



PAPER

Enhancement of photocatalytic activity by femtosecond-laser induced periodic surface structures of Si

P. Satapathy¹, A. Pfuch², R. Grunwald³ and S. K. Das¹

© 2020 Chinese Institute of Electronics

Journal of Semiconductors, Volume 41, Number 3

Citation P. Satapathy *et al* 2020 *J. Semicond.* **41** 032303

DOI 10.1088/1674-4926/41/3/032303

skdasfpy@kiit.ac.in


¹ Department of Physics, School of Applied Sciences, KIIT Deemed to be University, Bhubaneswar, Odisha, 751024, India

² Department of Surface Engineering, INNOVENT e.V., Prüssingstraße 27b, D-07745 Jena, Germany

³ Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Max Born Straße 2a, D-12489, Berlin, Germany

1. Received 15 August 2019

 Journal RSS

 Sign up for new issue notifications

Abstract

Laser induced periodic surface structures (LIPSS) represent a kind of top down approach to produce highly reproducible nano/microstructures without going for any sophisticated process of lithography. This method is much simpler and cost effective. In this work, LIPSS on Si surfaces were generated using femtosecond laser pulses of 800 nm wavelength. Photocatalytic substrates were prepared by depositing TiO₂ thin films on top of the structured and unstructured Si wafer. The coatings were produced by sputtering from a Ti target in two different types of oxygen atmospheres. In first case, the oxygen pressure within the sputtering chamber was chosen to be high (3×10^{-2} mbar) whereas it was one order of magnitude lower in second case (2.1×10^{-3}



Energy dispersive X-ray spectroscopy study of compound semiconductor zinc orthotitanate prepared by solid state reaction method

Lizina Khatua ^a, Susanta Kumar Das ^b  

[Show more](#) 

 Share  Cite

<https://doi.org/10.1016/j.matpr.2020.03.794> 

[Get rights and content](#) 

Abstract

In this work, the compound semiconductor nanoparticles of Zinc Orthotitanate (Zn_2TiO_4) was prepared by solid state reaction method. Titanium dioxide (TiO_2) and Zinc oxide (ZnO) are two of the most versatile semiconductor materials used as the starting material for this purpose. The particle size from the FESEM image was found in the range of 40–180 nm after solid state reaction which is in consistent with the particle size of ZnO and TiO_2 grinded individually. The different structural, morphological and optical characterizations of this compound semiconductor Zn_2TiO_4 is already been reported. Energy dispersive X-ray spectroscopy (EDX) is one of the important techniques to characterize the aforementioned material in terms of its purity and stoichiometricity. But however, there is hardly any work reported in this direction. So in this work detail EDX study was used in order to determine the element composition that present in the sample. The result of EDX study revealed that the synthesized Zn_2TiO_4 nanoparticles were of high purity, which contains high Zn, Ti and O element composition. The mass percentages Zn, Ti and O closely match with the ideal value of Zn_2TiO_4 nanocomposite.



Materials Today: Proceedings

Volume 33, Part 8, 2020, Pages 5592-5594

Photocatalytic study of methyl orange dye in UV exposure by using ZnO nanoparticles

Rajashree Sahoo ^a, Lizina Khatua ^b, Susanta Kumar Das ^c  

Show more 

 Share  Cite

<https://doi.org/10.1016/j.matpr.2020.03.575> 

[Get rights and content](#) 

Abstract

The ZnO nanoparticles were prepared by mechanical grinding method of the laboratory grade powder. X-ray diffraction (XRD), Transmission electron microscope (TEM), Diffuse reflectance spectra (DRS) characterizations were done for the conformity of phase formation, particle size estimation and optical property study. XRD result shows ZnO nanoparticles are of hexagonal wurzite phase and TEM image shows the diameter and length of the nanoparticles are 59.34 nm and 300 nm respectively. DRS image shows the band edge absorption spectra is coming around 380 nm. The photocatalytic activity was investigated under the UV exposure using laboratory grade ZnO nanoparticles for the decomposition of Methyl Orange (MO) dye. The MO dye decomposition took 60 min for the complete decomposition of dye. The reaction rate and kinetics is also studied. The reaction rate constant is found to be 0.05 min^{-1} and also it follows pseudo-fast order reaction kinetics. These materials are low cost materials and showing excellent photocatalytic activity.

Introduction

Mostly the dyes are used in textile industry, pharmaceutical industry, leather and food industries are synthetic dyes [1]. There are different types of dyes like Methyl orange (MO),





Composites Communications

Volume 17, February 2020, Pages 42-50

Short Communication

A novel investigation on durability of GRE composite pipe for prolonged sea water transportation

A.P. Chakraverty^a  , Sambhabana Dash^a, H.S. Maharana^b, S. Beura^c, U.K. Mohanty^c

[Show more](#) 

 Share  Cite

<https://doi.org/10.1016/j.coco.2019.11.008> 

[Get rights and content](#) 

Highlights

- GRE composite exhibits decreasing rate of property deterioration due to deposition of salt components like 'Na' and 'K'.
- Sustainable use of the GRE composite pipe is claimed under continuous prolonged flow of sea water.
- The present research establishes 23% reduction (maximum) of ILSS of composite pipe, even after one year of sea water flow.
- GRE composite can be chosen for prolonged transport of sea water in desalination industries.


Abstract



Characterization of Plasma Cured E-Glass-Epoxy composite

S. Beura ^a  , A.P. Chakraverty ^b, Swetalin Sarangi ^b, U.K. Mohanty ^{a, c}, D.N. Thatoi ^a

Show more 

 Share  Cite

<https://doi.org/10.1016/j.matpr.2020.03.444> 

[Get rights and content](#) 

Abstract

Glass fiber (E-Glass) reinforced polymer Epoxy-resin, composite seats were fabricated in the laboratory by hand-lay-up method with 6,12 and 18 layers of laminates. Short-beam-shear (SBS) specimens were machined out of the fabricated seats. The 6 layer SBS specimens were exposed to low temperature plasma for 5, 10, 15 and 20 minutes. The specimens developed the maximum ILSS (Inter Laminar Shear Stress), for the 6 layered samples with 15 minute of exposure to the low temperature plasma due to post-cure strengthening. on the basis of the above, 12 and 18 layered SBS specimens were also exposed to the same low temperature plasma for 15 minutes duration. The observed ILSS values for the 12 layered specimens were somewhat higher than the same for the 18 layered specimens while being less than the 6 layered once. The least ILSS values were recorded for the 18 play samples. Thus, the radial migration of low temperature plasma inside the core of the specimens, responsible for post cure strengthening was inferred to be a function of the no of layers in the composite specimens, decreasing with the increase in the no of layers responsible for an increase in the thickness of the specimens. Glass transition temperature (T_g) for these plasma cured samples with 15 minute exposure (optimum) also decreased with the increase in the no of layers in the specimens. The mode of failure, as revealed from SEM fractographs, included fiber-pull-out, fiber-matrix debonding, matrix cracking/ crazing and fiber breaking




Search



Paper Titles



Gamma-Irradiation of E-Glass/Epoxy Composite: A Study of its Mechanical and Thermal Sustainability

 351

Abstract:

Glass fibre reinforced epoxy (GRE) composites, used as mechanical support and thermal insulators for superconducting magnets of fusion reactors, have been exposed to gamma irradiations at both higher and lower order ranges of doses. Hand layed E-glass fibre/epoxy composite samples, exposed to gamma-irradiations of cumulative doses of both low strength (10, 20, 30, 40, 50 and 60 kGy) and high strength (0.5, 2.5, 6.5, 8.5 and 10.5 MGy) reveal a huge lowering of the ILSS (inter laminar shear strength) for its exposure to low strength dose irradiation. However, improved ILSS values are recorded for high dose exposures. At both high and low

doses of exposure to irradiation the T_g (glass transition temperature) got improved initially with a decreasing trend towards the later stages of exposures. Thermo-gravimetric analysis (TGA) test reveals lowest initial decomposition temperature (IDT) for the composite sample irradiated to maximum dose (10.5 MGy). Activation energy (E_a) values of gamma-irradiated composite samples for thermal decomposition were found less compared to that for as-cured composite. FTIR spectra of irradiated samples reveal formation of oligomers confirming the trend of activation energy of irradiated composite. FESEM fractographs of the irradiated composite fracture samples reveal several modes of failure.



Access through your institution

READ THE PAPER

Info:

Periodical:

Materials Science Forum (Volume 978)





Composites Communications

Volume 17, February 2020, Pages 42-50

Short Communication

A novel investigation on durability of GRE composite pipe for prolonged sea water transportation

A.P. Chakraverty ^a  , Sambhabana Dash ^a, H.S. Maharana ^b, S. Beura ^c, U.K. Mohanty ^c

Show more 

 Share  Cite

<https://doi.org/10.1016/j.coco.2019.11.008> 

[Get rights and content](#) 



Highlights

- GRE composite exhibits decreasing rate of property deterioration due to deposition of salt components like 'Na' and 'K'.
- Sustainable use of the GRE composite pipe is claimed under continuous prolonged flow of sea water.
- The present research establishes 23% reduction (maximum) of ILSS of composite pipe, even after one year of sea water flow.
- GRE composite can be chosen for prolonged transport of sea water in desalination industries.

Abstract



Enhanced magnetic field dependent critical current density of MWCNT doped magnesium diboride superconductor

Irshad Ahmad^a, J.S. Hansdah^a, S.N. Sarangi^b, P.M. Sarun^a  

Show more 

 Share  Cite

<https://doi.org/10.1016/j.jallcom.2020.155033> 

[Get rights and content](#) 

Abstract

MgB₂ bulk samples added with multiwall carbon nanotube (MWCNT) were synthesized by powder-in-sealed tube (PIST) method. The effect of MWCNT doping on the structural and superconducting properties of MgB₂ superconductor were investigated. The XRD analysis reveals the hexagonal structure of MgB₂ in all the samples. FESEM, TEM and Raman analysis indicate the microstructural changes due to MWCNT doping. Raman spectra show the shifting of the E_{2g} peak is more for lightly doped samples. DC magnetization measurement shows a sharp superconducting transition in all the samples and a slight reduction in critical temperature (T_c) for the doped samples. The $J_c(B)$ characteristics of doped samples show a significant enhancement of J_c compared with pristine MgB₂ at 10 and 20K. MgB₂ doped with 1 and 2 wt% MWCNT show maximum enhancement in J_c i.e., 1.3×10^5 and 1.1×10^5 A/cm² at 5 T and 10K, respectively, while heavily doped (5 wt%) sample shows lower $J_c(B)$ characteristics. The flux-pinning properties of MWCNT doped MgB₂ have been enhanced due to the formation of point pinning centers.

Introduction



Astroparticle Physics

Volume 125, February 2021, 102493

Parity in Planck full-mission CMB temperature maps

Srikanta Panda ^a, Pavan K. Aluri ^b, Pramoda Kumar Samal ^{a c}  , Pranati K. Rath ^d

Show more 

 Share  Cite

<https://doi.org/10.1016/j.astropartphys.2020.102493> 

[Get rights and content](#) 

Referred to by [Corrigendum to “Parity in Planck full-mission CMB temperature maps” \[Astroparticle Physics, Vol. 125 \(2021\), 102493\]](#)

Astroparticle Physics, Volume 130, July 2021, Pages 102582

Srikanta Panda, Pavan K. Aluri, Pramoda Kumar Samal, Pranati K. Rath



[View PDF](#)

Abstract

In the standard model of cosmology, Cosmic Microwave Background (CMB) sky is expected to preserve spatial symmetries. Following our previous studies, we search for evidence of a parity preference in the latest full-mission CMB temperature maps from ESA's Planck probe. Specifically, we probe (a)symmetry in power between even and odd multipoles of CMB, that corresponds to a particular parity preference under inversion, in Planck 2015 angular power spectrum measurements. We also assess any specific preference for mirror parity (a)symmetry, by analysing the power contained in $l + m$ =even or odd mode combinations.

PDF

Help

Introduction



Cobalt (II) complex catalyzed polymerization of lactide and coupling of CO₂ and styrene oxide into cyclic styrene carbonate

HARISH CHANDRA PRADHAN^a, SOMANATH MANTRI^b, ANITA ROUTARAY^b,
TUNGABIDYA MAHARANA^a and ALEKHA KUMAR SUTAR^{b,*}

^aDepartment of Chemistry, National Institute of Technology, Raipur 492010, Chhattisgarh, India

^bCatalysis Research Lab, Department of Chemistry, Ravenshaw University, Cuttack 753 003, Odisha, India
E-mail: dralekhasutar@gmail.com; mtungabidya@gmail.com

MS received 23 June 2019; revised 1 October 2019; accepted 1 October 2019

Abstract. In the present study, the cobalt (II) complex [Co-HMBED] has been prepared and characterized by spectrochemical techniques, which confirmed its square planar structure. The catalytic activity of the cobalt complex was evaluated towards solvent-free conversion of CO₂ and styrene oxide into cyclic styrene carbonate and polymerization of lactide.

Keywords. CO₂; Styrene oxide; cyclic carbonate; PLA; Schiff base; Cobalt complex.

1. Introduction

Since the early 21st century, modern researchers are searching for bio-renewable resources for the biodegradable, biocompatible and bioassimilable material. Poly(lactic acid)(PLA) is such a polymer,¹⁻³ on degradation it produces environmentally assimilable compounds such as H₂O and CO₂.⁴⁻⁷ PLA is used in biomedical application.^{8,9} And also, CO₂ is an easily available, economical, nonflammable and non-hazardous renewable carbon resource, available as an attractive raw material for the production of cyclic carbonate.¹⁰ These cyclic carbonates have extensive application as electrolytes,¹¹ aprotic solvents,¹² synthesis of polycarbonates,¹³ pharmaceutical intermediate,¹⁴ synthesis of urea derivative,¹⁵ biodegradable materials,¹⁶ etc.

An ideal industrial process should employ non-cytotoxic metals, as complete removal of metal never happens. Therefore, metals having no negative effects on living beings must be taken into consideration. However, although different transition metal complexes were used for the synthesis of PLA¹⁷⁻¹⁹ and cyclic carbonates,²⁰⁻²⁶ Nowadays, cobalt complexes with moderate lewis acidity property have given emphasis for in-depth investigation.

Furthermore, FDA has approved the CO₂ - based polymer such as poly (styrene carbonate), which is

formed from the raw material cyclic styrene carbonate and production of PLA. Presently, we are engaged in synthesizing Schiff base copper complexes,^{27,28} and nickel complexes^{29,30} which efficiently catalyzed the polymerization of lactide. Very few literatures say about the activity of cobalt metal catalysts for lactide polymerization and cyclic carbonate formation. Thus, the present paper reports the catalytic activity of cobalt complexes of HMBED (N,N'-bis (hydroxymethoxy-benzaldehyde) ethylenediamine) towards ROP of L-lactide and solventless conversion of CO₂ and styrene oxide into cyclic styrene carbonate. Finally, based on experimental results, a proposed mechanism has been given for lactide polymerization.

2. Experimental

2.1 Materials and characterization

All reactions were executed in dry N₂ ambiance by the use of glove box and Schlenk line. Sodium benzophenone and P₂O₅ were used for drying and distillation of toluene and dichloromethane, respectively. L-Lactide was supplied by Sigma-Aldrich, anhydrous cobalt chloride and ethylenediamine (ED), hydroxymethoxy benzaldehyde (HMB), benzyl alcohol (BnOH), dimethylaminopyridine (DMAP), pyridine (Py).

*For correspondence

Electronic supplementary material: The online version of this article (<https://doi.org/10.1007/s12039-019-1722-6>) contains supplementary material, which is available to authorized users.

In Silico Modeling and Docking Study of Potential Helicase (Nonstructural Proteins) Inhibitors of Novel Coronavirus 2019 (Severe Acute Respiratory Syndrome Coronavirus 2)

Raghunath Satpathy

School of Biotechnology, Gangadhar Meher University, Sambalpur, Odisha, India

Abstract

Background: Currently, the helicase enzyme of novel severe acute respiratory syndrome coronavirus 2019 has been proposed as a potential drug target. This work envisages predicting the three dimensional (3D) structure of helicase (nonstructural protein 13) and screen for the novel inhibitor molecules. **Methods:** For this purpose, the sequence information of helicase enzyme was obtained from NCBI, and 3D model was predicted using I TASSER server followed by model validation. The helicase enzyme sequence was then used to search for the potential inhibitors in the Drug Bank database. The search resulted eight numbers of probable drug molecules against the receptor. To confirm the binding affinity of the drug molecules, further molecular docking study was conducted using AutoDock Vina software. **Results:** From the docking result, it was obtained that, among all eight numbers, only the molecule remdesivir shows more binding affinity to the nucleoside triphosphate binding site of helicase enzyme and further confirmed by analysis of amino acid interaction profile. **Conclusion:** In the present study, it was predicted that, the drug molecule remdesivir can be suitably used as a helicase inhibitor in case of novel severe acute respiratory syndrome coronavirus 2019.

Keywords: Binding affinity, docking, drug molecule, helicase, molecular modeling, nonstructural proteins 13, severe acute respiratory syndrome coronavirus 2, structure prediction

INTRODUCTION

In December 2019, some of citizens of Wuhan city in China suffered from respiratory disease by the novel coronavirus (CoV) (severe acute respiratory syndrome CoV-2 [SARS-CoV-2]) infection. Soon after, this became the center of origin of the novel CoV disease with the acronym COVID-19, designated by the World Health Organization (WHO). Afterward, the disease outbreak continues to spread quickly across the globe in a very short period. Due to its severe infection rate, on January 30, 2020, the WHO declared COVID-19 as the public health emergency of international concern followed by a worldwide pandemic declaration on March 11, 2020. As of May 5, 2020, it has spread to 215 countries. The major cause of SARS-CoV

-2 infection is due to the contact between person-to-person and that leads to transmission of the disease.^[1-5] The novel coronavirus is spherical and enveloped in nature and exhibit variation in shape and size with a diameter range from 60 to 140 nm. This contains a positive (+)-sense, single-stranded

Address for correspondence: Dr. Raghunath Satpathy,
School of Biotechnology, Gangadhar Meher University, AmrutaVihar,
Sambalpur - 766 004, Odisha, India.
E-mail: msatpathy@gmail.com

ORCID: <https://orcid.org/0000-0001-5298-8492>

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Satpathy R. *In silico* modeling and docking study of potential helicase (nonstructural proteins) inhibitors of novel coronavirus 2019 (severe acute respiratory syndrome coronavirus 2). *Biomed Biotechnol Res J* 2020;4:330-6.

Submitted: 07-Aug-2020; Revised: 30-Sep-2020;
Accepted: 30-Sep-2020; Published: 30-Dec-2020.

Access this article online	
Quick Response Code: 	Website: www.bbrj.org
	DOI: 10.4103/bbrj.bbrj_149_20



Application of Molecular Docking Methods on Endocrine Disrupting Chemicals: A Review

Raghunath Satpathy^{1*}

¹School of Biotechnology, Gangadhar Meher University, Amruta Vihar, Sambalpur -768004, Odisha, India

Corresponding Author: Raghunath Satpathy, PhD, Assistant Professor, School of Biotechnology, Gangadhar Meher University, Amruta Vihar, Sambalpur -768004, Odisha, India. Tel: +91-9437119053, Email: rnsatpathy@gmail.com

Received October 9, 2019; Accepted February 28, 2020; Online Published June 13, 2020

Abstract

Endocrine-disrupting chemicals (EDCs) interfere with hormone receptors and are associated with a variety of adverse health effects. Therefore, there is a rising global concern about these substances. Numerous xenobiotic substances released into the environment are classified into EDCs that adversely affect the developmental and reproductive functions of living species. The mode of the action of these substances are directly or indirectly binding to the hormone receptors and abnormally controls the hormonal activity. However, major challenges exist in order to analyse the effect of these substances experimentally as it is associated with experimental costs and performance time. Therefore, the bioinformatics basis of the study is used as an alternative to experimental approaches by many researchers. Popular computational methods such as molecular docking is currently used to predict the effect of the EDCs on the endocrine receptor. Molecular docking method uses the EDCs as ligand and hormonal receptor proteins as the target and computationally evaluates the binding affinity, conformational changes and stability. Also, this is the ultimate leads to understand the structural and functional aspects. In this review, specifically the bioinformatics resources and implementation of molecular docking methods towards the evaluation of toxicity, binding affinity, classification of the potential endocrine disrupting substances have been discussed by narrating the literature.

Keywords: Bioinformatics, Endocrine-Disrupting Chemicals, Computational Tools, Molecular Docking, Hormone Receptor, Metabolic Pathway Analysis

Citation: Satpathy R. Application of molecular docking methods on endocrine disrupting chemicals: a review. *J Appl Biotechnol Rep.* 2020;7(2):74-80. doi:10.30491/JABR.2020.108287.

Introduction

Endocrine disruptors are widely dispersed in the environment, belong to the harmful chemical substances that interfere with the endocrine system and cause adverse physiological (developmental, reproductive, and neurological) effects on humans and other wildlife. Various categories of substances such as pharmaceuticals, dioxin, and dioxin-like compounds (DLCs), halogenated compounds like PCBs also belong to the potential endocrine disruptors.^{1,2} In addition, the substances which are found in plastic bottles, detergents, flame retardants, food, toys and cosmetics also belong to this group.³ Many pesticides such as DDT and azole have been identified as endocrine-disrupting chemicals (EDCs) due to their ability to bind sex-steroid hormone receptors.⁴ These EDCs and also possesses of bio-accumulation and persistent properties are responsible for reproductive problems such as reduced fertility, male and female reproductive tract abnormalities, loss of foetus, changes in hormone levels; early puberty, impaired immune functions, several types cancers and so on.⁵

Animal studies have shown the impact and activity of the endocrine disruptors that influence the endocrine system and cause the alternation in the normal hormonal functions (Figure 1).

Some of the basic mechanisms have been described in literature and are presented in the below section.^{6,6}

- The EDCs can completely mimic the naturally occurring hormones in the body like estrogens (the female sex hormone), androgens (the male sex hormone), and thyroid hormones.
- Sometimes, these substances bind to a receptor within a cell and disrupt the action of the endogenous hormone from binding, so fails to occur without responding properly.
- Also, the EDCs interferes with the natural hormones and their receptors cause the alternation in their normal metabolism.

Bioinformatics Application on Endocrine Disruptor Chemicals

Many of the known chemicals exhibit the endocrine disruptor activity, but their exact mode of action of these substances on the metabolism is still unknown.⁷ The experimental screening process of these endocrine disruptor molecules involves animal-based toxicity screening, and testing, are time-consuming as well as cost-intensive processes.⁸ Therefore, it is important to implement the computer-based application to

Stress Tolerance Effect of Three Different Sub-aerial *Cyanobacteria* sp. Isolated from Exteriors of Buildings under Adverse Environmental Conditions

Lakshmi Singh¹  and Santosh Kumar Sethi^{2*} 

¹Department of Botany, College of Basic Science and Humanities, Odisha University of Agriculture and Technology, Bhubaneswar - 751 003, Odisha, India.

²School of Biotechnology, Gangadhar Meher University, Sambalpur - 768 004, Odisha, India

Abstract

The current interest of scientific study aims at survival mechanisms of the cyanobacteria on the extreme habitats (i.e. building facades and monuments) growing under adverse conditions. The present investigation points towards finding out indigenous which are tolerant of conflicting environmental conditions, such as pH, temperature and calcium carbonate. Three isolates of cyanobacteria *Scytonema coactile*, *Scytonema geitleri* and *Lyngbya aerugineo-coerulea* from a cave, building façade, and temple, Orissa respectively were examined. Tolerance to stress at different pH and temperature were evaluated by quantifying cyanobacteria growth at different time intervals. Tolerance to CaCO₃ was studied by subjecting the isolates to the desired concentration 0.0001 - 1% w/v. Each organism was grown for 15 days at 25°C ± 1°C under continuous light intensity (7.5 W/m²) and then harvested, succeeded by SDS gel-electrophoresis protein analysis. Results revealed that three isolated cyanobacteria species from different sub-aerial habitats responded in a specific manner to different stress conditions and to various concentration of CaCO₃ concerning protein synthesis. A 30 and 38 kDa protein was overproduced by all isolates under pH and temperature stress, whereas for CaCO₃ stress, the protein of 16 and 22 kDa was overproduced by *Lyngbya aerugineo-coerulea* respectively which concluded that the survival of the isolates under stress conditions depends on specific protein synthesis. Generally, isolates tolerant to different stress may be due to specific protein synthesis for their survival to extreme habitats.

Keywords: Cyanobacteria, environmental stress, extreme habitats, tolerance, adaptation (CaCO₃ - Calcium Carbonate)

*Correspondence: sksethi2k@gmail.com

(Received: March 13, 2020; accepted: September 16, 2020)

Citation: Singh L, Sethi SK. Stress Tolerance Effect of Three Different Sub-aerial *Cyanobacteria* sp. Isolated from Exteriors of Buildings under Adverse Environmental Conditions. *J Pure Appl Microbiol.* 2020;14(4):2729-2743. doi: 10.22207/JPAM.14.4.50

© The Author(s) 2020. Open Access. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License which permits unrestricted use, sharing, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.



ROLE OF THE COOPERATIVE BANKS IN THE SOCIO-ECONOMIC DEVELOPMENT PROCESS OF ODISHA

Kaushalya Kisan

Lecturer in Commerce, Rajendra College, Rajnagar, Odisha

Shyam Charan Acharya

Associate Professor, Department of Commerce, Gopabandhu Meher University, Sambalpur, Odisha

ABSTRACT

The Economy of India is rural in character and is basically concerned with agriculture and allied activities. The allied activities include animal husbandry, fisheries, apiculture, sericulture, floriculture etc. There are also a section of the rural population such as; small and self-employed businessmen, small and marginal farmers, agricultural labourers & rural artisans pursuing occupations as potters, blacksmiths, cobblers, weavers, barbers etc. by way of inheritance & who are engaged in seasonal farming. This is due to the fact that neither their basic occupation nor agriculture provides round-the-year employment to many of them for sustaining their livelihood. These people are the pillars of rural economy. On account of the division among the people engaged in these limited means of earnings, unfair rivalry and dependence on village money lenders for urgent and immediate financial accommodation have seriously jeopardised the working and the socio economic life of each categories of community. Therefore neither agriculture nor the economy developed. Agriculture is the foundation on which the entire superstructure of the growth of the industrial and other sectors of the economy stands. Because of the local feel, familiarity and the wide-spread existence of the co-operative societies at the grass-root level, they can play a very crucial role in implementing the various government sponsored schemes for the sustainable development of the weaker sections of the society in the rural and urban areas as well. The

Performance of sfcs in eastern region: A comparative study of OSFC and WBFC with special reference to NPA

Dr. Pradhan Pradip Kumar¹, Dr. Behera Bhagabat², Dr. Panda Priyabrata³

¹Junior Lecturer in Commerce, Gangadhar Meher Jr College, Sambalpur, Odisha, India

²Assistant Professor in Commerce, Ravenshaw University, Cuttack, Odisha, India

³Assistant Professor in Commerce, Gangadhar Meher University, Sambalpur, Odisha, India

Online published on 1 March, 2021.

Abstract

The roles of the State Financial Corporation-s (SFCs) are very crucial for overall economic development of India in general and of the concerned state in particular. These institutions are imparting loan facilities to the small and medium industries of the concerned state. It is evident that most of the SFCs have been crippling with serious financial crisis at present. Given all the facts intact, this study compares and analyses the performances of the Odisha State Financial Corporation (OSFC) and West Bengal Financial Corporation (WBFC) regarding NPA management. This study is based on the secondary data, on the basis of which it analyses the trends of advances, recovery, profitability and NPA by using different statistical techniques such as ratios, percentage, descriptive statistics, t-test, etc. It is found that the performance of WBFC is much better than the OSFC.

[Top](#)

Keywords

Efficiency, advances, recovery, profitability, NPA.

[Top](#)

[PDF](#)



Air pollution tolerance index (APTI) and expected performance index (EPI) of trees in sambalpur town of India

Chandan Sahu^{1,2} · Sradhanjali Basti^{1,3} · Sanjat Kumar Sahu¹

Received: 23 March 2020 / Accepted: 19 June 2020

© Springer Nature Switzerland AG 2020

Abstract

Poor disposal of waste and release of pollutants to the environment through urbanization, industrialization and anthropogenic activities have been a serious threat to human health. Therefore, there is a need to evaluate the pollution status of towns through the identification of bio-monitor and bio-indicator trees. Keeping this in view, a work was undertaken to study the Air Pollution Tolerance Index (APTI) and Expected Performance Index (EPI) of trees in Sambalpur town, located in Western flanks of Eastern India during three seasons (monsoon, post-monsoon and pre-monsoon) in 2015–16. The measurements of different biochemical parameters (ascorbic acid: di-chlorophenol indophenol method of Keller and Schwager (Eur J For Pathol 7:338–350, 1977); leaf extract pH: electrometric method of Liu and Ding 2008; relative water content: oven dry method of Prajapati and Tripathi (2008) and total chlorophyll: acetone extraction method of Arnon (Plant Physiol 24:1–15, 1949), and socio-economic characters (plant habit, canopy structure, and type of plant, laminar structure and economic value as per Moore and Chapman (Methods in plant ecology, Blackwell Scientific Publications, Oxford, 1986) and Noor et al. (Environ Geochem Health 1–15, 2014) of selected 21 trees were carried out from five polluted or experimental sites (i.e. Remed, Ainthapali, Dhankauda, Dhanupali and Durgapali) and a non-polluted or control site (i.e. Sambalpur University campus) based on commonness of tree species to all the sites and close proximity to the roads. A total of 45 samples (3 trees of each species × 5 leaves from each tree × three replicates per treatment) for every species in each site were analysed as per above standard protocol and methodology. The APTI of the trees in the control site ranged from 8.99 (*Butea monosperma*) to 31.63 (*Peltophorum pterocarpum*), while that in the experimental sites it was ranged from 10.47 (*Tamarindus indica*) to 18.04 (*Mimusops elengi*). In most cases of trees (67.71%), the APTI values were higher in experimental sites than the selected trees in control site, indicating thereby that the species having higher APTI values had a greater tolerance against air pollution. The categories of various trees, classified on the basis of overall APTI, revealed that in the control site 66.67, 19.05 and 14.28% of the total trees were in the intermediately tolerant (IT), moderately tolerant (MT) and tolerant (T) categories respectively; whereas in the experimental sites, 42.86, 23.81, 19.05 and 14.28% of the species were in the intermediately tolerant (IT), moderately tolerant (MT), tolerant (T) and sensitive (S) categories respectively. Finally, based on the EPI scores, the trees found to be fit for plantations are *Ficus religiosa*, *Madhuca indica*, *Azadirachta indica*, *Artocarpus heterophyllus*, *Mangifera indica*, *Ficus benghalensis* and *Syzygium cumini*, owing to their placement in Best or Excellent category (81–100%). On the other hand, species like *Ziziphus jujuba*, *Tamarindus indica* and *Thevetia peruviana* can be used as good bio-indicators due to their low EPI scores (31–50%). This work will be highly useful in formulating the management strategy against rising air pollution issues of the developing urban areas.

Keywords Air pollution · Ascorbic acid · Bio-indicators · Leaf extract pH · Relative water content · Socio-economic characters · Total chlorophyll

✉ Chandan Sahu, cks.env@gmail.com; Sradhanjali Basti, shradhasp08@gmail.com; Sanjat Kumar Sahu, sahusanjat@rediffmail.com |

¹P.G. Department of Environmental Sciences, Sambalpur University, Jyoti Vihar, Burla, Odisha, India. ²Gangadhar Meher University, Amruta Vihar, Sambalpur, Odisha, India. ³State Pollution Control Board, Bhubaneswar, Odisha, India.





Trace metal pollution in the environment: a review

C. Sahu¹ · S. Basti²Received: 4 February 2020 / Revised: 11 March 2020 / Accepted: 18 May 2020 / Published online: 26 May 2020
© Islamic Azad University (IAU) 2020

Abstract

Trace metal (TM) pollution is a worldwide problem of late. The rapid pace of urban transition, globalization and industrialization has resulted in the deposition and conversion of trace metals in the environment. The effects of TM pollution have not only harmed the plants and crops, but also have posed severe health hazards in animals during recent years. The dynamics of inter- and intra-compartmental metal exchange and the involved kinetics have some role to play in mobility and availability of TM in a particular compartment and have impacted every sphere of environment. Technological advancements coupled with the bioremediation process are gaining popularity in addressing the growing issue nowadays. The current review therefore attempts not only to highlight the dynamics of TM stay in the environment but also to trace the fluctuation in the TM biogeochemical cycle with an analysis of compartmental source-sink of TM. It also attempts to expose the knowledge gap in addressing the effects of TM on pollution tolerance ability of green vegetation and the role of urban biotopes and green belts in mitigating TM pollution.

Keywords Bioremediation · Metal contamination · Phytoremediation · Trace metal cycling

Introduction

Trace metal (TM) pollution has attracted global attention as an area of utmost concern in the context of modern environmental pollution (Raghunandan et al. 2018). The global TM cycling has witnessed a serious fluctuation in the source–sink dynamics of TM. Further, with the rapid expansion of development and growth of industrial controlling equipment, the rise of ultrafine-sized TM has presented itself as a potent threat to life (Xiao et al. 2018). On the other hand, poor maintenance of vehicles having high emission has also significantly increased the production and subsequent dry sediment deposition of TMs (Guo et al. 2008). However, the biggest concern while addressing the TM pollution in the urban areas of developing and developed countries is the by-product of the municipal solid waste. Incineration which forms a major technique of handling the

municipal waste generates airborne metals linked to particulates or volatile metal constituents in air. The ultimate fate of TM sourced from varied sectors, however, is the entry into the food system of humans and animals. It is also to be specially mentioned that TMs have a dietary requirement and despite playing vital roles in the day-to-day activities of humans, they have posed threats to life as a mutagen, carcinogen and teratogen at higher concentrations.

Over the years scientists and researchers have worked to find solutions to growing TM pollution through natural and artificial means. Comparatively the green solution through bioremediation process has gained popularity than the artificial techniques because TMs are non-degradable in the environment (Dangi et al. 2019). An excellent example of this is the phytotransformation (involving higher plants) of hexavalent chromium (toxic form) to trivalent (non-toxic) form. The most difficult task, however, is disposing off the waste products post-remediation while ensuring their non-entry into another compartment of the environment as a pollutant. This is evident from the fact that the soluble form of some TMs in soil and water is phytovolatilized into the atmosphere, thereby entering into the air from the soil and water compartments, respectively.

Several types of researches have been conducted in previous years concerning the TM pollution and its amelioration

Communicated by M. Abbaspour.

✉ C. Sahu
cks.env@gmail.com

¹ Gangadhar Meher University, Amruta Vihar, Sambalpur, Odisha 768004, India

² State Pollution Control Board, Bhubaneswar, Odisha, India



**FINANCIAL ANALYSIS OF ROOF TOP GRID CONNECTED SOLAR POWER PLANT IN HARYANA,
INDIA**

<p>ARABINDA SHARMA* Associate Professor, School of Earth & Environmental Sciences, Gangadhar Meher University, Sambalpur- 768004, Odisha, India *Email: arbind_78@rediffmail.com</p>	<p>RASHMI PRIYA SHARMA PG Student, Department of Commerce, GDC Memorial College, Bahal-127028, Bhiwani, Haryana, India Email: rashmipriya1984@gmail.com</p>
---	--

ABSTRACT

The study deals with financial appraisal of a rooftop solar photovoltaic plant using payback period, net income, internal rate return, debt service coverage ratio for tariff calculated using different financial models i.e. central electricity regulatory guidelines with or without accelerated depreciation, user provided feed-in-tariff and income from renewable energy certificate. The results indicated that calculated tariffs were not competitive to conventional source of power generation and policy intervention from Government is still needed to make it economically viable. The choice of financial model should be based on a tradeoff between preferences of producers and consumers aligning with the Government policies.

Keywords: rooftop SPV, financial analysis, payback period, internal rate of return, debt service coverage ratio, renewable energy certificate

Introduction

The power sector in India is facing huge challenges due to several reasons. With growing economy, India's demand for electricity is also increasing steadily. The rising cost of fuels such as petroleum, natural gas, coal etc accompanied by their limited and uncertain supply pose great threat in meeting out the demand of electricity in one hand and also creates issue of climate change and environmental degradation on the other hand [1]. These facts compelled policy makers to think towards nonconventional and renewable sources of energy to meet out the electricity demand of the country [2]. The renewable source of energy are very often considered to be green energy source also as they cause little to no threat our

environment as compared to conventional fossil fuel [3].

Among the various renewable energy source, solar energy has been witnessed a great proliferation in its use in the last two decades. It has become by virtue of its abundant availability across the country and immense technological development as compared other renewable energy source [4]. The conversion of this energy into electrical energy is generally carried out using two technologies i.e. solar photovoltaic cell (SPV) and thermal solar energy (TSE). The solar PV cell is a more logical choice because of its modular and solid state nature, and capability of producing electricity in more decentralized way on the site, easy installation with minimum technical knowledge [5]. By virtue of above mentioned advantages, solar PV cell can be even mounted on

SEISMIC PERFORMANCE EVALUATION OF A MULTI-STOREY BUILDING WITH DIFFERENT BRACED FRAMES

<p>ANKIT GARG Research Scholar, Civil Engineering Department, Shri Jagadishprasad Jhabarmal Tibrewala University Email: ankitgargmeerut@gmail.com</p>	<p>ARABINDA SHARMA Associate Professor, School of Earth & Environmental Sciences, Gangadhar Meher University Email: arbind_78@rediffmail.com</p>
--	---

ABSTRACT

The most suitable choices in improvement of reinforced cement concrete (RCC) frame against lateral loading are to use of steel bracing system. Using steel bracing has a potential advantage over other engineering provisions in terms of higher strength and stiffness, economical, occupies less space, adds much less weight to the existing structure. In this study, the seismic analyses of RCC frame building with different bracing (X type, X type tension only, Eccentric-K type, Inverted-V type,) were studied. For this purpose, a six-storey (G+5) building in seismic zone IV with medium soil was hypothesized. Subsequently, the building models were analyzed by equivalent static analysis as per IS code 1893:2002 using Resist software. The main parameters considered comparing the seismic performance of the buildings were stability coefficient, P-delta, lateral displacement, storey drift, inter-storey drift ratio. It was found that the X type of steel bracing significantly contributes to the structural stiffness and reduced the inter-storey drift of RCC building more effectively as compared to other bracing systems.

Keywords: Lateral Displacement, P-delta, Seismic Analysis, Steel Bracing, Storey Drift.

Introduction

Earthquakes are vibrations emanating from a source of disturbance within the earth crust which release energy in the form of seismic waves. Thus, in seismically active zones, structures are subjected to lateral earthquake forces in addition to bearing the primary gravity load [1]. The performance of a structure during an earthquake depends on the intensity of the earthquake and the properties of the structure. Poorly

constructed structures are more prone to damage by such seismic force [2]. Most of the multistory buildings are made of RCC frame building so it's great importance given to make the structure safe against lateral load produce due to the wind and earthquake [3].

Therefore, structural components of buildings are must be designed carefully. During seismic events, the response of a steel structure is found to vary from elastic to highly inelastic. Steel structures



Experimental Investigation of Concrete Properties on Partial Replacement of Aggregates with Waste Materials

Priya Goyal¹, Arabinda Sharma²✉

¹Post Graduate student, Civil Engineering Department, BRCM College of Engineering and Technology, Bahal-127028, Bhiwani, India, Email: pgoyal@brcm.edu.in

²Associate Professor, School of Earth and Environmental Science, Gangadhar Meher University, Sambalpur-768004 Odisha, India

✉ **Corresponding Author:**

Arabinda Sharma

Associate Professor, School of Earth and Environmental Science,
Gangadhar Meher University,
Sambalpur-768004 Odisha, India, Email: arbind_78@rediffmail.com

Article History

Received: 27 November 2019

Accepted: 17 January 2020

Published: January 2020

Citation

Priya Goyal, Arabinda Sharma. Experimental Investigation of Concrete Properties on Partial Replacement of Aggregates with Waste Materials. *Indian Journal of Engineering*, 2020, 17(47), 134-150

Publication License



© The Author(s) 2020. Open Access. This article is licensed under a [Creative Commons Attribution License 4.0 \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).

General Note



Article is recommended to print as color digital version in recycled paper.

ABSTRACT

The paper presents an experimental investigation out to evaluate the mechanical properties of concrete mixtures in which fine aggregate (sand) was replaced with Copper Slag (CS) while coarse aggregates were replaced by recycled concrete aggregate (RCA) from a demolished structure. Both the fine and coarse aggregate were replaced by 10%, 20%, 30%, of CS and RCA by weight from



Experimental study on the properties of steel fibre reinforced concrete

Abhishek Jangid¹, Arabinda Sharma²✉

¹Post Graduate student, Civil Engineering Department, BRCM College of Engineering and Technology, Bahal-127028, Bhiwani, India

²Arabinda Sharma, Associate Professor, School of Earth and Environmental Science, Gangadhar Meher University, Sambalpur-768004 Odisha, India

✉ **Corresponding Author:**

Associate Professor, School of Earth and Environmental Science, Gangadhar Meher University, Sambalpur-768004 Odisha, India;

Email: arbind_78@rediffmail.com

Article History

Received: 09 December 2019

Accepted: 30 January 2020

Published: February 2020

Citation


Abhishek Jangid, Arabinda Sharma. Experimental study on the properties of steel fibre reinforced concrete. *Indian Journal of Engineering*, 2020, 17(47), 151-163

Publication License



© The Author(s) 2020. Open Access. This article is licensed under a [Creative Commons Attribution License 4.0 \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).

General Note

 Article is recommended to print as color digital version in recycled paper.

ABSTRACT

The research work deals with an experimental investigation of the properties of steel fibre reinforced concrete (SFRC). It studied thirteen samples of SFRC mixes of M30 concrete of varying dosage of 3D and 5D steel fibres; ranging from 25kg/m³ to 45 kg/m³. The SFRC specimens were tested for various properties: specific density, workability, compressive strength and toughness index. The effect of specific gravity, steel fibre dosage, and water to cement ratio on the properties of SFRC also explored individually and in combination. Experimental results showed that workability of the fresh SFRC decreases slightly on increasing the dosage of steel fibre. However, the slump value decreases more rapidly for the same SFRC after 25 minutes of its preparation. The experimental and graphical analysis indicated that use of steel fibre improves the compressive strength of the SFRC mix at both 7-days and 28-days of curing considerably beyond the designed strength of the concrete i.e. 30MPa. The toughness indices, determined as I5 and I10, also



A new framework for integrated, holistic, and transparent evaluation of inter-basin water transfer schemes



Pammi Sinha^a, Edward Rollason^{b,*}, Louise J. Bracken^a, John Wainwright^a, Sim M. Reaney^a

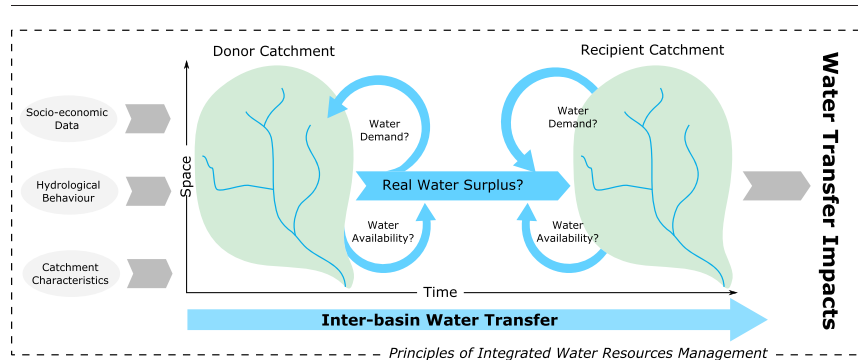
^a Department of Geography, Durham University, DH1 3LE, UK

^b Department of Science, School of Health and Life Sciences, Teesside University, Middlesbrough TS1 3BX, UK

HIGHLIGHTS

- Growth in Interbasin Water Transfer has large scale socio-ecological implications.
- Scheme impact assessments are often highly contentious and lack public scrutiny.
- An interdisciplinary approach for evaluating IBWT using open data is developed.
- The approach is demonstrated using a case study from India.
- A new framework for assessing IBWT scheme impacts is proposed.

GRAPHICAL ABSTRACT



ARTICLE INFO

Article history:

Received 20 December 2019

Received in revised form 28 February 2020

Accepted 28 February 2020

Available online 02 March 2020

Editor: Frederic Coulon

Keywords:

Integrated water resources management
Inter-basin water transfer
Water resource modelling
Water scarcity

ABSTRACT

Water shortages are forecast to affect 50% of the world's population by 2030, impacting developing nations most acutely. To increase water security there has been a significant increase in Inter-basin Water Transfer (IBWT) schemes, engineering mega-projects that redistribute water from one basin to another. However, the implementation of these schemes is often contested, and evaluation of their complex impacts inadequate, or hidden from full public scrutiny. There is an urgent need to develop more integrated, holistic, and transparent ways of evaluating the multiple interlinking impacts of IBWT schemes of this scale. In this paper, we address this gap by outlining an experimental methodology to evaluate IBWT schemes using a multidisciplinary and transparent methodology which utilises publicly available data. We illustrate the method using a case study from the Inter-Linking Rivers Project in Northern India, comparing the results of the experimental approach against the official analysis of the proposed scheme produced by the State Government of Jharkhand. The results demonstrate that the proposed experimental method allows more detailed evaluation of spatial and temporal variability in water availability and demand, as well as holistic evaluation of the functioning of the proposed scheme under different future scenarios. Based on these results we propose a flexible framework for future evaluation of proposed water transfer schemes which embeds the principles of integrated assessment, transparency, and sound science which can be adapted to other IBWT projects across the world.

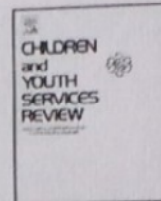
© 2020 Elsevier B.V. All rights reserved.

1. Introduction

Water security is one of the most pressing problems of the 21st Century (Srinivasan et al., 2017), with current estimations suggesting

* Corresponding author.

E-mail address: e.rollason@tees.ac.uk (E. Rollason).



Exploring the sexual coercion and mental health among young female psychiatric patients in India

Rashmi Rai^a, Ambarish Kumar Rai^{b,*}

^a School of Geography, Gangadhar Meher University, Sambalpur, Odisha, India

^b PG Department of Geography, Veer Kunwar Singh University, Ara, Bihar, India



ARTICLE INFO

Keywords:

Sexual coercion
Mental illness
Women
Childlessness
Qualitative
India

ABSTRACT

Globally, the research has consistently found that at least one-third and as many as three-quarters of women report a history of sexual coercion and associated cause for mental-health problem. The majority of the research on sexual coercion comes from developed countries. Women in India are 'taught' to be inferior to men, are expected to serve, obey and satisfy their husband's sexual needs. Research exploring the subjective experience of coercion, the context in which it occurs and its consequences among women living in Indian society with a psychiatric disorder are urgently needed. Therefore, the current study uses a qualitative research design and phenomenological approach to explore the issues related to sexual coercion among Indian women living with a psychiatric disorder. Results illustrated psychiatric women ($n = 168$) reported that their husbands were the prime (50%) perpetrator. Further, teachers (25%), blood relatives (19%) and their friends (6.5%) followed the numbers of perpetrators. About 40% of respondents reported a history of sexual abuse before the age of 18, and 62% of women experienced marital rape. The childlessness of women also causes for sexual coercion. About three-fifth women never report such incidence of sexual coercion. Many women in India, with mental disorders, have been and continue to be exposed to sexual coercion. Interestingly, all women were facing this because they were women in a patriarchal society. In summary, concerted efforts at social, emotional and legal levels can bring change in the lives of Indian women and contribute to the improvement of the mental health of these women. The findings can be used in structuring culturally appropriate, but valid programs aimed at reducing both sexual coercion and the respective mental disorders. Further mixed method research is recommended to enrich and quantify our understanding.

1. Introduction

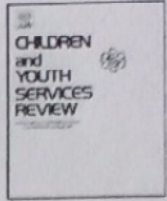
Studies focusing on sexual coercion vary to the concerning definitions of sexual coercion, sampling strategies, and other methodological features. Many times the term sexual abuse and sexual coercion used interchangeably. When someone holds the authority to take advantage of a person's trust and respect to involve them in a sexual activity is considered as 'Sexual Abuse' (Holmes & Holmes, 2008). Sexual abuse is a form of mistreating children in sexual manner. Sexual abuse is mainly used to describe sexual behaviour toward children, not adults (Mathews & Collin-Vézina, 2019) while the sexual coercion is considered as unwanted sexual activity that happens when victim were pressured, tricked, threatened, or forced in a nonphysical way (Eckert, Sugar, & Fine, 2002). Nonetheless, research has consistently found that at least one-third and as many as three-quarters of women report a history of sexual coercion that associated to their mental health problems (Beck &

Van der Kolk, 1987; Carmen, Rieker, & Mills, 1984). As per a report of the United Nations, in India, about two-thirds of married women were victims of domestic violence and one such incident translated into losing 7 working days of women in the country. Moreover, about 70% of married women ages between 15 and 49 years are victims of violence as beating, coerced sex or rape (Malhotra & Shah, 2015). Sexual coercion is a very serious and prevalent concern among female psychiatric patients in India as sexual coercion was reported by about 30% of the 146 women in an Indian study. Among these, the most frequently reported experience was sexual intercourse that involving actual physical force or threatened (reported by about 14% of women). The commonly identified perpetrator were the husband or intimate partner (15%), or a person in a position of authority in their community (10%) (Chandra, Carey, Carey, Shalinianant, & Thomas, 2003). The consequences of gender-based violence and sexual coercion are so devastating and it includes life-long emotional distress (Eckert et al., 2002), poor

* Corresponding author at: PG Department of Geography, Science Block, Veer Kunwar Singh University, Ara, Bihar 802301, India.

E-mail address: ambarish.k.rai@gmail.com (A.K. Rai).

Self-attested
Rashmi



Is sexual assault breaking women's spatial confidence in cities of India? Some explorations from Varanasi city

Rashmi Rai^{a,*}, Ambarish Kumar Rai^b

^a School of Geography, Gangadhar Meher University, Sambalpur, Odisha, India

^b PG Department of Geography, Veer Kunwar Singh University, Ara, Bihar, India



ARTICLE INFO

Keywords:

City
Crime
Fear
Sexual assault
Spatial confidence
Varanasi
Women

ABSTRACT

Confidence (fearlessness) of women in the city is associated with freedom, equality, and a sense of control over, and possession of social space. Rapid urbanisation in Indian cities caused a transition in the societies and tended to uproot and challenge traditional values to provide equal opportunity to use spaces irrespective of gender. Adversely, it can be seen in women's lives as 'breakings' that is continuously trying to break the courage of women in the process of socialisation. Therefore, it becomes essential to explore how and why the fear of being victimised and real victimisation of sexual assault undermines some women's confidence, restricting their access to, and activity within, social space. The study is based on primary data of Varanasi City. It is further corroborated by the phenomenological approach for exploring the harsh victimisation experience of respondents in their own words. The study revealed that majority of the survivors received 'negative reactions' and 'lack of support' for the assault. These survivors were blamed for bringing themselves in vulnerable positions and were frequently told that they should have known better. Some survivors discussed a 'lack of options' as a reason for not continuing to disclose the assault. The study suggests that combating sexual assault myths, educating about the assault to avoid adverse reactions may help to reduce the trauma and increase the likelihood that victims receive the support.

1. Introduction

Researchers have studied about increased sexual violence across the world specifically in public spaces and link it with the rapid pace of transformations in the social and cultural domain (Momsen 2006). Studies made by Staudt (2011), Harris (2013) and Neuman (2013) explained that when women are breaking through and increase their boundary of space utilization, it resultant into creates an imbalance between the genders and increases tensions among both counterparts. Under these tensile environments, as a reaction of men, such stress can be translated into sexual violence against women. This would be an attempt to maintain the traditional driven gender power structures of the society in transition processes. Moreover, India is not the only land where sexual violence against women has rapidly increased, many researches has shown the similar situation in many countries like South Africa, Egypt, Malaysia and Mexico (Staudt 2011).

Sexual assault is defined as an act where a person makes sexually touches intentionally to another person without his/her consent, including that if he/she coerces or physically forces to a person for engaging in any sexual activity against his/her will. There are many forms

of sexual violence that includes rape (drug-facilitated sexual assault or forced vaginal, anal or oral penetration), groping, the torture of the person in a sexual manner or child sexual abuse (Black, Garner, McDaniel, Schultz, & Company, 2004; Cameron, Jelinek, Kelly, Murray, & Brown, 2011). It is a extremely negative and traumatic life event with extensive sociological and psychological effects on the irrespective of victim's gender (Daigle, Fisher & Cullen, 2008; Gelfand, Fitzgerald & Drasgow, 1995). It is rarely a matter of discussion among research professional groups due to the ignorance and partly because of inexperience regarding exploring such serious and personal talks about sexual violence which is consider as shame for the victim and their relatives and as well associated with social stigma (Hill & Marshall, 2018). It is an issue of social concern with misogynist, patriarchal and gender-shaming undertones and addition to a health concern (Niranjana, 2001). It is likely to practice more commonly in the patriarchy cultures that foster beliefs of perceived cultural and social inferiority of women who considered as second class citizens (Brandt, 2011; Sinha, Gupta, Singh & Srivastava, 2017). Frequently it comes with a wide range of negative outcomes in terms of embarrassment, emotions and non-answered questions like "Why me?" Women's fear of

* Corresponding author.

E-mail address: rashmi2190@gmail.com (R. Rai).

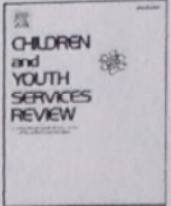
<https://doi.org/10.1016/j.childyouth.2020.105422>

Received 13 August 2020; Received in revised form 25 August 2020; Accepted 26 August 2020

Available online 31 August 2020

0190-7409/ © 2020 Elsevier Ltd. All rights reserved.

Self-attested
Rashmi



Nature of sex trafficking in India: A geographical perspective

Rashmi Rai^{a,*}, Ambarish Kumar Rai^b

^a School of Geography, Gangadhar Meher University, Sambalpur, Odisha, India

^b PG Department of Geography, Veer Kunwar Singh University, Ara, Bihar, India

ARTICLE INFO

Keywords:

Crime
Human trafficking
India
Sex trafficking
Prostitution
Sexual exploitation

ABSTRACT

Female trafficking for sexual exploitation (SE) is one of the major problems in India. Young females are particularly vulnerable to this crime. Existing state machinery is somewhat deficient in its tactical and technical doctrines to combat the challenges posed in this regard. The current study attempted to understand the spatiality of female trafficking in India, which can inform combat strategies. We considered a systematic review of published quantitative and qualitative kinds of literature. Potentially relevant articles for systematic review were identified by searching bibliographical databases. A mixed-method was deployed to analyze deemed necessary for inclusion of female trafficking for sexual exploitations. Data were analyzed qualitatively by using thematic analysis and using Arc-GIS to appreciate the data geographically. The results were collated and analyzed concerning fulfilling the key objectives of the review. A large number of children and women trafficked for SE in India. Trafficking for commercial sexual exploitation occurs particularly in poverty-stricken regions and vulnerable populations. Tribal people have mainly been pushed into such activities. Additionally, it has given an opportunity for the enormous potential profits for those syndicates that were set up for organized crimes and independent traffickers. It is the fundamental right of women and children to be protected from any forms of trafficking and to be treated with dignity. Therefore, it requires a comprehensive anti-human trafficking strategy that embedded in a human rights approach since the violation of human rights is both the cause as well as the consequence of human trafficking.

1. Introduction

Crime is a surface expression of discontents that lie deeply embedded in the social system. Like any surface manifestation, crime can provide a clue(s) to the particular forces which cause it, these, in turn, may be traced to the more profound contradictions which churn in the guts of the social and economic system (Peet, 1975). Crime leaves deep scars in the society; therefore, we need to study the nature, causes, and patterns of crime affecting people and their property to find out the reasons behind them and prescribe measures to curb such incidences. The geography of crime is interplay between crime, space and society through the analysis of offences, offenders and the end effects (Hall & Winlow, 2015). Unfortunately, the human trafficking is a global phenomenon and one of the most shameful crimes in the world, affecting not only the lives of several people around the world but also robbing their dignity. Traffickers entrap women, men and children from all corners of the world and force them into exploitative situations every day (S. Sarkar, 2014, 2016). The best-known form of human trafficking is female

trafficking for sexual exploitation (Kempadoo, Sanghera, & Pattanaik, 2015; Locke, 2010; Sarkar, 2014).

The concept of female trafficking refers to the criminal practice of exploiting females by treating them as property for profit (Kempadoo et al., 2015). These trafficked victims were subjected to long-term exploitation. An estimated about 800,000 women and children are trafficked each year across international borders, 80% ending in forced sex work (Locke, 2010). These estimates exclude those trafficked within their own countries or missing children. Human trafficking for sexual exploitation (SE) is a gross violation of human rights and has been described as a modern form of slavery (Bruckmüller et al., 2010). The trafficking of women and children for SE in Asia has victimized over 30 million people (Dewey, 2008; Joffres et al., 2008; Silverman et al., 2007, 2011). India has recognized as one of the Asian countries with substantial female trafficking for commercial sexual exploitation (Datta, 2011; Iyer & Radha, 2016; S. Sarkar, 2016; Uddin, 2014). Until now, there is no concrete study in India that has been solely focused on knowing the nature and spatiality of female trafficking. This study

* Corresponding author.

E-mail address: rashmi2190@gmail.com (R. Rai).

<https://doi.org/10.1016/j.chilyouth.2020.105739>

Received 19 September 2020; Received in revised form 15 November 2020; Accepted 16 November 2020

Available online 19 November 2020

0190-7409/© 2020 Elsevier Ltd. All rights reserved.

self-attested
Rashmi



Sexual violence and poor mental health of women: An exploratory study of Uttar Pradesh, India

Rashmi Rai^a, Ambarish Kumar Rai^{b,*}

^a Department of Geography, Institute of Science, Banaras Hindu University, Varanasi, India

^b International Institute for Population Sciences, Mumbai, India

ARTICLE INFO

Keywords:

Anxiety
Mental disorders
Obsession
Qualitative study
Sexual violence

ABSTRACT

Introduction: Sexual violence has severe and manifold consequences for the health issues of women. It affects more than 50% of women across the globe and has a significant impact on their health and wellbeing. Psychologically, it leads to radical changes in the victim as she draws the images of herself, in her relationships with her immediate social circle and beyond in the community as a whole. Therefore, it has a lasting negative impact on the victim's perception of herself, of events, and others. The objective of the study is to explore the mental health status of the women who faced any type sexual violence.

Method and materials: This hospital-based study used criterion sampling in selecting women with mental disorders due to sexual violence for the understanding of the issue. Qualitative method was used to explore the impact of sexual violence on the poor mental health of women. We used a phenomenological approach and conducted in-depth interviews.

Results: Findings show that the women who experienced sexual violence were facing mental disorder like anxiety, sleeping disorder, obsession, acute stress disorder etc. More surprisingly, the women who were facing mental disorders due to sexual violence have been and continue to be exposed to further sexual violence.

Conclusion: Women who faced sexual violence have been and continue to be in the situation of mental disorders. The roles of sexual violence varied; sometimes it predisposed the disorder, while other times it precipitated or maintained the disorder. The findings can be used for further mixed method research to enrich and quantify our understanding.

1. Introduction

Any sexual act that carried out against the will of the person and may not necessarily involve direct physical contact is defined as Sexual violence (SV).¹ Predominantly, it is perpetrated by a man against the women, and further, it also associated with some mental health problems including sleeping disorder, depression and anxiety, obsession, acute stress disorder, mental retardation, post-traumatic stress, and somatoform disorders to the victim.² In mixed method research, the World Health Organization (WHO) reported sexual violence as a significant factor of poor mental health status in women across countries including India.³

Sexual violence affects more than 50% of women across the globe and has a significant impact on their health.⁴ Previous quantitative studies established a positive relationship between sexual violence and ill mental health, but there is a limited qualitative study to explore the situation in how women face it, and how it is linked to the mental

disorders. Far too little has explored on issues connected to the 'sensitive issues' like sexual violence against women in a developing country like India, a country deeply embedded in patriarchal values.⁵⁻⁸ The exploratory study is important because the nature and impact of sexual violence against women vary across cultures. For example, two-thirds of women who were the victim of sexual violence in the study area did not tell anybody about the sexual violence.⁹ The lack of sharing may result in the worst situation. The presented information is essential for understanding the situation and structuring a locally appropriate and culturally sensitive program.^{10,11}

It is essential to understand the issue of sexual violence and its impact on mental health problems in women because of their increasing participation in the economy; their crucial roles in growth and development of children and welfare of the elderly.^{3,12} If we want to frame and execute any culturally specific interventions aimed at preventing mental health problem associated with sexual violence among women, we need to explore the experience of women who face sexual violence

* Corresponding author.

E-mail address: ambarish.k.rao@gmail.com (A.K. Rai).

<https://doi.org/10.1016/j.cegh.2019.06.013>

Received 18 April 2019; Received in revised form 15 June 2019; Accepted 30 June 2019

Available online 02 July 2019

2213-3984/ © 2019 INDIACLEN. Published by Elsevier, a division of RELX India, Pvt. Ltd. All rights reserved.

Self-authored
Rashmi

Women's Experiences with Intimate Partner Violence and Their Mental Health Status in India: A Qualitative Study of Sambalpur City

Rashmi Rai¹ and Ambarish Kumar Rai^{2,*}

¹School of Geography, Gangadhar Meher University, Sambalpur, 768004, India

²PG Department of Geography, Veer Kunwar Singh University, Arrah, 802301, India

*Corresponding Author: Ambarish Kumar Rai. Email: ambarish.k.raai@gmail.com

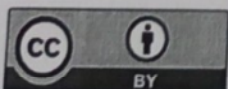
Received: 16 June 2020; Accepted: 17 July 2020

Abstract: The intimate partner violence (IPV) against women has been identified as a violation of human rights and a serious public health concern. There is not only the immediate consequence of partner violence, such as injury or death but also the other long-term health consequences. IPV can be associated with psychological effects such as depressive disorder, posttraumatic stress disorder, and substance abuse. The study aims to explore the nature and causes of IPV on women's life and their personal experiences to deal with. This is an NGO-based study. For better understanding of the issues, Purposive sampling was used in selecting women with clinically diagnosed mental illness who experienced IPV. The qualitative research methodology was employed to explore the experiences and impact of IPV on the mental health status of women. For analysis, we used a phenomenological approach and conducted in-depth interviews. Findings show the participating women were suffering from IPV in physical, psychological, and sexual forms. Majority of respondents felt that wife-beating and abusing was fairly common. Most of the women had to face violence on a frequent and occasional basis. IPV experienced women were facing a mental illness like anxiety, depression and sleeping-disorder. The women, who were facing mental illness due to IPV, have been and continue to be exposed to such violence. Despite being employed and suffering from IPV deeply, women choose to stay with their abusive partner because of their children future, lack of support, and social security. The mental health of victims' was clinically diagnosed, including self-assessed symptoms. It means participants were aware that they are mentally ill because of IPV. The healthy and quick recovery treatment should be given according to the need of women, rather than providing comprehensive standardised treatment for all.

Keywords: Anxiety; intimate partner violence; mental health; sleeping disorder; qualitative study

1 Introduction

Intimate partner violence (IPV) against women has been identified as a violation of human rights and a serious public health concern [1]. It has severe consequences for the physical, mental, sexual, and



This work is licensed under a Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Self-attested
Rashmi



Potential groundwater recharge in north-western India vs spaceborne GRACE gravity anomaly based monsoonal groundwater storage change for evaluation of groundwater potential and sustainability

R.S. Chatterjee^{a,*}, Pranshu Pranjali^{a,b}, Sujit Jally^a, Bipin Kumar^a, Vinay K. Dadhwal^{a,c}, S. K. Srivastava^a, Dheeraj Kumar^b

^a Indian Institute of Remote Sensing (Indian Space Research Organisation), 4-Kalidas Road, Dehradun, 248001, Uttarakhand, India

^b Indian Institute of Technology (Indian School of Mines), Dhanbad, 826004, Jharkhand, India

^c Indian Institute of Space Science and Technology, Thiruvananthapuram, 695547, Kerala, India

ARTICLE INFO

Keywords:

Potential groundwater recharge
GRACE TWS change
Groundwater storage change
NW India

ABSTRACT

The north-western part of India has been affected by severe ground water depletion. In this study, an attempt has been made to assess potential ground water recharge of North West (NW) India and its comparison with Gravity Recovery and Climate Experiment (GRACE) gravity anomaly based monsoonal groundwater storage change. An assessment of potential groundwater recharge was done in terms of terrain suitability for groundwater recharge and average monsoonal recharge. Terrain suitability was assessed based on hydrogeology and terrain parameters which were then integrated with the spatial variability in monsoonal recharge (expressed as the surface water column available for underground infiltration). The average monsoonal groundwater storage (GWS) change was derived from GRACE terrestrial water storage (TWS) change. An evaluation of potential groundwater recharge vs. terrain suitability for groundwater recharge and potential groundwater recharge vs. monsoonal GRACE GWS change shows that there is high terrain suitability but low potential groundwater recharge in the north-western part of NW India essentially due to very low precipitation. In the north-western part, terrain suitability is high primarily due to the presence of sandy alluvium, deeper sandy loam soil and flat terrain. The remaining alluvial plains, lithologically covered by unconsolidated sediments with loamy-silty-sand or clayey-loamy-silty-sand soils, show moderate terrain suitability. Rainfall induced surface water infiltration capacity is high in Upper Ganga drainage basin and in major parts of Narmada drainage basin but low to very low in Luni-Ghaggar drainage basin and in major parts of Yamuna and Chambal drainage basins. The average monsoonal GRACE GWS change is low in the north-western part of NW India which is in agreement with potential groundwater recharge scenario. The comparison between precipitation, terrain infiltration potential and GRACE gravity based average groundwater storage observations enables to evaluate prospective and vulnerable areas in terms of groundwater availability and sustainability in NW India.

1. Introduction

Groundwater depletion or lowering of groundwater level is one of the major issues controlling fresh water availability (Khurana and Mahapatra, 2008; NWP, 2012). The demand for water has increased rapidly in the recent years which leads to water crisis not only in India but also in many other parts of the world (Hinrichsen and Tacio, 2002; NWP, 2012). Rapid population growth, urbanization, irregularity in rainfall and groundwater-intensive agriculture are major causes of

groundwater depletion (Garduño et al., 2011; Wyrwoll, 2012; UNICEF et al., 2013; Steward, 2014). India has 16 percent of the world's total population but only 4 percent of the world's fresh water resources. Groundwater plays an important role for high agricultural productivity in Punjab, Haryana, parts of Rajasthan and Uttar Pradesh. As a result, groundwater exploitation has been increasing at an alarming rate leading to severe groundwater depletion in this region. In India, groundwater extraction in agricultural, domestic and industrial sectors constitutes approximately 89%, 9% and 2% respectively (Suhag, 2016;

* Corresponding author.

E-mail address: rschatterjee@iirs.gov.in (R.S. Chatterjee).

Submitted
by
Sujit Jally

An Empirical Analysis of the Optimal Capital Structure for Corporate Firms: with Special reference to a few select Public and Private Sector Industries in India

Uma Charan Pati *

Sudhanshu Sekhar Rath**

*Assistant Professor, School of Economics, Gangadhar Meher University, Amruta Vihar, Sambalpur-768004, Odisha, India & Ph.D. Scholar in Sambalpur University, Sambalpur

**Former Vice Chancellor, Gangadhar Meher university, Amruta Vihar, Sambalpur-768004 and currently Professor of Economics, Sambalpur University, Sambalpur,

Running title: Optimal Capital Structure for a Corporate Firm- Public and Private Sector Industries

Acknowledgment

The Corresponding author is highly obliged to the Former Vice Chancellor, Gangadhar Meher University, Amruta Vihar, Sambalpur – 768 004, Odisha, India for his guidance, support and encouragement.

Abstract

One of the most important subjects of interest in corporate finance is to search for the optimal capital structure that helps organisations to maximize the value of the firm. Optimal capital structure does have profound impact on the profitability and financial sustainability of corporate firms. Empirical studies have confirmed the relationship between capital structure and value of a firm which was not the case when Modigliani and Miller conceptualised it in their original work. We have tried to find out, if any relationship exists between the capital structure, represented by the debt-equity ratio and the profitability of operations of firms as represented by the Earning Before Interest and Taxes (EBIT). An empirical study having the debt-equity ratio and EBIT of ten important corporate firms, five from the public sector and the rest five from the private sector have been undertaken to verify the stated relationship. The two variable linear regression model having the debt-equity ratio and EBIT has confirmed the theoretical postulate of a close connection between the optimal capital structure and the value of the firm.

Introduction:

The globalized economic framework has facilitated the expansion of opportunities for the productive enterprises to prosper and also to convert them as real engine of economic growth all over the world. The

Corporate Finance And Government Finance – A Comparative Analysis With Reference To Debt Sustainability And Solvency

Uma Charan Pati , Sudhanshu Sekhar Rath

Abstract : Any discussion on corporate finance would be incomplete if we lose sight of having a study on the sustainability and solvency aspects of debt. The issue becomes more complex and interesting the moment we link the principles of corporate finance to that of the government finance. This particular study has focused attention on the applicability of the debt sustainability and solvency aspects of corporate finance to the state finance. Five years data on Odisha state finance have been used along with the data on forty corporate entities across sectors to verify whether corporate finance and state finance have any relationship as regards debt sustainability and solvency. The results have conformed to the null hypothesis that corporate financial principles have no correspondence with state finance even after the implementation of the FRBM Act.

Index Terms: Corporate Finance, State Finance, Debt Sustainability, Solvency

1. INTRODUCTION

Debt sustainability and solvency are the essential features of corporate finance. Debt sustainability is one of the most used and abused concepts in recent discussions on preventing and resolving sovereign debt crises. Debt sustainability is a vexing issue. Its importance is immediately obvious but it escapes any easy definition. This situation is not unheard of in economics; while price stability and full employment can both be measured with a reasonable degree of precision, debt sustainability cannot even be measured (Wyplosz, 2007). A debt sustainability analysis (DSA) assesses how a state's current level of debt and prospective borrowing affect its present and future ability to meet debt service obligations. It is a consensus that a key factor for achieving external and public debt sustainability is macroeconomic stability. Solvency, in finance or business, is the degree to which the current assets of an individual or entity exceed the current liabilities of that individual or entity. Solvency can also be described as the ability of a corporation to meet its long-term fixed expenses and to accomplish long-term expansion and growth. These features of sustainability and solvency define corporate financial principles in a unique way. Do these principles of corporate prudence have anything close to the principles of state finance? Speaking in a different way, do state finance converging to the prudential principles of the corporate finance in the aftermath of the introduction and implementation of the Financial Regulation and Management Act (FRBM)?

There is no denying the fact that state finances must be managed in such a way that it moves towards the achievement of the prudential norms of debt sustainability and solvency so that optimal utilization of scarce public finances could be done. The objective of this particular paper is to explore whether the corporate financial principles of debt sustainability and solvency have anything to do with the management of state finances. Is there any relationship between the corporate finance and state finance as regards the aspects of debt sustainability and solvency?

1.1 Conceptual Framework

Corporate finance is an area of finance that deals with sources of funding, the capital structure of corporations, the actions that managers take to increase the value of the firm to the shareholders, and the tools and analysis used to allocate financial resources. Public finance is the management of a country's revenue, expenditures, and debt load through various government and quasi-government institutions. There have been differences between corporate finance and state finance on many counts and the difference is more glaring once we look at the principles that are being followed in the management of both types of finances. Corporate financial principles are mostly guided by the prudential norms of debt sustainability and solvency. But such prudential norms were not being used as the guiding principles in the management of state finances which led to the crises of many types at multiple dimensions. The passage of the FRBM Act in 2005 started a new dawn and prudential norms for effective management of state finances were suggested. Debt sustainability and solvency principles of corporate finance are expected to be seen in the effective management of government finances. Debt sustainability is often defined as the ability of a country to meet its debt obligations without requiring debt relief or accumulating arrears. Solvency, on the other hand is the ability of a company to meet its long-term debts and financial obligations. Solvency is essential to enable a company to stay in business as it demonstrates the company's ability to continue operations into the foreseeable future. Debt sustainability implies enduring

• *Uma Charan Pati: Assistant Professor, School of Economics, Gangadhar Meher University, Amruta Vihar, Sambalpur-768004, Odisha, India & Ph.D. Scholar in Sambalpur University, Sambalpur*

• *Sudhanshu Sekhar Rath: Former Vice Chancellor, Gangadhar Meher University, AmrutaVihar, Sambalpur-768004*

International Journal of Scientific Research and Reviews

Classification and Management of NPA in Commercial Banks with reference to SBI-A Case study of Odisha

Manoj Kumar Sahoo.^{1*} and Muralidhar Majhi.²

Dept. of Economics, Sambalpur University, Jyoti Vihar, Burla, Odisha, Pin-768004.

E Mail:mksahoomba@gmail.com

Asst. Professor in Economics,School of Economics , G. M. University, Sambalpur, Odisha, Pin-768004,E mail: muralisbp1974@gmail.com

ABSTRACT

Non-performing assets is one of the main concerns for Commercial banks in India as the three letters Strike terror in banking sector and business circle today. NPA reflects the performance of the commercial banks. A rising NPA level implies a greater percentage of credit defaults that affect the profitability and capital adequacy of banks and at the same time reduce the value of assets. This study analyzes the NPA levels of State Bank of India in Odisha province, India. In addition, this study addresses the classification of NPA-like standard assets, sub-standard assets, doubtful assets and loss assets, which are very important for this analysis. The current research has been analyzed with the help of various statistical tools such as correlation, regression and Anova taking the twelve-year data of the State Bank of India in Odisha. Finally, some suggestions have been made to reduce the level of NPA for the bank.

KEY WORDS:Advances, Non-Performing Asset, Commercial Banks, Profitability

***Corresponding author**

Manoj Kumar Sahoo

Research Scholar,

Dept. of Economics, Sambalpur University,

JyotiVihar, Burla, Odisha, Pin-768004.

E Mail:mksahoomba@gmail.com

Regional disparities in Agriculture: A District level mapping analysis of Odisha (with special reference to WODC)

Braja Bihari Panda¹ and Murali Dhar Majhi²

¹Research Scholar, Sambalpur University, and ²Assistant Professor, Department of Economics, Gangadhar Meher University, Sambalpur, Odisha.

ABSTRACT

The present paper analyses the district level regional disparities in status of agricultural Odisha with a special reference to Western Odisha Development Council region. The analysis of the study bring out by altering and merging the associated data with nine prominent indicators by the using the Sudarshan Iyengar Methodology. Beta distribution has been devised for categorization of district into four categories viz. developed, developing, backward and very backward. The major findings of this study that majority of district of Western Odisha Development Council region along with a few from southern district are languishing in utter backwardness in comparison to their counter part of Coastal Odisha or the twin city of Cuttack – Bhubaneswar and its surrounding district. Results clearly revealed large regional disparities in the level of agricultural status among the district of Odisha.

Key Words: Backward region development, Agricultural Disparity, Composite Index, Sudarshan Iyengar Methodology, Beta Distribution.

INTRODUCTION

Odisha, one of the most backward region of the country, is predominantly agrarian economy. Agriculture may not be prominent in the sense of contribution of the sector to GSDP but being a profession since time immemorial hence mainstay of livelihood for majority of population. It is the source of basic requirement for the civilization and renewable raw material for the Industries. Development of Agriculture is not only required for food security but it is the determinant of sustenance of the secondary and tertiary sector. Persistent Growth of agricultural sector provide demand for the non agricultural sector. Clark [1940] and Kuznets [1966] analyses growth process and the role played by the agricultural sector. The above mentioned fact is more relevant in case of state of Odisha as about 60%¹ of the population depends on agriculture and allied activities. More than 83% of the population of Odisha lives in rural area as per Census 2011 and majority of rural people depends on agriculture or allied activities. Hence development of agriculture is essential for inclusive and sustainable development (Ravallion and Datt, 1996). The growth of agriculture is prerequisite for overall development of Indian economy Radhakrishnan (2002). There is a need for development of agriculture sector with land and water management, introduction of situation acclimatized crops, and proper marketing/ procurement of the crop by government agencies, saving the poor farmer from distress selling, better affordable technology and effective implementation of ongoing programme in agriculture. Interdependence in the food and labour markets are important for the development process. A strategy combining promotion of agricultural growth and productive non-farm employment and social development would be needed for labour intensive growth in rural areas. Further, Development of Agriculture include enhancement in agricultural system, improved agricultural equipments, spreading of irrigation system and irrigated area saving the farmer from vagaries of weather, good quality of high yielding varieties of seeds, fertilizers [NPK], insecticides and pesticides, intensity of cropping and commercialization of agriculture and proper marketing / procurement support². Chand et al (2011) opine that Modifications in technologies and formulation of some government policies have uneven effect across various regions which is a major cause for the persistence of Regional disparities in agriculture and farm income.

¹ Odisha Agricultural Statistics 2013-14

Inter-district disparity in infrastructure of Odisha with special reference to Western Odisha Development Council Region –An empirical study.

Braja Bihari Panda ¹ and Dr. Murali Dhar Majhi ²

1. Research Scholar, Sambalpur University,

2. Assistant Professor, Department of Economics, Gangadhar Meher University, Sambalpur, Odisha.

ABSTRACT

The present study attempts to analyse inter-regional disparity in infrastructure in the state of Odisha. Composite Infrastructure Index have been developed for infrastructure with help of the Principal Component Analysis and Sudarshan Iyengar Methodology. The study observes that there exists severe inequality in the spread of different categories of infrastructure in the state. The study analyses underdevelopment of districts of Western Odisha Development Council; Koraput and other left out districts of KBK belt and Mayurbhanj and Keonjhar district in North Odisha. The analysis lauds the formation of special plans such as the KBK plan and formation of Western Odisha Council by the government. Further, it calls for formation of similar council in North Odisha Region. The need of the hour is assured system of time-bound delivery and mission mode of activity like pulse polio mission incorporating Public Private Partnership.

Keywords: Composite infrastructure index, Principal component analysis, Sudarshan Iyengar Methodology Odisha, Regional Disparity.

Introduction

Infrastructure is the stepping stone for development of any region. Backward region lack infrastructure hence could not attract private investment in the region and enabling the people of the region to participate in the process of development and share the fruit of development. Education and healthcare facilities are enabling provision and irrigation, transport and communication, energy, banking and tourism facility are income augmenting provision for the people of the region. Disparity in infrastructure leads to disparity in economic development and if the situation persist the disparity widen. As there is cause and effect relationship exist between the infrastructure and development. Vicious circle of backwardness act as a shackle for the backward region and private sector are less interested in backward areas hence public provision of infrastructure is much needed to break the shackle.

Galaxy of studies are available explaining relationship between infrastructure and income output and employment or in one word economic development of a region and ultimately affecting the quality of life of the people. Looney and Frederiksen (1981), Ebert et al (1991); Queiroz and Gautam (1992) in international scenario. Balanced regional development being the path of national planning practice baring few initial years after independence. Chelliah (1996), Das (1993), Planning Commission (1979) and many more explain about government role in balanced regional development. Rao (1977), Das (1993), Tendulkar and Jain (1995), Das and Barua (1996), Ghosh and De (1998, 2004), Sahoo and Saxena (1999), Lall (1999) Majumdar (2004) explain inter regional infrastructure disparities and their impact on development in India Nair (1993), Pal (1995), Tiwari (2008), Nayak (2014) and many other made intra state study. Sarkar (1994) Nagar and Basu (2002), Nayak (2014), Tiwari (2008) computed the Infrastructure Development Index adopts principal components method. Very few studies are available for inter district study of Odisha in current scenario.

PROBLEM AND PROSPECTS OF HANDLOOM SECTOR IN WESTERN ODISHA

Dr. Minaketan Bag and Dr. Balakrishna Behera

ABSTRACT

The textile industry of Odisha has a long history. It has been complimented worldwide due to its various design, quality and genuineness. Sambalpuri saree with Ikat type of weaving one among them is most famous in Odisha, India and overseas as well. Despite of such recognition the Sambalpuri textile industries of western Odisha are struggling for its sustenance. In this regards on 22nd November 2016 the Odisha state cabinet has approved the “Odiha MSME (Micro Small and Medium Enterprises) development policy 2016 under communicated vide Memo No.9599 dated 23.11.2016 of parliamentary affairs department in order to enhances capital investment subsidy to MSME entrepreneurship. Despite of such policy level formulation and socio-cultural importance the weaving sectors have been confronting with lot of challenges due to low adaptability in changing trends, lack of skilled manpower, proper market facilities, high cost of credit and procuring of raw material. Therefore a study has been undertaken among the weavers of Barpali cluster of Bargarh district and tries an humble attempt to explore the socio-cultural importance and the problems and prospects of handloom weaving community in an anthropological perspective.

Keywords: Problem, Prospect, Handloom, Credit, Adaptability

INTRODUCTION

Since time immemorial the handloom sector of West Odisha has secured a renowned space in India and outside India also for its distinct quality and design of fabrics popularly known as *Sambalpuri*. It has become a cultural heritage of Odisha. Mostly it is a traditional occupation of *Meher* community (*Bhulia, Kuli and Kusta*) of West Odisha. The weavers in these sectors belong to the vulnerable and weaker sections of the society. Most of the weavers of *Barpali* cluster carry out traditional occupation for the maintenance of household needs. In the same time they contribute to the state/nation's textile production units. There are 23.77 lakh handlooms in the country. The industry provides employment opportunities to 43.32 lakh handloom weavers and subsidiary workers. This comprises 38.47 lakh adult handloom weavers and subsidiary workers, of which 24.72 lakh are engaged full-time and 13.75 lakh on part-time basis (Bankers Institute of Rural Development, 2016). Most importantly the vulnerable and marginalized sections of society in rural area like women, SCs, STs and OBCs are contributing their labour force to the handloom sectors. The Bankers Institute of Rural Development (2016) indicates out of 38.47 lakh handloom weavers and subsidiary workers in the country 77.90% belong to women. They contribute at pre and post loom labour. Significant masses of weavers/artisans consisting of scheduled castes, schedules tribes and religious minorities, who represent the economic lifeline of the most vulnerable sections of our society i.e. SCs (10.13%), STs (18.12%) and OBC (45.18%), participate in the handloom sector. The production share of handlooms to total textile industry is about 13%. In this context Odisha occupy a prominent place. The handloom weaving of Odisha and particularly the *Sambalpuri* fabrics of West Odisha is most popular in the nation and over sea country also due to its tie and dye handloom fabrics with excellent colour combination and variety of designs. Despite of all significance, fineness and popularity the age old handloom sector of West Odisha is running through many up and down. State government has taken so much of initiatives for the development of MSME (micro, small and medium enterprises). However the MSME sectors in general and handloom sector in particular have been suffering of basic difficulties such as availing of infrastructural facilities, credit linkages, marketing facilities. As a result the state handloom sector has been struggling for existence and lagging behind with the competitive global market. The weavers have been gradually withering from the traditional and hereditary pattern of livelihood to other sectors. The weavers' co-operatives societies, who were looking after the weavers at present they are struggling with financial inconsistency. As a result the traditional handloom sector is running in crisis. A proactive approach is necessary and should address the constraints such as access to finance, access to markets, technology and environment, infrastructure bottlenecks, access to people and regulatory constraints and facilitation faced by the sector.

THE APPLICATION OF STRUCTURAL EQUATION MODELLING IN HRD PRACTICES,
KNOWLEDGE MANAGEMENT FOR ORGANIZATIONAL PERFORMANCE: A
THEORETICAL PERCEPTIVE

Srinibash Dash Assistant Professor, School of Management, Gangadhar Meher University,
Sambalpur

Sudhanshu Sekhar Rath Former Vice Chancellor, Gangadhar Meher University, AmrutaVihar,
Sambalpur, Odisha

ABSTRACT

Structural Equation Modelling (SEM) is a new research tool use for testing and estimating causal relationships among the variables of the research work. SEM is widely used by social scientists for testing and development of the model for a better understanding of theory and practical uses. Mediation implies a situation where the effect of the independent variable on the dependent variable can best be explained using a third mediator variable which is caused by the independent variable and is itself a cause for the dependent variable. Data screening is the process of ensuring data is clean and ready to conduct further statistical analyses. Data must be screened to ensure the data is useable, reliable, and valid for testing the causal model. It should be conducted before data recording and data analysis, to help ensure the integrity of the data. It means checking data for errors and fixing or removing these errors. The goal is to maximize "signal" and minimize "noise" by identifying and fixing or removing errors.

Keywords: Structural Equation Modelling, Mediation, Homoscedasticity & OP Model

1. Introduction

Structural Equation Modelling (SEM) is a new research tool use for testing and estimating causal relationships among the variables of the research work. SEM is widely used by social scientists for testing and development of the model for a better understanding of theory and practical uses. This technique is a combination of factor analysis and multiple- regression which includes path analysis and confirmatory factor analysis. The new age social researcher will get substantial bits of help from the SEM to test hypotheses and about the relationship among the theoretical constructs.

It is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis. In this analysis, two types of variables are used endogenous variables and exogenous variables. Endogenous variables are equivalent to dependent variables and are equal to the independent variable.

There are two types of models:

- 1) **Measurement model:** The measurement model represents the theory that specifies how measured variables come together to represent the theory.
- 2) **Structural model:** Represents the theory that shows how constructs are related to other constructs.

1.1. Mediation

Mediation implies a situation where the effect of the independent variable on the dependent variable can best be explained using a third mediator variable which is caused by the independent variable and is itself a cause for the dependent variable. That is to say, instead of X causing Y directly, X is causing the mediator M, and M is, in turn, causing Y. The causal relationship between X and Y in this case is said to be indirect. The relationships between the independent, the mediator and the dependent variables can be depicted in form of a path diagram/model.

**THE APPLICATION OF STRUCTURAL EQUATION MODELLING IN HRD PRACTICES,
KNOWLEDGE MANAGEMENT FOR ORGANIZATIONAL PERFORMANCE: A
THEORETICAL PERCEPTIVE**

Srinibash Dash Assistant Professor, School of Management, Gangadhar Meher University,
Sambalpur

Sudhanshu Sekhar Rath Former Vice Chancellor, Gangadhar Meher University, Amruta Vihar,
Sambalpur, Odisha

ABSTRACT

Structural Equation Modelling (SEM) is a new research tool use for testing and estimating causal relationships among the variables of the research work. SEM is widely used by social scientists for testing and development of the model for a better understanding of theory and practical uses. Mediation implies a situation where the effect of the independent variable on the dependent variable can best be explained using a third mediator variable which is caused by the independent variable and is itself a cause for the dependent variable. Data screening is the process of ensuring data is clean and ready to conduct further statistical analyses. Data must be screened to ensure the data is useable, reliable, and valid for testing the causal model. It should be conducted before data recording and data analysis, to help ensure the integrity of the data. It means checking data for errors and fixing or removing these errors. The goal is to maximize "signal" and minimize "noise" by identifying and fixing or removing errors.

Keywords: Structural Equation Modelling, Mediation, Homoscedasticity & OP Model

1. Introduction

Structural Equation Modelling (SEM) is a new research tool use for testing and estimating causal relationships among the variables of the research work. SEM is widely used by social scientists for testing and development of the model for a better understanding of theory and practical uses. This technique is a combination of factor analysis and multiple- regression which includes path analysis and confirmatory factor analysis. The new age social researcher will get substantial bits of help from the SEM to test hypotheses and about the relationship among the theoretical constructs.

It is a multivariate statistical analysis-technique that is used to analyze structural relationships. This technique is the combination of factor analysis and multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. This method is preferred by the researcher because it estimates the multiple and interrelated dependence in a single analysis. In this analysis, two types of variables are used endogenous variables and exogenous variables. Endogenous variables are equivalent to dependent variables and are equal to the independent variable.

An Explorative Study of the Implications on Knowledge Management and HRD Practices in the Performance of the Steel Industries in India

Srinibash Dash, Sudhanshu Sekhar Rath

Abstract

HRD practices change the capabilities of employees at all levels in an organization and in this way assume a significant role in driving advancement and development. Individuals' capabilities and how those capabilities are utilized within the organization due to advancements in the systems and processes of HR management involving HRD helps to leverage the many-fold benefits. In that trio of extraordinary capacities, HRD centers focus on learning and improvement at the individual, group, and organizational levels that happens when employees have the knowledge, competencies, skills and attitude for getting the hang of, facing attentive challenges, sharing information, and thinking imaginatively, and

IMPACT ASSESSMENT OF KNOWLEDGE MANAGEMENT, HRD PRACTICES FOR ORGANIZATIONAL PERFORMANCE IN STEEL INDUSTRY IN INDIA

Srinibash Dash¹

Sudhanshu Sekhar Rath²

Uma Charan Pati³

Abstract--- The study will access the HRD Practices, knowledge management for organizational performance. In today every firm used its allocated recourses in such a way that it will create a value of the firms without incurring any loss. In this regard very recently, the firm's strategic section would like to investigate the real role of human resources in enhancing the real value for the organizations. Hence, in the recent techno world Knowledge management (KM) has emerged as an important leading attribute that can help to enrich the organization's cultural value for developing the organizational performance by use of right knowledge which can help to minimize the loss of valuable knowledge when employees leave. Human Resource Development (HRD) Climate is the real attributes of the organization which pushes positively to increase the real knowledge management. Further, knowledge management is being treated as

Dynamic Relationship between Trade Balance and Macroeconomics Variables in India.

Sudhansu Sekhar Rath, Former Vice Chancellor, Gangadhar Meher University, Amruta Vihar, Sambalpur
Srinibash Dash, Assistant Professor, School of Management, Gangadhar Meher University, Amruta Vihar, Sambalpur
Mukesh Kumar Sharma, Mukesh Kumar Sharma, Ph.D. Scholar, School of Commerce, G.M. University, Sambalpur

Article Info

Volume 83

Page Number: 399 - 418

Publication Issue:

May - June 2020

Abstract:

After the industrial development since independence, India's foreign trade has undergone a complete change and is no longer confined to a few countries trading in few commodities. Export is one of the important elements that boost the India's GDP over the years. This study investigates the relationship of trade balance with other macroeconomics variables such as exchange rates, money supply and GDP i.e. domestic income of the country, with covering a time period of 18 years from 2000 to 2018. This paper examines the short run and long run relationship between the variables with the help of the Auto regressive Distributed lag (ARDL) model. The results stated that the Money supply and GDP that affect the trade balance significantly while exchange rate affects it by insignificantly. Further research can include other macroeconomics variables to explore the impact in the trade balance and give more clear results regarding this.

Article History

Article Received: 11 August 2019

Revised: 18 November 2019

Accepted: 23 January 2020

Publication: 09 May 2020

Keywords: Trade Balance, Autoregressive Distributed lag (ARDL), Macro Economics Variables

INTRODUCTION

1. MOTIVATION OF THE STUDY

The concept of globalization has recently been the

World Bank helped them in this endeavor. Liberalization began to hold its foot on barren lands of developing countries like India by means of reduction in excise duties on electronic goods in a



ISSN 0798 1015

REVISTA

 **ESPACIOS**

[HOME](#)

[Revista ESPACIOS](#)



[ÍNDICES / Index](#)



[A LOS AUTORES / To the](#)

[AUTORS](#)



Vol. 41 (Issue 08) Year 2020. Page 15

Agricultural financing for agricultural development in India: a perceptional study on Sambalpur district

Financiamiento agrícola para el desarrollo agrícola en la India: un estudio de percepción sobre el distrito de Sambalpur

SAHOO, Ashok Kumar [1](#); DASH, Srinibash [2](#) & RATH, Sudhanshu Sekhar [3](#)

Received: 06/09/2019 • Approved: 25/02/2020 • Published 12/03/2020

Contents

[1. Introduction](#)

[2. Literature Review](#)

The Application of Garrett Scoring Techniques for Assessment of the Farmer Problems in Obtaining and Repayment of Agricultural Credit

Ashok Kumar Sahoo, Srinibash Dash & Sudhanshu Sekhar Rath

Abstract- According to a widely known expression voice communication, the Indian peasant is born in debt, lives in debt and dies in debt. The mass illiteracy of Indian folks generally and rural folks, particularly, combined the issues of agricultural credit with around seventy to eighty percentage of the farmers being illiteracy. This study throws light on varied problems and challenges that are presently facing by the agricultural farmers in getting and reimbursement of agricultural credit and a few attainable resolution there from. This study additionally highlights the attainable development for the upliftment in agricultural production and development. Because of their unduly high rate of interest, farmers were heavily burdened with debts that cause the riots and even miserable suicides. Afterward, Government of India has tried those problems and got wind of rural credit approach through totally different institutional organizations. Still there exists lack of rapport between the bankers and therefore the farmers each in getting the crop loans further as in repaying the debt. The current investigation was completed with the elemental target of examining the result of institutional agricultural finance among the farmers. The precise objectives of this study were to investigate the extent of agricultural credit to be obtained by the farmers and its reimbursement. The information collected through personal interview were analyzed by the Garrett evaluation technique. The result indicated that the most important issues vis-a-vis by the farmers in getting the institutional credit were the non-availability of loan in time, the procedure for getting the credit was costlier, inadequate quantity of loan sanctioned against the particular demand, the transport value and document expenses. The farmers listed out the issues they vis-a-vis in repaying the credit were – failure, failure of monsoon, expectation of waiving of loans by the government, lower yield, and increase within the value of cultivation, decrease within the market price of the harvested manufacture. Accordingly, this examination presumed that the agricultural credit needs of farmers are expanding with the expansion in the cost of development. The Government should update its credit strategy, to meet out the credit needs of the farmers.

1. INTRODUCTION

Agriculture remains the mainstay of the Indian economy. It is the major source of livelihood for 80 percent of the rural population and supports 72 percent of the workforce (Sudha Narayanan, 2015). However, the Western part of Odisha is consists of ten districts, where Samba, Balasore, Sambalpur

assembly functions also as retards the flow of credit (Sudha Narayanan, 2015).

1.1. Agricultural credit policy

Professional cash lenders were the sole supply of credit to agriculture until 1935. As a result, the farmers were heavily burdened with debts and lots of of them perpetuated debts

Impact of Govt. Sponsored Schemes for the Upliftment of the rural people – An Explorative Study on Sundargarh District

Srinibash Dash ¹, Shuvashree Hota ²

¹School of Management, Gangadhar Meher University, Sambalpur,

2. Research Scholar, School of Management, GMU, Sambalpur

Article Info

Volume 82

Page Number: 13271 - 13287

Publication Issue:

January-February 2020

Abstract

India is the country of village where more than sixty percentage of the population lived in village where scarcity of the minimum facilities related to the hospital, rail, banking and drinking water facilities are there. In this regard, the appropriate government has been taking adequate facilities for the giving the best infrastructure facilities for the upliftment of the socio economic status of the people across the country. The proposed study is an explorative on to measure the real of Impact of Government Sponsored Schemes for the upliftment of the rural people in the district of Sundergarh. To measure the impact of the rural

Influence Of Entrepreneurial Factors On Mindset Of Small Traders In Odisha

Sidhant Mohanty Srinibash Dash

Abstract : The present business environment is the very crucial for the small traders due to fierce competition across the country. It has been proved by study of the quarterly growth rate of the country. Hence, this slow rate may overcome if we will focus for the development of the small trading activities instead of big one. In this research, we have proved that the entrepreneurial factors which are key attributes for the influencing the mind-set of the entrepreneur for small trading activities. In this study, we have covered all most all the prominent district of the odisha to measuring the perception of the small traders and their opinion for the small trading. To carry out this research, here we have used descriptive and inferential statistics for mapping the perception of the small traders. At last, we came to know that the small traders in odisha don't have such expertise as required in the changing business environment. However, we have also found important influencing factors Curiosity Creation of Value, Learning Ability, Logical Thinking, Ability to Analyze Market, Ability to Manage Complex Tasks, Ability to Engage Stakeholders and Ability to Anticipate Technology These are the determinant factors for influencing the mind-set of the small traders to do their business smartly. In this context, we are also suggesting to the appropriate government to create awareness programmes what privileges are being provided for the small traders of the country for boosting the small scale industries. Also the government odisha, should take action giving best training to the small traders for skill to them, so that they will use the technology bitterly for utilization of the allocated recourses as per the market trends for profit maximization. In this study, we have also found that small traders are satisfy their curiosity rather than to sit ideal. In addition to it, the respondents revealed strong agreement that they have always found themselves curious about a lot of things and people they have been exposed to in their life. Further overall score of 'curiosity', 'creation of value' and 'ability to anticipate technology' have secured above average score while the parameters like 'learning ability', 'problem solving ability/logical thinking', 'ability to analyze market', 'ability to manage complex tasks' and 'ability to engage stakeholders' have secured excellent scores.

THE COMPOUNDING EFFECT OF SELF-EFFICACY AND WORK RELATED CHALLENGES ON THE TURNOVER INTENTION: A STUDY ON PRIVATE BANKER OF SOUTH ODISHA

Yadav Devi Prasad Behera¹,

¹Guest Lecturer, Dept. of Business Management, Central University of Odisha, Koraput, Odisha, India

Shibani Sharma²

²Lecturer, School of Commerce, Vikash Group of Institution, Bargarh, Odisha, India

Surjyasmita Supriya Turuk³

³P.G. Scholar, Dept. of Business Management, Central University of Odisha, Koraput, Odisha, India

Samanwita Mishra⁴

⁴M.Phil. Research Scholar, School of Commerce, Gangadhar Meher University, Odisha, India.768019.

Abstract

Retaining qualified and qualitative employees at workplace has been a major problem for many organisations in this dynamic world. It is eminent for the modern day management to satisfy the potential employees and retain them. In this context the study focused on finding the factors creating dissatisfactions among the employees and to analyse the effect of these factors on the turnover intention of the people. The other purpose of the study was to analyse the moderating impact of the positional discrimination on the relation between factors of burnout in workforce and turnover intention. The study used the stratified random sampling to collect 104 responses from 4 district of southern Odisha through self structured questionnaire. Data is analysed through IBM SPSS-23 version. Scale reliability is satisfactory and measure through Cronbach's Alpha. Through factor analysis the factors of burnout are extracted. There are 4 determinants of self-efficacy and 5 factors of work related challenges compositely making 9 factors of burnout in workplace. The multiple linear regression analysis also showed that these factors have a significant impact on the turnover intention. The study reflected that in this case the positional discrimination do not have significant moderating impact on the relation between the factors of burnout in workforce and turnover intention.

Key Words: Self-efficacy, Work related challenges, Workplace Burnout, Turnover intention

JEL Classification: M12, M10, E44, G21

1. Introduction

Inter and intra organisational competition across different industries and business organisation propelled and expect ultimate and all around development in work, production, quality maintenance and much more. The greatly influenced element towards this movement has been the employees of the organisation, who were rushed towards endless and infeasible work. Lack of training and development facility, made this scenario worst for employees with lesser capability. This resulted that the job became unhealthy. A healthy job is considered to be the one, where the employees withstand to the pressure of the job with his controlled knowledge, ability and resources provided by the organisation. A healthy environment for employees can be created by assessing their capability and job resources availability and providing them, the requisite amount. Without a healthy environment, the stress related to work, challenges in work, and infeasibility of performance makes an employee more vulnerable towards quitting the organisation.

The ability and trait of the employees often reflect their stress bearing capacity. The capacity could be enhance by various training and development. However the pressure at the workplace, attributing to the employees performance and business performance needed to be acknowledged. It may not compel the employee to leave the organisation but can create behavioural changes often ending with turnover intension. If this quitting intension is not properly addressed, then may result in high attrition rate.

The attrition rate or the employee turnover rate has been predicament to many sectors of industries. The Average annual attrition rate in India has been recorded as 13.1% although increase in salary was 9.8% (Kapahi, 2019). It seems like the increase in payment could not stop or controlled the turnover rate in India. Some of the elements, which are unnoticed in many platforms to control or restrict it, must be given utmost importance. The sectors that are affected mostly by the attrition rate are the banking, insurance and retail sector with an attrition rate of 18%, 19% and 18% respectively.

The banking and the financial services has faced many terrible situations due to its high attrition rate. With 20% attrition rate of HDFC bank and 15000 resignation in just 9 months, the situation has been seen more harassing(Khan, 2020; PTL, 2018). Even the same situation is faced by PSU banks like Bank of Baroda, Canara Bank, Punjab National Bank and Union Bank of India(Ray & Ghosal, 2019). So it is essential to study the various elements or reasons behind the attrition rate and more imperative to study the

THE NEED OF DIGITALISATION OF BANKING IN COVID SCENARIO: A STUDY ON USERS' SATISFACTION OF THE PAYMENT BANK AND MOBILE WALLETS IN RURAL SOUTH ODISHA

Yadav Devi Prasad Behera¹, Samanwita Mishra², Shibani Sharma^{3*}

¹Guest Lecturer, Dept. of Business Management, Central University of Odisha, Koraput, Odisha, India

²M.Phil. Research Scholar, School of Commerce, Gangadhar Meher University, Odisha, India

³Lecturer, School of Commerce, Vikash Group of Institution, Bargarh, Odisha, India

Abstract

The COVID pandemic situation has changed the entire world scenario. It brought crisis in life and in the economy of many countries. It has changed the way of living and demands every bit of innovation in every aspect of life. Even the banking system is vulnerable to this pandemic situation and slow down the physical moment of money through the payment system. In this regard the study focus on the factors behind the perceived problems and the factors behind the preferential use of the payment bank system and mobile wallets. The study is purposed to see the impact of the above said factors on the satisfaction of the users. The study follows causative research design and 157 responses were taken from 4 strata of South Odisha Region, who are the users of the payment bank services and mobile wallets. Using factor analysis the factors behind the perceived problems, which are lack of credibility and operating worthiness, restrictive banking services, lack of financial literacy and lack of awareness and advertisement and preferential factors behind the use of the payment bank and mobile wallet, which are safe banking services and cashless system of banking, accessibility and convenience and the last factor utility payment and customer services are explored. It was also found from the study that the factors behind the preferential use satisfy the significantly to the users but in the presence of the perceived problems, the satisfaction reduces to a great extent. So managerial personnel must acknowledge both the factors and makes suitable policies to attract more and more users to the system and satisfy them.

Key words: Payment bank, mobile wallet, COVID, satisfaction of users

JEL Classification: M30, M10, E58, G21

1.1. Introduction

Financial inclusion has been playing a major role in any economy and to make it act, a strong financial system along with well-built banking system is necessary for any nation. Many steps were taken to strengthen banking system in the post liberalisation period (Rangan G., 2016), however to make it work towards the cause of financial inclusion, a lot of non-account holder must be made sure to open accounts. These accounts could have been used by both Government and the central bank for many purposes. In regard to this more than 35 crores zero balance Pradhan Mantri Jan Dhan bank accounts were opened. These banks accounts are used for the purposes of direct benefit transfers from Govt. of India (GOI, 2020). However the banking transaction was made in the old traditional way or the counter based system of banking service. This traditional system of banking became the great headache, when the national lockdown announced from 25th March, 2020 due to COVID 19 spread out in the country for 21 days (Nambath, 2020).

COVID 19 pandemic has made the world lock in their house and affected many economies. The world is facing a great deal of economic crisis because of this (Fraser, 2020) and the lock down stopped the physical moment resulting in great economic slowdown. Due to the traditional nature of banking services at the counter of the branches, it has been seen that there is gradual fall in the transaction in many banks (Ganguli, 2020). So it can be seen that due to the traditional banking culture, the banking system in the 21st century met a great set back. The physical moments of the users restricted them to use their over the counter banking transaction. For a developing nation like India, where the majority find financial literacy beyond their comprehension, making financial instruments accessible and affordable to all individuals becomes a difficult task. So the modern days banking services urge to be modernised and digitalise (Joshi & Kohli, 2016). The digital payment bank and mobile wallet systems has also been a better alternative towards the cause, yet it looks like a dream to be successful in Indian scenario (Layak, 2019).

The use of payment bank and mobile wallet system booms in the urban India but was unsuccessful in the rural areas of India (Sharma, 2019). The complete digitisation of the banking system has been an imperative step towards nation development and the contribution of payment bank and mobile wallet system is very essential in this regard. So the payment bank and mobile wallet system must make it mark not just in the urban areas but have to shifts its area of operation towards the rural India. It is essential in this regard to study the impact of the payment bank and mobile wallet system on the rural people and find out the reasons, which stop them to make their presence in the payment bank and mobile wallet system in the rural areas. In this regard, the study focus on the perceived problems with the use of digital banking system and the reason for using the digital platforms and their impact on the satisfaction of the users.

Multifarious Economic Activities of Tribal Women in India

¹J. Mishra

The tribal women, constitute as in any other social group, about half of the total tribal population. However, the importance of women in the tribal society is more important than in other social group in India, because of the fact that tribal women, more than women in any other social group, works harder and the family economy and management depend on her. Discussing about the social inclusion, the World Bank defines the term as "the process of improving the terms for individuals and groups to take part in the society". Social inclusion aims to empower poor and marginalized people to take advantage of the opportunities in equitable and non-discriminative modes. It ensures that people have a voice in decisions which affect their lives and that they enjoy equal access to markets, services and political, social and physical spaces¹ (World Bank report, 2013).

Economic activities of tribal women thus can be used to describe a series of positive actions:

- to achieve equality of access to goods and services,
- to assist all individuals to participate in community and society,
- to encourage the contribution of all persons to social and cultural life and challenge all forms of discrimination.

In all societies economic activities constitute the main source of survival and sustenance and women have always been an important part of work and economy. However because of difficult economic situations and lack of bargaining power, women workers all over the globe, especially in the developing world, have to accept low wages and work under debilitating conditions. Tribal women have the primary responsibility for food gathering from communal lands and forests. In most countries livestock husbandry is also the responsibility of women. Despite women's enormous contribution to agricultural sector, much of domestic and agricultural work done by women is unpaid and more often overlooked. Women workers in the tribal areas tend to be consistently handicapped owing to the traditional division of labour. The lack of adequate data on women's role used for data collection do not reflect small-scale or subsistence agriculture, ignoring important parts of women's work and overall economic production.

Though everyone is now recognizing the invisible economic contribution of women, methodological problems persist in measuring certain aspects of women's work. By far the most "invisible" of all work done by women the world over, is domestic work, which continues to go unrecognized, unpaid, undervalued and largely ignored, despite its crucial importance to society. It has been argued that if domestic work were to be quantified, it would contribute up to forty per cent of the gross national product. In both the developed and developing world, women work on an average of sixty hours a week around the house. Yet social values are such that most women whose job description reads "housewife" do not consider themselves economically active (Singh, 2001: 118).

¹World Bank. 2013. "Inclusion Matters: The Foundation for Shared Prosperity" (Advance Edition). Washington, DC: World Bank

The City and its Survival

*J. Mishra

** S. Pujari

Cities, in order to become thriving, bustling places, must evolve. Any attempt to engineer them to their last detail would, sooner than later, make them fall apart. But policymakers of free India have, in the thrall of this urban legend, chosen to disregard that. They have worked ceaselessly to graft urban spaces on to every tract of land that they thought was not civic enough.

The breathless excitement over Special Economic Zones, especially the massive urbanisation it's expected to trigger, proves this misplaced idea has grown stronger. That is not to say physical infrastructure of modern cities can come up without any plan. The point is, urban planning should be determined by a consensual idea of public space. A programme to revive our traditional university towns could be the alternative to our top-down models of urbanisation.

Indian urban communities, in the first three decades of Independence, were structured by hierarchical patron-client relations. The indigenous urban elite, produced by the colonial rule, replaced the Europeans in exercising their dominance over cities. The caste-like associational life in those cities was manifest in the ordering of physical space: the *mohalla*, *ahata*, or *para* would typically have a street-front lined by bungalows, and small neat middle-class houses, without houses occupied by servant families at the back.

But those cities could not be at peace with themselves for long. Angry droves of people — dispossessed of their land by the nation-building project of the '50s and '60s — began descending on them. The patronage networks, which had till then managed to shrewdly apportion the urban pie, started coming unstuck. And the burgeoning unorganised economy led to the criminalisation of Indian cities, and the collapse of urban governance, or its myth.

No society can be truly democratic unless different strata of people and their equally various cultural and economic capacities are equitably valorised. The inability of the Indian subaltern assertion to raise this key question of socio-economic transformation is as much a problem of its politics frozen inventory of knowledge that was used by the colonial state for administrative purposes. Sadly, they have, even after Independence, continued in much the same vein.

*Dr. Jharana Mishra is Member Female Expert, Child Welfare Committee, Sambalpur, Odisha, India: Email: jharana3m@gail.com, Phone: +91 9437355799

**Dr. Saswat Chandra Pujari is Assistant Professor in Sociology, Sambalpur University, Odisha, India: Email. Saswat.samaya@gmail.com, Phone: +91 9437109607

Plight of the Affected Villagers – A Sociological Perspective

ISSN 0474-9030
Vol-68-Issue-30-February-2020

****J. Mishra & S. Pujari**

*Dr. Jharana Mishra is Member Female Expert, Child Welfare Committee, Sambalpur, Odisha, India: Email: jharana3m@gail.com, Phone: +91 9437355799

**Dr. Saswat Chandra Pujari is Assistant Professor in Sociology, Sambalpur University, Odisha, India: Email. Saswat.samaya@gmail.com, Phone: +91 9437109607

The works on dislocation and resettlement conducted by social scientists other than Sociologists and anthropologists generate a distinct flavour with special reference to the nature of the study, its focus and methodologies used. While the Sociological studies have taken into account the social institutions, the idea of ethnic groups and its relationship with other neighbouring communities, highlighting the epic point of view and contextualizing them with in the organizational framework of the society, other studies have chosen either to ignore these issues or to deal with them at a very superficial level. Further the core issues such as the changing identity of a community due to a change in habitat and changing relationship with neighbour, change in economy, social life power structure, beliefs and rituals etc. have not been taken into account.

The conceptual frame work to handle the issues of displacement and rehabilitation has always derived its impetus from the political-economy model. The exploitative role of the state in relation to the marginalized local communities has been highlighted. In addition to this Sociologists have been greatly benefited by two important theoretical models to handle the issues of displacement and rehabilitation. They are (i) the temporal model of resettlement phases by Scudder (1973) and (ii) the impoverishment model of Cernea (1993). Scudder identified four stages through which a resettlement process generally undergoes. The first stage is characterized by general planning, initial infrastructural development and settler recruitment. The second stage is a transitional one in which the resettlers are averse to any risk taking, they favour continuity to change. The third stage is the stage of economic and social development and the people are prepared to take any risk and ready to invest for future development. The final stage is characterized by handing over the responsibility to the community and incorporation of the second generation to take over the responsibility. Though Scudder realized the variability of these stages he never commented on the duration of these stages and the socio-economic and psychological factors which might effect the duration. If Scudder's model emphasized on the entirety of

Intensification and Extension of Agriculture through Enhanced Water Availability/Access

J. Mishra

Introduction

The increased competition for water in the Western Odisha puts great pressure on the local hydrology and ecosystem. Tank water depletes in three ways, through evaporation, deep percolation and drawl for irrigation, of which Evaporation cannot be avoided. Percolation of water under the tank bed also cannot be controlled but the surface water lost through percolation can be utilized again as it recharges the groundwater.

There is a high potential for groundwater as a more dependable resource in the command areas of tanks. There is also a good scope to utilize this potential with a high degree of efficiency through integrated and conjunctive use. Groundwater is a very valuable supplementary source of irrigation in-tank ayacuts, where availability of surface water is constrained by monsoon rains.

So, the sustainability of irrigated agriculture is being questioned, both economically and environmentally. The majority of existing irrigation schemes are small, serving usually not more than 200 to 300 households. Many of these schemes are based on stream and river diversions and groundwater wells, while some depend on small dams and perennial springs. Most of the schemes were designed and developed without the consent of the local communities. As a result, many of the small-scale irrigation projects have been operating below expected returns. The sustainability of small-scale irrigation projects depends on (operational) management. Many studies in India focus on technical aspects of irrigation schemes, also limited to conventional surface irrigation mechanism and very little is known of the socio-economic implications of irrigation development utilizing both the surface and groundwater as a synergy. Hence, realizing the need for a better understanding of the socio-economic functioning of stream tank well integration with public-private partnership mode conceptualized an action research project with this irrigation scheme.

Major Objectives

Water scarcity, augmented by deforestation, soil erosion/runoff, and rising demand leading to unsustainable use was identified as one of the major contributing factors to poor agricultural yields in Budapada village of Baduapali Gram Panchayat in Sambalpur District of Odisha in India. Given the nature of monsoon rainfall, the key to meeting the area's growing demand for water for domestic and agricultural use was a major concern. Against this backdrop intervention in the form of the **Budapada check dam** has been able to bring marked changes in the area and so also in the life of 100 families directly in the village. This study was carried out in Jhankarbahali, Budapada, and Tangarjhuri, three small villages with the following objectives:

- To document the technological intervention and find out if there is ensured sustainable water management
- To find out if the local people have a better livelihood option and migration is checked
- To analyse the improvement in the level of freshwater so also groundwater

THE IMPLEMENTED TECHNOLOGY

The technology is very simple and applied mechanics by our traditional farmers from very old times. It is integrating surface water with groundwater i.e. integration of Tank and Well that has aimed at optimal utilisation of the water resources and maximize agriculture production per unit of water. For good agricultural production, the crop must be supplied with a requisite quantity of water at the various critical stages of its growth. Groundwater lifted from wells for irrigation at some cost is better controlled, more productively used and more valuable than that from canals or tanks. With the new agricultural technology, its value has risen considerably.

The integrated use of surface and groundwater can provide the timely need of the plant during the water scarcity at the time crop reaches the sensitive stage. Often the tank storage gets depleted by use, by conveyance and seepage losses and by evaporation and percolation.


IoT-Based Cardiac Arrest Prediction Through Heart Variability Analysis

Conference paper | First Online: 04 March 2020

pp 353–363 | [Cite this conference paper](#)

[Santosh Kumar](#) , [Usha Manasi Mohapatra](#), [Debabrata Singh](#) & [Dilip Kumar Choubey](#)

 Part of the book series: [Advances in Intelligent Systems and Computing](#) ((AISC, volume 1089))

 461 Accesses  4 Citations

Abstract

Current machine learning methods for sudden cardiac arrest have not been tested against physically active heart rates. Developments in wearable technology and advancements in non-intrusive heart rate monitors may allow for a future where people can stream their heart rate readings, with the readings automatically analyzed by robust machine learning algorithms which will alert cardiac arrest risk. This paper presents a new sudden cardiac arrest prediction technique, a random forest classifier implementation, a prospective physical activity heart rate dataset, and an Internet of things solution toward heart rate monitoring and sudden cardiac arrest warning. In this paper, five minutes advance warning is provided with 97.03% accuracy and a 0.9485 *F*-score for the classification of sudden cardiac arrest prediction. The result shows the efficiency of our method compared to other existing methods.



Contents lists available at ScienceDirect

Engineering Science and Technology, an International Journal

journal homepage: www.elsevier.com/locate/jestech



Full Length Article

A novel hybrid machine learning approach for change detection in remote sensing images



Chinmayee Pati^a, Ashok K. Panda^a, Ajaya Kumar Tripathy^{b,*}, Sateesh K. Pradhan^a, Srikanta Patnaik^c

^aDepartment of Computer Science, Utkal University, Bhubaneswar, India

^bDepartment of CSE, Silicon Institute of Technology, Bhubaneswar, India

^cDepartment of CSE, SOA University, Bhubaneswar, India

ARTICLE INFO

Article history:

Received 5 August 2019

Revised 7 December 2019

Accepted 11 January 2020

Available online 31 January 2020

Keywords:

Machine learning

Supervised learning

Unsupervised learning

Remote sensing images

ABSTRACT

Change detection can play an essential role in satellite surveillance. With the availability of satellite images of a certain geographical area captured in different time instances, change detection is considered a tough task in the field of satellite applications. This research proposes a novel hybrid machine learning change detection technique from satellite images. The proposed hybrid learning approach is designed based on supervised and unsupervised learning techniques that considers the local association of adjacent pixels of the satellite images. Hybridization of clustering, soft labeling using fuzzy logic, Support Vector Machine (SVM) and Genetic Algorithm (GA) are used in change detection. Radial Basis Function (RBF) is used as the kernel function in SVM, and the RBF kernel parameters such as C and σ are optimized using GA for additional improvement of the performance. To demonstrate the efficiency of the approach, tests are performed on two satellite images captured in two different time instances on a particular geographical area. Change detection accuracy is used to validate the performance. Outcomes are compared with existing approaches and found to be superior.

© 2020 Karabuk University. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Image analysis, classification and change detection plays a vital role in remote sensing [1,27]. Change detection (CD) in satellite images can play a key role in many different applications [1]. This CD process can be used to identify changes in land covers by the process of remotely sensed multitemporal image segmentation. Some of the reasons for change may be due to the environmental and meteorological incidents such as earthquakes, volcanic eruptions, wildfires, cyclonic storms, floods, drought, heavy snowfall and coastal erosion [2]. CD is considered as one of the most challenging topics in the field of remote sensing application areas [3,4]. CD has vital importance in various applications such as study of land cover dynamics, surveillance of shifting cultivation, forest burning, deforestation, and vegetation change [5]. These problems involve an inspection of larger geographical areas; design of an automatic CD technique is essential to minimize the manual effort and time involved in these applications. CD is employed to identify change in a geographical area by synthesizing multiple images taken at different time instances [6,7]. The major steps involves

in the CD process are i) Image preprocessing, ii) finding difference image (DI), and iii) difference image analysis. We use the change vector analysis (CVA) technique to produce DI from images of the same geographical location at two different times. Each pixel of the DI represents a fixed amount of geographical area. The task is to categorize the set of pixels in the DI into two categories such as changed or unchanged groups. This process of categorization of pixels can be carried out using a supervised as well as an unsupervised approach [8–12].

Several unsupervised techniques were proposed based on change vector analysis by applying a thresholding approach on the magnitude of the DI pixels [1,13,14]. The limitation of this approach is that the magnitude operator loses some information about the direction of difference. Some of the studies apply a clustering technique to solve the problem but in many real applications the accuracy is lower than those provided by thresholding methods [15]. Again, clustering approaches need an additional physical post-processing for labeling the clusters with changed and unchanged labels which limits the automation of the approach. Hence, several other effective unsupervised approaches have been designed in the literature [16,17,24–26]. Although, the supervised approach is performing better than the unsupervised approach, it requires large amount of labeled data which is not available in reality.

* Corresponding author.

E-mail address: ajayatripathy1@gmail.com (A.K. Tripathy).

Peer review under responsibility of Karabuk University.

EasyBand: A Wearable for Safety-Aware Mobility During Pandemic Outbreak

Ajaya K. Tripathy
Gangadhar Meher University

Ambarish G. Mohapatra
Silicon Institute of Technology

Saraju P. Mohanty
University of North Texas

Elias Kougianos
University of North Texas

Amit M. Joshi
Malaviya National Institute of Technology Jaipur

Gautam Das
University of Texas at Arlington

Abstract—COVID-19 (Corona Virus Disease 2019) is a pandemic, which has been spreading exponentially around the globe. Many countries adopted stay-at-home or lockdown policies to control its spreading. However, prolonged stay-at-home may cause worse effects like economical crises, unemployment, food scarcity, and mental health problems of individuals. This article presents a smart consumer electronics solution to facilitate safe and gradual opening after stay-at-home restrictions are lifted. An Internet of Medical Things enabled wearable called EasyBand is introduced to limit the growth of new positive cases by autocontact tracing and by encouraging essential social distancing.

POST PANDEMIC MOBILITY IS A CHALLENGE

■ COVID-19 (CORONA VIRUS DISEASE 2019) is a pandemic caused by a newly discovered

coronavirus.¹ It is spreading in human populations in an exponential manner. A single positive case of COVID-19 has the potential to spread across a nation in just a few days. It spreads through droplets generated by an infected person while coughing, sneezing, spitting, or even breathing air. The probability of the transmission of the disease is directly proportional to the number of

Digital Object Identifier 10.1109/MCE.2020.2992034

Date of publication 4 May 2020; date of current version 10 August 2020.

WeDoShare: A Ridesharing Framework in Transportation Cyber-Physical System for Sustainable Mobility in Smart Cities

Ajaya K. Tripathy
Gangadhar Meher University

Pradyumna K. Tripathy
Silicon Institute of Technology

Ambarish G. Mohapatra
Silicon Institute of Technology

Niranjan K. Ray
KIIT University

Saraju P. Mohanty
University of North Texas

Abstract—Sustainable urban mobility and traffic congestion are the key challenges in a smart city. Nevertheless, a sustainable mobility approach such as real-time ridesharing as a solution is likely to fail, if not integrated with actions aimed at increasing the awareness of citizens, encouragement through incentives and influencing their behavioral change. This article analyzes the possibility of quantifying an individual contribution toward sustainability and reciprocal incentive approach to encourage voluntary behavioral development toward sustainable mobility solutions. Furthermore, the challenges faced by the interested carpoolers were analyzed. This work proposes an IoT-based framework

Digital Object Identifier 10.1109/MCE.2020.2978373

Date of current version 8 June 2020.

July/August 2020

Published by the IEEE Consumer Electronics Society

2162-2248 © 2020 IEEE

Authorized licensed use limited to: Silicon Institute of Technology. Downloaded on June 09, 2020 at 11:46:44 UTC from IEEE Xplore. Restrictions apply.

Problems Faced By Bachelor of Education Students During Computer Based Online Entrance Test of Odisha

Lokanath Das (M.Ed., RNIASE, Cuttack)
Dr. Sanjukta Bhuyan, G.M University, Sambalpur

ABSTRACT

Technology today has come a long way in changing different aspect of lives and helping in human efficiency and accuracy. There is a growing need for educators and stakeholders to explore other means of assessment of students using different medium to help students. The present investigation aims at studying the problems faced by Bachelor of Education students during computer based online entrance test. The sample of the study consisted of 360 pupil-teachers from Bachelor of Education students of Odisha. The investigator selected eight institutions. Six secondary Teacher Training Institutions and three DIETs are selected purposively for the total number of institutions of Odisha providing B.Ed. course approved by TE & SCERT, Odisha. Forty pupil teachers from each institutions are selected. The simple random sampling technique was followed for selection of students from each institution. The major findings of the study revealed (i) There were clear instructional symbols for regulating the online examination. (ii) The quality and conditions of the systems were good and adequate to use. (iii) The systems were functioning properly during examination. (iv) There were some problems in supply of electricity during online examination. (v) There were problems of drinking water facilities. (vi) Provision of new computer system, appointment of well trained invigilators, adequate no. of MOCK questions, uninterrupted electricity supply and removal of noisy atmosphere from test site are suggested by the pupil teacher for improvement of online entrance test. (vii) There were problems of medical

USE OF INTERNET FOR ACADEMIC PURPOSES BY THE BACHELOR OF SCIENCE STUDENTS OF CUTTACK DISTRICT

Lopamudra Biswal* Master of Education, Radha Nath IASE, Cuttack, Odisha

Dr.Sanjukta Bhuyan* Assistant Prof., School of Education, GM University, Sambalpur

Abstract

The internet has been a very important instrument for facilitating academic activities. Uses of internet in our daily life are depending on the desires and goals. The internet provides us useful data, information and knowledge for personal, social, educational and economic development. The present study aims to study the extent of use of internet for academic purposes by the Bachelor of Science students and to compare the number of students using the internet for academic purposes with reference to locality and sex. The sample of the study consists of 180 Bachelor of science students of Cuttack district. The sample was selected purposively from three urban and three rural colleges. The data were collected by the self made questionnaire. Percentage analysis is done. The major findings of the study were (i) most of the students used smart phone.(ii) students followed trial & error method and took assistance from friends.(iii) they used Google for searching subject related information.(iv) Among them 94% urban, 81% rural, 89% boys and 86% girls students were stated they use internet for practicum and project work. More than 81% students stated that science learning become more easy and interesting by the internet.(v) about 55% students revealed that internet is more useful in biology subject. 74% urban, 36% rural, 64% girls and 46% boys admitted it.(vi) more than 66% agreed that internet is essential to understand science concept, principle & strategy and enrich scientific knowledge.

Keywords: Use of internet, Academic purposes and Bachelor of Science students,

Attitude of Bachelor of Education Students towards use of Internet in Relation to Gender and Stream of Education

Jyotibas Bhanja
Radhanath I.A.S.E., Cuttack, Odisha

Dr. Sanjukta Bhuyan
M.A.,M.Phil., NET, Ph.D.(Edu)
School of Education,G.M University,Sambalpur

Abstract:

The present study deals with the three B.Ed. training colleges of Odisha. Out of which 100 science students and 100 Arts students has been selected. Again 50 male and 50 female students from each stream have been selected by purposive sampling procedure. The present study reveals that the gender of students can cause no significant difference in respect of their attitude towards use of internet. It also finds out that the stream of education can cause no significance difference in respect of their attitude towards use of internet. Self developed "Attitude scale towards use of internet" has been used for collection of data. After scoring the data were subjected to statistical analysis. The collected data were analyzed with help of Mean, Standard Deviation, Test of significance of mean ('t' test) and testing of hypotheses were done accordingly.

Keywords: Attitude, Internet & Gender

INTRODUCTION

One of the important characteristics of human life is the dependency on information and communication technology. The information and communication technology has influenced the teaching and learning methods. Therefore the information and communication technology create a new world in the classroom. So the Internet is an inseparable part of educational system.

Internet plays an important role in education and research. The students can get all information about his subjects through relevant websites. Now-a-day's online learning is very popular among the college students.

Teacher education institutions are facing the challenges of preparing new generation of teacher with effective use of new learning tools in their teaching practice. So, internet is playing

Parenting Practice of Scheduled Castes: Effect of Gender of Child and Habitation Locality

Partha Sarathi Mallik
Associate Professor
School of Education
G.M. University, Sambalpur, Odisha

Abstract

The target was to explore perception of Scheduled caste Adolescents towards their parental behaviors in 10 dimensions of parenting namely nurturance, reward, control, permissiveness, conformity, protectiveness, punishment, rejection, social isolation and deprivation of privilege; independent and interactive effect of gender of child and habitation locality of parents on these dimensions. Data were collected from 638 higher secondary students (330 girl; 308 boys; 320 urban; 317 rural) with the help of culturally adapted HEI of K.S., Mishra. It is found that maximum scheduled caste parents have moderate level of behaviour in all dimensions of parenting. Boys >girls in all negative dimensions and nurturance, girls>boys in disciplinary dimension; rural >urban parents in all these dimension except nurturance and permissiveness. Gender has significant impact on all dimensions except protectiveness, nurturance and rejection; locality has only on permissive parenting behavior; interactive effect is found on deprivation of privilege and social isolation dimensions. So more normative/restrictive parenting for girls and harsh but nurturing for boys reflects socio-cultural perspective of gender socialization at one hand and parental behavior as a response towards sex specific femininity/ muscularity attribution on other hand. Urbanity as a form change in case of scheduled castes only affects permissive behavior within parents

Key Words: Parenting Practice, Scheduled caste, Gender, Locality

Parenting, commonly is known as a process of child rearing or providing appropriate stimulating environment to the child for their physical, intellectual, social and emotional development. Parenting practice is one variable used in parenting research which means the behaviors they do within family in relation to child like rewarding, punishing behaviors, controlling and discipline techniques, verbal and non-verbal interaction etc for shaping the work, action and behavior of children etc. In a broad perspective it includes what parents do during interaction with the children, the emotional home climate that they create for children and behaviours they do to enable and permit the child to connect outside of the home (1). The research findings on parenting style, skills, attitudes or behavior has significant instrumental implication on Developmental policy framing, intervention or awareness to parents for optimal development of children. This practice varies due to variation in distal cause like culture, ethnicity, time and proximal causes like socio-economic status, family structure, family process and social support. In Indian context parenting practice is less explored area of research (2). In India there is in general a lack of awareness among diverse population

The (In)Visibility of Value: A Wittgensteinian Perspective

Ashoka Kumar Tarai*

Abstract

Akeel Bilgrami (2016) has argued against the scientific method and its treatment of ethical values by declaring it a superstition of science for not considering values to be part of nature. This paper agrees with the concept of the engaged self discussed by Bilgrami in order to make sense of ethical values. However, it attempts to argue against the conceptual incoherence by juxtaposing value properties and the engaged self. The incoherence can be avoided by following a Wittgensteinian understanding of ethical values which has been explicated very briefly, yet in a significant way, in Tractatus Logico-Philosophicus and also in A Lecture on Ethics in some detail.

Key words: engaged self; fact-value dichotomy; absolute value; relative value; Wittgenstein; Bilgrami

Introduction

One can agree with Daniel Sharp who, in his review of the book *Wittgenstein's Moral Thought*, makes a categorisation of the early Wittgenstein's understanding of philosophy of ethics in the following way: a) concern for meta-ethics, b) development of a philosophical method (the method is essentially ethical in nature)



ISSN:0975-5756

कला - वैभव KALĀ - VAIBHAV

(UGC CARE Listed Journal)

संयुक्तांक 25-26 (वर्ष 2018-19, 2019-20)
विभागीय शोध- जर्नल (रेफरीड)



प्रधान संपादक

डॉ. मंगलानंद झा

प्राचीन भारतीय इतिहास, संस्कृति एवं पुरातत्त्व विभाग
इंदिरा कला संगीत विश्वविद्यालय, खैरागढ़ (छ.ग.)

ISO 9001:2015 प्रमाणित

वित्तीय सहयोग : विश्वविद्यालय अनुदान आयोग नई दिल्ली

7.	घारह आभरण।	क्षेत्रपाल गंगवार	54-67
8.	छत्तीसगढ़ की जन-जातीय सांस्कृतिक विरासत।	डॉ. के. के. त्रिपाठी	68-78
9.	रामचरितमानस में पर्यावरणीय चिंतन।	प्रो. डॉ. काशीनाथ तिवारी	79-83
10.	Ecocriticism and Colonialism on Stage: A Reading of Shakespeare's <i>The Tempest</i> and As you like it.	डॉ. गौस्तुन रंजन	84-93
11.	UNEARTHING THE PAST USING NEW TECHNOLOGY.	KH. Rojy Devi	94-98
12.	संकरषण और उत्तकी कृषिमूलकता।	डॉ. नीनू अग्रवाल	99-104
13.	देवार कल्पना गीतों में चित्रित देवार लोक जीवन।	डॉ. नानक चन्द टंडन	105-109
14.	कलभुरि कालीन धर्म एवं मूर्तिकला।	डॉ. मंगलानंद झा	110-128
15.	Technique of Making various artifacts with rope (Shun) and wood in Bedia Tribe.	डॉ. नितीश मिश्रा अंशु माला कीर्ति	129-133
16.	मदकू द्वीप उत्खनन से ज्ञात प्रतिमायें।	डॉ. प्रभात कुमार सिंह प्रवीण तिवारी	136-148
17.	Duties of Devadasis : A Socio Cultural Study.	प्रतिमा मंजरी सेठी	149-153
18.	Habib Tanvir's <i>Charandas Chor</i> : Deciphering Horizon of Moral Uprightness.	पुष्पा मिश्रा डॉ. मधु कामड़ा	154-159
19.	छत्तीसगढ़ी लोक गीतों में लोक परंपरा के तथ्य।	डॉ. पीली लाल यादव	160-163
20.	संस्कृते स्रोत परम्परा।	डॉ. पूर्णिमा केलकर	166-169
21.	उरांव जनजाति का सांस्कृतिक एवं सामाजिक परिस्थितियाँ।	प्रो. प्यारेलाल आदिले के. मुरारीदास	170-173
22.	रामचरितमानस में राजा-प्रजा सम्बन्ध।	डॉ. राजन यादव	174-179
23.	Aspects of Archaeological explorations in District Kushiinagar, U.P.	संतोष कुमार चौधरी दुर्गेश कुमार शीवास्ताव	180-189
24.	Mapping to Monarchical Hegemonic Department in Medieval Erotic-Sensual Odia –Kavayas.	डॉ. संतोष कुमार मलिक राजेश कुमार साहू	190-202
25.	नारी की समाज में बदलती भूमिका।	डॉ. सविता यादव	203-206

Mapping to Monarchical Hegemonic Department in Medieval Erotic-Sensual *Odia-Kavyas: An Interrogations and Elucidation of Riti Yuga*

Dr. Santosh Kumar Malik*

Rajesh Kumar Sahu**

When discussing the erotic literature, critics persistently allude to inquisitiveness inquires or interrogation of the time frame, vulnerability, else-where, character, environment, contemporary circumstances, and particular subject matter. Contextually the erotic literatures have exerted an undeniable cultural sway, and their position in the medieval Odishan literary tradition more significance is not to be discounted in this contemporary legacy. Unfortunately, the effect of this limited focus has been to make the genre's creations and compiled within medieval courtly conventional attitude reverberates in literary accomplishments and hegemonic dogma.¹

Reading and analyzing the work of P. M. Cryle (in 1988), he has been interpreted the ideas of eroticism in the context of themetization in social and cultural panorama; it clearly indicates the "Eroticism," or the study of "erotic literature,"² is a case in point. It is problematic as a field of study not because it poses nicely intriguing methodological puzzles, but because the very fact of taking it as a definable domain is opens to criticism. When the erotic is isolated as the topic of a text, when it is identified as an object of knowledge, there are many who would question the procedures involved. Certainly, from a phenomenological point of view there appears to be some faulty reduction.³ "Acquaintance with Eros," says Erling Eng a little paradoxically, "is somehow excluded by its actual identification as such."⁴ Simone de Beauvoir says much the same thing, although her remark is more specifically about "erotic literature": "We detested the notion of eroticism-which Malraux used abundantly in *La Condition humaine*-because it implies a specialization that both exalt sex and debasement exaggeratedly."⁵ It is as if the very talk of eroticism, and of erotic literature in particular, were inappropriately, misleadingly analytical. To take it as a theme, and as a topic, may be mistaken.⁶

Commencement of monarchical hegemony, feudal/courtly elite approach enriches medieval court *Kavyas* in the form of sensual and it was happened in the Era of *Riti*.⁷ In the absence of a stable central power, the old Odishan kingdom broke up

Pratna Samiksha

A Journal of Archaeology

New Series

Volume 11

2020



CENTRE FOR ARCHAEOLOGICAL STUDIES & TRAINING
EASTERN INDIA • KOLKATA

NOTE

An Imitated Gold Coin of Huviṣka Kuṣāṇa from Radhānagar, Odisha

UMAKANTA MISHRA

Department of History, G.M. University, Sambalpur

SUBRATA KUMAR ACHARYA

Department of History, Ravenshaw University, Cuttack

ATULA KUMAR PRADHAN

Department of History, G.M. University, Sambalpur

ABSTRACT: Benudhar Pradhan, a local resident of Radhānagar Kankia in Jajpur district, found a gold coin from his agricultural field, the news of which was published in the local newspaper *The Sambad* on 5.8.2020. On examination, the coin was found to be a *dināra* of Kuṣāṇa ruler, Huviṣka. The palaeographic and iconographic features of the coin reveal that the coin is an imitated one. This is the first discovery and reporting of imitated gold coin of Kuṣāṇas from Odisha, even though the imitated Kuṣāṇa's copper coins, known as Puri-Kuṣāṇa coins have been found in hoards from the state. The Muruṇḍas who were the viceroys of the Kuṣāṇas in the eastern provinces, were probably empowered to issue coins, and they were probably responsible for issuing the imitated gold coin.

KEYWORDS: Gold *dināra*, Kuṣāṇas, NANA series of Huviṣka, imitated gold coin, Puri-Kuṣāṇa coins.

Benudhar Pradhan, a local resident of Radhānagar Kankia found a gold coin from his field, the news of which was published in the local newspaper *The Sambad* on 5.8.2020 with photographs of both the obverse and the reverse side of the coin. Radhānagar was a fortified early historical site which prospered from second century BCE to fourth century CE. Odisha Institute of Maritime and South-East Asian Studies (OIMSEAS), Bhubaneswar had conducted excavations of the site in two phases, first under Debaraj Pradhan in 1997–2007 and the second phase in three seasons (2011–13) under Sunil Kumar Patnaik (2017: 42–51). The photograph is then circulated on the Whatsapp Group named, *Odisha Archaeology Group*. On the basis of the photographs of the coin, the following description is presented. This is the first imitated Kuṣāṇa gold coin found in Odisha even though copper coins of Kuṣāṇa period have been found from many archaeological

sites of Odisha, namely Sisupalgarh, Kaima hill near Radhānagar, Asurgarh in Kalahandi, etc. Further, the imitated Kuṣāṇa coins, called as Puri-Kuṣāṇa have been found from many places of Odisha which was in circulation after the circulation of the Kuṣāṇa coin was over (Tripathy 1986: 35–57).

The present coin belongs to NANA series of Kuṣāṇa king Huviṣka (r. 155–89 CE). The coin under study is not from Bactrian or Afghanistan mint but imitated somewhere else. The die used to imitate this coin was made locally. The die maker while imitating the coin, had used three different variation of the Greek letter 'N'. The reasons for terming it an imitated gold Kuṣāṇa coin will be clear as we present a comparison of the NANA series of Huviṣka's gold coin and the coin under study. The palaeographic variation, especially in the treatment of the letter 'N' in reverse while writing NANA, and the iconographic representations of both the king

History TODAY

Journal of History and Historical Archaeology

No. 21

2020



The History and Culture Society, New Delhi

SOME NEWLY DISCOVERED INSCRIBED IMAGES AND HEROSTONES FROM COASTAL ODISHA

A number of inscribed herostones and images have been discovered during the course of exploration of different parts of coastal Odisha. The paper provides reading and reporting of few of these inscribed herostones and two Jaina images. Some of these images, however, were noticed by earlier scholars but the inscriptions were not read. Inscribed images provide important insight on cult affiliations and social backgrounds of donors as well as throw light on the larger cultural ecology in which they made their appearance. The inscribed images are also important to understand the transmission of texts and scripts. For instance, the Abhisambodhi Vairocana image found from the Buddhist site of Lalitagiri in Cuttack district has been taken from Chapter 6 of *Mahāvairocana-sūtra*, a 7th century Caryā tantra of Vajrayāna Buddhism (Mishra 2016). The present paper deals with few newly discovered inscribed images and herostones and then contextualise these findings.

1. Padmaprabha Image Inscription in the Jaina temple of Cuttack (Plate 1)

The Jaina temple of Choudhury Bazar area of Cuttack city preserves in its sanctum and audience hall a number of Jaina images of *Tirthankaras*, such as of Rṣabhanātha, Padmaprabha, Śāntinātha, Neminātha, Parśvanātha, and Mahāvira as well as *caumukhas* in stone, bronzes and brass. The stone images and *caumukhas* have been acquired by the local Jainas from various historical sites such as Khandagiri-Udayagiri in Bhubaneswar, Pratapnagari in Cuttack Sadar, Podasingidi in Keonjhar and Charampa in Bhadrak district. These stone images, on closer iconographic and palaeographic examination, can be dated to 8th-13th century CE. All of them are under active worship. One blackschist image of 6th *Tirthankara*, Padmaprabha, contains an inscription; four lines on the left and two lines on the right of lotus *lanchna* (lotus being the symbol of the 6th *tirthankara*), just below the *śiwapadma* on which the *tirthankara* is standing. Padmaprabha is standing in *kayotasarga* pose with two *Vidyādhara*s flying on the upper back slab. Two *cauri* bears are found on the lower backslab. He is standing on lotus throne and his *lanchna*, a full blown lotus is found just below the lotus pedestal. The image could not be measured as it is under active worship. Padmaprabha is associated with Red Lotus emblem, Chatrabha tree, Manovega and Mangupta Yaksha and Śyāma and Acyuta Yakshi.

The inscription on the pedestal reads thus:

Left side of the pedestal (Four lines) (Plate 2)

1. Svasti// śrīRājarā
2. yadevaśa pravardharamāna vijaya
3. jayasamvat 15// Mārada
4. khaṇḍa Mārtandasōta-putra...

Right side of Pedestal (Plate 3)

1. Padmaprabhā pūjanaśaṅṣo
2. dha[na]

The inscription records the consecration and worship of Padmaprabha image in the Mārada Khaṇḍa (division) which has been engraved by the Sōtapōtra (messenger-son), Mārtanda in the 15th regnal year of the śrīRājarāja. The inscription with many Odia letters, is in Proto-Odia character and can paleographically be dated to the late 12th century CE. The inscription refers to the donor, Mārtanda who belongs to Mārada Khaṇḍa. Mārada can be identified with Maroda of Ganjam district in South Odisha.

The donation was made in the 15th regnal year of Rājarāja, who can be identified with the Imperial Ganga King Rājarāja II, whose 15th regnal year would be 1172 CE. A Jaina donative inscription of the Rājarāja II (1168-1190) has been found from the village Bhogapuram in Bimalpattanamtaluk of Vishakhapatanam district, and is now in śrīKūrmam, which also states the donation to a Rājarāja *jinālaya*. It is recorded that in the reign of Anantavarman Rājarāja II of the Imperial Ganga dynasty, one Kannama Nāyaka, a devout worshipper of Jina and a subordinate of Utkala king installed a sacred image of Jina at Remaraniagiri in a temple called Rājarāja *jinālaya*. Probably, the *jinālaya* was built with the support of Rājarājall, who ruled Odisha from 1168 to 1190 CE (Rajaguru 1961: 316-17; Tripathy 2010: 895). The said inscription refers to a donation of land for the *naivedya*, *upacāra* of goddess Ambikā, a *sāsanadevī* of the Jaina *Tirthānkara*, Neminātha. The inscription, in the eleventh regnal year of śrimad Anantavarmadeva, is dated to 25th December 1178 CE.

The present inscription of Padmaprabha is important from many perspectives. One, it shows the continued presence of Jainism in Odisha in late 12th century CE. In

HERITAGE

JOURNAL OF MULTIDISCIPLINARY STUDIES IN ARCHAEOLOGY

VOLUME: 8.1

Editors

RAJESH S. V., ABHAYAN G. S. AND PREETA NAYAR



DEPARTMENT OF ARCHAEOLOGY
UNIVERSITY OF KERALA
THIRUVANANTHAPURAM

2020

Recently Discovered Images from the Jayadurgā Temple in the Backwater of Bhitarkanika, Odisha: Issues of Coastal Shrines, Networks and Religious Memory

Umakanta Mishra¹ and Atula Kumar Pradhan¹

¹. School of History, Gangadhar Meher University, Amruta Vihar, Sambalpur, Odisha-768 001, India (Email: umajnu@gmail.com; atulcgculture@gmail.com)

Received: 19 August 2020; Revised: 13 October 2020; Accepted: 26 November 2020

Heritage: Journal of Multidisciplinary Studies in Archaeology 8.1 (2020): 971-982

Abstract: Four images of different religious/sectarian affiliations, discovered in the thatched shrine chamber of Jayadurgā Temple on the backwater of the Bhitarkanika in Odisha, raise significant questions on the origin, circulation and transportation of images, and the possible role of riverine creek as arteries of communication and transportation. By studying the stylistic features of these images for the first time, the present paper argues that they belong to the late 10th century CE and were possibly transported from a common point to different religious establishments using the creek as artery of communication. The finding also raises questions about memory and religious practices of the local communities who retain sectarian affiliation of certain images unaltered, while transforming that of the others.

Keywords: Coastal Shrine, Jayadurgā Temple, Creek, Communication, Religious Memory, Bhitarkanika, Embodied Practices

Introduction

Coastal shrines provide vital insights on the production of maritime space of the past. They acted as major markers for sailors on the sea in the past and revealed stories of contacts, exchanges and circulations in which local communities, religious teachers, artisans, rulers had participated (Ray 2020: 2). Coastal shrines of the Indian Ocean contain in their structural elements an intertwined history of travel of monks, religions, trades, language and scripts which went on to create the maritime space of the Indian Ocean (Amrith 2013:1). However, unlike coastal religious structure, which provides degree of stability and character of immovability to coastal shrines, the same cannot be said of the images in these shrines. Images in them could have been meant for other places; but they stayed on in a particular shrine. Alternatively, they may have come from other shrines in different times of history. Images have curious ways of travel and the modern cartographic method of understanding religious landscape without exploring the curious history of images of coastal shrines, would result in a skewed understanding of the religious landscape of the past. The present paper describes a coastal shrine, named Jayadurgā temple at village Dangamal on the backwater of

Inclusive

AN INTERNATIONAL JOURNAL OF
KOLKATA CENTRE FOR CONTEMPORARY STUDIES (KCCS)

ISSN 2278-9758

FREELY ACCESSIBLE BIENNIAL E-JOURNAL
ON SOCIAL SCIENCES

<http://theinclusive.org>

Vol. 1, Issue 16, January 2020

Section : Special Article

Author : **RAJESH KUMAR KARNA**
Assistant Professor, Department of Politics
Dr. S.R.K. Govt. Arts College, Yanam, Puducherry University
rajeshkarna68@gmail.com

KESHAB CHANDRA RATHA
Lecturer, Department of Political Science,
Pallishree Degree Collge, Chichinda Sambalpur University
keshab_ratha@rediffmail.com

Article Name : **Interrogating sub-regional Cultural Nationalism in Odisha:
A Shift from economic deprivation to cultural distinctness**

Article Name : Interrogating sub-regional Cultural Nationalism in Odisha:
A Shift from economic deprivation to cultural distinctness

KOLKATA CENTRE FOR CONTEMPORARY STUDIES (KCCS) is a society registered under the West Bengal Societies Registration Act, 1961. Registration No. S/IL/86955 of 2011-2012. Office Address: 126/6 Becharam Chatterjee Road, Kolkata 700 061 WB India. Contact no. +91 98365 99476. Editor: Subrata Bagchi.

RK KARNA & KC RATHA

Article URL: <http://theinclusive.org/posts/2020-01-spart-01.pdf>

Page 1 of 16

Abstract:

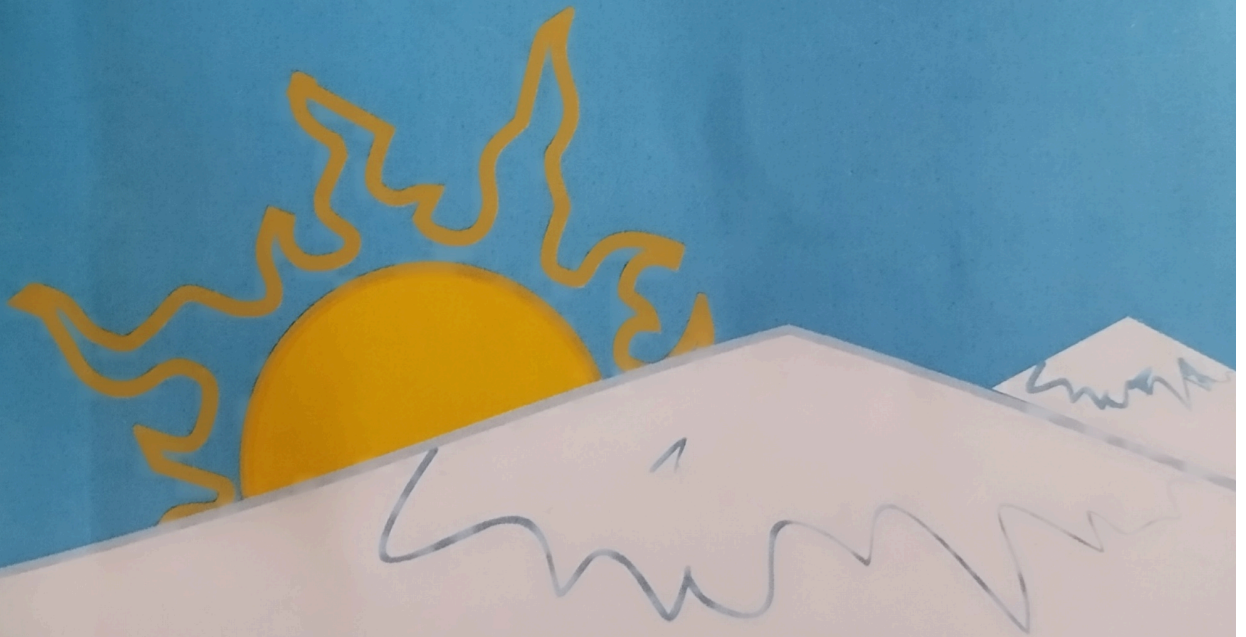
Odisha, the first province in India to be created in terms of linguistic homogeneity, subsequently encountered another regional mobilisation; this time on the grounds of underdevelopment and state politics that divides the state into two culturally distinct regions 'Sambalpuri-Katki'. After the decline of Ganatantra/Sawantra Parisad, regionalism in Western Odisha has been witnessing the rise of separate Koshal nationalism in the very heartland of the Odia movement. The transformation from regionalism to sub-regional cultural nationalism has two different trends: separatist and autonomist and is an outcome Western Odisha's cultural peculiarity. The major thrust of this paper is to provide a comprehensive account of this transformation and explore the nature of Koshal movement, mobilisation processes and implications on state politics.

Keywords: nationalism, regionalism, Koshal, Odisha and statehood movement

ISSN 2319-2976

ADMINISTRATIVE DEVELOPMENT

A Journal of HIPA, Shimla



**HIPA
SHIMLA**

HIMACHAL PRADESH INSTITUTE OF
PUBLIC ADMINISTRATION- SHIMLA- HP

July-December 2020
Volume VII Number 2

BIRTH OF NITI AAYOG: TOWARDS A NEW RESURGENT INDIA

Keshab Chandra Ratha *

Abstract

*Keeping in tune with the changes and challenges of rapidly evolving socio-economic scenario in the country, the National Institution for Transforming India (NITI) Aayog aims at building pro people development agenda by pursuing a bottom up approach and with lively involvement of all stakeholders. The new entity extends its supporting hand on institutional reforms in governance and dynamic policy that looks after important changes to serve the present day economics especially in a rapidly changing global scenario. **The major challenge is to take all stakeholders on board to achieve the aspirations of common man and take the development to village level by making policies that are people friendly. The major objective of this paper is to explore how the new entity will bring about a seminal change in the development policy making by decentralizing the process and put India on high growth trajectory, providing an impetus to co-operative federalism which is healthy for the nation.** The key to the success of the dynamic institutional mechanism depends on adoption of a bold, unconstrained and unconventional approach and the degree of empowerment, confidence and credibility that it enjoys with the centre and the state government towards building a new resurgent India.*

Keywords: Planning Commission, Federalism, Policy, Economic Development, Institutions

* Assistant Professor, School of Political Science, Gangadhar Meher University, Amrut Vihar, Sambalpur, Odisha, India, Email: keshab_ratha@rediffmail.com

- The Asian Man**
An International Journal
- Journal Home
- Current Issue
- Archive / Issues
- Registration
- Subscribe
- Editorial Board
- Aims & Scope
- Author
- Guidelines
- Ethics & Malpractice
- Subscribe-TOC
- Alerts

Asian Man (The) - An International Journal
Year : 2020, Volume : 14, Issue : 1
First page : (111) Last page : (113)
Print ISSN : 0974-6366. Online ISSN : 0975-6884.
Article DOI : [10.5958/0975-6884.2020.00014.6](https://doi.org/10.5958/0975-6884.2020.00014.6)

Political rafting through the withered Mahanadi: A fluvial apocalypse

Ratha Keshab Chandra*

Assistant Professor, School of Political Science, Gangadhar Meher University, Amruta Vihar, Sambalpur-768004, Odisha, India

*Email id: keshab_ratha@rediffmail.com

Online published on 26 October, 2020.

Buy Now

PDF

Access denied

Your current subscription does not entitle you to view this content or Abstract is unavailable, the access to full-text of this Article/Journal has been denied. **For Information regarding subscription** please [click here](#).

For a **comprehensive list of other publications available on indianjournals.com** please [click here](#)

or, You can subscribe **other items** from indianjournals.com ([Click here to see other items list.](#))

Top

We recommend

Unplanned developmental activities: The aggravators of natural disasters in the hills of Uttarakhand

Monika Bisht, Quest-The Journal of UGC-HRDC Nainital, 2017

Hirakud Dam Project— Moderation of the Peak Flood in the Mahanadi

The Storming, the Insurrections Ensemble

Dilip Menon, Shakespeare in Southern Africa, 2017

Progressive Contextualization: Thinking about Extreme Events

Arthur D. Mumbv, Latin American Research Review, 2018

Article Submission

FREE

Sample Issue

Trial Access



Restricted access Research article First published online August 1, 2020

Deciphering the Doklam Standoff: The Context of the Contest

Keshab Chandra Ratha [View all authors and affiliations](#)

Volume 24, Issue 2 | <https://doi.org/10.1177/0973598420939685>

Contents Get access Cite article Share options Information, rights and permissions Metrics and citations

Abstract

Geopolitical compulsions seem to be the prime mover bringing pressure upon China's hands in terms of the location and timing of the Doklam Plateau military standoff, developing it gradually into a full-blown military conflict and turning Sino-Indian relations into a stage of long-term strategic confrontation. India's serious objections to CPEC passing through disputed territory and its marked unwillingness to become a member of China's One Belt One Road arrangement pose a severest jolt to Chinese strategic interests, showcasing a military superiority.

How to Do Research and Get Published Webinar Series



Restricted access | Research article | First published online May 19, 2020

Deciphering Regional Disparity in Western Odisha: Looking Through the Prism of History

[Keshab Chandra Ratha](#) [View all authors and affiliations](#)

[Volume 66, Issue 2](#) | <https://doi.org/10.1177/0019556120922834>

Contents

Get access

Cite article

Share options

Information, rights and permissions

Metrics and citations

Abstract

Western Odisha has experienced hardships as the most backward region in the state of Odisha in all domains. The discrimination in terms of infrastructure, poverty reduction, literacy, education and health in this region by the successive governments of Odisha, establishment of institutions like Western Odisha Development Council (WODC) with its headquarters at Bhubaneswar with a small fraction of budget, less representation of people in decision-making bodies create a feeling of neglect and deprivation. The major thrust of this paper is to explore the multifarious factors causing the regional disparity in Western Odisha. It is only through mass awareness, empathetic, soft corner attitude of both central and state governments, involvement of NGOs, civil society organisations and change in power structure of the Koshal region regional balance in the state can be ensured.



**Sage Journal
Author Gateway**

[Read more >>](#)

This is a preview. [Log in through your library.](#)

COMMENTARY

INDIA AT THE PARIS SUMMIT: A POTENTIAL GAME CHANGER

*Keshab Chandra Ratha**

Introduction

The role of an expanding equity based discourse coalition in maintaining India's preferred framing of climate change was particularly evident at the first Conference of the Parties (COP-1) in 1995.¹ India comes into view as one of the pivotal voices at the COP21 talks in Paris, taking a much more positive and dominant role in the climate change negotiations. It has also sketched out a plan to spread out fossil fuel consumption while appealing to developed states to considerably reduce theirs. The most glaring aspect of India's INDC is the classification of coal as a "clean" source of energy. Under the new leadership, the country is going through a rapid transition towards a low-pollution and climate-resilient future which is manifested in its electricity, agriculture, and urban transport sectors. India has presented an example of newer types of climate change action that could be applied by other countries and that could also be incorporated into the general global framework. For a successful climate meet in Paris, India, as one of the most important stakeholders, needs to be in line with the world's advanced countries. In fact, it is imperative for all parties to move forward and collaborate with each other to combat the threat of climate change.

India's ratification of the Paris Agreement is a sign of the reaffirmation of the global intent for the implementation of an international agreement to address climate change. India's ratification will help in bolstering up relationships with key allies such as other BASIC countries (Brazil, South Africa and China). India's ratification will also help in bolstering up relationships with vulnerable countries including the small island developing states and other developed countries. India will have both obligations and entitlements. It can avail

JOURNAL ARTICLE

INDIA AT THE PARIS SUMMIT

Keshab Chandra Ratha

Indian Journal of Asian Affairs

Vol. 33, No. 1/2 (JUNE-DECEMBER 2020), pp. 112-119 (8 pages)

Published By: Manju Jain



<https://www.jstor.org/stable/27003439>

Cite

Read and download
Log in through your school or library

Alternate access options
For independent researchers

Airplane mode on

AN IMPROVED CLASS OF RATIO-TYPE ESTIMATORS OF THE POPULATION VARIANCE IN SIMPLE RANDOM SAMPLING SCHEME

N. Sahoo

Assistant Professor

School of Statistics

G.M. University, Amruta Vihar, Sambalpur, Odisha, India

Abstract: The present study proposes a class of ratio-type estimators for estimating the population variance using two auxiliary variables, under simple random sampling without replacement (SRSWOR) scheme. Properties of the proposed estimator, under the SRSWOR scheme, are obtained up to first order approximation. The proposed estimator performs better to the usual estimator and the existing estimators. Furthermore, the theoretical results are supported by an empirical study and has shown through graphical presentation.

Keywords: Population variance, auxiliary information, simple random sampling, bias, mean square error, bar diagram

1. Introduction:

Estimating the finite population variance has great significance in various fields such as industry, agriculture, and medical and biological sciences, where we come across populations which are likely to be skewed. Variations are present everywhere in our day to day life. A manufacturer needs constant knowledge of the level of variations in people's reaction to his product to be able to know whether to reduce or increase his price, or improve the quality of the product.

Ratio-type estimators take advantage of the correlation between the auxiliary variable x and the study variable. When information is available on the auxiliary variable that is positively correlated with the study variable, the ratio estimator is a suitable estimator to estimate the population variance. For ratio estimators in sampling theory, population information of the auxiliary variable, such as the coefficient of variation or the kurtosis, is often used to increase the efficiency of the estimation for a population variance.

Consider a finite population $U = (U_1, U_2, \dots, U_N)$ having N units and let y and x be the study and auxiliary variables with means \bar{Y} and \bar{X} , respectively. Let a sample of size n be drawn from the population using simple random sampling without replacement (SRSWOR) method. To measure the variations within the values of study variable y , the problem of estimating the population variance of S_y^2 of study variable y received a considerable attention of the statisticians in survey sampling including Isaki (1983), Singh and Singh (2001, 2003), Jhajj et al. (2005), Kadilar and Cingi(2006), Singh et al. (2008), Grover (2010), Singh et al. (2011), Singh and Solanki (2012), Singh and Malik (2014) have suggested improved estimator for estimation of S_y^2 .



AN EFFICIENT PRODUCT-TYPE EXPONENTIAL ESTIMATOR IN POST-STRATIFICATION

N. SAHOO¹, S. DASH²

School of Statistics

^{1,2}Gangadhar Meher University, Sambalpur, Odisha, India

¹nirustatistics@gmail.com; ²sumandash994@gmail.com

DOI: 10.33329/bomsr.8.2.1



ABSTRACT

Following Tailor & Tailor (2012) and Panda & Sahoo (2020), we propose a product-type exponential estimator in post-stratified sampling using variable transformation. The proposed estimator, under certain conditions are shown to be more efficient than the usual unbiased estimator in case of post-stratification and some existing estimators. The efficiency of the newly proposed estimator has shown through numerical illustration and graphical representation.

Keywords – Auxiliary Information, Variable Transformation, Post-Stratified sampling, Bias, Mean Square Error and Bar Diagram.

1. INTRODUCTION

Stratification is a commonly used techniques in sample survey. Stratified sampling presumes the knowledge that the strata size and sampling frame for each stratum are known. But in many situations, it happens that the overall population size and also the percentage of unit that falls in the strata are known but the sampling frame for the stratum are may not be available or it quit time-consumable for preparing. In such situations we can not be supposed to use stratified random sampling. So, to overcome from this kind of problem we use post-stratification technique in which sample of size 'n' is drawn by simple random sampling without replacement, these sample is stratified in different strata and used as stratified samples.

Let us consider the population size N that stratified into L strata of size $N_1, N_2, N_3 \dots \dots \dots N_L$ such that $\sum_{h=1}^L N_h = N$. Let n_h be the sample size falling in the h^{th} stratum such that $\sum_{h=1}^L n_h = n$.

Now consider x as the auxiliary variable which is negatively correlated with the study variable y . Let y_{hi} be the observation on i^{th} unit of h^{th} stratum for the study variable y and x_{hi} be the observation on i^{th} unit of h^{th} stratum for the auxiliary variable x , then

Short Communication

Length–weight relationship for three estuarine fish species from the Chilika Lagoon, India

Dillip K. Sahoo¹, Subodha K. Karna^{2*}, Debasish Mahapatro³, Sudarsan Panda⁴ & Bhikari C. Guru⁵

¹Department of Zoology, GM University, Sambalpur, Odisha, India

²ICAR- Indian Institute of Water Management, Chandrasekharpur, Bhubaneswar, Odisha, India

³Department of Marine Science, Berhampur University, Brahmapur, Odisha, India

⁴Odisha Forestry Sector Development Society, Bhubaneswar, Odisha, India

⁵Department of Zoology, Utkal University, Vani Vihar, Bhubaneswar, Odisha, India

*[E-mail: subodhaindia@gmail.com]

Received 08 August 2018; revised 14 September 2018

We investigated the length–weight relationships (LWRs) for *Sillago vincenti* McKay, 1980, *Triacanthus nieuhofii* Bleeker, 1852 and *Terapon puta* Cuvier, 1829 from the Chilika lagoon in India. Sampling was conducted in central sector of the Chilika from April to November of 2017. Specimens were caught in mono-filament gill nets of mesh size 28-36 mm and fixed set nets of mesh size 16-24 mm. From LWR estimation, the determined intercept (a value) and slope (b value) were found to be 0.007 and 3.039 for *Sillago vincenti*, 0.010 and 2.997 for *Triacanthus nieuhofii* and 0.008 and 3.156 for *Terapon puta*. The relationships between length and weight in all three species were highly correlated ($p < 0.05$).

[Keywords: Chilika, India, Length–weight relationship]

Introduction

In open water fish conservation and management, information on body weight of fish is foremost for regulation of catch and estimation of biomass¹. Similarly, evaluation of fish biomass, yield and standing stock of a population, requires both length and weight data. But, during field data collection, measurement of fish size (length) is more convenient than taking body weight when data requirement is huge. Measurement of both length and weight data of each specimen from an unsorted catch is practically time consuming as well as cost expensive². Database on length weight relationship (LWR) has significant role in fish biology, for any type of fish i.e.,

commercial, non-commercial, food fish, thrashed fish or pray fish. Such database is very useful for biomass estimation because, each species has a unique shape in general all over the globe.

Chilika lagoon is recognized for its diverse aquatic ecosystem of the tropics where fisheries have foremost importance in research, management and ultimately to serve livelihood to millions of fishers. Despite some studies on length-weight relationship from Chilika²⁻⁷, many commonly occurring fish species has yet to be studied. Here, we report first information on LWR for *Sillago vincenti* McKay, 1980 and *Triacanthus nieuhofii* Bleeker, 1852 and species specific updated LWR for *Terapon puta* Cuvier, 1829 from Chilika.

Materials and methods

Chilika lagoon (19°28'–19°54' N; 85°05'–85°38' E) is a designated Ramsar site, located in east coast of India. Samplings were conducted in Chilika on seasonal basis from April to November of 2017 using mono-filament gill nets having mesh size 28-36 mm and fixed set nets of mesh size 16-24 mm. Soon after collection, fishes were packed in ice-box and brought to research laboratory for further study. Species were identified following standard literatures^{8,9}. Total length (TL) and body weight (W) were measured to the nearest 0.1 cm using a digital caliper and 0.01 g using an electronic balance, respectively.

The length-weight relationship $W = aL^b$ were estimated by the least squares method through the transformed equation, $\log W = \log a + b \cdot \log L$ where, W is total body weight (g), L is total length (cm), a is intercept and b is slope of the linear regression¹⁰. Normalization of the data sets was carried out by removing extreme outliers using log-log plot of L and W pairs¹⁰. Statistical significance i.e., 95 % confidence limits (CI) of a , b and r^2 were determined¹⁰. The whole statistical analysis was performed using MS-Excel 2010 for Windows.



Results and Discussion

Total, 432 fresh fish specimens of three species belonging to 3 different families were measured. The sample size (N), length and weight ranges, estimates of LWR (a , b and r^2) are summarized in Table 1. The

ORIGINAL REPORT



Circannual production rhythms of seven commercially important fishes in the Chilika lagoon

Prasanti Mishra^{a,b}, Amita Kumari Mohanty^a, Rakesh Kumar Swain ^b,
Arti Parganiha ^{c,d} and Atanu Kumar Pati ^{b,c,d}

^aAquaculture Production Division, Central Institute of Freshwater Aquaculture (Indian Council of Agricultural Research), Bhubaneswar, India; ^bSchool of Zoology, Gangadhar Meher University, Sambalpur, India; ^cSchool of Studies in Life Science, Pandit Ravishankar Shukla University, Raipur, India; ^dCenter for Translational Chronobiology, Pandit Ravishankar Shukla University, Raipur, India

ABSTRACT

The main objective of this investigation was to delineate spatio-temporal patterns in annual production of seven species of fishes inhabiting the famous Chilika lagoon. The data were collected from 19 landing centers located across four different geographical sectors of the lagoon over a period of two consecutive years. Using Cosinor rhythmometry, statistically significant circannual rhythms of production in all seven species of fishes were validated at the group level either at one or multiple landing centers of the lagoon. The peaks of the circannual rhythms were subjected to Bray–Curtis cluster analysis and similarities among the landing centers apropos the peak timings of the circannual rhythms in production of fish species was determined. Three distinct clusters were witnessed apropos the peaks at different time of the year and at different sectors of the lagoon. This spatiotemporal relationship reflects how temporal abundance of fish species is distributed to avoid conflicts and competitions among themselves along the annual time scale. The findings reported here might help in making strategy to maximize annual fish yield. That will also help in the management of biodiversity of the lagoon.

ARTICLE HISTORY

Received 11 December 2019
Accepted 27 March 2020

KEYWORDS

Spatiotemporal variability; circannual rhythms in fish; production; biodiversity management; chilika lagoon

1. Introduction

The species interaction in a community takes place at different levels, namely competition, mutualism and predation (Tulloch et al. 2018). The level and intensity of species interaction also vary depending on the types of the habitat/niche. There are numerous studies on the species interaction in brackish water lagoons. A majority of the studies, reported on species interaction in different lagoons, includes spatial distribution of species in the high marsh (Bortolus et al. 2002), fish species richness and salinity (Sosa-López et al. 2007), intra-annual relationship between zooplankton and abiotic factors (Feike and Heerkloss 2008), co-occurrence of one species with another (Boscutti et al. 2018), effects of global warming and salinisation on the mortality of ephemeral wetland predator (Cuthbert et al. 2019), impact of climate change on species in brackish water lagoon (Bruçet et al. 2009),

CONTACT Prasanti Mishra  mishra.prasanti@gmail.com  School of Zoology, Gangadhar Meher University, Amruta Vihar, Sambalpur 768 004, Odisha, India



Circadian rhythm in the pattern of online usage of Facebook messenger during the COVID-19-triggered lockdown: a sequel to the pre-pandemic study

Rakesh Kumar Swain , Sarojini Minz , Arti Parganiha , Ananya Diwan & Atanu Kumar Pati

To cite this article: Rakesh Kumar Swain , Sarojini Minz , Arti Parganiha , Ananya Diwan & Atanu Kumar Pati (2020): Circadian rhythm in the pattern of online usage of Facebook messenger during the COVID-19-triggered lockdown: a sequel to the pre-pandemic study, Biological Rhythm Research, DOI: [10.1080/09291016.2020.1812284](https://doi.org/10.1080/09291016.2020.1812284)

To link to this article: <https://doi.org/10.1080/09291016.2020.1812284>



Published online: 20 Aug 2020.



Submit your article to this journal [↗](#)



Article views: 473



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 2 View citing articles [↗](#)

SHORT COMMUNICATION



Ultradian, circadian, and circaseptan rhythms in the patterns of usage of Facebook messenger

Ananya Diwan^a, Rakesh Kumar Swain , Sarojini Minz , Arti Parganiha 
and Atanu Kumar Pati 

^aCenter for Basic Sciences, Pt. Ravishankar Shukla University, Raipur, India; ^bSchool of Zoology, Gangadhar Meher University, Sambalpur, India; ^cSchool of Life Sciences, Pt. Ravishankar Shukla University, Raipur, India; ^dCenter for Translational Chronobiology, Pt. Ravishankar Shukla University, Raipur, India

ABSTRACT

The Facebook Messenger (FBM) is one of the most popular instant messaging social apps, launched by Facebook in 2010. As of October 2019, there were about 1.3 billion FBM users worldwide. In this study, we analyzed periodicities in the online activity patterns of users in FBM. We did not recruit any subjects in this study; rather four of us used our own FBM accounts to reveal the presence of any rhythms with $\tau = 12$ h or $\tau = 24$ h or $\tau = 168$ h in the patterns FBM usage among our FB friends. We log-transformed the time series data and subjected those to Cosinor rhythmometry. The peaks in the daily pattern of FBM usages, revealed from Cosinor analyses, and harmonics curve fittings validated the presence of multi-frequency rhythms in the longitudinal time-series data captured over a period of 16 days. The underlying basis of the observed multi-frequency rhythms could be attributed to the phenomenon of social synchronization. The current findings might bear commercial applications with special reference to targeted content advertising (TCA).

ARTICLE HISTORY

Received 10 March 2020
Accepted 23 March 2020

KEYWORDS

Ultradian; circadian;
circaseptan; patterns in FBM
usage; harmonic curve
fitting; TCA

1. Introduction

The Facebook Messenger (FBM) is one of the most popular instant messaging social apps. The Facebook developed this App in 2008 (Hendrickson 2008; Farber 2008) and launched its messaging platform in 2010 (Siegler 2010). This social media platform enables its users to share image, video, GIF, text messages, voice messages, and pretty stickers to their online friends. These features attract the users towards this Social Networking Apps. Like WhatsApp, it has also voice and video calling facilities. The FBM became instantly popular as it doesn't require any user ID and/or password at the time of login, if a user has an FB account. A user can easily have access to the FBM at any time and from any location. As of October 2019, there were about 1.3 billion FBM users worldwide (Statista.com 2019; <https://www.statista.com/statistics/258749/most-popular-global-mobile-messenger-apps/>). It is believed that it may attain a staggering figure of 2.48 billion by 2021. As per the NapoleonCat survey, the

पत्रकारिता : अर्थ और स्वरूप

डॉ. वाशरथी बेहेरा*

बोध सारांश – आज 'पत्रकारिता' शब्द हमारे लिए कोई नया शब्द नहीं है। सुबह होते ही हमें अखबार की आवश्यकता होती है, फिर पूरे दिन रेडियो, दूरदर्शन, इंटरनेट एवं सोशल मीडिया के माध्यम से समाचार प्राप्त करते रहते हैं। साथ ही साथ रेडियो, टीवी और सोशल मीडिया सुबह से लेकर रात तक हमारे मनोरंजन के अतिरिक्त अन्य कई जानकारीयों से परिचित कराते हैं। इसके साथ ही विज्ञापन ने हमें उपभेक्ता संस्कृति से जोड़ दिया है। कुल मिलाकर पत्रकारिता के विभिन्न माध्यम जैसे समाचार पत्र, पत्रिकाएँ, रेडियो, टेलीविजन, इंटरनेट, सोशल मीडिया ने व्यक्ति से लेकर समूह तक और देश से लेकर सारे विश्व को एकसूत्र में बांध दिया है। इसके परिणाम स्वरूप पत्रकारिता आज राष्ट्रीय स्तर पर विचार, अर्थ, राजनीति और यहाँ तक कि संस्कृति को भी प्रभावित करने में सक्षम हो गई है।

शब्द कुंजी – पत्रकारिता अर्थ, स्वरूप, परिभाषा, कर्म, पत्रकारिता और पत्रकार, पत्रकार की योग्यता एवं उत्तरदायित्व, पत्रकारिता का क्षेत्र

प्रस्तावना – मनुष्य एक सामाजिक प्राणी है। वह अकेला नहीं रह सकता है। वह संघर्षण के जरिए ही समाज से जुड़ता है। उसे व्यक्तिगत जरूरत पूरी करने, व्यक्तिगत संबंध स्थापित करने, सूचना प्राप्त करने, आपस में बातचीत करने, किसी के प्रति किसी चीज के लिए आवाह पैदा करने तथा मनोरंजन यानि हैसना, हैसना, दूसरे के दुख-सुख में हिस्सा लेना के लिए संघर्षण की जरूरत पड़ती है। यह संघर्षण एक प्रक्रिया के तहत काम करता है। इसमें नी तत्व होते हैं-स्रोत, वक्तव्य क्षमता, संदेश, माध्यम, प्राप्तकर्ता, संदेश प्राप्ति, प्रतिक्रिया, संदर्भ एवं जीवन मूल्य और दृष्टिकोण।

स्रोत किसी भी संदेश को जन्म देता है। यह स्रोत कोई भी व्यक्ति हो सकता है। वह अपने विचारों को अभिव्यक्त करना चाहता है। इसके लिए वह अपने अनुभव और भाषा ज्ञान का उपयोग करता है। स्रोत या व्यक्ति अपने विचारों को शब्दों में बोलता है। मौखिक संघर्षण के संदर्भ में इस स्रोत को वक्ता कहते हैं। लिखित संघर्षण के संदर्भ में इस स्रोत को लेखक, पत्रकार, रचनाकार कहते हैं। संचार माध्यम के संदर्भ में इस स्रोत को रेडियो, टेलीविजन, चलचित्र, समाचार पत्र-पत्रिकाएँ, होर्डिंग, बिल, इंटरनेट, टेलीफोन, मोबाइल, विज्ञापन, यातायात संकेत आदि इसके कई रूप हैं।

भाषा एक तरह का संचार माध्यम ही है। जब हम किसी दूसरे व्यक्ति तक अपना संदेश पहुँचाना चाहते हैं तो भाषा की सहायता लेते हैं। भाषा का पहला प्रयोग बोलकर ही किया गया होगा। उसे लिखकर भी प्रयोग किया जा सकता है। इसी से लिपि का आविष्कार हुआ होगा। आज बोलने और लिखे जाने के इस काम को समय और स्थान दोनों स्तरों पर सुरक्षित रखा जा सकता है, उसका पुनरुत्पन्न किया जा सकता है। इसी उपलब्धि ने संचार माध्यमों को जन्म दिया है। जब रेडियो का आविष्कार हुआ तो बोली जानेवाली भाषा उसी रूप में सुरक्षित रखकर उसे एक स्थान से दूसरे स्थान और एक समय से दूसरे समय तक ज्यों का त्यों भेजना मुमकिन हो सका। समाचार पत्र-पत्रिका, रेडियो, टेलीविजन, होर्डिंग, बिल, पैम्फलेट, इंटरनेट, मोबाइल, सोशल मीडिया, कंप्यूटर, फिल्म, वीडियो आदि ने संचार की प्रक्रिया को इतना व्यापक बना दिया है कि अब केवल मुद्रित रूप ही नहीं बल्कि आवाज और दृश्य रूप में भी संदेशों को संप्रेषित किया जा सकता है। कंप्यूटर

एवं स्मार्ट फोन ने हर तरह के संचार माध्यमों को एक ही स्थान पर उपलब्ध करा दिया है। संचार के क्षेत्र में जो भी बदलाव देखने को मिला है उसने लेखन को भी प्रभावित किया है। यहाँ तक कि लेखन का एक नया क्षेत्र भी खोल दिया है।

पत्रकारिता का अर्थ, परिभाषा, कर्म, पत्रकारिता और पत्रकार, पत्रकार की योग्यता एवं उत्तरदायित्व, पत्रकारिता का क्षेत्र के द्वारा ही पत्रकारिता के स्वरूप को समझा जा सकता है। तो आइए पत्रकारिता के अर्थ, परिभाषा और क्षेत्र के बारे में विस्तार से जानें।

पत्रकारिता का अर्थ – अपने रोजमर्रा के जीवन की स्थिति के बारे में थोड़ा गौर कीजिए। दो लोग आसपास रहते हैं और कभी बाजार में, कभी राह चलते और कभी एक-दूसरे के घर पर रोज मिलते हैं। आपस में जब वार्तालाप करते हैं उनका पहला सवाल क्या होता है? उनका पहला सवाल होता है क्या हालचाल है? या कैसे हैं? या क्या समाचार है? रोजमर्रा के ऐसे सहज प्रश्नों में कोई खास बात नहीं दिखाई देती है लेकिन इस पर थोड़ा विचार किया जाए तो पता चलता है कि इस प्रश्न में एक इच्छा या जिज्ञासा दिखाई देगी और वह है नया और ताजा समाचार जानने की। ये दोनों पिछले कुछ घंटे या कल रात से आज के बीच में आए बदलाव या हाल की जानकारी प्राप्त करना चाहते हैं। कहने का तात्पर्य यह है कि हम अपने मित्रों, पड़ोसियों, रिश्तेदारों और सहकर्मियों से हमेशा उनकी आसपास की घटनाओं के बारे में जानना चाहते हैं। मनुष्य का सहज प्रवृत्ति है कि वह अपने आसपास की चीजों, घटनाओं और लोगों के बारे में ताजा जानकारी रखना चाहता है। उसमें जिज्ञासा का भाव प्रबल होता है। यही जिज्ञासा समाचार और व्यापक अर्थ में पत्रकारिता का मूल तत्व है। जिज्ञासा नहीं रहेगी तो समाचार की जरूरत नहीं रहेगी। पत्रकारिता का विकास इसी जिज्ञासा को शांत करने के प्रयास के रूप में हुआ है जो आज भी अपने मूल सिद्धांत के आधार पर काम करती आ रही है।

इस जिज्ञासा से हमें अपने पास-पड़ोस, शहर, राज्य और देश दुनिया के बारे में बहुत कुछ सुचनाएँ प्राप्त होती हैं। ये सुचनाएँ हमारे दैनिक जीवन के साथ साथ पूरे समाज को प्रभावित करती हैं। ये सुचनाएँ हमारा अगला कदम

* अतिथि अध्यापक (हिंदी) गंगाधर मेहेर विश्वविद्यालय, अनूप विहार, संबलपुर (ओडिशा) भारत

जनसंचार : कल, आज और कल

डॉ. वाशरथी वेहेरा*

शोध सारांश – मनुष्य एक सामाजिक प्राणी है। वह अकेला नहीं रह सकता है। वह संप्रेषण के जरिए ही समाज से जुड़ता है। यह संप्रेषण एक प्रक्रिया के तहत काम करता है। स्रोत किसी भी संदेश को जन्म देता है। वह स्रोत कोई भी व्यक्ति हो सकता है। वह अपने विचारों को अभिव्यक्त करना चाहता है। इसके लिए वह अपने अनुभव और भाषा ज्ञान का उपयोग करता है। स्रोत या व्यक्ति अपने विचारों को शब्दों में बोलता है। मौखिक संप्रेषण के संदर्भ में इस स्रोत को वक्ता कहते हैं। लिखित संप्रेषण के संदर्भ में इस स्रोत को लेखक, पत्रकार, रचनाकार कहते हैं। संचार माध्यम के संदर्भ में इस स्रोत को रेडियो, टेलीविजन, चलचित्र, समाचार पत्र-पत्रिकाएँ, होर्डिंग, बिल, इंटरनेट, टेलीफोन, मोबाइल, विज्ञापन, यातायात संकेत आदि इसके कई रूप हैं। समय के साथ संचार माध्यमों में परिवर्तन आया है। पहले मनुष्य ईशारे से संचार किया होगा, फिर बोलकर। इस संचार को सुरक्षित रखने की सोचा होगा। इसी से विभिन्न माध्यमों का विकास क्रमानुसार होता गया। पहले लिखकर संदेश को सुरक्षित किया गया फिर आवाज को सुरक्षित करने का प्रयास किया गया और फिर वीडियो कैमरे के आविष्कार के साथ ही आवाज, घटना, दृश्य सबकुछ सुरक्षित रखा गया। इसके बाद आधुनिक संचार माध्यमों के विकास ने संचार प्रक्रिया को व्यापक बना दिया है।

शब्द कुंजी – जनसंचार माध्यम, पारंपरिक माध्यम, मुद्रित माध्यम, इलेक्ट्रॉनिक माध्यम, जनसंचार की उपयोगिता।

प्रस्तावना – भाषा एक तरह का संचार माध्यम ही है। जब हम किसी दूसरे व्यक्ति तक अपना संदेश पहुँचाना चाहते हैं तो भाषा की सहायता लेते हैं। भाषा का पहला प्रयोग बोलकर ही किया गया होगा। उसे लिखकर भी प्रयोग किया जा सकता है। इसी से लिपि का आविष्कार हुआ होगा। आज बोलने और लिखे जाने के इस काम को समय और स्थान दोनों स्तरों पर सुरक्षित रखा जा सकता है, उसका पुनरुत्पन्न किया जा सकता है। इसी उपलब्धि ने संचार माध्यमों को जन्म दिया है। जब रेडियो का आविष्कार हुआ तो बोली जानेवाली भाषा उसी रूप में सुरक्षित रखकर उसे एक स्थान से दूसरे स्थान और एक समय से दूसरे समय तक ज्यों का त्यों भेजना मुमकिन हो सका। समाचार पत्र-पत्रिका, रेडियो, टेलीविजन, होर्डिंग, बिल, पैम्फलेट, इंटरनेट, मोबाइल, सोशल मीडिया, कंप्यूटर, फिल्म, वीडियो आदि ने संचार की प्रक्रिया को इतना व्यापक बना दिया है कि अब केवल मुद्रित रूप ही नहीं बल्कि आवाज और दृश्य रूप में भी संदेशों को संप्रेषित किया जा सकता है। कंप्यूटर एवं स्मार्ट फोन ने हर तरह के संचार माध्यमों को एक ही स्थान पर उपलब्ध करा दिया है। संचार के क्षेत्र में जो भी बदलाव देखने को मिला है उसने लेखन को भी प्रभावित किया है। यहाँ तक कि लेखन का एक नया क्षेत्र भी खोल दिया है।

जनसंचार का अर्थ – जनसंचार संचार के प्रभावशाली रूपों में से एक है। इसका प्रभाव लोगों, सरकारों और संस्कृतियों पर पड़ता है। यह उस प्रक्रिया को संदर्भित करता है जिसके द्वारा एक या अधिक मशीनों की सहायता से एक जटिल संगठन बड़े, विषम और बिखरे हुए दर्शकों/पाठकों पर निर्देशित सार्वजनिक संदेशों को प्रसारित और प्रचारित करता है। पुस्तकों, पत्रिकाओं, टेलीविजन, अखबारों, फिल्म आदि जैसे इलेक्ट्रॉनिक उपकरणों के माध्यम से जनसंचार होता है।

जनसंचार में समान्य संचार की सभी विशेषताएँ होती हैं साथ ही अपनी विशिष्टताएँ भी होती हैं। यह विशेषताएँ निम्न हैं-

1. जनसंचार दर्शकों/पाठकों की बड़ी संख्या के पास पहुँचता है। जनसंचार न केवल दर्शकों की बड़ी संख्या से बनता है बल्कि विषम श्रोता के लिए भी है। यहाँ विविधता का अर्थ दर्शक विभिन्न जातियों, समूहों, वर्गों, संस्कृतियों आदि से संबंधित हो सकते हैं।
2. जनसंचार के दर्शकों/पाठकों को व्यवस्थित नहीं किया जा सकता है। वे अलग अलग भौगोलिक क्षेत्र में बिखरे होते हैं। जनसंचार में देश के किसी भी स्थान यहाँ तक कि दुनिया के किसी भी स्थान पर रह सकते हैं।
3. जनसंचार का क्षेत्र किसी अन्य संचार प्रणाली से अधिक व्यापक होता है। जनसंचार का संदेश संरक्षित, औपचारिक, मानकीकृत है। यही वजह है कि इसे दुनियाभर में स्वीकार किया गया है।
4. जनसंचार विभिन्न प्रकार के मास मीडिया चीनलो जैसे रेडियो, समाचार पत्र-पत्रिका, टेलीविजन आदि का उपयोग करता है।
5. जनसंचार की यह विशिष्ट विशेषता है कि यह एक साथ एक ही संदेश को एक साथ एक दूसरे से बहुत दूर रहनेवाले दर्शकों/पाठकों की एक बड़ी संख्या को भेजती है।
6. जनसंचार किसी भी प्रत्यक्ष प्रतिक्रिया का उत्पादन नहीं करता है। दर्शकों/पाठकों की प्रतिक्रिया जल्दी से नहीं जानी जाती है।
7. जनसंचार में संदेश का प्रवाह बाहरी है आयक नहीं। जनसंचार का मूल उद्देश्य भी संदेश को संगठन के बाहर रहनेवालों को भेजना है।
8. जनसंचार प्रणाली को भेजा जानेवाला संदेश उत्पादन और प्रसार की प्रक्रिया में आधुनिक तकनीक का उपयोग करता है।

नया पारस्परिक संचार – नई मीडिया प्रोग्रामिकी ने इंटरैक्टिव कम्युनिकेशन यानि नया पारस्परिक संचार को संभव बना दिया है जिसके द्वारा जो जिस तरह संवाद करना चाहते हैं या मीडिया को एक्सिस करना चाहते हैं कर सकते हैं। कुछ नए मीडिया जैसे इंटरनेट, प्रोग्रामिकी, वीडियो

* अतिथि अध्यापक (हिंदी) गंगाधर मेहेर विश्वविद्यालय, अमृत विहार, संबलपुर (ओडिशा) भारत

तुलसीदास काव्य में नारी विमर्श आधुनिक परिप्रेक्ष्य में

डॉ. प्रणति बेहेरा*

शोध सारांश – तुलसी मध्यकाल के एक समाजचेता भक्त और दार्शनिक थे। मध्यकालीन भारतीय संस्कृति में 'राम' और रामभक्त 'तुलसीदास' का अनेक आलोचनाओं व प्रशंसाओं के बीच, आज भी अपना अलग महत्व है। अपने साहित्य रामकथा के माध्यम से वे अपने समाज में संस्कार परिष्कार करने का प्रयास कर रहे थे। उनका मत था कि- 'वही कीर्ति, वही कविता और वही संपदा श्रेष्ठ है जो गंगा के समान सबका हित करने वाली है।' यहाँ पर उनके मतानुसार- नारी- पात्र भी वही श्रेष्ठ हैं जो नारी के पतिव्रत धर्म के साथ हृदय की महालतम् प्रसृतियों- त्याग, सेवा, ममता, कर्तव्यपरायणता, सहित नारी के संपूर्ण शील एवं मर्यादा से आवेष्टित दिव्यता की कल्याणकारी भावना से अनुप्राणित हो। यही कारण है कि उनके नारी पात्र- सीता (जानकी), कौशल्या, अनुसूया, सुमित्रा, शबरी, तारा, मंदोदरी, सुलोचना, प्रियदा और नाम धुरै आदि के वर्णनों से तुलसी कहीं भी स्त्री- विरोधी नहीं ठहरते हैं। तुलसी ने अपने युग पुरुष का सुख में निरीक्षण परीक्षण करते हुए उच्च, उच्चतर और हीनता की स्त्रियों के चरित्र को और उसके परिणामों को बखूबी देखा समझा था अतः उन्होंने स्त्रियों के लिए एक आदर्श मार्ग ना केवल स्त्रियों बल्कि समस्त समाज के सामने रखा।

आज का दौर विमर्शों का दौर है। साहित्य और चिंतन के क्षेत्र में 'दलित', 'स्त्री' और 'आदिवासी' विमर्श समझतः दलित वर्ग, साहित्य- चिंतन के केंद्र में है। इसमें भी स्त्री विमर्श ने जिस जोर-शोर से अपनी जगह बनाई है, वह काबिले तारीफ है। स्त्री विमर्श और स्त्री-लेखन से स्त्री-जीवन के अंतरे पक्ष ही समाज के सामने उजागर हुए। परंपरागत रूप से समाज में स्त्री के 'स्व' पर पुरुष का एकाधिकार है। इस विमर्श ने इस बात पर जोर दिया कि स्त्री को भी मानवीय अधिकार दिए जाएँ। स्त्री इतिहास में मानवी रूप में कहीं ही नहीं है। तो पुत्री,पत्नी या माता के रूप में है। तुलसीदास और उनकी रामचरितमानस का भारतीय समाज एवं संस्कृति पर सर्वाधिक प्रभाव है और यह धर्म से अटूट रूप से जुड़ी है। अतः आधुनिक नारी विमर्शकारों के निधान पर यह दोनों मुख्य रूप से हैं। तुलसी आज के नारी विमर्शकारों के मानदंडों पर जितने नारी लिखक या मध्यकालीन मानसिकता के पोषक लगते हैं उससे कहीं अधिक वे अपने काल विशेष में स्त्री विमर्श की दृष्टि से आधुनिक या प्रगतिशील ठहरते हैं।

प्रस्तावना – गोस्वामी तुलसीदास मध्यकाल के सर्वप्रमुख भक्त कवि थे। तुलसीदास अनन्य रामभक्त होने के साथ ही साथ लोककल्याणकारी भावना से ओतप्रोत कवि थे। रामचरितमानस का मूल उद्देश्य सत और असत को तथा उनके सद् परिणामों को दिखाकर जीवन के प्रति आस्था तथा लोक और परलोक में सुख- प्राप्ति का मार्ग प्रशस्त करना है।

लोकनायक महाकवि तुलसीदास एक ऐसे सचेष्ट समाजदृष्टा हैं जो समाज के विभिन्न पहलुओं की पड़ताल का रेखांकन अत्यंत गंभीरता के साथ करते हैं।

तुलसीदास नारी संबंधी दृष्टिकोण भी तत्कालीन कवियों से काफी आगे हैं। वे नारी को विधाता के अनुपम सृष्टि मानते हैं। वे जिस आत्मविश्वास और बौद्धिक तैयारी के साथ मध्यकाल की बहुपत्नी प्रथा जैसी बुराई का परिहार करते हैं जो अपने आप में अप्रतिम उदाहरण है। तुलसी की नारी भावना विषाद एवं मतभेद का विषय रही है। कतिपय विद्वानों के अनुसार तुलसी ने नारी- जाति को आदर और श्रद्धा की पात्री माना है। तुलसी ने आदर्श नारी के रूप में सीता का चित्रण तो किया है पर नारी की नकारात्मक रूप का भी चित्रण किया है। अहिल्या,कैकयी,मन्धरा। अहिल्या ने नीच कर्म किया और उन्हें अपने पति ने श्राप दिया था। जिसके कारण वह पत्थर बन गई थी। यह तो सभी जानते हैं कि श्री राम के स्पर्श से वह पुनः नारी बन जाती है। मन्धरा भी कैकयी को जाकर इस बात पर बार-बार उत्तेजित करती है कि कैकयी राजभिषेक को रोक दे। कैकयी भी ऐल मीके पर की गई सेवा

का वर दशरथ से माँगती है।

1. राम 14 साल के लिए बनवास जाएँगे और
2. भरत राजा बनेगा।

इन सबको देखकर ऐसे चरित्रों पर हमें गुस्सा आता है परन्तु स्वयं तुलसी जी कहते हैं मन्धरा ने जो किया, कैकयी ने जो कुछ किया उसमें उनका कोई दोष नहीं है। क्योंकि बुरा न हो तो अच्छा नहीं हो सकता। क्योंकि भले और बुरे का नाम ही संसार है। नारी में वह शक्ति है जो अच्छा कर सकती है, या अच्छा बनने का माहौल बना सकती है। कैकयी ने जिद न की होती तो शायद राम वन को न जाते और न ही रावण का विनाश होता। इसलिए तुलसी की नारियाँ हर चरित्र में महान हैं।

तुलसी के राम का एक पत्नीव्रता रूप और पत्नी के प्रति सम्मानजनक प्रेम उन्हें बहुत प्रिय है। इसे वे स्त्री-पुरुष संबंधों की समानता के आधारभूमि मानते हैं। समाजवादी चिंतक और नेता राममनोहर लोहिया तुलसी की रामायण के प्रशंसक हैं। लोहिया रामायण को शिष्टाचार की भी दुनिया में सबसे सुंदर कहानी मानते हैं। और इसमें यदा दो राय कि यह सुंदर कहानी भी। यो तो शिष्टाचार की यह सुंदरता पूरी रामकथा में है किंतु रणभूमि में घायल पड़े अपने शत्रु अपने अनुज लक्ष्मण को देते हैं, उस तरह का दूस्सा उदाहरण दुनिया में शायद ही मिले। मनुष्यता सुंदर से सुंदरतरे ऐसे ही मानवीय और गरिमापूर्ण आचरण से बनती है। गोस्वामी जी के पक्ष में एक बात यह कही जा सकती है कि तुलसी ने केवल उन नारियों के विषय में ही ऐसी बातें

* सहायक अध्यापिका (हिन्दी विभाग) गंगाधर मेहरा विश्वविद्यालय, अमृत बिलार, सन्तलपुर (ओडिशा) भारत

Numerical based solution of nonlinear Volterra integral equations using Laplace decomposition method

Cite as: AIP Conference Proceedings **2214**, 020024 (2020); <https://doi.org/10.1063/5.0003593>
Published Online: 18 March 2020

T. T. Shone, Ashrita Patra, and B. B. Mishra



View Online



Export Citation

ARTICLES YOU MAY BE INTERESTED IN

[The numerical solution of Boussinesq equation for shallow water waves](#)

AIP Conference Proceedings **2214**, 020019 (2020); <https://doi.org/10.1063/5.0003339>

[Extended \$\exp\(-\varphi\(\xi\)\)\$ -expansion method for generalized breaking soliton equation](#)

AIP Conference Proceedings **2214**, 020006 (2020); <https://doi.org/10.1063/5.0003399>

[Exact traveling wave solutions of the \(2+1\)-dimensional Boiti-Leon-Pempinelli system using \$\left\(\frac{G}{G^2}\right\)\$ expansion method](#)

AIP Conference Proceedings **2214**, 020030 (2020); <https://doi.org/10.1063/5.0003694>

Lock-in Amplifiers

Find out more today



Zurich Instruments



Solution of Nonlinear Fractional Quadratic Riccati Differential Equations Using Perturbation Method

T. T. Shone¹ · Ashrita Patra¹ · B. B. Mishra¹

© Springer Nature India Private Limited 2020

Abstract

Homotopy perturbation transform method (HPSTM) in conjunction of Adomian and He's polynomials has been devoted to obtain approximate solution of fractional order quadratic Riccati equations for arbitrary order $\alpha \in (0, 1]$. The suggested method finds the solution without any discontinuation and averts the round-off errors. We have taken three examples to justify the accuracy of the method with the help of Adomian polynomials based on Newton–Raphson's scheme. The approximate solutions are compared with exact solutions.

Keywords Nonlinear equations · R–L derivative · Caputo derivative · Perturbation transform

Introduction

Fractional calculus has vast application in engineering and science domains. The fractional order calculus deals with derivatives and integrals of arbitrary order. From nonlinear differential equations Riccati is one of the simplest nonlinear equation because it is of first order with quadratic nonlinearity.

$$D_t^\alpha \varphi(t) = p(t)\varphi(t)^2 + q(t)\varphi(t) + r(t), \quad t > 0, \quad \alpha \in (0, 1] \quad (1)$$

with initial condition $\phi(0) = k$.

In the present work, the fractional order Riccati differential equation has been solved by using He's perturbation transform method with the help of Adomian polynomials [1–3]. Therefore, we have used HPSTM to acquire the systematic solution for arbitrary order differential equation [4].

✉ Ashrita Patra
ashrita.patrafma@kiit.ac.in

¹ Kalinga Institute of Industrial Technology, Bhubaneswar, India



Solution for Non-linear Fractional Partial Differential Equations Using Fractional Complex Transform

T. T. Shone¹ · A. Patra¹

Published online: 30 May 2019
© Springer Nature India Private Limited 2019

Abstract

In this research article, we have adapted fractional complex transform (FCT) in addition some new iterative method i.e. to obtain the relative solution of nonlinear gas dynamics equations. To know about the persuasiveness of the method, we apply the method to solve such two examples of fractional differential equations which are completely nonlinear. The approximation results obtained from FCT are compared with the exact solution. From the results it can be concluded that the proposed method is very auspicious, simple and clout.

Keywords Caputo derivative · Fractional complex transform · Gas dynamic equations

Introduction

Fractional calculus is the rationalization of arbitrary order (non-interger) derivative and integral calculus [1]. It is past one's prime traditional calculus, but it is not enough spread among science and engineering society. Now-a days this is mainly applied in several areas of physical science, fractals, bio mathematics, finance, wavelet analysis, image processing and so on. There are many literatures were developed regarding the solutions of nonlinear differential equations in arbitrary order [2]. The analytical solutions for such type of linear as well as non-linear equations can be solved by many husky and effecinet techniques viz. Variational Iteration method [3], Decomposition method with Adomian polynomials [4], Perturbation method [5], finite difference method [6] and so on.

The main focus of this paper is, we are applying FCT with iterative method (NIM) to solve gas dynamics equations. The transform was first introduced by Li and He [7]. The well known Gas dynamics equations are the mathematical model consists of conservation laws which exist in engineering practices such as conservation of mass, energy and momentum.

This article is part of the topical collection “Recent Advances in Mathematics and its Applications” edited by Santanu Saha Ray.

✉ A. Patra
ashrita.patrafma@kiit.ac.in

¹ KIIT, Deemed to be University, BBSR, Bhubaneswar, India

SMRITI AND RAMANUJA PHILOSOPHY

□ Dr. Sushree Sasmita Pati*

ABSTRACT

Philosophy and Smriti goes hand in hand in respect to advise the ethical, social as well as the moral responsibilities. Veda, the bridge between these two sastras, sets the common goals for the world with practical analysis. This paper is an attempt where we will look into the Views of Ramanuja in Visistadvita Philosophy by establishing the need of following the Karmakanda advised by Smritisashtra. The paper will be highlighting the value of Tarka(argument) to determine the theory by dismissing the wrong one, how not all smritis believe in the path of Veda and how a vedantin need to use the logic to elucidate which smritisashtra is supposed to be followed.

Keywords : Smriti, Ramanuja, Upanisads, Purana, Bhagavadgita

Introduction –

The glorious area of Sanskrit literature amazingly covers up every single aspect of human life. Take the examples from Vedas, Puranas, Upanisads are the gems that give the society sacred knowledge for human beings to lead a happy life and show the path to attain Purusarthas.

Another aspect of Sanskrit literature to teach human moral ethics, values, code of conduct, laws through sutras, verses, and compositions. These are very much needed by the society and humans of every generation. The amalgamation of Philosophy and Smriti is one of the inspiring as well as innovative for the society.

Philosophy of Ramanuja :

Visistadvita Philosophy is one of the famous branches of Vedanta. Jagadguru Ramanujacharya, the proponent of the philosophy of Visistadvita Vedanta established the knowledge system based on the teaching of Prasthantrayi (Brahmasutra, Bhagavadgita, Upanisads). Ramanuja has written three commentaries on Brahmasutra famously known as "Sribhasyam, Vedantasara, and Vedantadipa". Among them, Sribhasyam is the most influential work. Brahmasutra is

written by Badarayan, but the commentary texts of Ramanuja over Brahmasutra interpret the aphorisms of Brahman by an extensive discussion along with references.

According to Ramanuja, Brahman is one but with internal differences. Brahman has divine knowledge, bliss, and eternal qualities. Atman and Jagat is only part of Brahman. These views make Visistadvita Vedanta different from others. Sribhasya of Ramanuja is divided into four adhyayas as similar to the main text. Each adhyaya is divided into four padas. The first two adhyayas discuss the definition of Brahman and the second two adhyayas discuss how to attain the knowledge of Brahman.

Smriti :

Dharmasastras written in two different styles. One is Dharmasutras which follows the Sutra form and another is Smriti which follows the verse form. Dharmasutras are connected with different Vedic knowledge whereas Smritis are famous as a universal code of laws. Normally Dharmasutras are composed of both meters and aphorisms, but Smritis deal with metrical texts only.

*Assistant Professor - School of Sanskrit, Gangadhar Meher University



**Peer Reviewed Referred and
UGC Listed Journal
(Journal No. 47100)**



**ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL**

AJANTA

**Volume - IX, Issue - II
April - June - 2020
Marathi Part - II / Hindi**

**Impact Factor / Indexing
2019 - 6.399
www.sjifactor.com**

Ajanta Prakashan

Characterization of hybrid metal matrix aluminum with boron carbide and graphite

G. Yuvaraj¹, Dr D.Raja Ramesh², K. S. Raghuram³, Dr.S.Vinodha⁴, Dr Radhika G Deshmukh⁵, Dillip Narayan Sahu⁶

¹Department of Mechanical Engineering, Easwari Engineering College, Tamil Nadu -600089

²Department of Mechanical Engineering, Sri Vasavi Institute of Engineering and Technology, Andhra Pradesh - 521369

³Department of Mechanical Engineering, Vignan's Institute of Information Technology (A), Andhra Pradesh- 530049

⁴Department of Chemical Engineering, Sethu Institute of Technology, Tamil Nadu- 626115

⁵Department of Physics, Shri Shivaji Science College, Maharashtra - 444603

⁶Dept. of MCA, Gangadhar Meher University (GMU), Odisha- 768001

¹yuvaraj.g@eec.srmrmp.edu.in, ²doradlarajamesh@gmail.com, ³hodmechanicals@gmail.com,

⁴vinodha.harris@gmail.com, ⁵radhikadeshmukh35@gmail.com, ⁶Dillip1seminar@gmail.com

Abstract

The importance of reinforced particle with aluminium metal matrix is to study and predict in the enhancement of mechanical properties like tensile and tribological property. Metal matrix composites (MMCs) constitute an important class of design and weight-efficient structural materials that are encouraging every sphere of engineering applications. There has been an increasing interest in composites containing low density and low cost reinforcements. With the increasing demand of light-weight materials in the emerging industrial applications, fabrication of aluminum-boron carbide with graphite composites is required. In this context aluminum - boron carbide with graphite composites were fabricated by stir casting with different particulate composition of B₄C (5%, 10%). Microstructure analysis was done with scanning electron microscope. With the increase the amount of the boron carbide, the density of the composites decreased whereas the hardness is increased. The ultimate compressive strength of the composites was increased with increase in the weight percentage of the boron carbide in the composites.

Key words: Aluminum alloy, Boron carbide, graphite, stir casting, SEM, Mechanical properties.

Introduction

Metal Matrix Composites (MMCs) have emerged as an important class of materials and are increasingly utilized in various engineering applications, such as aerospace, marine, automobile and turbine compressor engineering, which require materials offering a combination of light weight with considerably accelerated mechanical and physical properties such as strength, toughness, stiffness and resistance to high temperature. Aluminum is the most frequently use matrix material due to its low density. Because of its extreme hardness and temperature resistant properties, B₄C, graphite are often used as reinforcement

S. Rama Rao et.al (1) absorbed that the production of aluminium with boron carbide reinforcement material will improves the some mechanical properties like hardness, tensile strength.....etc. and the density is reduced. According to **Rohit Kumar et.al (2)**, the yield strength and tensile strength of the composites decrease with increasing the volume fraction of the B₄C particles, while the hardness of the composites increases with increasing the volume fraction of the B₄C particles so that impact strength increases with increase in volume fraction of reinforcement at a certain limit (upto10 %) after starts decreasing. **G.G. Sozhamannan et.al (3)** observed that production of Aluminium composite reinforced

IOT based mobile application developed for water and power monitoring in residential building

Shaik Shafi¹, Dillip Narayan Sahu², Dr.Himani Pandey³, Dr. Roopa H⁴, Sonu Kumar⁵,
Dr. Kamal Alaskar⁶

Associate Professor¹ Department of ECE, B V RAJU Institute of technology, Narsapur, Medak,Telangana,India,

E-mail id: shaikshafi245@gmail.com.

Lecturer², Dept. of MCA, School of Computer Science, Gangadhar MeherUniversity (GMU), Sambalpur,Odisha,India

E- mail id: Dillip1seminar@gmail.com.

Assistant Professor³, Department of Applied Science and Humanities, ITM(SLS) Baroda University,

Vadodara, Gujarat,India, E- mail id:hod.ash@itmhu.ac.in.

Associate Professor⁴, Department of Information Science and Engineering, Bangalore Institute of Technology, Karnataka,India, roopatejas@gmail.com

National Level Coordinator⁵, Department of Ignite, Bhumi,Chennai,TamilNadu,India,

E-mailid: sonukumar@ieee.org.

Professor⁶, Department of Computer Application,Bharati Vidyapeeth (Deemed to be university)Institute of Management Kolhapur, Kolhapur,MaharashtraEmail- drkamalalaskar@gmail.com

Abstract

The earth is known as "Blue Planet" as 71 % of the Earth's surface is covered with water. However, earth has an abundance of water, but unfortunately; only, a small percentage (0.3%) of water is eligible for use by humans. The other 99.7 % is in the oceans, soils, icecaps, and floating in the atmosphere. Most of the water used by humans comes from rivers. Water is the most valuable natural resource essential for living. Its basic human need in all economic operations like generation of power, agriculture, industries, and mining are all critical economic areas. Water supplies are under severe strain. With the population increase, the requirement for water from competing economic sectors is increased. Similarly, even electricity is very essential commodity of our lives and its generated using the water, which has gained equal importance as water as we need electricity to run various technologies in our day-to-day life, so the conservation of water plays a vital role in the development of the society and therefore every citizen is responsible for the conservation of these resources.

Therefore, information technology methods and internet communication technologies (ICT) play in water resources managing to limit the excessive waste of fresh water and to control and monitor water pollution. In this paper, a mobile app is built using the internet of things (IoT) as a communication technology that controls the preservation of the available amount of water and not wastes it by homeowners.

Keywords: water management, water conservation, IoT, microcontroller, sensors.

I.INTRODUCTION

Water management along with the power management the most important thing in human lives like use of water, food production, treatment of wastewater, cleaning, irrigation, energy balance. Water supply management has always been a source of many challenges. There are 32 billion cubic meters of treated water being lost each year from urban supplies systems in the developing world [10]. Intelligent monitoring is defined using different computational methods that provide the customers with relevant



OPERATIONS, INFORMATION & TECHNOLOGY | RESEARCH ARTICLE

Evaluation of ICT opportunities from student's perspective in the state of Nagaland, India

K.D Vizo¹, M Mall^{1*}, R Rout² and P Parida³

Received: 06 September 2020
Accepted: 19 October 2020

*Corresponding author: M Mall,
Centre for Management Studies,
North Eastern Regional Institute of
Science and Technology, Arunachal
Pradesh, India
E-mail: mallmanmohan79@gmail.
com

Reviewing editor:
Albert W. K. Tan, Education,
Malaysia Institute for Supply Chain
Innovation, Malaysia

Additional information is available at
the end of the article

Abstract: In the twenty-first century ICT has become a necessity in all walks of life primarily for performing various tasks remotely in a transparent, efficient, cost-effective manner with speed and accuracy. ICT is instrumental in transforming various sectors like transportation, banking, manufacturing, education, employment, health and other essential sectors. Its integration with education system has brought a revolutionary transformation by instilling the spirit of innovation and providing flexible atmosphere of learning. In this age of digital communication, the opportunities created by ICT in the deliverance of various electronic services to the student community are analysed in this study. Thus, the study has been performed by developing a questionnaire initially on four dimensions of student's requirements, i.e., learning, research, job/employment and social contact where ICT has a significant role in generating opportunities. After performing exploratory factor analysis, learning and research are clubbed in one factor and in total 03 factors for further analysis. In order to validate the developed scale, confirmatory factor analysis has been performed on a separate sample. The findings of the study confirm usage of ICT towards fulfilment of student's needs. The research outcome has suggested to set up consortium of higher education libraries as well as creating a database by skill mapping of students for usage in local and national level



K.D Vizo

ABOUT THE AUTHOR

Khriesalie Duolhou Vizo, Ph.D. Scholar, Centre for Management Studies
North Eastern Regional Institute of Science and Technology
Nirjuli, Arunachal Pradesh-791,109
Present Occupation: Principal Secretary (IT and Power), Government of Nagaland, India
Dr. Manmohan Mall, Assistant Professor
Centre for Management Studies
North Eastern Regional Institute of Science and Technology
Nirjuli, Arunachal Pradesh-791,109
Dr. Rosalien Rout, Assistant Professor
School of Library and Information Science
Gangadhar Meher University
Sambalpur, Odisha-768,004

PUBLIC INTEREST STATEMENT

Today, all over the world, there is a sharp rise in the use of **Information Communication Technology (ICT)** to provide online public services and making governance easier and enable citizens to access public services in an efficient and transparent manner. More and more countries are now making an effort through e-governance to ensure that public institutions are more inclusive, effective, accountable and transparent. Across the civilized world, now people are promoting participatory decision-making through extensive use of ICT. Today, there has been an increased effort to utilize advanced **Information Communication Technology (ICT)** services for the benefit of citizens. However substantial regional disparities still exist resulting in a growing digital divide. In the State of Nagaland too there is a need to study the various factors of ICT affecting the **Socio-economic Development of the State from a citizen Perspective** to reduce the digital divide and increase productivity, transparency and efficiency.

Collaborative authorship pattern in top two leading Indian LIS Journals during the year 2014-2018: a comparative study

Jayendra Kumar Singh
Assistant Professor
Gangadhar Meher University, Sambalpur
Odisha, India
Email: singhjayendra02@gmail.com

The present study aims at finding the collaborative authorship pattern in top two leading Indian LIS journals during the year 2014-2018. The study focuses on the collaborative pattern under different parameters like year wise distribution of paper, authorship pattern during the year, degree of collaboration, collaborative index, author's productivity in terms of productivity per author and highly cited papers of the journals during the period of study. All the studies will be helpful for further development.

Keywords: Authorship pattern, LIS journals, Comparative study

1. Introduction

Collaboration means co-authoring and the formal acceptance of participation. Collaboration is an increasingly popular trend among the universities, organizations and institutions to share resources, ideas and experiences. It is also important to expand opportunities, increase productivity and improve work quality. Recent research shows that research results are much more engaged with co-authors than individual work. Scientific cooperation is one of the main features of the rapid increase in scientific research and research collaboration in paper writing is an indicator that credits for scientific articles. Due to the increase in the number of scientific articles, this makes joint authorship trend more dynamic. In the last few decades it became very common for many authors from various fields to work together for collaborative research. This study is an attempt to analyze the trends of authorship in top two leading Indian LIS journals comparatively.

2. Source Journal

DESIDOC Journal of Library & Information Technology (DJLIT) is a bi-monthly, open access peer-reviewed journal and published from DRDO, Delhi. The journal is currently indexed in Emerging Source Citation Index, Scopus, LISA, LISTA, EBSCO, Library Literature and Information Science Index/Full-text, The Informed Librarian Online, Open J-Gate, Indian Science Abstracts, Indian Citation Index, WorldCat, Google Scholar and Catalogued in the UGC approved list of journal for Indian Universities. The journal is available in print form and online.

The journal publishes the full length original research papers and reviews in the field of library science & IT applied to library activities, Information systems, Knowledge management,

RANKING OF TOP INDIAN INSTITUTES OF TECHNOLOGY IN INDIA DURING 2005-2014: A SCIENTOMETRIC ANALYSIS

Jayendra Kumar Singh

Dr. Jayendra Kumar Singh
Assistant Professor
School of Library and
Information Science
Gangadhar Meher University,
Sambalpur-768004
ODISHA
Email:
singhjayendra02@gmail.com

The present study attempts to study and present the ranking of 14 most productive Indian Institutes of Technology (IITs) during 2005-14, using various quantitative indicators, viz. total number of paper published during the year, average number of citations per paper, h-index and share of international collaborative papers. A new composite indicator (p-index) is also used for ranking, which combines qualitative and quantitative aspect together. Finally, the author considers the overall ranking of top 5 IITs using all the five indicators collectively.

Keywords: Bibliometric Indicators, Higher technical education institutions, IITs, India, Productivity, Ranking.

INTRODUCTION

The institutes and universities play very important roles in the field of S & T. Universities are considered for the basic education and research at the graduate, postgraduate and doctoral level by their various educational programs. Institutes are considered for their advanced and specified research basically in the field of Science and Technology. With the advancement of science and technology it is very necessary to rank the various leading institutions and universities. Ranking of institutes and universities are taken seriously now a day. The ranking of institutes and universities are normally based on certain bibliometric indicators.

LITERATURE REVIEW

A number of studies have been carried out in the past on ranking of organizations during the last three decade. Shanghai Jiao Tong University, China (<http://www.shanghairanking.com/ARWU2015.html>) undertook the first Academic Ranking of World Universities (ARWU). Prathap (2014) examined the ranking of Indian higher education institutions pertaining to the year 2013, using various indicators. Gupta et al. (2011) examined the ranking of various Indian organizations in computer science field during 1999-08. Indian Institute of Technology (IITs), National Institutes of