians devastate the Left's own expectations. To that degree, the present populism is something for which the postmodern Left of the most recent couple of many years bears extensive obligation.

Facts Blurred into Fiction-Representations in the Novels

Author Kota Neelima in her interview with Sunil Sethi NDTV shared that *Death of the Moneylender* explores two wide -apart worlds of the city newsroom and the distress of the farmer and rural

poverty. She justifies that being a journalist herself, the kind of pressure they face for reporting perspectives to get the news ready with a stipulated time, with the right time and the subject of the news that is covered.

Hailing from the southern states, she is closely associated with the farmers' suicides in the regions of Vidarbha, Karnataka and Telangana. Facts that do not change over time need to be looked at objectively.

Neelima Kota, in her novels *Death of the Moneylender* (2016) and *Shoes of the Dead* (2013), has mentioned that representation of data regarding farmer suicides has been fudged to a large extent. The malicious and hidden motives of indifferent policy-makers in the form of Keyur Kashinath, from Mityala, in South Central India is an illustration of the ground reality in major Indian villages

The novel addresses matters of farmers poverty, debt-trap of farmers, division of land, private-money lending, technological stagnation, and deficiency of funds on welfare schemes are some of the motives for the surge in suicide rates.

The moneylender seems to be tied up with the political parties. Fertilisers, pesticides, and sprays are misused or used disproportionately to increase yields in the fields. Their overuse was killing the soil, and the borewells were getting depleted. These expenses were borne by the farmer resulting in debt escalation. The new law of subsidy

withdrawal might have added to the problems.

Kota draws suggestions towards how the urban youth should be drifted to rural areas for a period to interact with the rural youth society, the wide rural-urban gap creates more isolation.

Exploration of the Agencies Behind the Dead Farmers

The novel *Death of a Moneylender* (Kota, 2016) opens with a knock on the consciousness of the rich and powerful politicians of Delhi. Keyur Kashinath, the antagonist, is portrayed as a character well protected against the dirt of politics and its conspiracies by putting up a show of resignation. He dismissed all those panellists who were aspiring that their children would inherit party tickets for the next elections, thus eliminating all the other candidates' heirs from the competition. He later altered the narrative by considering that their relatives could contest, but the panellist had to resign if they lost the election. No one objected to candidates who came with such fail-safe positions. Keyur was thus offered the ticket, which he 'humbly' accepted. The researcher finds that such an introduction marks to extremes travelled by these politicians to secure their coveted positions in the parliament.

Keyur, later on, treads on the same footsteps, designed by his father by keeping the media personnel happy by always attending their calls. He tactfully tailored his messages in a way

that gained the sympathy of the journalists who had gathered for an informal meeting. In Mityala district alone twenty-eight farmers had committed suicides in the previous forty days due to the burden of unpayable debts, taking or buying seeds, fertilizers, and pesticides. A well-researched study had been conducted by Dr. Daya and Videhi, who claimed that often fertilizers, pesticides, and sprays are applied disproportionately to increase yields. A suggestion was even rendered that separate corps of scientists, experts, even students can build studies in villages to help matters. The second reason is subsidies for fertilizers, pesticides, and sprays, be withdrawn as their overuse has been deteriorating the condition of the soil.

She continued that the expenditure of farm income was connected to the increase in exposure to urban lifestyles due to television and cinema, and the urban youth of the nation must be mitigated to interact with the rural youth. The author suggests this could help in exchanging information and adapting to modernisation with the realisation that life in the cities is as much of a struggle as it is in villages. Through the character of Videhi, the author suggests the remorseful, dearth ground reality of the slop-sided economies. She puts forth the idea has isolation has led to increased tensions.

Another reason pestering the farmers was the expenditure of farm income had been connected to the increase in exposure to urban lifestyles

due to television and cinema. This narrative was opposed by Lambodarji, the chief sarpanch when he pointed out that it was not only these issues but the decision made by the district collector two months ago. When Gangiri, the farmer who wanted to become a committee member, was pressurising and trying to convert farmer death to debt-distress suicides.

The narrative of Lambodhar was that Gangiri drafted the communication in a way to frame the committee members and their families. These suicides were not debt-related, instead passed off as deaths due to medical causes, heart attacks, strokes, and other ailments. They were pouring poison in the mouths of the dead to claim that it was a suicide.

Another post-truth scenario was that the family members had placed a bank passbook in the dead man's pocket to show that he was returning from a visit to the bank that had refused him a loan, given his history as a defaulter. This is because numbers that make the govt look bad are generally fudged.

The question raised regarding why farmers were given unsuitable and expensive seeds despite repeated crop failures. Nazar gave an alternative perspective about how power, fame, and money altered the mindset of these farmers.

'Death Districts of the D.P. Government', he suggested for the headline. There are no doors in Ichalgunj, Nazar began his story. Once,

that was because no one wanted anything more. Now, it is because no one has anything left. He wanted to be a part of opinion-making. He aspired to bring changes in the agricultural society. The story of the three districts of Ichalgunj, Warni, and Mityala was drafted, which had 90 % of their land under cultivation

Usually, when the farmers committed suicide in Gopur, the sarpanches did not interfere in making sure that their widows got a compensation relief fund. Hopeful to be the next leader of the district, following the head of state, Lambodar suited the narratives of the state, giving a maximum number of "apatra" verdicts ascertaining ineligibility for the compensation.

The amount of Rs One lakh was meagre to pay for a five-acre cotton crop and support the farmer's family. With old loans pending for repayment, the money would run out even quicker.

The entire issue of Sudhakar's suicide went awry when his wife was denied the state compensation. The delayed rains devastated his crop. The sarpanch accused that instead of planting crops again, like how several farmers do, he plunged into depression, became an alcoholic. Lambodharji's wrath that his younger brother did not leave the village instead joined as a member of the district collector's office and had made changes to the district suicide committee in the upcoming three meetings, resigning from his job in the city, as though he was avenging

the verdict passed by the committee. The researcher analyses this aspect as one of the illustrations of the rural post-truth scenario, which also unravels the selfish, malicious nature of the officials, who never keep in mind the welfare of the farmer.

'Members of the committee, including myself, took up this issue with the collector and demanded that Gangiri's appointment be revoked. However, the collector,' Lambodar said helplessly, 'seems to be under some pressure not to overturn his own decision.'

According to my analysis, a post-truth analysis can be drawn from the instances illustrated in the novel very close to reality. He reverses his malignity on the shoulders of Gangiri, accusing the victim as the perpetrator, drawing a wrong picture in front of the media personnel, emphasising that Gangiri was hell-bent upon learning about the lives of the committee members and their families. Sooner or later, he comes across something he can use to blackmail them.

As per critic Lee McIntyre's *Post-Truth*, a study done by Maxwell Boyoff and Jules Boykoff entitled *Balance as a Bias: Global Warming and the U.S. Prestige Press* start that the custom of "balanced reporting" in 2004 obligated the New York Times, The Washington Post, The Los Angeles Times as well as the Wall Street Journal to delude the public on climate change utterly. In short, "[information] bias is the divergence of prestige-press global-

warming coverage from the consensus of the scientific community." (McIntyre,83) The response lies in yielding to the burden of achieving "balanced reporting" by counting data provided by adherents who have an interest or a share in asserting the reporter towards other incidents than the truth. Keeping these views, the researcher extrapolates the illustration of fact-checking and the factors of complacency that undergo the same. In this fictional text as well, Lambodhar narrates a blame game on Gangiri and other villagers to keep the attention of the media in his favour. Everyone had been stunned by the news.

The role of Nazar, a journalist who did not chase money or fame, was sick of the predictability of reporting news claimed

'Just as you claim that "normal" deaths are being called distress suicides by farmers,' Nazar continued, 'you might have dismissed farmer suicides as "normal" deaths in the past. There is political comfort in keeping suicide figures low. It disproves debt distress it shows the success of policies. So Lambodarji, who must be no stranger to crisis management, might have done in the past exactly what he claims Gangiri Bhadra is doing now.' He further reasoned out the crises by announcing

'Yes, this looks bad for you, Keyurji,' Nazar smiled. 'The issue of farmer suicides in Mityala is your first major crisis as an M.P. Besides, the crucial assembly

elections in the state are due in six months. You are constantly judged against Srinivas Murty, your rival in the Democratic Party, who is also a first-time M.P. Both of you aspire to the same institutions of power, and the competition is keen. Nevertheless, he has ascended through the ranks and has weathered many storms. You fear he will use this crisis against you. The vicious circle of farmers using heavy fertilizers for better yields for profitable crops faces personal health hazards. The genetically modified plants have sidelined traditional pest-control measures. The questions that have remained unanswered over a long period regarding the distribution of unsuitable and expensive seeds, despite repeated crop failures, the deals that cost the government, the profits gained from foreign collaboration, have put the indigenous research at the backseat.

The ugly ground reality is that no village sarpanch dared to fight his or her way through the district suicide committee and get compensation for the widows. Every sarpanch aspired to be the next leader of the district and, one day in the future, the leader of the state. They downplayed, risking their reputation, pushing the matters into suicide.

Karl Marx views Reification as follows Marx defines the elementary phenomenon of Reification

A commodity is, therefore, a mysterious thing, simply because in it the social character of men's labour appears to them as an objective character stamped upon the product of that labour; because the relation of the producers to the sum total of their own labour is presented to them as a social relation but between the products of their labour. This is the reason the products of existing not between themselves, labour become commodities, social things whose qualities are at the same time perceptible and imperceptible by the senses. It is only a definite social relation between men that assumes, in their eyes, the fantastic form of a relation between things. (Lukacs)

The researcher employs the theory of Marxists- 'Reification' to analyse the aspect of commodification that moneylender Durga Das uses for settlement of debts with farmers. To him, "the suicide too was a calculation, and he never went wrong with it"

The acceptance of Ramesh Vaish that national banks do not accept to lend money to the farmers, as turning them to moneylenders would, in turn, fetch them a commission. The government canal project grant was directed towards his wife's house in the state capital, which would be air-conditioned and colour coordinated, celebrations in hotels and holidays in places picked out from movies. The children growing up in English schools

and finding elite jobs was the dream that was nurtured. They had to keep moneylenders like Lambodhar happy thus, distortion of facts became primordially essential.

The researcher supports these illustrations in the novels through the theories of post-truth and Reification.

The last resort that Videhi created around framing Gangiri was the suppression of facts regarding controversies around Sampath's Business. On one side, it would be said that she was with the farmers to soften their adamant stand against Jai Chand Industries. Another stand would be that she was helping the political opposition by exposing Keyur's inefficiencies. The researcher thus analyses that every politician or a so-called welfare activist looks into certain aspects of creating a narrative or a story that suits the news narrative in their favour, altering the ground reality.

The authorities ensured that rebels who opposed them had to face severe consequences like the traders could boycott the farmers or get the schools to shut out their children. The farmer's family members, especially women, could be publicly humiliated. There were more drastic measures, too, reserved for those who had to be made an example of. A defaulter could be imprisoned, sometimes even without food. And everyone remembered Birju from Allur village. He was thrown into a lake and prevented from coming out of the water for many hours. He died soon after due to fever from the exposure.

Those who battled these atrocities did not battle for long. The police helped perpetrators by keeping complaints from turning formal. The chances of a rebel surviving in these villages were bleak. The villagers saw similar incidents that happened to Rawat's and Raghupati Naik of Seenu's village family as well.

Gangiri is seen subverting the truth or facts as compelling himself on the committee members. The other members warned him of expulsion. Gul especially managed to get maximum censures for misconduct. The very presence of a lower member, other than a saahukar, or a moneylender, had been very rare and unsettling. The same committee refused to validate it as a debt-related suicide, insinuating his sister-in-law Padma had lied requesting compensation for the death of her husband.

Sudhakar's sacrifices help Gangiri ease out of the debt trap and fulfil the goal to help his brother achieve what he could not. The reality was that late rains had destroyed the cotton crop. Sudhakar refused to shift to the city as conditions at home were difficult.

The report of his death was registered as a death caused due to alcoholism, depression and not due to the burden of debt. Lambodhar sarpanch had the financial records filed against it, claiming it as 'apatra.'

Many other such stories of farmers had been altered. The father of Vadrangi's story had been twisted to sound like a death caused due to a

weak heart. The official Gul had a hidden criminal case of negligence from which he was acquitted. It was against a serving bureaucrat as live ammunition.

Videhi's shocking revelations of Sampath's damaging land were set up to manage coercion so that local people would not be hampered. Daya, the journalist, interviewed Keyur at length. Keyur tried to allure Gangiri till the last moment to complete the vicious political circle, the entangled transactions that Lambordhar wanted his son to be elected as the M.P. from Mityala. The very fact that he wanted to keep his hold on the district, he wanted to be a good politician, and to do that, he needed Gangiri's support.

Gangiri had been extensively talked about in the national press, and he had even turned down the offer to be the D.P. candidate for the assembly elections. This had triggered a demand for Keyur's resignation from the Mityala seat. He had demanded justifications regarding the high farmer suicide rate in Mityala.

In the Post-truth world, whatever is presented in the news becomes very vital for people to frame opinions on the members of the parliament. Keyur pretends to be a guinea pig to the entire scenario, being a politician himself. He was not spared from the critical eyes of the media. Although Marxist 'reification' theory posits that the rich, powerful and dominant create news that suits them best, in the context of powerful journalism, at times, this

dominant news is pushed into the negative light, but they narrate stories that evoke public sympathy to escape state punishments. Nine men of Durgadas attacked him physically and threatened him of his life. The Post-truth reality, when used by the people in power for their personal gains, leaves no stone unturned in claiming their authority, they don't even care about taking away the life of inconspicuous and invisible farmers.

In this novel, Kota Neelima ignores the 'vote-bank' aspect of the common people. The invisibility of women as a significant part of the population can be analysed as the moral blind spots of the power to suppress and ignore them.

Gangiri had to commit suicide by drinking pesticides to finally prove that in the post-truth world, even in indigenous society, the powerless people were a forced to face death, and only through that, the ground reality of the corrupt officials like Keyur and Lambodhar got exposed.

Findings

The novel *Shoes of the Dead* by the journalist turned author Kota Neelima was analysed applying the theory of Post-truth and the theory of 'Reification' by the Frankfurt school. The researcher draws a conclusion that the present farmer protests ongoing on the borders of Delhi that began in September 2020 are an outcome of the agitations of farmers, failed promises, and constant agricultural distress. The dying of hopes, the vicious circles of debt that

Indian farmers are unable to escape from. The declaration of the farmers by the news reports on Alt news channels like News Laundry and live rallies covered on YouTube channels clearly and report that the farmers fear the misrepresentation of their movement. The *Khalistani* narrative, anti-national narrative, *Tukde Tukde* gang narrative of the farmer's protests substantiate the illustrations provided in the fiction as well.

The denial of justice to Padma and her children, the subsequent withdrawal of Gangiri from the well-paid respectable job in the city, to the enrollment into the village farmer suicide committee in Mithyala District. The news coverage that Gangiri obtained challenged the position of the M.P., leading to a physical assault by nine men. On the realisation that Gangiri was another guinea pig to the dominant role in the system, a minuscule and an inconspicuous one, powerless and petite, he had to commit suicide himself. The researcher analyses through these illustrations that only death could reveal the ugly face of tainted politicians with selfish and hidden motives. The researcher claims this to be the subversion of post-truth in the indigenous setting.

The subscription-based model of news claimed to be better than the government, and corporate-based news by NewsLaundry, exposed in its podcast that the Central government contained the protests by blocking the trains in Punjab were stopped. The political

significance of the farmers is losing ground, as the contentious bills were passed without their suggestions.

The researcher further validates the findings by analysing the aspects of democracy being subverted by the one per cent through Vandana Siva's Navdanya's Seed Satyagraha, where she explains of fictions and illusions of the 1 % is vehemently believed, the true knowledge, real intelligence, real wealth and real freedom will be crushed.

According to the YouTube source "Farmer protests, the media coverage of it, and Amit Malviya's 'manipulated media tweet,'" uploaded by NewsLaundry on Dec 5, 2020, the protests are the outcry of long-ignored calls of help and relief. The government has always been under the threat of a rebellion. Another video, "Explained: Why farmers don't trust Modi government word on farm laws," on the same subject relating to the farmer's protests. Although the nuances of understanding the new farm laws suggest that its intention is not to do away with the Minimum Price Support, neither it proclaims the eradication of the APMC Mandis. Instead, the new laws intend to create a parallel system along with the existing Mandis, giving farmers more prominence and upper hand giving them the freedom to sell either in the mandi or the private companies. The farmers fear that the tax paid goes to the maintenance of the mandis, which not be properly utilised for the salaries of employees, and maintaining the roads that connect the Mandis to the

villages. The contract with the private companies is not as clear because the farmers get to sell a particular quantity of crops, and with the removal of Mandis, these excessive crops will incur losses to the farmer. The middle man or the agent (Aarthi) has been denoted in a negative light by the government, but the farmers indicated that they are not an exploitative entity at all but a service-provider. This is validated against the YouTube video on news laundry *Farmers Answer Dumb Questions* (NewsLaundry). Aarthi's losing their jobs, they fear the imbalance of power. Farmers fear that the simplistic person-to-person relationship will be converted to a person-to-big-business relationship, leaving the farmer in a weaker negotiating position. Their personal relationship with the middlemen will deteriorate, losing out on their organically built instant credit system. Both the stakeholders have joined hand in hand against the Modi government. The YouTube video relating *What are The Farm Bills and How They will Affect Farmers* (6.10-6.22, 8.16- 8.40, 17.53-18.10) reveals other aspects like 86 per cent of all agricultural land holdings in India are small and marginal, making profit-making very difficult for the average farmer. They are further dependent on weather conditions, fertilisers, pesticide prices, seeds, availability of water, power, tools, and umpteen such issues for a sustained income. The Hindi alt news variant of the same Newsance has an intricate connection with the

regional news. The YouTube channel *Farmers versus 'Godi Media': TV Newsance Episode 12* (7.00- 8.08, 9.09-10.27). The farmers protest from the view of the farmers as covered on NewsLaundry (11.11-12.10).

Conclusion

The Post-Truth scenario in a mixed economy like India, where people's personal relationships, cultural aspects, and moral ethics are considered superior to technical matters. The researcher thus opens out questions of tainted intentions of such middlemen, on whom these farmers trust entirely and depend. When observed at minuscule nuances, the post-truth aspect is a powerful tool for the authoritative and money-minded to design their own narratives and reiterate them with shades that suit their own positions. The researcher answers the research question that the mere culmination of statements, facts, and figures projected as news does not mean it is the "truth." Such "truth" is generally suffered by the poor and powerless farmers. The subversion of this painted truth is possible only through the 'death' of yet another farmer. The powerless common man finds it difficult to deny the corporate giants if proper intervention and regulation does not happen. The role of these alt-news channels can prove as an eye-opener to the public. The researcher argues that although the results of such exposures are not immediate, over a period of time, such

news will impact the thinking of the multitudes against the dance in the name of democracy. According to the Newslandry YouTube video on *Indian Government –Controlled Media has Demonised Farmers: British MP on Farmers Protests*, the Delhi news anchors have allegedly done a great deal of miscommunication in reporting the “truth.” Newslandry has pointed out that the newsrooms in Delhi have not included the farmers’ perspective in their primetime studio debates, they have never tried to understand the ground realities and problems of the farmers. Questions have been raised on farmers speaking in English, their ability to carry on the protests, their capacity to withstand the funding of food and other services self-sufficiently, and they also have been looked at with a sceptical eye for speaking in English, being educated, their dressing and outfits have also been questioned. What the government must listen to the fears and insecurities of the farmers, and the media definitely plays a role in building a bridge between the farmers and the common public instead of creating an anti-national narrative of the farmers’ protests.

The researcher draws parallels in the text where Gangiri, the representative of the agrarian-distressed farmers, always get derided by the existing members in the suicide committee, resulting in the misrepresentation of the concerned. The challenges Gangiri faced can be equated to the present farmers’ struggle

as per the findings, which answers the question of mere representation of truth and the ground reality with its own set of intricacies.

References

1. Arendt Hannah “Lying in Politics”, Crises of The Republic, Harvest Brace &Company.
2. Baudrillard. “The Precession of Simulation” Simulacra and Simulation. Verso. 1995. pp 6-7
3. Bufacchi Vittorio “Truth, Lies and tweets: A Consensus Theory of Post Truth”. Sage. Philosophy and Social Criticism. Vol 47 (3)347-361.Web. doi.org/10.1177%2F0191453719896382.Accessed on Aug 9 2021.
4. Chakravarthy, Paula & Srirupa Roy “Mr. Modi Goes to Delhi: Mediated Populism and the 2014 Elections”. Television & News Media sp. issue Modi and the Media: Indian Politics and Electoral Aftermath Vol. 16 issue 4 pp: 311-322. Sage. 2015.Accessed on Aug 1 2021
5. Harsin, Jayson Post Truth and Critical Communication. Oxford Research Encyclopedia Communication, U.S.A. Dec 2018. DOI: 10.1093/acrefore/9780190228613.013.757
6. Farmers Protests no Internet yet at Delhi Borders, say Protestors Feb 3 2021.Hindu.
7. <https://www.thehindu.com/news/national/no-internet-yet-at-delhi-borders-say-protesters/article33741901.ece>

8. Mitra, Esha & Julia Hollingsworth. India Cuts Internet Around New Delhi as Protesting Farmers Clash With Police. CNN. <https://edition.cnn.com/2021/02/01/asia/india-internet-cut-farmers-intl-hnk/index.html>. Accessed on Jul 3 2021
9. Neelima, Kota Shoes of the Dead , Rupa Publications .2013
10. Lukacs, Georg "History & Class Consciousness", Reification and the Consciousness of the Proletariat. transcribed by Andy Blunden. Merlin Press.
11. Shiva, Vandana Oneness vs the 1% Shattering Illusions, Seeding Freedom. Chelsea Green Publishing. 2020. E book. Web. Accessed on Jul 2 2021
12. What are the Farm Bills and How will they affect farmers? N.L. Cheatsheet. Youtube. Uploaded by Newslandry. 22 Sep 2020. Web. Accessed on tth Aug 2021. <https://www.youtube.com/watch?v=s8EfuRDc2hw>
13. Explained: Two Months on, What's Happening at the Farmer Protests? Youtube. Uploaded by Newslandry. Jan 23 2021. Web. Accessed on Aug 6 2020.
14. <https://www.youtube.com/watch?v=ony8sZliQhk>
15. Farmers Answer Dumb Questions. Farmers versus 'Godi Media': TV Newsance Episode 112. Youtube .Uploaded by Newslandry. Dec 5 2020. Accessed on Aug 4 2021. <https://www.youtube.com/watch?v=lHYLzdkp0SA&t=6s>
16. Indian Government-Controlled Media has Demonised Farmers: British MP on Farmer Protests." Newslandry. Mar 10 2021. Web. Accessed on Aug 3 2021.
17. <https://www.newslandry.com/2021/03/10/indian-government-controlled-media-has-demonised-farmers-british-mp-on-farmer-protests>

DREAM OF HOPE INTERTWINED FOR SELF- LIBERATION: ANALYSED IN JACQUELINE WOODSON'S *BROWN GIRL DREAMING*

JENI .S

Research Scholar

Reg.No. 18113164012034

Scott Christian College, Nagercoil

Affiliated to M.S. University, Tirunelveli

Dr. J.G. DURESH

Head of the Department

Department of English, Research Centre

Scott christian College, Nagercoil

Abstract

World was created by God for the human beings to enjoy but sufferings, pain, inhuman attitude chained the world .people are blinking to escape from the torture. Especially, African Americans their life is crucial, was enslaved for centuries, and had experienced sufferings in many angles. The Americans of African roots were dominated by the whites, the most common suffering socially and psychologically are racial identity. In order to sustain, they hold a weapon to survive is 'hope', or faith, or belief or dream. Jacqueline Woodson, being African American had lived and received the cruelty of the whites toward the blacks even from her grandparents. She also experienced the struggle and suffered discrimination, were brought forth in her writings as poetry, novel etc. Her popular writing 'Brown girl dreaming' received many awards, and people all around the world honoured her as poet Laureate. Woodson looks back at her childhood in a collection of free form poems, in a ream of consciousness format. She remembers her childhood conversations, impressions and feelings. Woodson grows up pertly in the South at a time of great social change, which makes this memoir all the more attractive. All the poems are short and beautifully written. It's chapters are short and they seems like a series of connected eras. This article focus the attention of the readers about how African Americans faced humiliation and alienation in America which was explained through an autobiographical events of Jacqueline Woodson's brown girl dreaming. As the title suggest, it ends with the note on dream of hope.

Jacqueline Woodson became popular through her writings. She had received many awards especially *brown girl dreaming* had brought name and fame to her. She received Newbery Honor Book award, The Coretta Scott King Award, and National Book Award for Young People's Literature. Many critics and researchers analyzed the book in socio-political background of racism and Civil Rights Movement in the United States of the 1960's. To appreciate the settings of the book, it is praiseworthy, apart from the free verse;

this book carries more information such as a family tree, author's note, and no of photos from family albums. While analyzing *brown girl dreaming* is both personal and political. It tells about Woodson's family life while at the same time gives a very good idea about what life was like growing up in the South and in New York. Painful as well as Joyful memories turn into something special in the hands of a capable talented storyteller. In *brown girl dreaming* it is clear that the author has always been passionate about stories, invention and creativity.

Dr.APJ Abdul Kalam the president and scientist, "the missile man", a remarkable Personality, points about dream of hope in his lectures saying "Dream, dream. Dreams transform into thoughts and thoughts result in action". It is true, whoever dreams had achieved ----- Dream and hope interrelated to one another with slight difference. Dream refers to "the internal awareness", whereas the word 'hope' means 'positive expectation of success in future'. In an interview with NPR, Woodson describes that the first time she discovered poetry and loved it when she was in elementary school while reading Langston Hughes *Poem To You* it indicates about the dream, also said in the novel *brown girl dreaming* as:

Hold fast to dreams
For if dreams die
Life is a broken — winged bird
that cannot fly.
Hold fast to dreams
For when dreams go

Life is a barren field
Frozen with snow. (43)

Woodson considers the above mentioned poem as important to her because it was the first poem she memorized, and makes her to understand the poem carries messages. So to express gratitude towards Langston Hughes, Woodson has mentioned this poem in her book. When young Jacqueline was in her growing stage she noted minutely about the socio-political occurrences around her. Many rights were denied of black Americans and that were maintained segregation between white and black Americans.

Somewhere in my brain
each laugh, tear and lullaby
becomes memory. (20)

African Americans liberated truly through dream of hope. Not only had a dream for self-liberation, but also has an intention to acquire good position in the society. The dream may be telling, not to let loose the hope during difficult times.

There is Jesse Jackson,
Who maybe was already dreaming of
one day
being the first brown man to run
for president.(111)

Woodson's story shares her triumphs of life and love of family. It is a love letter to her family and a snapshot of her childhood life. Through this verse novel, readers will find reflection of themselves. The intimacy of family, the warmth of friends, the joy of imagination and discovery and the

worries of growing up all are recognizable. As we get a beautiful mixing of verse as truth, fiction and memoir at once. Each poem is both accessible and emotionally charged, each line a glimpse into a child's soul as she searches for her place in the world. Woodson's poetry also reflects the joy of finding her voice through writing stories, despite the fact, that she struggled with reading as a child.

I am born on a Tuesday at
University Hospital
Columbus, Ohio,
USA —
a country caught
between Black and White.(1)

The narrating 'I' makes it clear that she herself is interested in narrating the incidents. Woodson's narration starts on the day she is born that is February 12, 1963, the very beginning of the chapter indicates the positions of her younger self in the context of racial inequality. The discrimination had creates an impact in the minds of Jacqueline. In 1960's historically the protest of African Americans were progressing. Throughout her narrating, she refers the past history of her father and her mother's acceptance of slavery, which made them silent. Not only voice but also silence teaches her the world.

Even the silence
has a story to tell you.
Just listen. Listen. (278)

Woodson's journey of self—discovery through storytelling travelled furlong. According to Robyn Fivush, "Being silent" can have multiple

meanings, it can be experienced as quiet, restful, reflective, as a 'form of intimacy', of privacy' and even as 'a form of power: by not speaking, one is claiming that one need not explain or justify' (90-91)The narrative guides the readers

the heat of summer
could melt the mouth,
so southerners stayed quiet. (25)

Dreams and hope have always been linked to one another. Around the world, billions of people with highly dissimilar cultures and backgrounds have felt religious inspiration, which shapes their minds and spirit and supplemented their mental strength, such inspiration came through dream.

We have a bit of reflection from the Bible.

Even Salome intrigues us, her wish for a man's head
on a platter — who could want this and live

to tell the story of that wanting? (60)

As Woodson writes,

When we hang them on the line to dry, we hope
they'll blow away in the night breeze but they don't. Come morning, they're right
where we left them
gently moving in the cool air, eager to anchor us
to childhood. (121)

brown girl dreaming is the realization of dream for readers. Woodson relays a new perspective on racism, from simple things such as not sitting at the front of the bus. Jacqueline's expressive verse describes the distance she falls from her father.

Ultimately she realizes the rich happiness, fulfillment and dignity that her family and her religion provide. Her passion for writing and love for her family are the sources of her growth.

Woodson makes us to notice some particular poems, considering how writing came to impact Woodson's dreams for her family and community.

Write down what I think

I know. The knowing will come.

Just keep listening (310)

Just like life, there is happiness and sorrow, birth and death is in her story. Children are cruel to each other, but she gets a best friend in New York and that friendship had lasted almost fifty years. She began writing stories almost before she could really write. It's apparent that the still and the art truly in Woodson's blood. She also indicated about the isolation of growing up as a Jehovah's Witness. In her poem 'Flag', she recalls standing outside her first grade classroom while other students recited the pledge of Allegiance.

Every morning, I walk out with Gina
and Alina

the two other Witnesses in my class.

Sometimes, Gina says,

Maybe we should pray for the kids
inside

who don't know that God said

"No other idols before me".

That our God is a jealous God. (162)

Woodson's notebook became her savior. Throughout the book, Woodson describe how she began to dream through writing. Woodson's dream is illuminated through descriptions of her

feeling and convictions. Woodson's personal dream is for all intents and purposes, strictly factual but because there are times when she uses dialogue to flesh out the characters and scenes. Like St. Aubyn, Woodson is most comfortable when she has the most freedom as an author, not to be hemmed in by a strict structural analysis of what did or did not occur in the past. With a Sense, she mastered the art of the fictionalized memoir in a children's book format. Everyone who reads it will remember at least some minor details that spoke to them personally.

Things may change is an expectation of every human life, One day they may see the sun shines with their own eyes. Of course African Americans were liberated, but full freedom was in the hands of the rulers, not to the ordinary common man.

References

1. Woodson, Jacqueline, *Brown Girl Dreaming*, NY: Penguin, 2014.
2. Howard, Krystal, 'collage, Confession, and Crisis in Jacqueline Woodson's *Brown Girl Dreaming*', in: *Children's Literature Association quarterly*, 42:3 (2017) 326-344.
3. Fivush, Robyn, 'Speaking Silence: The Social Construction of Silence in Autobiographical and Cultural Narratives', in: *Memory* 18:2 (2010) 88-98.
4. McNamara, Patrick. *Dreams and visions: How religious ideas emerge in sleep and dreams*. ABC-CLIO, 2016.

STUDY ON AIRCRAFT ACCIDENTS AND IMPACT – A BIRDS EYE VIEW

K. SURYA

III BBA Aviation

Annai Fathima College of Arts and Science, Thirumangalam

RAJKUMAR .G

Assistant Professor, Department of English

Annai Fathima College, Thirumangalam

Abstract

Aircraft accidents are the surprising and impromptu occasions, which can implode the total mission timetable of an airplane. The investigation of different accidents occurred in the previous years will give a few thoughts and ideas to forestall the dangerous flying conditions as well as the accident causes. Safety is the state of being protected. Safety Management System (SMS) is the system to be made for dealing with the safety components at work place. In an Indian aircraft industry, Safety Management System has been carried out by Director General of Civil Aviation (DGCA) with Civil Aviation Requirements (CAR) and the Aviation Advisory Circulars (AAC) to lessen the Aircraft accidents. This study manages aircraft accidents and examples gained from the beyond 10 years history in Indian aviation area. The significant reasons for accidents and methods for dispensing with the causes were concentrated in this paper.

Keywords: *aircraft, accidents, safety, security, Etc*

On the off chance that any aircraft accident occurs all through the world, it ought to be entirely considered and investigated. The report should be given transparently for the aircraft modern individuals to keep away from the comparable occurrences in future. For this reason Federal Aviation Administration (FAA) delivered a web administration and in India different aircraft accident reports will be given in the DGCA site. In the event that it is vital, new office or cell will frame under the Ministry of Civil Aviation to facilitate the safety or security concern. For instance, after the capturing of the

Indian Airlines trip during September 1976, the Bureau of Civil Aviation Security has been shaped by DGCA to organize all the air terminal security issues in India. In this way, aircraft accident study is a compelling instrument for expanding the safety and security mindfulness in air transportation. India generally keeps up with safety insurances for controlling the aircraft accidents. On 22nd May 2010 Mangalore worldwide air terminal met an air crash. A Boeing 737-800 has overshooted the runway, 158 individuals were killed. Unstabilised approach, delayed rest of

the chief because of group weakness during flight and inability to keep up with the legitimate preparation of plunging profile were viewed as the significant reasons for that accident. After this significant accident, the safety mindfulness expanded also of the normal exercises in Indian aircraft enterprises. And, after its all said and done a few accidents happened in various industries, and this indicated the importance of the safety awareness in Aircraft industries.

A few researchers, they have shown the six sorts significant disappointments are, cooling system disappointment, Fireproofing system disappointment, Aircraft flight control systems disappointment, landing gear system disappointment, Bleed air system disappointment and motor system disappointment. Air safety circulars are given by the Director General of Civil Aviation for keeping away from the slip-ups and limiting the accidents. It will assist with tracking down the reasons of the past accidents to the administrators, pilots and other individual associated with the aviation action. By perusing the circulars, obviously significant accidents occur by the human blunder and awful climate conditions. The previous accident reports shows that, the non planning activity aircrafts met different accidents on account of the insufficient expertise of the pilots and some other safety issues. Zhang breaks down the different elements influencing the flight control on level air terminals, and the safety for

flying at level air terminals. Zhou and Hu have read up the different purposes behind aircraft accidents in tallest spots like southwest locale of China. The significant reasons found for the accidents are, bird strike, helpless climate, apparatus and group disappointment, helpless upkeep, regulator missteps and ground support disappointment. All over, helpless support reasons assuming significant part for the non planned aircraft accidents. When contrasted with different administrators, carrier administrators have greater obligation since more number of living souls are associated with the flight activity.

Basic stages causing aircraft accidents. Indian Civil Aviation Authority discovered the accompanying focuses and coursed it to the Aviation individuals to understand the basic periods of aircraft activity. More fixation required for the methodology and landing stages, on the grounds that roughly 60 % of accidents occurs in this mission stages as it were. Group individuals are the sensible people for pretty much 60 % of accidents. 90 % of Controlled Flight into Terrain (CFIT) accidents happens on account of the awful climate, generally in slope regions. A significant number of the accidents are going on because of the helpless climate conditions and insubordination for the legitimate set down system. Alessandro Cardi, Paola Di Mascio, Michele Di Vito and Costantino Pandolfi have concentrated on the accident information from

different data hotspots for the time of 1996-2011. It has viewed that as, the vast majority of the aircraft accidents occurred during the in-flight and landing stages.

Very few incidents happened during take-off period. It is clear that 80% of flight operations have failed due to the lack of safety awareness in the bad weather conditions.

A few Accident anticipation techniques to be followed during aircraft activity are given underneath Distribution of pay load loads in the aircraft is the significant obligation for ground personals for safe flying by keeping up with the appropriate focus of gravity position. The weight dispersion according to the aircraft manual ought to be followed during the aircraft activity, particularly by the opportune administrators. The standard working methodology are given in the flight manual obviously to the pilots. The pilots should be totally following the Flight Manual for the safety activity. During crisis activities, traveler might be situated in the co pilot seat in the single pilot working aircraft, and around then, there the copy controls should be deactivated. It is the obligation of administrators to guarantee the deactivation of copy controls. The arrival space should be adequate for setting down the aircraft securely. The non plan administrators and the opportune administrators should guarantee accessible space for safe landing serenely. The airworthy state of any aircraft should be

guaranteed prior to flying. The quality control is the significant perspective for airworthiness. The non planned administrators and occasional administrators should get the consent of Government specialists and they should be guaranteed the climate conditions in the relegated flight way. They should guarantee that the travelers are wearing the safety belt or not. Smoking is totally restricted inside the aircraft. The Landing gear working condition should be investigated occasionally. Grease systems and the power given system for the arrival gears should be entirely checked during the upkeep time. Continuously legitimate grade and nature of fuel ought to be utilized for the aircrafts.

The important guidelines for the all pilots and operators to reduce the accidents during flight are given below.

Handling Bad: Weather Situations: Pilots might fly in the awful climate circumstances with appropriate endorsement from their senior pilots, Air Traffic Controllers and Instructor/Examiner with the supported navigational guides. Yet, the courses likewise should be checked arbitrarily with the Director of activities/Director of flight safety. Scarcely any Researchers clarified the purposes behind the aircraft accidents because of the terrible climate condition in Indian and other worldwide districts. The pilot ought to know about the undetectable perils during the shallow mist in the arrival stage, and the ground closeness cautioning system

should be carried according to the aircraft rule gave by Director General of Civil Aviation. concentrated because of downpour water foreign substances in climate of two worldwide air terminals in Poland. The introduced climate radar system, wind safeguard wiper system and downpour repellent systems ought to be checked for functionality and fulfilled activity.

Eliminating Bird or Animal Strike:

In the event of Bird or creature strike, Pilot in order ought to promptly illuminate the occurrence to the nearby aviation authority unit. It is essential to know the occupying types of birds in the runways and as indicated by that the bird hit episodes can be limited. The grouping of the bird or creature should be shipped off the Natural history society after the bird or creature strike on an aircraft. The detailing must be made with the predetermined DGCA design.

During the crisis time the cockpit team individuals should work wisely inside the accessible least time-frame, particularly during the smoke, fire or constrained landing periods, a little hazardous action can become lethal to the existence of the travelers. Every one of the administrators should screen the appropriate working state of their flight information recorder to stay away from the instrument blunder. The pilots should follow the endorsed navigational systems like GPS and should comply with the supported signs. For light weight aircrafts, least assistance roof has been referenced in the CAR series.

Pilots and administrators ought to keep up with the protected furthest reaches of tallness for the aircrafts to keep the flight from the low flying dangers. During the take off period, take off speeds should be register accurately and the right revolution procedures should be followed according to the Flight team working manual for safe activity. No walkie talkie supplies ought to be utilized for the two-way correspondence among Aircraft and ground working individuals. In the cockpit region, the radio device with the unique types of gear for correspondence should be fitted and keep up with in the airworthy condition.

Managing Heavy Work Loads:

Significant accidents happen in view of the pilots no reaction circumstance for the aviation authority stations during landing stage. Indeed, even a few scientists also disclosed a safety way to deal with anticipate human mistake in basic flight assignments. From the past episodes, it has been observed that pilot and team individuals might be impacted by the miniature rest peculiarity and dozing in view of the group exhaustion. So the pilots should fundamentally gain proficiency with the weakness management procedures and explicit preparation to control the drowsiness by the weariness particularly during the late evening landing. The log note and the information section should guarantee that the pilots or copilots are not impacted by consistent flying obligations, and the time span ought to

oversee in the flying timetable. For the protected flight activity, pilot and pilot in order ought to keep up with legitimate agreement, on the grounds that inaccurate group blend might cause the serious issue in aircraft activity. Generally with the high experienced pilots, the pilot in order might feel the awkward work space during flight time. So keeping up with the great relationship inside the pilot and the pilot in order is vital to wipe out the human blunders. More than that the pilot and the pilot in order should possess their seats appropriately (might be left or right) without trade. In any flight activity, the intermittent preparation will serve to the pilots to deal with the crisis circumstances.

Preventing Hijacking: Seizing of carrier transport aircrafts might be finished by a few enemy of social individuals to request their necessity against the Government or any Management. To forestall the criminals to enter inside the aircraft, screening process should be carried out in the underlying and flight doors for air terminal representatives, travelers, stuff, PCs and workstations. The main hazardous and follow location gadgets for separating aerodrome are x beam review gadgets and metal identifiers. For the protected Cargo activity, Tags and different recognizable pieces of proof should be kept up with in legitimate way in stuff. Security tips for carrier travelers are given underneath. The travelers should acquire just the

permitted merchandise the air terminal. All stuff and PCs be carried with the recognizable proof marks. Important products ought not be permitted with the carry on bundles. All metal things including gems and keys should be carried with the carry-on sacks as it were. Know about outsiders.

The Most Common Causes of Aviation Accidents: There is perhaps no other type of passenger vehicle crash more frightening or devastating than an aviation accident. Aviation accidents are more often than not catastrophic and devastating for more than just the people on the plane. And while the total number of aviation accidents has decreased since the 1980s, when they happen, the results are utterly detrimental.

What causes these crashes? Frustratingly, this is never an easy question to answer. However, it's an important one to ask right away if you or a loved one have been involved in an aviation crash. Here are some of the most common reasons are,

Pilot Error

Pilots are involved at each phase of the flight, and pilot mistakes can happen at any of them. Pilot blunder alludes to an activity or choice (or inability to settle on a choice) with respect to the pilot that prompts the accident. Helpless preparation, an absence of involvement, exhaustion, and intoxication are generally factors that can add to pilot mistake.

Mechanical Failure

Gear disappointments or Equipment failures represent around 20% of aviation crashes. This can be anything from motor inability to helpless fixes. For instance, an administration examination body considered the accident of Japan Airlines Flight 123 out of 1985 to be the consequence of "ill-advised fixes" by Boeing Co. on the plane's strain bulkhead. Upgrades in plan and assembling have made planes significantly more dependable nowadays. In any case, gear or potentially mechanical disappointments actually occur.

Weather

Flying turns out to be more risky in awful climate. Indeed, a National Transportation Safety Board concentrate on shows that more than 66% of all climate related aviation crashes have been deadly. Snow, haze, weighty rainstorms, and other regular components can all make flying more troublesome, which is a central explanation planes often get postponed on account of awful climate.

Mid-air Collisions

Mid-air crashes are more uncommon than different kinds of aviation accidents, on the grounds that the FAA involves the most modern innovation for its airport regulation system, which screens carriers in the United States. What's more, carriers are expected to have TCAS II crash evasion systems, which identify possible impacts with other transponder-prepared aircraft

and encourage pilots to climb or make a plunge reaction. At the point when these gadgets glitch or are overlooked, accidents can happen.

Other Human Error

Pilots are by all account not the only ones answerable for guaranteeing the protected appearance of the plane. Getting through relatives of aviation crash casualties are often qualified for harms, however because of the horrendous idea of these accidents, the possibility of looking for a lawyer and going through a cases cycle can feel totally overpowering.

From the review, obviously, the pool of mindfulness will be the significant reason for the aircraft accidents. Air Safety Circular clarified the activity expected of police experts if there should be an occurrence of aircraft accidents. All administrators should follow the Safety Management System (SMS) executed by Civil Aviation Authorities. Analysts portrays the set of experiences and elements of airworthiness order from civil aviation organization of China. In India the administrator of an authorized aerodrome will carry out a Safety Management System OK to DGCA. Appropriate security system is additionally one more significant worry for safe flying of any Airport. For safety reason, the holders, working regions, flight kitchens, cargo regions, Passenger terminal regions and any remaining functional regions ought to be keep in clean condition. No

photography ought to be taken in the public authority Aerodrome. In the event that it is important, appropriate consent ought to be acquired from the DGCA according to the methodology. During activity, the carrier administrators should follow the legitimate guest plan and right number of seats for travelers and safety belt wearing is significant for all travelers. No external individual ought to enter inside the aircraft functional region. It very well might be perilous for the protected flight tasks. So safety rules should be continued in these angles. Every one of the functioning people including safety faculties should wear safe coats and ought to keep up with the legitimate clothing standard. The bikes are not permitted in the airside functional region. During the mission, all aircrafts should carry cockpit check list for crisis dealing with. In the event of crisis during the arrival time like constrained handling, the pilot should illuminate to the team individuals with respect to the crisis activity prior to landing. It is vital to make the travelers by team individuals aware of keep them from the effect impact. In the event that they need to move from their appropriate spot from the cockpit during the mission, the pilots should give the data to the team individuals to notice their work. The superfluous contentions should be kept away from with the ATC officers; it might establish accident climate because of the human blunder.

Safety is the fundamental worry during air travel, since little careless errors additionally can cause extremely basic circumstances for Aircraft administrators. Safe aircraft activity is conceivable by appropriate comprehension between pilots, team individuals and administrators. Likewise to accomplish this, the abundance of human jobs should be limited in any workplaces by following the carried out systems of the Airworthiness specialists. This study introduced the insights regarding the accident makes and safety methods diminish the causes. In this paper the previous accident history of Indian aircraft enterprises has been thought of. When contrasted with different nations, the quantities of accidents in India are extremely less as it were. Yet, living souls are straightforwardly associated with the accidents. In this way, accident counteraction strategies should be completely trailed via aircraft administrators and the safety management system will be executed in all aircraft enterprises for safe aircraft tasks.

References

1. <https://www.ijert.org/research/a-study-on-aircraft-accidents-in-india-reasons-and-basic-lessons-learnt-IJERTV3IS120105.pdf>
2. <https://www.natlawreview.com/article/most-common-causes-aviation-accidents>

SURVEY ON AWARENESS OF SOLID WASTE MANAGEMENT AMONG RESIDENTS OF MUMBAI

THOPPIL ATHIRA SUDHAKARAN

Student, Department of Life Science
Ramnarain Ruia Autonomous College, Matunga, Mumbai, India

Dr. NILIMA GAJBHIYE

Associate Professor, Department of Life Science
Ramnarain Ruia Autonomous College, Matunga, Mumbai, India

Abstract

Management of waste will be a hectic process with the growing population of India. Mismanagement; could lead to many disasters. Every measure should be taken to spread awareness about waste management and sustainable solutions to reduce the amount of waste produced per house. This report is a study of awareness of solid waste management in different cities of India in February 2021. 155 responses were recorded from across India and mainly from Mumbai, Maharashtra. The correlation between waste segregation at individual level and waste collection by the authority of that place is discussed. Chi-square test is used to determine the association between two categorical variables. A descriptive survey method is used in this report. A google form was created for the survey, which included 11 questions about solid waste management and questions about the respondent like name, age and city they reside. Respondents' place of residence was essential for identifying the type of segregation followed in that region. Age was asked to record the age group which was most aware and the age group that was less aware. Google form was forwarded to many people via social media and personal messaging applications. Response were analysed with the help of excel and spreadsheet. Chi-square tests were performed to analyze the association between two categorical variables, age group and waste segregation. Regression analysis and chi square test was performed to analyze the association between the waste segregation by an individual and the collection of waste by a rag picker. Chi-square test was performed between awareness of recycling units and giving for recycling.

Keywords: solid waste management, waste segregation, awareness of solid waste management, Mumbai

Introduction

The population of India will increase from 121.1 crores to 152.2 crores during the period 2011-2036 - an increase of 25.7 per cent in twenty-five years at the rate of 1.0 per cent annually. Consequently, the population

density will increase from 368 to 463 persons per square kilometer. [Population Projection Report 2011-2036 summary of findings, page 3]. Poor collection and inadequate transportation are responsible for the accumulation of MSW at every nook

and corner. The management of MSW is going through a critical phase, due to the unavailability of suitable facilities to treat and dispose of the larger amount of MSW generated daily in metropolitan cities. Municipal solid waste management (MSWM), a critical element towards sustainable metropolitan development, comprises segregation, storage, collection, relocation, carry-age, processing, and disposal of solid waste to minimize its adverse impact on the environment. Unmanaged MSW becomes a factor for propagation of innumerable ailments [Kumar S *et al.* (2009)]. Economy and commercial activity impacts the composition of waste, as high-income groups use more packaged products, resulting in higher volumes of plastics, paper, glass, metal, and textiles. Changes in waste composition can impact on waste management practices [Sridevi P *et al.* 2012]. Average composition of MSW produced by Indian cities is approximately 44 weight percent organic waste which is compostable, rest is non-compostable around 56 weight percentage, out of which 40 weight percentage is inert and 16 weight percentage potentially recyclable materials. Organic waste is sourced chiefly from households whereas inert waste generates from construction, demolition, and road sweeping [Kumar KN *et al.* 2009].

Inert waste, which is almost 40% weight, is generally landfilled. In 2016 however, MoEFCC (The Ministry of Environment, Forest, and Climate

Change) notified the Construction and Demolition (C&D) Waste Management Rules. Construction and Demolition (C&D) waste should not be considered as waste but a resource. C&D should be recovered, recycled and reused. Construction and Demolition (C&D) waste should be segregated into various categories like concrete, soil, steel and wood, plastics, bricks and mortar. Bureau of Indian Standard (BIS) amended Indian Standard (IS); 383 to include recycled concrete as part substitution for concrete in construction.

Any environmental problem: like waste, can be addressed holistically by linking it with sustainable development. In the 2030 Agenda for Sustainable Development “Transforming Our World”, we can clearly see the focus addressing the concern of waste. In Sustainable Development Goal (SDGs) Goal number 11, it was decided that Cities and Human Settlements should be inclusive, safe, resilient and sustainable. Till 2030, member states decided to reduce the adverse per capita environmental impact of cities, which included paying special attention to air quality and municipal and other waste management [Mina U *et al.* 2019]. Storage of MSW at the source is substantially lacking in most urban areas. The bins are common for both decomposable and non-decomposable waste (unsegregated), and the waste is dumped at a communal disposal centre. Storage bins can be classified as movable bins and fixed bins. The

movable bins are flexible in transportation but lacking in durability, while the fixed bins are more durable, but their positions cannot be changed once they have been constructed [Nema A K 2004]. Although there are many initiatives for solid waste management awareness already, there seems to be neglect towards this topic, especially in cities. The aim of the study was to find out awareness about solid waste management among residents of Mumbai. The objective of this survey was to make the respondents anticipate about the current scenario of solid waste management and to find out the correlation of awareness in different age groups.

Materials and Methods

An online survey-based analysis was conducted in which a questionnaire was prepared using Google Forms and circulated randomly. We received a total of 155 responses. The highest participants were from Maharashtra (84%), with some belonging from Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Kerala, Karnataka, Telangana, Tamil Nadu, Uttar Pradesh and West Bengal. The respondents were motivated to answer the questionnaire based on their observations. The present study was per the declaration of Helsinki.¹⁵ All participants involved in the study have given consent for participation and assurance that their responses remain anonymous.

Statistical Analysis

To curate the data and perform statistical analysis Excel version 2104 was used. The Chi-square test of association evaluates relationships between categorical variables. The Chi-square test of independence works by comparing the distribution that you observe; to the distribution that you expect; if there is no relationship between the two categorical variables. Regression analysis is a set of statistical methods used to estimate relationships between a dependent variable and one or more independent variables. It can be utilized to assess the strength of the relationship between variables and for modelling the future relationship between them. Most of the response data was analyzed and represented in percentage. A probability value (p) less than 0.05 was considered statistically significant. Link for google form circulated to collect data is given below

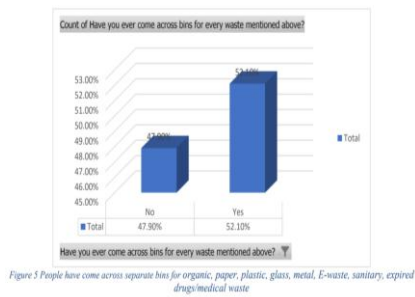
<https://docs.google.com/forms/d/e/1FAIpQLSeFNLNXheQENITjNNGs33yC6QZ7SBD7y3XnvFYjkbSemRhVgg/viewform>

Inclusion Criteria

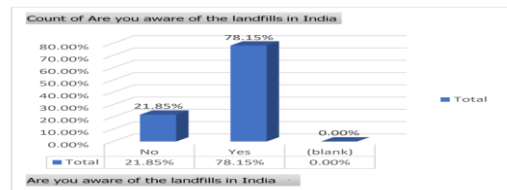
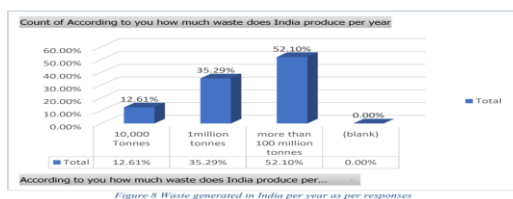
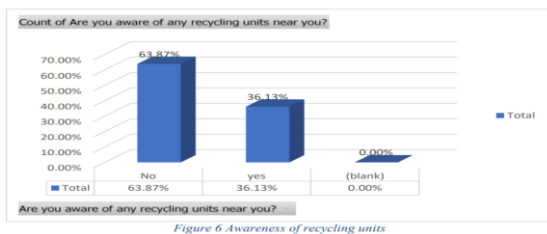
In this survey, people from age 15 to 70 were included. All participants were Indians.

Exclusion Criteria

Age groups below 15 years are not included in the study.



Chi square test was performed between awareness of recycling units and giving for recycling. P-value of 7.28719E-10 was obtained which is less than 0.05. Hence; there is a significant relationship between the two categories.



Discussion

In a paper published in sustainability journal [16] it states “It was also found that the older age-group had higher abstract knowledge ($p < 0.001$), because the older generation valued resources and their optimum utilization, coming from the pre-liberalization era of India. This may be because older persons have more time to perform household waste reduction behavior, or they have a greater desire to conserve resources for future generations. These results are like previous studies which showed a positive relationship between age and household waste behavior. Younger age groups showed a lower level of awareness, like an earlier study [Malviya R et al (2002), Mukherji S.B et al. (2016), Pakpour A H et al. (2014), Babaei, A.A et al. (2015)]. This article suggests a relationship between age groups and awareness about waste management. In our study, No direct association between age group and segregation of waste is seen from statistical analysis, No significant relation is observed may be due to inadequate responses and difference in the test applied. This result agrees with

a study by [Swami V et al. (2011)] that is there is no significant relationship between age and participation.

For the question “what type of segregation does your local body follow?” 84.04% of people responded, “Wet and dry only”. Segregation of waste into two categories alone will not help in proper disposal of waste. All the recyclables should be separated and given to recycling units (Fig 6 and 7). Waste generation should be reduced in every household to attain a complete system of proper waste management. The rate at which the waste generation is increasing with the population, one day we would run out of space to dump the waste we generate, and this will create economic loss to the country and health of the people would also be affected. When the question of whether the ragpicker collects the waste separately was asked 41.18% responded “no” and 58.85% responded “yes”. Collection of the waste by the authority is also important. Regression analysis and Chi-square test was performed to find the association between segregation at individual level and collection by the rag picker. Statistical analysis showed a significant relationship between the two. Result is in agreement with studies by [Pearson, H *et al.* (2015)] they mentioned that the common MSWM problem of developing countries, especially in Asia is that, waste segregation is either not yet started or not optimized enough to allow proper waste treatment and recyclables are not separated at source

and are mixed with organic waste thus making it difficult to separate [Pearson, H *et al.* (2015)].

To the question “have you ever come across bins for every waste mentioned above” 52.10% responded “yes” and 47.9% responded “no”. To the question “are you aware of recycling units near you” 63.87% responded “no” and 36.13 % responded “yes” (Fig. 5). Chi-square test was performed between awareness of recycling units and giving for recycling P-value of 7.28719E-10 was obtained which is less than 0.05. Since $P < 0.05$, there is a significant relationship between the two categorical variables. For the question “According to you, how much waste does India produce per year?” (Fig.8) 52.10% of people voted for “more than 100 million tons” “India generates 62 million tonnes of waste each year. About 43 million tonnes (70%) are collected of which ~12 million tonnes are treated, and 31 million tonnes are dumped in landfill sites. With changing consumption patterns and rapid economic growth, it is estimated that urban municipal solid waste generation will increase to 165 million tons in 2030.

To the question “are you aware of landfills in India” 78.15% responded “yes” 21.85% responded “no” (Fig 9). To the question “Is there a difference between landfills and dumps” 85.71% responded “yes”, 7.56% responded “no”, 6.72% responded “they are the same”(Fig 10). Out of 119 people 67 could manage to name any landfill or

dump they know about. Many of the people in this survey are aware about solid waste management, though vaguely but they are aware. Many governments and private organizations have started initiatives to create awareness related to sustainable waste management. Still few people remain unaware of basic things which could matter the most in coming years. According to us, to create awareness about sustainability and sustainable management of waste, a curriculum focused on this topic should be added right from the high school. So, the future generation can be aware from a young age. Different organizations should be started to collect recyclable waste from home to home at low cost. This would be a great initiative if volunteers come in willingly. Composting the organic waste should be done at the societal level. This would be a great initiative to reduce the amount of waste. Funding research aiming to convert waste into energy could lead to sustainable future technologies.

Further study could be done on a large scale by collecting data from different places. Mainly divided into Rural and Urban places across India to gain an insight into differences in waste generation patterns of rural and urban areas.

Conclusion

Most of the people are aware about solid waste management in Mumbai District, Thane district and Raigad

district. Segregation of waste into mainly two types was observed. Awareness about recycling units was found to be less. Most of the people are aware about landfills and dumps and their differences

References

1. *Population Projection Report 2011-2036* summary of findings, page 3. https://main.mohfw.gov.in/sites/default/files/Population%20Projection%20Report%202011-2036%20%20upload_compressed_0.pdf
2. Kumar, S., Bhattacharyya, J. K., Vaidya, A. N., Chakrabarti, T., Devotta, S., & Akolkar, A. B. (2009). Assessment of the status of municipal solid waste management in metro cities, state capitals, class I cities, and class II towns in India: An insight. *Waste Management*, 29, 883–895. <http://dx.doi.org/10.1016/j.wasman.2008.04.011>
3. Sridevi P, Modi M, Lakshmi MVVC, Kesavarao L. 2012. *A review on integrated solid waste management. Int. J. Eng. Sci. Adv. Technol.* 2, 1491–1499. 9.
4. Kumar KN, Goel S. 2009. Characterization of municipal solid waste (MSW) and a proposed management plan for Kharagpur, West Bengal, India. *Resource Conservation and Recycling* 53, 166–174. 2008.11.004
5. Mina U., Singh S., Farswan S.

- (2019). *Waste and Waste Management in India*.
6. (ISSN 0974 - 1364). 22. 01-12. https://www.researchgate.net/publication/333245648_Waste_and_Waste_Management_in_India_ISSN_0974_-1364
 7. Nema, A.K., 2004. Collection and transport of municipal solid waste. In: *Training Program on Solid Waste Management*. Springer, Delhi, India.
 8. Malviya, R., Chaudhary, R., Buddhi, D., 2002. Study on solid waste assessment and management – Indore city. *Indian Journal of Environmental Protection* 22 (8), 841–846.
 9. Mukherji S.B., Sekiyama M., Mino T. and Chaturvedi B., *Sustainability Journal*, Resident Knowledge and Willingness to Engage in Waste Management in Delhi, India. Page number 10 of 14.
 10. Pakpour, A.H.; Zeidi, I.M.; Emamjomeh, M.M.; Asefzadeh, S.; Pearson, Household waste behaviors among a community sample in Iran: *An application of the theory of planned behavior*. *Waste Management* 2014, 34, 980–986.
 11. Babaei, A.A.; Alavi, N.; Goudarzi, G.; Teymouri, P.; Ahmadi, K.; Rafiee, M. Household recycling knowledge, attitudes, and practices towards solid waste management. *Resource conservation and recycling* 2015, 102, 94–100.
 12. Swami, V.; Chamorro-Premuzi, T.; Snelgar, R.; Furnham, A. Personality, individual differences, and demographic antecedents of self-reported household waste management behaviors. *J. Environmental Psychology*. 2011, 31, 21–26.
 13. Pearson, H.; Dawson, L.; Radecki Breitkopf, C. Recycling attitudes and behavior among a clinic-based sample of low-income Hispanic women in southeast Texas. *PLoS ONE* 2012, 7, e34469
 14. Tunmise A. Otitoju; Lau Seng Municipal Solid Waste Management: Household Waste Segregation in Kuching South City, Sarawak, Malaysia *American Journal of Engineering Research (AJER)* 2014, 3(6), 82-91.
 15. J.C. Hargreaves, M.S. Adl, P.R. Warman, A review of the use of composted municipal solid waste in agriculture. *Agriculture Ecosystem and environment* 2008, 123, 1-14.

SURVEY BASED AIR POLLUTION AND AIR QUALITY AWARENESS IN CITIZENS RESIDING IN OR NEAR MUMBAI REGION

ANUJA MILIND KANE

Student, Department of Life Science
Ramnarain Ruia Autonomous College, Matunga, Mumbai, India

Dr. NILIMA GAJBHIYE

Associate Professor, Department of Life Science
Ramnarain Ruia Autonomous College, Matunga, Mumbai, India

Abstract

Deteriorating air quality and air pollution is a major problem in India. Day by day it is increasing, and still, people are not aware of its effects. So the aim of this study is to know about people's perspective towards air pollution and quality and its preventive measures i.e. exactly how many people are aware how much polluted is air surrounding them. So to know this awareness about air quality, the surveys were collected from 104 residents in or near Mumbai region. Questions related to the air pollution and air quality were asked and data was collected using Google forms. The collected data was analyzed and interpreted using Microsoft Excel as a statistical tool.

Out of 104, 90% of people are sure about the effects of air pollution on human life ranging from irritations, allergies to serious respiratory problems. According to our results the majority participants see air pollution as a critical problem and cause of health problems. Still there is much less awareness about the air quality index and displays, so it suggests that it is necessary to increase awareness among the people about air quality. So if people are more aware about the air quality index they can try to cut down air pollution at individual level.

Keywords: Air pollution, Air quality displays, Air quality index, Awareness, Mumbai

Introduction

Clean air is considered a tenet of human health and well being (Wang et al., 2015). So air without pollution or good quality air should be breathed in. But today's scenario in the country is showing otherwise. According to HEI's (Health Effects Institute) report, particulate matter (PM) pollution was considered the third important cause of death in 2017 and this rate was found

to be highest in India. (Gurjar, 2021b). India's capital city is having the worst air quality. Another metro city like Mumbai is also facing similar problems.

Several factors are affecting the air quality from day to day small activities to industries and construction. Air pollution has long-term health effects on people (Odonkor & Mahami, 2020). A wide range of pollutants are responsible for deteriorating air quality.

Particulate matter (PM) presents as a very dangerous and commonly occurring pollutant amongst them (Odonkor & Mahami, 2020). So people at least must know about these PM concentrations and what are different pollutants. The air quality displays are displayed on the road with PM concentration and concentration of harmful gasses. Real time levels of Ground-level ozone, Particulate matter (PM) 2.5/10, Carbon monoxide, Sulfur dioxide, and Nitrogen dioxide are shown within the actual air quality range. (Good + Satisfactory, Moderately polluted, Poor, Very Poor, and Severe). The categories are based on the impacts and concentration of air pollutants. SAFAR- India (System of Air Quality and Weather Forecasting And Research Ministry of Earth Science, Govt. of India) gives the air quality index based on different pollutants in air (SAFAR - India n.d.). A wide variety of air pollutants are emitted by vehicles with petrol-derivative engines being the most important of them; nitrogen oxides, carbon monoxide, volatile organic compounds (VOCs), and particulate matter have an important impact on air quality in the urban areas. (Batterman et al., 2007), (Bosco et al,2005), (Emami et al, 2018), (Marc et al.2016), (Wu et al. 2011).

Therefore, in the urban cities like Mumbai it is not enough to just know about the displays and quality is not enough. There should be awareness and improvements in actual air conditions. In the 2030 agenda for

Sustainable Development- Transforming our world, there is a target in Goal 3 stating “By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”. (*Transforming Our World: The 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs*, n.d.). So to achieve this target everyone should try to reduce air pollution at personal level at least. So that as a result people could get cleaner air to breathe in.

The lockdown implemented because of Covid-19 pandemic has a positive effect on the air quality index. AQI significantly plummeted by 59% in Worli-Mumbai. Pant et al. (2020).

The aim of the study is to know how much people are aware of their surroundings. It will also help to know about people's views on air quality before and after the pandemic, their ways to reduce air pollution.

Materials and Methods

The survey was conducted online by circulating the questionnaire formed by Google forms. A total 104 responses were received. The study area was supposed to be different districts in Maharashtra near Mumbai. The majority of participants were from Mumbai Suburban (59.61%), followed by Thane (10.58%), Mumbai City (6.73%), Raigad and Palghar each 5.76%. 11.53% responses were from out of the Mumbai region. It includes

Pune, Nagpur, Aurangabad, Panjim, Kolkata, Delhi, Ahmedabad and Benguluru. The consent was taken from all participants involved in this study and it was obtained in accordance with the Declaration of Helsinki. (WMA DECLARATION OF TAIPEI ON ETHICAL CONSIDERATIONS REGARDING HEALTH DATABASES AND BIOBANKS, 2020).

Inclusive Criteria

In this survey, the age group of 15 to 61 men and women are included. Students, working or non- working, retired people were included in the study. Also participants are from near Mumbai region. All participants were Indian.

Exclusive Criteria

Age groups of below 15 and above 61 were not included in the study. Also participants from the rest of Maharashtra state were not included.

Statistical Analysis

Total 14 questions with other informative questions like name, age,

gender, residential area were used to collect the data for analysis. Majority of the data is analyzed and represented in percentage using graphical demonstrations. Chi square test and ANOVA (single factor) were conducted using Microsoft Excel to determine the relationship between the different aspects.

Results and Discussion

Characteristics

Our survey consisted of 104 participants with majority participants from age group 21-30 (51.92%) (Figure 1). Therefore the average age of participants is 30.34yrs. There is an equal distribution of male and female throughout the survey (Table 1)

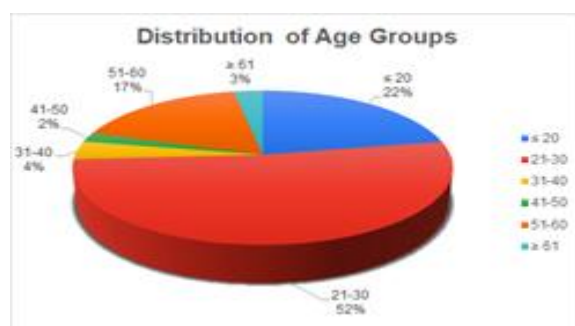


Figure 1: Distribution of Age Groups

Table 1: Age distribution of Participants

| Age Group | 15-20 | 21-30 | 31-40 | 41-50 | 51-60 | ≥ 61 | Total ↓ |
|--------------------------------|----------------|---------------|--------------|--------------|----------------|-------------|------------|
| No. of Participants | 23 | 54 | 4 | 2 | 18 | 3 | 104 |
| Total Percentage | 21.12% | 51.92% | 3.85% | 1.92% | 17.31% | 2.88% | 100% |
| No. of Male Participants (%) | 3 (13.04%) | 27 (50.0%) | 2 (50.0%) | 1 (50.0%) | 16 (88.89%) | 3 (100%) | 52 |
| No. of female participants (%) | 20 (86.96%) | 27 (50.0%) | 2 (50.0%) | 1 (50.0%) | 2 (11.11%) | 0 (0%) | 52 |

When asked about causes of air pollution, the majority of people think of vehicles, Industries and Burning of waste as main sources of air pollution (Figure 2). It was followed by construction, Use of Air conditioners and smoking.

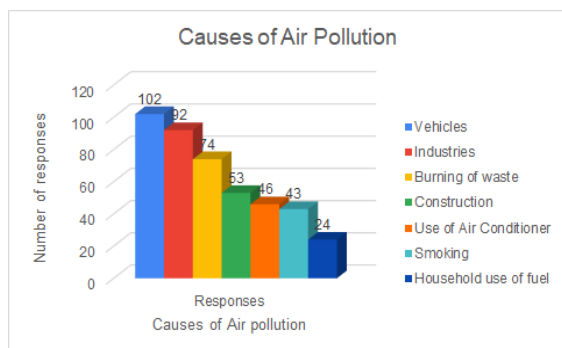


Figure 2: Responses for causes of air pollution

When views on indoor air quality getting affected by outdoor air pollution were asked 75% people were strongly in support of indoor air quality getting affected by air pollution. 15.38% of people were not entirely sure. According to them it depends on your surroundings, if you are living in an area with many trees, then there are less effects of air pollution on inside air quality. And 10.58% of people think that these both are not related.

91.34% of people think air pollution is a health affecting factor. According to them it causes moderate to some severe health problems. Respiratory or breathing problems are the results of air pollution.

When asked about the awareness about the air quality displays 58 responses were negative, i.e. 56%

people have not seen these displays (Figure 3).

Are you aware of the fact that air quality displays (SAFAR) are mounted on the roads?
104 responses

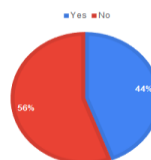


Figure 3: Responses of participants with regards to air quality displays

The age group wise distribution of the awareness about air quality displays on road (Figure 4) shows that the young adult generation (15-30 age group) is not that much aware about the displays despite they are students or working people (They travel more on the roads).

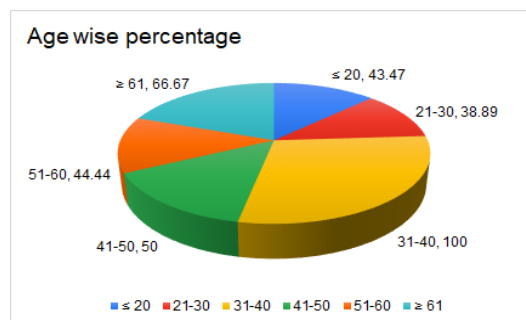


Figure 4- Age group wise distribution about awareness of the air quality displays

Out of 44.23% (46 Positive responses) only 15 people (i.e. 32.60% of people who are aware about the displays) were able to tell about some exact details, displayed on the Air Quality displays.

Chi square test performed to analyze the association between the age group

and Display awareness (Figure 5). The p value obtained for the same is 0.694 when probability is 0.05. But the critical value of 'p' at probability 0.05 is 3.84, i.e. $p \text{ absolute} < p \text{ critical}$ hence we accept the hypothesis. There is no significance between the age group and knowing about the displays.

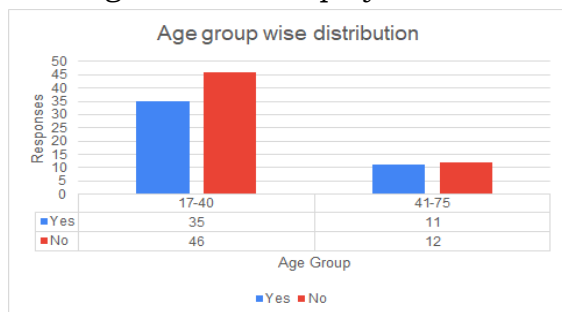


Figure 5

By performing ANOVA (single factor) for determining participants' awareness and mean age it confirmed that there is no significant difference between average age of participants' age group and number of participants' having awareness about displays (p value 0.00205).

Also figure 6 is showing the awareness about air quality displays (positive responses) in different districts near Mumbai and some out of Mumbai Districts like Pune, Nagpur, Aurangabad/ States like Goa, West Bengal, Karnataka, Delhi, Gujarat (only 1 response each).

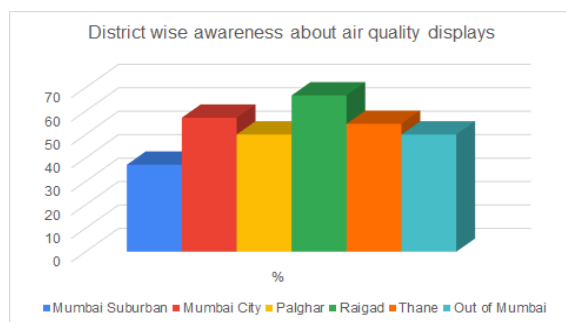


Figure 6

Out of 104 participants only 12 participants had an idea about calculation of AQI (Air Quality Index). Remaining 88.46% of people (92 respondents) not at all had any slightest idea how to calculate AQI.

When views on the improvement in air quality in recent days were asked, the 27 respondents think that the air quality has been improved whereas 33 respondents oppose the idea. 44 respondents think that the air quality has improved a little bit (Figure 7).

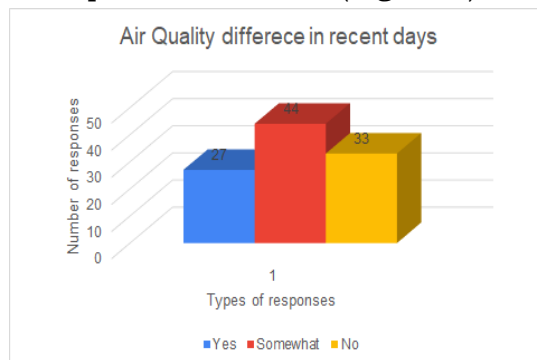


Figure 7: Air quality improvement in recent days

When responses for ways to curb air pollution were taken, use of public transport and walking are the options people have chosen (Figure 8).

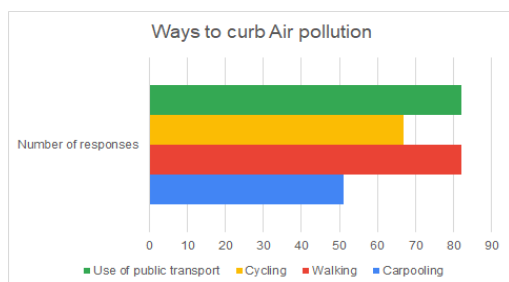


Figure 8: Responses for the ways to curb air pollution

Discussion

According to a study about Air pollution in India: Major issues and challenges by The Energy and Resources Institute (TERI) conducted in 2021, the major contributor to PM emission or air pollution is road dust/ Vehicular emissions along with industries as another contributor. Gurjar (2021), our study also concludes that vehicles and industries are major sources of air pollution.

According to CPCB (Central Pollution Control Boards) guidelines on National AQI, concentrations of PM₁₀, PM_{2.5}, Nitrogen Dioxide (NO₂), Ozone Level (O₃), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Ammonia (NH₃), Lead (Pb) are calculated for air quality index CPCB | Central Pollution Control Board (n.d.), CPCB (2008). But in our survey very few people were able to choose the correct option for factors considered for calculation of AQI. Only 19 out of total 104 participants know about the pollutants considered for AQI calculation (Figure 9).

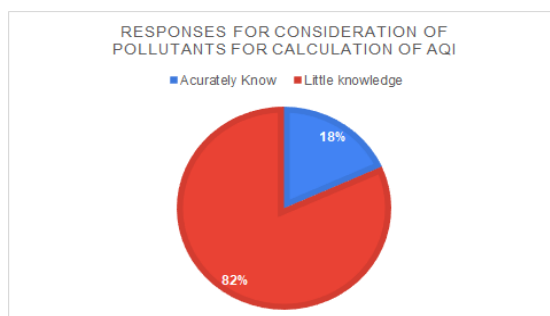


Figure 9: Responses for knowledge of Air pollutants

According to CPCB only, a good air quality has an AQI between 0-50. According to our survey 62 participants (59.62%) know about the exact range of Good AQI (Figure 10). But still there is little lack of awareness about good air quality index.

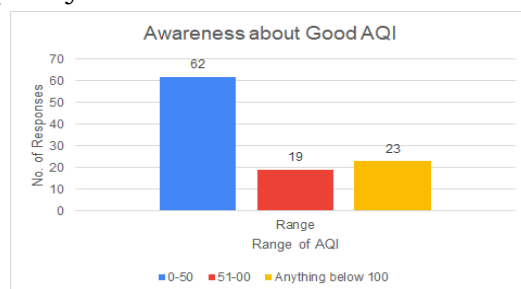


Figure 10 Awareness about good Air quality

According to a comparative study of air pollution pre and during lockdown in four metropolitan cities of Maharashtra, there is a huge fall in pollution levels. Dr. Pawar A.S. (2011). AQI significantly plummeted by 59% Worli-Mumbai. Pant et al., (2020). In our study only 25.96% respondents (27 responses) agreed that there is improvement in air quality in recent days.

Conclusion

The collected data indicates that there is low level and uneven distribution about the Air Quality in people. This suggests the need to increase more awareness and change in people's attitude towards the air quality and air pollution.

References

1. Batterman, S., Jia, C., & Hatzivasilis, G. (2007). Migration of volatile organic compounds from attached garages to residences: A major exposure source. *Environmental Research*, 104(2), 224–240. <https://doi.org/10.1016/j.envres.2007.01.008>
2. Bosco, M., Varrica, D., & Dongarrà, G. (2005). Case study: Inorganic pollutants associated with particulate matter from an area near a petrochemical plant. *Environmental Research*, 99(1), 18–30. <https://doi.org/10.1016/j.envres.2004.09.011>
3. CPCB | Central Pollution Control Board. (n.d.). CPCB. <https://cpcb.nic.in/national-air-quality-index/>
4. CPCB. (2008). About National Air Quality Index 1. 2, 1800. <https://cpcb.nic.in/displaypdf.php?id=bmF0aW9uYWwtYWlyLXF1YWxp dHktaW5kZXgvQWJvdXRfQVFJLnBkZg==>
5. Dr. Pawar A.S, D. P. A. (2011). A water pollution of metropolitan cities in India. *Indian Journal of Applied Research*, 1(6), 43–44. <https://doi.org/10.15373/2249555x/mar2012/13>
6. Emami, F., Masiol, M., & Hopke, P. K. (2018). Air pollution at Rochester, NY: Long-term trends and multivariate analysis of upwind SO₂ source impacts. *Science of The Total Environment*, 612, 1506–1515. <https://doi.org/10.1016/j.scitotenv.2017.09.026>
7. Gurjar, D. B. R. (2021b, April 5). Air Pollution in India: Major Issues and Challenges. TERI. <https://www.teriin.org/article/air-pollution-india-major-issues-and-challenges>
8. Jerrett, M. (2018). Assessing Long-Term Health Effects of Air Pollution with Advanced Spatial Models. ISEE Conference Abstracts, 2018(1). <https://doi.org/10.1289/isesisee.2018.s03.03.15>
9. Marć, M., Bielawska, M., Simeonov, V., Namieśnik, J., & Zabiegała, B. (2016). The effect of anthropogenic activity on BTEX, NO₂, SO₂, and CO concentrations in urban air of the spa city of Sopot and medium-industrialized city of Tczew located in North Poland. *Environmental Research*, 147, 513–524. <https://doi.org/10.1016/j.envres.2016.03.014>
10. Odonkor, S. T., & Mahami, T. (2020). Knowledge, Attitudes, and Perceptions of Air Pollution in Accra, Ghana: A Critical Survey. *Journal of Environmental and Public Health*,

- 2020, 1–10.
<https://doi.org/10.1155/2020/3657161>
11. Pant, G., Alka, Garlapati, D., Gaur, A., Hossain, K., Singh, S. V., & Gupta, A. K. (2020). Air quality assessment among populous sites of major metropolitan cities in India during COVID-19 pandemic confinement. *Environmental Science and Pollution Research*, 27(35), 44629–44636.
<https://doi.org/10.1007/s11356-020-11061-y>
 12. SAFAR - India. (n.d.). System of Air Quality and Weather Forecasting And Research Ministry of Earth Science, Govt. of India. Indian Institute of Tropical Meteorology, Pune.
<http://safar.tropmet.res.in/AQI-47-12-Details>
 13. *Transforming our world: the 2030 Agenda for Sustainable Development* | Department of Economic and Social Affairs. (n.d.). United Nations: Department of Economic and Social Affairs- Sustainable Development.
<https://sdgs.un.org/2030agenda>
 14. Wang, R., Yang, Y., Chen, R., Kan, H., Wu, J., Wang, K., Maddock, J., & Lu, Y. (2015). Knowledge, Attitudes, and Practices (KAP) of the Relationship between Air Pollution and Children's Respiratory Health in Shanghai, China. *International Journal of Environmental Research and Public Health*, 12(2), 1834–1848.
<https://doi.org/10.3390/ijerph120201834>
 15. WMA DECLARATION OF TAIPEI ON ETHICAL CONSIDERATIONS REGARDING HEALTH DATABASES AND BIOBANKS. (2020, June 4). World Medication Association.
<https://www.wma.net/policies-post/wma-declaration-of-taipei-on-ethical-considerations-regarding-health-databases-and-biobanks/>
 16. Wu, J., Wilhelm, M., Chung, J., & Ritz, B. (2011). Comparing exposure assessment methods for traffic-related air pollution in an adverse pregnancy outcome study. *Environmental Research*, 111(5), 685–692.
<https://doi.org/10.1016/j.envres.2011.03.008>

A TRANSITION FROM TRADITIONAL LEARNING TO DIGITAL LEARNING: A CRITICAL ANALYSIS

J. J. AKIN SHIBI

Pursuing Law Degree (3rd Year B.A.LL.B)
The Central Law College, Salem, Tamil Nadu

Abstract

COVID-19 outbreak made globally a drastic change in all activities. People are forced to stay home. This pandemic has reversed the global progress and disrupted the essential health services. Most of the countries announced lock downs in different phases in order to protect their own people. They took necessary steps to avoid further spread of COVID-19 by different strategies. This was the alarming news that terrified everyone in the world for the past two years. Many people remained indoors since most of the industries were shut and lost their earnings which pushed them to an economic crisis that leads to stress, hypertension etc. and also mental illness. To fill the gaps in learning among students, education has taken a revolutionary change owing to the covid-19 pandemic across the globe. I focused on education in the time of covid-19 transition to digital in this article. It is challenging for every teacher and student as it is the new mode of teaching learning process for many. The mode of teaching the students underwent, especially in India, where chalk and talks method of teaching was widely used. With no other option left out, almost every teacher in India switched on to the digital mode to teach their students. It had never been a cakewalks to the teachers in handling ICT tools to teach the students. The plight of the students and parents is even more unimaginable. The digital mode of teaching and learning certainly made physical, economical, mental or psychological impact for teachers as well as students which I would like to discuss in this article. I conclude this article with some suggestions which I experienced in digital learning, hoping that they would help everyone to overcome their difficulties they faced during this devastating pandemic.

Keywords: *advantages and disadvantages of digital learning, teachers and students view on digital learning, physical impact, psychological impact, economical impact*

Introduction

COVID-19 is an Acute disease caused by corona virus was initially reported in Wuhan, China in late 2019. It was believed that the virus was transmitted from bats. There were speculations about the transmission of disease at the earlier period. First it was called as corona virus or Wuhan virus. The official name of COVID-19 was given by

World Health Organization on 11th February 2020. At last March 11th 2020 World Health Organization declared Noval corona virus outbreak a global pandemic. Since then most of the countries amend lockdown to protect their own people. Government of India ordered Nation wide lockdown on 24th March 2020 for 21 days. The first confirmed COVID-19 infection case in

India was reported in Kerala on 27th January 2020. People are advised to stay home, keep social distancing, wearing Mask and Hand sanitization to avoid spreading of infection. India has taken necessary steps to prevent further spread of the disease under the guidelines of WHO & AIIMS. People were terrified and there were social stigma about the disease. The pandemic has changed the way we look at the world and made impacts on every livelihood. Many people lost their jobs and forced to stay inside the house which made sociological, physical, mental and economical impacts. It has changed the process of doing our day to day activities. It made drastic change in educational system. Schools were closed for a long period, and education was transferred to digital mode. Globally 1.2 billion children in 186 countries are out of their classroom.¹ People are oblivious and eventually land to adapt the new normal even we come up with new phrase “work from home”. Technology has played a great deal on the new adaptation. It has given the opportunity to continue our education through digital mode. The schools and universities of the world implied the new way of learning where the fully packed classrooms reduced to a single student and a digital screen. The sudden but inevitable transition from physical classrooms to online classes has proven good by keeping the education line stable and by keeping

students on hook without losing their concentration on studies. During this pandemic online Tutors like increases by 200% Byjus, Udemy, Preply etc.. Yet made a worst impact on those who come from poor economic background. It is unavoidable for the students and teachers to switch over to the online mode. In this Article I wish to discuss about the educational impact in which world faced during this pandemic period.

Pros of Digital Learning

It has kept the minds of students from wandering around the attributes of the world and helped them to concentrate on their studies. Digital mode has given the possibility to learn something to make in touch with education. Students have ample time in their hand to learn new skills and equip themselves in different fields. Online tools such as videos, PPT can make better understanding beyond traditional textbook. Online lectures can be recorded, archived and shared for future reference. It allows students to access in the learning material in their comfort. They can experience different learning styles. Online learning allows students to personalize the learning ways like some students prefer visual learning, some prefer listening to audio etc.. Students can excel their talents by getting more information from the digital mode

Cons of Digital Learning

However anything induced in this world for good comes with its own drawbacks.

¹ World economic forum, published on 29 Apr 2020.

And the digital education is no exception. Students are easily getting distracted by social media. They find difficult to focus on the screen for a long time. It eliminates the interaction among the peers and the teachers as the get in the classroom environment.² Students may fail to prevail their leadership quality. They may not get personal guidance from the teachers and they may feel like isolated. It makes learning boredom. It limits the feedback given by the teachers than regular traditional classes.³ It also limits to assess the students understanding ability as well as communication skill development. Practical learning is restrained. Online learning is inaccessible to the computer illiterate population. It is not easy to make disciplinarians through online. It required more self-responsibility as there is no much rules to keep them in control. With teachers miles away from students are free to do what they want, which didn't proved much good. The teachers had less opportunities to observe the students so they can't provide any specialized attention.

Teacher's Perspective on Digital Learning

As I conducted a survey among the teachers and students in which the school where I studied, I got some

advantages and disadvantages of online learning from their perspectives. Nearly 85% of teachers prefer physical classes and only 15% prefer online classes. They quoted that, they have some network Issues while conducting classes. They said there were lack of attachment, lack of caring, lack of chance to act as a second parent, lack of motivation, lack of encouragement, lack of work satisfaction. They also experienced the difficulty to monitor the student's behavior as well as development of the students and also difficulty to adapt the new technology.

Student's Perspective on Digital Learning

Physical classes were favoured by almost 88 percent of students over internet classes. The majority of the pupils accepted teachers opinion. They also alleged to have been distracted by their parents and siblings. Also thought that they are not getting enough guidance to overcome their personal issues an no clear cut way to achieve their ambition while using digital mode of learning. Most of the students attended the classes for the purpose of attendance. Students are afraid since they are not getting the chance to discuss their feelings and issues to make a fine decision⁴

Physical Impact

Due to the sedentary life style, students and teachers are inactive and remained

² Educationworld.in/ Authored by **Naveen K M**, managing director, Trio World Academy, Bangalore.

³ Part of the Education in the Asia-Pacific Region: Issues, Concerns and Prospects book series (EDAP, volume 31)

⁴ www.skymetweather.com published on 29 July 2021

indoors. They are at the risk of lifestyle related diseases like obesity, hypertension, diabetics etc..⁵ Sitting in front of computers or mobile phones for a long time can cause backbone pain, eye related problems, headache etc.. Brain is affected while using earphone due to variation of frequencies

Psychological Impact

One's mental health is very important for the overall development of a student in studies besides making a peaceful environment. But mental health of students is affected by digital mode of learning. Recent studies conducted during covid-19 pandemic has revealed high levels of stress, anxiety and depression in the community. A cross sectional studies published in a medical journal conducted by the teaching hospital of Nepal revealed that 44% increases in suicide and 71.9% of self harm during the pandemic.

Economic Impact

The pandemic plunged the life of most of the people and weekend the economic status. They become economically poor and unable to afford the hike in price of the goods⁶. Most of the people cut down their expenses to avoid family problems. The farmers suffered a lot as they didn't get the ground to sell their yields. A lot of people lost their earnings, Since most of the factories were shut. It also devastated the people by dragging them

into extreme poverty. It also affected the supply chain from one state to another as well as one country to another as there was no transportation facilities. Due to this lacks of transportation, supply price of all goods have been raised and buyers have to pay more.⁷ These made serious problems, in the family and because of that students are unable to buy smart phones to get through online classes. The Oxford University press report said, Digital learning across India is unequal. In India one-fourth of students discontinue his/her education because of imbalance situation occurred in their family. So there is an inequality among the students for getting online classes between rural and urban areas. Educated parents can guide their wards to use the digital mode properly but parents from rural areas unaware of that.⁸ It may lead the rural area students to divert their attention.

Conclusion

It is obvious that, nobody can go against the natural calamities or pandemic or an epidemic. Being vigilant can help us to escape from such kind of outbreaks. I would like to conclude by giving suggestions which I have in my mind.

- Though it is an unavoidable situation, students and teachers

⁵ India today published on September 2021

⁶ The Hindu published on 02-09-2020

⁷ scroll.in article 999275-the pandemic in data how covid-19 has devastated India economy

⁸ online.maryville.edu/blog/impact-of-online-education

must adapt to explore themselves in digital mode.

- Government can help the people by making new policies to increase the job in government and private sector to overcome the economic crisis.
- People are advised to do physical exercises for at least an hour a day to make them fit and healthy.
- Conducting seminar and counseling to raise awareness about mental

health issues and recognizing warning signs of suicide and to provide support, those who are in need

- Create awareness among the students on usage of Internet and gadgets.
- Parents should know the needs and wants of their children to make flourishing future.

UNDERSCORING DISCOURSE MARKERS IN A SHORT STORY TO DEVELOP WRITING SKILLS OF THE STUDENTS

Dr. S. HEMALATHA

Assistant Director, Centre for Publications
Dravidian University, Kuppam

Abstract

Discourse markers play a vital role in the development of the writing skills of the students. Developing upon this analogy, the present article attempts to illustrate how the writing skills of the students can be developed by highlighting the discourse markers in a story to exemplify how they affect a coherent articulation in the narrative.

Although the absence of discourse markers does not necessarily render a sentence ungrammatical or unintelligible. Their presence will make the structure of the discourse intelligible, their absence removes a powerful clue about what connection the speaker or writer makes regarding the relationship between the present event and the prior discourse. Many students fail to write appropriate compositions because they lack the knowledge of proper discourse markers. Better writers skillfully use a large variety of discourse markers in their compositions, whereas the weaker ones fail in this respect. They tend to repeat the same markers in their compositions. Excessive use of the same discourse markers makes the text dull. The article endeavors to demonstrate a modest way of addressing these problems.

Introduction

The word 'discourse' is used to refer to a piece of writing, that is longer than a sentence. In writing it is essential for the author to guide the reader through the discourse, what is important and how each sentence connects to another sentence. One of the main ways that the author helps the readers to understand is by using discourse markers, how the coming sentence relates to the previous discourse. If the author wants to show a continuation of a previous sentence, he will begin the sentence with a marker such as – 'in addition' or 'moreover'. This helps the reader to approach the coming sentence with the knowledge of how it

relates to the theme. If the author wishes to modify the tone of the conversation, he'll use a marker like –'on the other hand.' These discourse markers will help you to understand that the sentence would pose an idea in opposition to the previously presented idea of supporting a previous theme. It helps to replace the concept of contrasting the previous theme.

It's strenuous to provide a comprehensive list of discourse markers and their roles. The best way to understand the effective use of discourse markers is to read a lot. However, reading without paying any attention to discourse markers may be useless. We must take a step back from

the reading process to notice how the author is using and what they add to the reading experience. In this way, we can begin to develop the knowledge of how to use it. This paper deals with the importance of usage in the writing process.

Definition: The term "discourse competence" refers to two similar but distinct qualities. Textual Discourse Markers refers to the ability to understand and construct monologues or written texts of different genres, such as – narratives, procedural texts, descriptions, and others. These discourse genres have different characteristics, but in each genre, some elements help to make the text coherent, and other elements are used to make important points distinctive or prominent. Cohesion refers to how we link ideas linguistically. For example, we use pronouns, to refer to what or who had been mentioned previously. Eg: he, she, it, one, none, this, that, etc.

Discourse competence refers to the way ideas are linked across sentences (in written discourse) or utterances (in spoken discourse). We use the main aspects to understand discourse competence refers to how we link ideas linguistically. 'A' is an article that is used to direct or redirect the flow of the conversation without adding any significant paraphrasable meaning to the discourse. It is also called a pragmatic marker. In most cases discourse markers are syntactically independent; removing markers from a

sentence still leaves the sentence structure intact. Discourse markers are common in informational speech than in most forms of writing. Discourse markers at the theoretical level are verbal devices that provide contextual coordination for the ongoing talk. Discourse markers are sequentially dependent elements that bracket a unit of talk. Fraser defines 'a discourse marker as a lexical expression which signals the relation of either contrast, implication or elaboration between the interpretations'.

When we are planning to write well-organized texts, cohesion and coherence must be taken into consideration. The organization of sentences of a text is just not like putting up bricks one upon the other. Unlike reference, the use of discourse markers does not instruct the reader to supply the missing information. Instead of that, it signals the way the writer wants to relate what is about to be said to what has been said before. Is related to the entire environment of a text. The discourse marker not only helps the reader by giving cohesion to a text but also links two sentences together. Thus, we can say that discourse markers play an important role in a text's cohesion and coherence.

Functions of Discourse Markers

- To initiate discourse
- To mark a boundary in discourse
- To preface a response or a reaction
- To act as a filler

- To aid the speaker in holding the flow
- To effect an interaction or sharing
- To bracket the discourse either metaphorically or anaphorically
- To maintain the continuity
- To mark either foreground or background information.

This process and product are also conditioned by the purpose and place of the writing (its audience and genre). Writing in a second language is constrained further by difficulties such as target language ability, first language literacy, cultural and rhetorical approaches to the writing. Instruction in writing can effectively improve students' proficiency in several key areas. With the status of language as an international language, the use of English and there is an increase of second language learners. One interesting area in second language writing is to see how to help the readers to understand the text.

List of Some Discourse Markers

Connectivity Indicates Time Relation: Before, before that, previously, earlier, while, during, throughout, as soon as, when, till, then, by the time, until.

Connectivity Expressing Conditions: if, in case, provided that, suppose, whichever, no matter, under those circumstances, unless.

Connectivity Expresses Contrast: Although, despite, though, despite, expect, not even, never the less, moreover, however

Expressing Result: in consequence, as a result of, whereas, hence therefore as long as.

Connectives Expressing comparison: as though, likewise, as if as

Connective of Contrast: however, nevertheless, while, when, as, but, yet, in addition to

Connotative Expressing Addition: further, besides, and, so, along with, etc.

English is a prominent language in the world. When teachers teach English writing, some of them connect on spelling mistakes, some on grammatical mistakes, some on the writing of styles and structure. Discourse markers are neglected in writing teaching. Most of the students do use a certain number of discourse markers in their writing, but they are not sure what is the correct way to use them. If they are given proper awareness they can use discourse markers effectively in their writing tasks so during teaching writing skills discourse markers should be paid attention to. They should not be ignored. Theoretically, discourse markers are a class of verbal and non-verbal devices that provide contextual coordination for ongoing talk.

Redeker (1991) suggests that discourse markers link not only continuous sentences but the current sentence or utterance with its immediate context. Discourse markers have been explored in a variety of ways, ranging from descriptive and

contrastive viewpoints to their determinate role. Still, research needs to be addressed with second language learners' writing proficiency.

More experienced writers are seen to use as facilitating devices to make their text more comprehensible. Experience in writing compositions will bring self-awareness of discourse markers besides explicit instruction that they might receive in academic settings. Lack of discourse markers in their composition made the texts more difficult to read and understand.

Cohesion alone is not enough to make a text coherent. The text has an internal logic that the reader recognizes even without cohesive devices. It is not sufficient to try to make one writing cohesive by simply using discourse markers. Knowing how and when to use a discourse marker, helps the learner to write effectively. The use of discourse markers appears to be the last part of grammar. To make an analogy.

The relationship between grammar and speech markers is similar to the relationship between a train and a rail. The person who is driving the train is the writer, and the rail is founded on the discourse markers. If all parts of the train work well, then the train can move on the rail, and if the person who is leading the train knows the significance of the signs along the rails, then he or she will be able to keep the train on the right track.

Fraser (1988) points out that the absence of discourse markers does not

necessarily render a sentence ungrammatical or unintelligible. It does, however, remove a powerful clue about what commitment the speaker makes regarding the relationship between the present utterance and the prior discourse. Many students fail to write appropriate compositions because they lack the knowledge of proper discourse markers. Better writers skillfully use a larger variety of discourse markers in their compositions, whereas the weaker ones, repeat the same markers in their compositions. Excessive use of discourse markers makes the text dull. Here I have selected one short story and explained the discourse markers in detail.

True Height

"This story is about the feelings of an athlete as he pursues his dream. This is a story of Michael stone's life and the ultimate test of his sports career. It is an inspiring achievement that will leave you breathless.

His palms were sweating. He needed a towel to dry his grip. A glass of ice water quenched his thirst but hardly cooled his intensity. The astroturf he sat on was as hot as the competition he faced today at the National Junior Olympics. The pole was set at 17 feet. That was three inches higher than his personal best. Michael stone confronted the most challenging day of his pole-vaulting career. These stands were still filled with about twenty

thousand people, even though the final race had ended an hour earlier.

The pole vault is truly the glamorous event of any track and field competition. The sportsman combines the grace of a gymnast with the strength of a bodybuilder. Pole-vaulting also has the element of flying, and the thought of flying as high as a two-storeyed building is a mere fantasy to anyone watching such an event. Today it is not only Michael Stone's reality and dream- it is his quest.

For as long as Michael could remember, he had always dreamed of flying. Micheal's mother read him numerous stories about flying when he was growing up. Her stories were always the ones that described the land from a bird's eye view. Her excitement and passion for details made Michael's dreams full of color and beauty. Michael had this one recurring dream. He would be running down a country road. He could feel the rocks and chunks of dirt at his feet. As he reached down the golden-lined wheat fields, he would always outrun the locomotives passing by. He would begin soaring like an eagle.

Where he flew would always coincide with his mother's stories. His dad, on the other hand, was not a dreamer. Bert Stone was a hard-core realist. He believed in hard work and sweat. His motto: If you want something, work for it!

Besides being an honor student, Michael stone continued to help his parents with their farm chores.

Michael's persistence in striving for perfection was not only his obsession but his passion.

All of Micheal's vaults today seemed to be the reward for his hard work. If Michael stone was surprised, thrilled, or arrogant about clearing the bar at 17 feet you couldn't tell as soon as he landed on the inflated landing mat, and with the crowd on its feet. He seemed oblivious of the fact that he had just surpassed his personal best by three inches and that he was one of the final two competitors in the pole-vaulting event at the National Junior Olympics.

Michael cleared the bar at 17 feet and 2 inches and 17 feet 4 inches, again he showed no emotion. Constant preparation and determination were his vision. As he lay on his back and heard the crowd groan, he knew the other vaulter had missed his final jump. He knew it was time vault to win. A miss would get him second place. Nothing to be ashamed of, but Michael would not allow himself the thought of not winning first place.

So he did. Along with shaking the tension from his legs, he gently laid his pole at his feet. He began to stretch out his arm and upper body. The light breeze that was once there was now gone. He could feel a trickle of cold sweat running down his back. He carefully picked up his pole. He felt his heart pounding. He was sure the crowd did, too. The silence was deafening. When he heard the singing of some distant robins in flight, he knew it was his time to fly. When he took a deep

breath, it happened. He began to fly. His take-off was effortless. Michael stone was flying, just as in his childhood dreams. Only this time he knew he wasn't dreaming. This was real. Everything seemed to be moving in slow motion. The air around him was the purest and freshest he had ever sensed. Michael was soaring with the majesty of an eagle.

It was either the eruption of the people in the stands or the thump of his landing that brought Michael back to earth. On his back with that wonderful hot sun on his face, he could only envision the smile on his mother's face. He knew his dad was probably smiling too, even laughing. Bert would always do that when he got excited, smile, and then sort of giggled. What he didn't know was that his dad was hugging his wife and crying. He was crying harder than Mildred had ever seen before. She also knew he was crying the greatest tears of all: tears of pride.

Michael was immediately swarmed with people hugging and congratulating him on the greatest accomplishment of his life. He later went on that day to clear 17 feet 6 and 1/2 inches a National and International Junior Olympics record. With all the media attention and heartfelt congratulations, Michael's life would never be the same. It wasn't just because he won the National Junior Olympics and set a new world record. And it wasn't because he had just increased his personal best by 9 and 1/2 inches. It

was simply because... Michael Stone was blind.”⁵

The above story is collected from 9th class English Textbook published by the government of Andhra Pradesh

Summary of True Height

True height is a story about the feelings of an athlete by the name of Michael Stone. It speaks about his sports career and how he prepares to take the ultimate test, which leaves us breathless. 'His palms were sweating. He needed a towel to dry his grip'.

The very first sentence contributes to the reader's curiosity and inquisitiveness. Why were his palms sweating, with this curiosity the reader is forced to read the entire story. He drank a glass of ice water to quench his thirst, but it didn't do enough to calm him down. Again, there was a curiosity about his curiosity and intensity. Michael Stone is a pole vault athlete, that day he was participating in the final National Junior Olympics. "The Pole was set at a height of 17 feet. That was three inches higher than his personal best". By this sentence, we can understand that Michael Stone was able to clear 14 feet vault. On that day the height was little increased. It was a challenging day for him. He could hear the rustling sounds of the spectators.

"Even though the final race had ended an hour earlier". The connective word 'though' indicates that people are waiting for some important events. The pole vault is a sport in which a gymnast's grace is combined with a

bodybuilder's strength. Pole vaulting has the element of flying also.

"As long as Michael could remember he had always dreamed of flying". The connective 'as long as' makes the reader understand that, Michael Stone had a dream of flying. "As he raced down the golden lined wheat fields, he would always outrun the locomotives passing by". 'As' indicates that Michael Stone usually practices along with the wheat fields, while practicing he used to overtake the vehicles passing by. "Where he flew would always coincide with his mother's stories. His dad, on the other hand, was not a dreamer".

The connective 'on the other hand' is used to compare and contrast. By this sentence we can understand that Michael Stone was very much influenced by his mother, on the contrary, his dad was a practical man, who believed only in hard work. 'The program was carefully monitored by Michael's Coach, trainer and, father". 'And' is a conjunction used to connect two sentences or clauses. By this, we can understand that his father was his trainer. 'Besides' being an honor student, Michael Stone continued to help his parents with their farm chores". The connector 'besides' means that in addition to being a good student, he helped his parents in cultivation also.

"Michael's persistence in striving for perfection was not only his obsession but gives a clear picture that Michael's preserving and passion. It also indicates that it was a difficult task for

him. 'Since the other Vaultier had fewer misses, Michael needed to clear his vault to win'. The discourse marker 'since' denotes reason and consequence. If he misses that chance he would get second place. 'Nothing is to be ashamed of, but Michael would not allow himself the thought of not winning first place. He knew it was time to fly when he heard the distant singing of robins in flight.

The connective 'When' refers to time. At last with controlled emotions he envisioned his mother, taking a deep breath, with the heart, carefully picking his pole. He began to fly. His take-off was effortless. He succeeded and proved himself. It was not just because he won the National Junior Olympics and set a new world record. It was simply because... Michael Stone was blind. The conjunction 'because' explains the reason. Why Michael Stone has to be remembered. Pole vaulting is a sport in which you swing over a high barrier with a long pole. It's a difficult sport to master. Even though it is a difficult game Michael Stone could succeed.

Conclusion

By this, we can say that the use of discourse markers not only gives the hint of the fore coming events. It also helps the reader to sustain the interest. Experienced writers use discourse markers effectively to catch their reader's attention, besides progressing and developing the topic and structure of paragraphs. Correct application of

discourse markers is like knowing how to create a master's painting and how to place it where everyone has a prospectively good view of it, when the writer utilizes them appropriately it will definitely become a masterpiece. We can conclude that cohesion can be achieved through the use of various discourse markers. As Avon Crimson(1989) points out that discourse markers an important for English studies because they can lead to more efficient and effective speaking, listening, writing, reading, interpreting, and critical thinking.

References

1. Fraser, B. (1988), Types of English Discourse Markers, Acta Linguistica, 38 (4), pp 19-33
2. Halliday, M. & Hasan, R. Cohesion in English, London, Longman, 1976
3. Redeker, G. (1991), review Article: Linguistic Markers of Discourse Structure. Linguistics, 29 (6), pp. 1139-1172
4. Schiffrin, D. (1987). Discourse Markers, Cambridge, Cambridge University Press.
5. 9th Class Text Book – English Reader published by the Government of Andhra Pradesh

PROBLEMS FACED BY THE WOMEN ENTREPRENEURS DURING START OF THE BUSINESS IN CHENNAI DISTRICT

R. SUBITHA RANI

Annai Veilankanni's College for Women
West Saidapet, Chennai

Dr. R. DHARMARAGINI

Head, Department of Commerce & Research Centre
Vivekananda College, Agasteeswaram
Manonmaniam Sundaranar University, Tirunelveli

Abstract

Women entrepreneurship plays a prime role in economic development of any economy. It paves a way to the economic stability and globalization of market. As the gender gap reducing Day by day. Generally, the role of women is to build and maintain the homely affairs like task of cooking and rearing children. Since, the turn of the century, the status of women in our country has been changing due to growing industrialization, globalization and social legislation. Growth of education and Awareness, women have shifted from kitchen to higher level of professional activities. They play an important role in entrepreneurship. Women entrepreneurs are day by day increasing as it contribution to the household becomes important. More than economic contribution, social contribution also keen to watch. In this way, the economic development of country with Development of women Entrepreneurs also go hand by hand in the present scenario. Women entrepreneurs face a lot of problems during the start of their business. It may be money, building, experience, demand for their product or service, non-availability of proper place etc. Thus problems faced by the women entrepreneurs find an important place in the study

Keyword: *women entrepreneurs, role in Chennai city, economic development, government policies and schemes, problem during started business.*

Introduction

Women Entrepreneurship is concerned with the position of women in society also the role of women entrepreneurs in that society. Women face unique challenges (such as family responsibilities) that must be addressed for them to have equal access to opportunities as men. In certain nations, women may also face challenges when it comes to owning property and entering contracts.

Increased female labour force participation is an essential for improving women's social and economic status, especially for self-employed women.

Women entrepreneurs face a lot of problem during start of their business. It may be money, building, experience, demand for their product or service, non availability of proper place etc.... Thus problems faced by the women

entrepreneurs finds a importance place in this study.

The Role of Women Entrepreneur

In the last decade, women entrepreneurs have been recognised as a significant unused source of economic development. Women Entrepreneurs make new work for themselves and other women and provide society with unique solutions to management, business challenges and organisation, also the misuse of Women Entrepreneurial opportunities, through being different. However, they only make up a small percentage of all female entrepreneurs. As a result, there is a market failure that discriminates against women's ability to become women entrepreneurs and their capability to succeed as female entrepreneurs. Policymakers must remedy this business weakness for the groups economic prospective to be fully realised. While there is no question that women have a significant economic effect, we still lack a reliable image that details that impact.

Objective

1. To analyze the challenges faced by women entrepreneurs.
2. To analyse the Problem faced by Women Entrepreneurs during start of the business.
3. To analyse the Reasons to get failure of Women Entrepreneurs.

Review of Literature

1. S.Ananthi (2016) "Problem faced by the women Entrepreneur". women entrepreneurship shanlax international journal of arts, science and humanities (A peer –reviewed – refereed scholarly quarterly journal).
2. A. Sakunthala (2016), "Women entrepreneurs from India: problems, Motivations and success factors" women entrepreneurship shanlax international journal of arts, science and humanities (A peer –reviewed – refereed scholarly quarterly journal).
3. Kauffman (2015) Challenges facing New Entrepreneurs in 2014. The Kauffman Foundation and Legal Zoom Report.
4. SatpalÀ, Rupa RatheeÀ and Pallavi RajainÀ (2014) "Women Entrepreneurship: Challenges in the Present Technological Era" Vol.2, No.2 (June 2014) International Journal of Advance Industrial Engineering ISSN 2320 –5539.
5. Deepak Kumar (2014) "Women entrepreneur in India: Obstacles and Opportunities, International Journal of Research (IJR) Volume-1, Issue-5.

Methodology

The study concentrated on primary data. The researcher collected the secondary data from Journals, Articles, Books, Websites, etc.

Sample Size

The sample respondents were selected by the Proportionate

Random sampling method. The sample size for the research is taken to be 319.

Problems faced by the women entrepreneurs during the start of the Business

| S.No | Problems faced during start of the Business | Frequency | Percent | Cumulative Percent |
|------|---|-----------|---------|--------------------|
| 1 | Lack of Capital | 130 | 40.8 | 40.8 |
| 2 | Lack of Experience | 61 | 19.1 | 59.9 |
| 3 | Low demand | 89 | 27.9 | 87.8 |
| 4 | Non – availability of proper place | 29 | 9.1 | 96.9 |
| 5 | Building | 10 | 3.1 | 100.0 |
| | Total | 319 | 100.0 | |

Source: Primary data compiled

It is inferred from the above table that 40.8% of the women entrepreneurs face the problem of lack of capital and nearly 19.1% face the problem of lack of experience and 27.9% of the women entrepreneurs know to do business but

they lack demand. 9.1% of the women entrepreneurs face non-availability of proper place and 3.1% face building problems during the start of their business.

Problems faced while starting the business * Reasons to get failure of Business

| Problems faced while starting the business | Reasons to get failure of Business | N | Mean | Std. Deviation | Sum of Squares | Mean Square | F | Sig. | H ₀ |
|--|------------------------------------|-----|-------|----------------|----------------|-------------|-------|-------|----------------|
| No Confidence | Lack of Capital | 130 | 2.315 | 1.468 | 30.723 | 7.681 | 4.378 | 0.002 | Rejected |
| | Lack of Experience | 61 | 1.885 | 1.253 | | | | | |
| | Low demand | 89 | 1.742 | 0.924 | | | | | |
| | Non availability of proper place | 29 | 2.552 | 1.785 | | | | | |
| | Building | 10 | 1.400 | 1.265 | | | | | |
| | Total | 319 | 2.066 | 1.352 | | | | | |
| Lack of vision | Lack of Capital | 130 | 2.223 | 1.150 | 8.956 | 2.239 | 2.279 | 0.041 | Rejected |
| | Lack of Experience | 61 | 2.262 | 0.705 | | | | | |
| | Low demand | 89 | 2.258 | 0.649 | | | | | |
| | Non availability of proper place | 29 | 2.793 | 1.398 | | | | | |
| | Building | 10 | 2.600 | 1.350 | | | | | |
| | Total | 319 | 2.304 | 0.999 | | | | | |
| Poor money management | Lack of Capital | 130 | 2.123 | 1.161 | 18.567 | 4.642 | 4.282 | 0.002 | Rejected |
| | Lack of Experience | 61 | 1.770 | 0.956 | | | | | |
| | Low demand | 89 | 2.247 | 0.857 | | | | | |
| | Non availability of proper place | 29 | 2.172 | 1.197 | | | | | |
| | Building | 10 | 3.100 | 0.876 | | | | | |
| | Total | 319 | 2.125 | 1.062 | | | | | |

| | | | | | | | | | |
|--------------|----------------------------------|-----|-------|-------|--------|-------|-------|-------|----------|
| No team work | Lack of Capital | 130 | 2.285 | 1.101 | 10.636 | 2.659 | 2.19 | 0.07 | Accepted |
| | Lack of Experience | 61 | 2.328 | 1.012 | | | | | |
| | Low demand | 89 | 2.438 | 0.988 | | | | | |
| | Non availability of proper place | 29 | 2.517 | 1.526 | | | | | |
| | Building | 10 | 3.300 | 1.160 | | | | | |
| | Total | 319 | 2.389 | 1.110 | | | | | |
| No Network | Lack of Capital | 130 | 2.362 | 1.258 | 4.214 | 1.054 | 0.666 | 0.616 | Accepted |
| | Lack of Experience | 61 | 2.377 | 1.439 | | | | | |
| | Low demand | 89 | 2.157 | 1.021 | | | | | |
| | Non availability of proper place | 29 | 2.276 | 1.509 | | | | | |
| | Building | 10 | 1.900 | 1.197 | | | | | |
| | Total | 319 | 2.285 | 1.255 | | | | | |

Inference

Table reveals that, the value of p is less than 0.05 in the case of No Confidence, Lack of Vision and Poor money management. Hence the null hypothesis is rejected for these factors which shows that there is statistically significant difference problems faced while starting the business and reasons to get failure of business. It is inferred that low level of confidence is created due to non availability of proper place and lack of capital.

Conclusion

Entrepreneurship may be summarized as identifying change, following opportunity, accepting risk and responsibility, bettering resource utilisation, inventing, generating new value that is relevant to customers, and repeating the process. In recent years, women's entrepreneurship has been a source of worry. It emphasises the importance of women's leadership abilities, determination, and creative ideas for economic and social growth. Female-run businesses are thriving all throughout the world, contributing to

household income and national economic progress.

Women can effectively lead their businesses by combining their experiences, soft skill aptitude, and emotional intelligence. When a woman runs her own business, she has the power to create an environment that is welcoming to other female employees. A woman who is an entrepreneur may live a more honest life and establish a corporate culture that is more aligned with her own beliefs. Women entrepreneurs should be supported by their male peers, colleagues, and family to help them achieve their personal as well as organizational goals, so that they may confidently go along the path of development, success, and wealth.

References

1. Kilby, Peter (1969). Industrialization in an Open Economy, Nigeria, University Press, Cambridge, Section IV. Sexton, D. and Bowman-Up.
2. Ton, N. (1990). Female and male entrepreneurs: Psychological characteristics and their role in gender-related discrimination.

- Journal of Business Venturing, 5(1): 29-36.
3. Das. M. (2001). Women Entrepreneurs from India: Problems, Motivations and Success Factors. *Journal of Small Business & Entrepreneurship*. 15(4).
 4. Savithri. (2002) *Stress Management-A Comparative Study of Women Executives and Women Entrepreneurs*, University of Madras.
 5. Richardson, P., Howarth, R. and Finnegan, G. (2004) The challenges of growing small businesses: insights from women entrepreneurs in Africa. Geneva: ILO: IFP/SEED Working Paper No. 47, Series on Women's Entrepreneurship Development and Gender Equality (WEDGE).
 6. Siddiqui (2012). problem encountered by women entrepreneur in India. *International journal of applied research and studies I (II) sep – Nov 2012* Issn: 2274-9480.
 7. Munsura Rahmatullah and Farhana Zaman, (2014). "Female Entrepreneurship in Bangladesh: Constraints, Motivation and Success", *Bangladesh e-Journal of Sociology*, Volume.11, Number.2, July 2014, pp.65- 77.
 8. Veena. Rao, Nagaraja. N (2014) Challenges Faced by Women Entrepreneurs Running Micro, Small and Medium Scale Fashion and Apparel Business: A Study on Fashion and Apparel Enterprises in Coastal Karnataka. *International Conference on Trade, Tourism and Management* 21-22.
 9. Deepak Kumar (2014) "Women entrepreneur in India: Obstacles and Opportunities, *International Journal of Research (IJR)* Volume-1, Issue-5.
 10. Satpal, Rupa Rathee and Pallavi Rajain (2014) "Women Entrepreneurship: Challenges in the Present Technological Era" Vol.2, No.2 (June 2014) *International Journal of Advance Industrial Engineering* ISSN 2320 –5539.
 11. Kauffman (2015) Challenges facing New Entrepreneurs in 2014. The Kauffman Foundation and Legal Zoom Report.