INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | E-ISSN 2348-1269, P- ISSN 2349-5138

An International Open Access Journal

The Board of

International Journal of Research and Analytical Reviews (IJRAR)

Is hereby awarding this certificate to

Mahima.C.V

In recognition of the publication of the paper entitled

EXTERNAL EFFECTS OF GLOBALISATION ON TEXTILE INDUSTRIES IN KANNUR DISTRICT

Published In IJRAR (www.ijrar.org) ISSN UGC Approved & 5.75 Impact Factor

Volume 6 Issue 1 February-2019

PAPER ID : IJRAR19J2577

Registration ID : 197614

R.B.Joshi

EDITOR IN CHIEF

EXTERNAL EFFECTS OF GLOBALISATION ON TEXTILE INDUSTRIES IN KANNUR DISTRICT

Mahima.C.V

Assistant Professor

Department of Commerce

M M N S S College,Kollam

Abstract

Indian textile industry is one of the largest leading textile industries in the world and it holds a significant contribution to GDP.. Textile industry in India largely depends on the textile manufacturing and export. The small and medium sized industries play a key role in the growth of textile industries. Economic liberalization and globalization of trade in the country has brought in challenges and opportunities to the Indian textile industry, particularly in small scale and medium scale industries. The present study analyses the effects of globalization on textile industries with special reference to Kannur district.

The textile industries in Kannur district is characterized by high concentration of handloom manufacturing units and related textile manufacturing units, specializing in export oriented items. The uniqueness, richness, finishing and quality of Kannur handloom and textile products were accepted and appreciated worldwide. Almost all the units are small and medium scale and therefore they have to face severe competition from large scale companies. Now most of the textile units in Kannur are facing liquidation because of their reduced competency level.The main problems of textile industries are lack of working capital, inadequate availabilityand increasing price of raw materials, high wage rate of alternative occupation, stiff competition from power loom sector, low sales turnover, and poor institutional management.

Keywords: Globalisation, welfare schemes, entrepreneurs, textile industry, handloom, Khadi, Private exporters, small scale sector.

Introduction

In the globalising world, the economy has changed dramatically to transform into a global economy characterized not only by free trade in goods and services but even more, by free movement of labour, capital, skill and entreprenеurship. Indian textile industry plays a major role to achieve this objective. The small and medium sized industries play a key role in the growth of textile industries. Economic liberalization and globalization of trade in the country has brought in challenges and Indian textile industry particularly in small scale and ...

IJELLH

INTERNATIONAL JOURNAL OF ENGLISH LANGUAGE, LITERATURE IN HUMANITIES

International Conference on
Revisioning and Rewriting Her Self: An Exploration of Women's Writings.
Organised by
The Department of English, Loyola College.

Conveners
Mrs. Pearline Paulraj
Dr. Annam Ragamalika

Volume 7, Issue 5, May 2019

MONTHLY JOURNAL

An international platform for researchers

	EPISTOLARY FICTION: AN ANALYSIS OF A NARRATIVE SUB-GENRE IN ALICE WALKER'S THE COLOR PURPLE AND HANAN AL- SHAYKH'S BEIRUT BLUES	A. HEBA RAJILI	99-107
	BETWEEN CONFORMITY AND TRANSGRESSION: A CYBERFEMINIST CRITIQUE	JAYAKRISHNAN R	108-116
	BLACK FEMINISM IN ALICE WALKER'S THE COLOR PURPLE	K. DHURESHAVAR	117-129
	CONFLICT BETWEEN PASSIVITY AND REBELLION IN A PATRICENTRIC UNIVERSE IN THE SANDAL TREES BY KAMALA DAS	NITTA .P. JOHN, DR. S. FRANKLIN DANIEL	130-138
	WOMAN AS REFUGEE IN INSIDE OUT AND BACK AGAIN BY THANHHA LAI	DR SR A PRINCY ANTO	139-148
	FEMINIST RENDITION OF MAHABHARATA IN CHITRA BANERJEE DIVAKARUNI'S THE PALACE OF ILLUSIONS	PRIYANKHA. R	149-157

Jayakrishnan R

India

silver.bells7@gmail.com

Between Conformity and Transgression: A Cyberfeminist Critique

Abstract

Cyberfeminism originated in the 1980s as a promising new wave of feminist thought and practise. The virtual space of the internet seemed fascinating to the feminist subject as it offered a territory for self expression removed from the material world of sexism, racism, classism and other forms of discrimination. It seemed a safe environment for exploring identities, sexualities, giving way to the conception of the internet as a utopian, post-gender, post-location. This conceptualization of the cyberspace, still maintained in many of the cyberfeminist discourses, is problematic as cyberspace, even though promises unprecedented privileges for the cyberfeminist subject, is mosaiced thoroughly with patriarchal ideologies perpetuating sexist codes. The paper, by exploring the domains of pornography, video games, exposes how cyberworld threatens the female exclusivity attempted by cyberfeminists as part of a separatist strategy for feminist praxis.

Key words: Cyberfeminism, cyber utopia, cyborg, pornography, video games, post feminism

Cyberfeminism originated in the 1980s as Wilding defines in her 1998 article in the *Journal* ,"a promising new wave of (post) feminist thinking and practise...that is fresh, bold, smart and iconoclastic of many of the tenets of classical feminism" (47) What primarily differentiates cyberfeminism from the preceding waves of feminism is the spacial or locational dimension of its origin and organization – the cyber, virtual space bringing women together

Journal of Interdisciplinary Cycle Research

An UGC-CARE Group - A Journal (Serial No. 21259)

An ISO 7021 : 2008 Certified Journal

ISSN NO: 0022-1945 | Impact Factor: 6.2

http://www.jicrjournal.com/

Special Issue on
"Emerging Trends and Themes in English Language and Literature"

Special Issue Editors

Lt. Dr. K. Premkumar
Dr. K. Kaviarasu
Dr. Suresh Frederick
Dr. C. Dhanabal
Dr. C. Alex Rajakumar Paul

South-Asian English Language & Literature Teachers Association [SELLTA]

&

PG & Research Department of English, Bishop Heber College (Autonomous), Tiruchirappalli, TN, India

Volume XI | Issue XII | December 2019

Journal of Interdisciplinary Cycle Research [IJCR]

ISSN: 0022-1945
An UGC-CARE Approved Group-A Journal (S. No.: 2129)
A Peer Reviewed / Refereed Journal with Impact Factor 6.2

SL NO	TITLE OF THE PAPER	Pg. No.
14	Presentifying the Past in Karna's Wife: *The Outcast's Queen* By Kavita Kane *SIJOY PAUL & Dr. A. GANESAN*	46
15	Deconst ructing the constructed: An Analysis of W.B.Yeats' *The Pot of Broth* *A.MARISH*	54
16	An Adventurous campaign towards Manhood and Freedom: A study on Richard Wright's *Black Boy* *Dr. L.M.SWARNALATHA*	57
17	Linguistic Experimentation in the Select Works of Maya Angelou's Autobiographical Writings *JAYASREE K*	61
18	Ecosemiotics and the Poetics of Climate Change *JAYAKRISHNAN R*	65
19	Sagu's 'Resurrected' journey: Redefining notions of 'Motherhood' and 'Skin tone' in Ambai's *A Moon to Devour* *Dr. MARIE ANTOINETTE NANCY.G*	69
20	The Effects of Bully towards Classroom Pedagogy and Ways to Overcome them *SANGKARI CHANDRA SEHGAR, GEETHA BASKARAN, SUPPIAH NACHIAPPAN and SASIGARAN MONEYAM*	73
21	Apocalypse vs Biophilia: A Concocted Skirmish in Cormac Mccarthy's *Child of God* and William R. FORSTCHEN'S *One Second After* *A. JOSHUA SUNDAR RAJA & Dr. K. KAVIARASU*	77
22	Mirage, Thy Name is America – The Voice of a Sri Lankan in Nayomi Munaweera's *What Lies Between Us* *Dr. A. SURESH*	80

Ecosemiotics and the Poetics of Climate Change

Jayakrishnan R*

Abstract

Semiotics is the study of how signs constitute meaning. Signs across time and space has been used in the study of literature constructively and productively to construe what is at the interface of materiality and perception. Ecosemiotics, a comparatively recent offshoot of semiotics, attempts to infer meaning from the nexus of relations that constitute the ecosystem. Such inferences are vital to a close understanding of nature, as far as biologists, geologists, anthropologists and scholars of humanities are concerned. Ecosemiotics looks at the confluence of nature and culture as meaning making systems, cogitations of which are seminal to understanding of texts. Evaluating eco-narratives through the tenets of ecosemiotics would inform the rhetoric of signs which beyond the aesthetic appraisals of texts is pivotal to engendering a call for action, which is one of the finest ends of literature at a time of climate change.

Keywords: *Semiotics, Eco-semiotics, Signs, Climate Change*

Semiotics can be defined as the study of how signs constitute meaning. Beyond the world of cultural structures and constructs, signs manifest themselves in nature, the use of which has helped humanity in formulating their understanding of history. Seebok's definition of semiosis as "the biological capacity itself that underlies the production and comprehension of signs, from simple physiological signals to those that reveal a highly complex symbolism" (8) is pivotal to the understanding of how signs precede humanity, an idea which is at the root of ecosemiotics.

Ecosemiotics, at the outset, attempts to infer meaning from the nexus of relations that constitute the ecosystem. Followed by their definition of semiotics as "the study of various phenomena and processes of living systems, in which the mechanisms and roles of meaning-making are made explicit", Maran and Kull calls ecosemiotics as "a view on ecosystems as communicative systems" (41). Ecosemiotics, different from other disciplines of knowledge like ecology or natural science, attempts to see beyond the materiality of things, as objects manifested with the play of signs, connecting themselves to one another in time and space. According to them it is these "sign relations or codified representations" that "describes the perpetual processes as sign processes [or] actions...modifying the world" (42)

Towards ecosemiotic reading of texts, as Winfried Nöth suggests in his article, "Ecosemiotics and the Semiotics of Nature", two considerations need to be made. One, the relation of Ecosemiotics "to several other ecosciences such as eco-ethology, human ecology, philosophical ecology, ecopsychology, ecological history or ecolinguistics" and the nature culture binary, the relationship between humans and animals and "how this relationship is mediated by signs" (71). It is these considerations that constitute the poetics of econarratives, the play of signs as manifested in nature and signs engendered by humans' across-the-threshold contact with nature and the signification of which, that happens in the form of cultural expressions constituting the text.

Alena Soloshenko in her article on eco-narratives point out how "Eco-narrative as a form of environmental writing...passes ecological tenets through rhetorical, linguistic and cognitive strategies". Cultural expressions, at grassroot level, stems from the conflux of signs mirrored in the human experience, the addressing of which, according to her, must be mediated by three questions.

"(i) How does the language system transport ecological ideas in eco-literature? (ii) How does language shape the environmental cognition of people in different cultures? And (iii) How images (e.g., visual perception of travel experience imagined or experienced) and words (e.g., metaphors, emphatic descriptive constructions) embody thoughts on human-nature interaction?

The present paper on ecosemiotics and the poetics of climate change will be directed on how the play of signs as manifested by the nature culture interaction is mirrored in human experience, thus giving shape to a poetics that is pertinent to the discussion of climate change in literature. The study takes into consideration a series of fifteen poems on climate change, out of the twenty curated by the former British poet laureate, Carol Ann Duffy and published in *The Guardian* as part of its "Keep it in the ground" campaign.

"Keep it in the ground" campaign was initiated by *The Guardian* on 27 March 2015, publishing a poem by the same name, authored by Carol Ann Duffy. The poem flashes open with a series of images concerning nature, discerning its pitiful state of affairs where she speaks of "Stinking seas/below ill winds.../A vast plastic soup, thousand miles/wide as long, of petroleum crap" articulating signs of threat and dissent. The dissent is substantiated by the mocking magpie, the owl grieving from an oak, the rook cursing from the sycamore and the bird of paradise weeping from the willow. Duffy's selection of images, of magpie, owl, cormorant, sycamore and willow is particularly significant as they stand in sharp contrast with same images, embodied in British literature, as part of a nature in perfect harmony that inspired the verses of Shakespeare, Wordsworth and other writers of yore. The contrasting signs are points of transition,

*Assistant Professor, MMNSS College, Kottiyam

WWW.JETIR.ORG

editor@jetir.org

An International Open Access Journal
UGC and ISSN Approved | ISSN: 2349-5162

INTERNATIONAL JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH

JETIR.ORG

INTERNATIONAL JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH

International Peer Reviewed, Open Access Journal
ISSN: 2349-5162 | Impact Factor: 5.87

UGC and ISSN Approved Journals.

Website: www.jetir.org

Website: www.jetir.org

JETIR

JETIR

ARCHAEOLOGIES OF THE FUTURE: M.G. VASSANJI'S NOSTALGIA AS SPECULATIVE FICTION

MEERA K G

ASSISTANT PROFESSOR
DEPT OF ENGLISH
M M N S S COLLEGE, KOTTIYAM,KOLLAM ,KERALA STATE

Abstract Speculative fiction is a literary "super genre," which encompasses a number of different genres of fiction, each with speculative elements that are based on conjecture and do not exist in the real world. Sometimes called "what if" books, speculative literature changes the laws of what's real or possible as we know them in our current society, and then speculates on the outcome. An inherently plural category, speculative fiction is a mode of thought experimenting that includes the proliferation of indigenous, minority, and postcolonial narrative forms that subvert dominant Western notions of the real, and the need for new conceptual categories to accommodate diverse and hybrid types of storytelling that oppose a stifling vision of reality imposed by exploitative global capitalism. M.G Vassanji's latest book *Nostalgia* tries to carry those themes into a new genre, speculative fiction. *Nostalgia* is set in a futuristic Toronto where the rich live forever by erasing their memories and implanting new ones. If memory is erased, the only thing left is the body. The futuristic setting allows Vassanji to explore anxieties about migration, race mixing, and the unequal distribution of wealth with a clinical but compassionate eye.

Key words Speculative fiction, hybridization, science fiction, dystopia, futuristic fiction ,migration ,race mixing ,post colonial narrative

Speculative fiction arose in response to the need for a blanket term for a broad range of narrative that subverts the post-Enlightenment mindset. Speculative fiction emerges as a tool to dismantle the traditional Western cultural bias in favor of literature imitating reality, and as a quest for the recovery of the sense of awe and wonder. Some of the forces that contributed to the rise of speculative fiction include accelerating genre hybridization that balkanized the field previously mapped with a few large generic categories. An inherently plural category, speculative fiction is a mode of thought-experimenting that includes the proliferation of indigenous, minority, and postcolonial narrative forms that subvert dominant Western notions of the real, and the need for new conceptual categories to accommodate diverse and hybridic types of storytelling that oppose a stifling vision of reality imposed by exploitative global capitalism.

The term is often attributed to Robert A. Heinlein. The term "speculative fiction" has three historically located meanings: a subgenre of science fiction that deals with human rather than technological problems, a genre distinct from and opposite to science fiction in its exclusive focus on possible futures, and a super-category for all genres that deliberately depart from imitating consensus reality of everyday experience. In this latter sense, speculative fiction includes fantasy, science fiction, and horror, but also their derivatives, hybrids, and cognate genres like the gothic, dystopia, weird fiction, post-apocalyptic fiction, ghost stories, superhero tales, alternate history, steam punk, slipstream, magic realism, and fractured fairy tales.

M. G. Vassanji is one of the most distinct literary celebrities of South Asian Canadian literature. His works focused on colonialism, immigration and the search for identity in a cruel, complex world. His latest book *Nostalgia* tries to carry those themes into a new genre, speculative fiction. *Nostalgia* is set in a futuristic Toronto where the rich live forever by erasing their memories and implanting new ones. If memory is erased, the only thing left is the body. However, in Vassanji's world a new body can be provided when the new memories are implanted, so people aren't becoming immortal, they are becoming new people.

18-14
5

Chemical disarming of isoniazid resistance in *Mycobacterium tuberculosis*

Kelly Flentie[a,1], Gregory A. Harrison[a,1], Hasan Tükenmez[b], Jonathan Livny[c], James A. D. Good[d,e], Souvik Sarkar[d,e], Dennis X. Zhu[a], Rachel L. Kinsella[a], Leslie A. Weiss[a], Samantha D. Solomon[a], Miranda E. Scherer[a], Mette R. Hansen[d,e], Andrew G. Cairns[d,e], Martina Kulén[d,e], Torbjörn Wixe[d,e], Anders E. G. Lindgren[d,e], Erik Chorell[d,e,f], Christoffer Bengtsson[d,e], K. Syam Krishnan[d,e], Scott J. Hultgren[a,f], Christer Larsson[b,e], Fredrik Almqvist[d,e,2], and Christina L. Stallings[a,2]

[redacted]

[a]Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, MO 63110; [b]Department of Molecular Biology, Umeå University, SE-90187 Umeå, Sweden; [c]Infectious Disease and Microbiome Program, Broad Institute, Cambridge, MA 02142; [d]Umeå Centre for Microbial Research, Umeå University, SE-90187 Umeå, Sweden; [e]Department of Chemistry, Umeå University, SE-90187 Umeå, Sweden; and [f]Center for Women's Infectious Disease Research, Washington University School of Medicine, St. Louis, MO 63110

Edited by Caroline S. Harwood, University of Washington, Seattle, WA, and approved April 5, 2019 (received for review October 22, 2018)

Mycobacterium tuberculosis (*Mtb*) killed more people in 2017 than any other single infectious agent. This dangerous pathogen is able to withstand stresses imposed by the immune system and tolerate exposure to antibiotics, resulting in persistent infection. The global tuberculosis (TB) epidemic has been exacerbated by the emergence of mutant strains of *Mtb* that are resistant to frontline antibiotics. Thus, both phenotypic drug tolerance and genetic drug resistance are major obstacles to successful TB therapy. Using a chemical approach to identify compounds that block stress and drug tolerance, as opposed to traditional screens for compounds that kill *Mtb*, we identified a small molecule, C10, that blocks tolerance to oxidative stress, acid stress, and the frontline antibiotic isoniazid (INH). In addition, we found that C10 prevents the selection for INH-resistant mutants and restores INH sensitivity in otherwise INH-resistant *Mtb* strains harboring mutations in the *katG* gene, which encodes the enzyme that converts the prodrug INH to its active form. Through mechanistic studies, we discovered that C10 inhibits *Mtb* respiration, revealing a link between respiration homeostasis and INH sensitivity. Therefore, by using C10 to dissect *Mtb* persistence, we discovered that INH resistance is not absolute and can be reversed.

Mycobacterium tuberculosis | drug tolerance | antibiotic resistance | isoniazid | respiration

As the deadliest pathogen in the world, *Mycobacterium tuberculosis* (*Mtb*) causes infections responsible for 1.6 million deaths in 2017 (1). During infection, *Mtb* is exposed to an arsenal of host-derived stresses; however, it responds to stress with physiological changes that allow it to tolerate these immune stresses and persist (2). These same physiological changes result in antibiotic tolerance, in which *Mtb* is genetically susceptible to antibiotics but exists in a physiological state rendering it recalcitrant to therapy (3–6). As a result, long courses of antibiotic therapy are required to treat tuberculosis (TB) (7), leading to the emergence of drug-resistant mutant strains of *Mtb*. In 2017, out of the 10 million cases of TB, an estimated 19% of newly treated cases and 43% of previously treated cases exhibited resistance to at least one of the frontline antibiotics (1). Resistance to the frontline antibiotic isoniazid (INH) is the most common form of *Mtb* nonresistance and is associated with treatment failure, relapse, and progression to multidrug-resistant TB (1). Together, the problems of phenotypic tolerance and genetic resistance to antibiotics undermine current TB treatment options. There is an urgent need for new strategies that shorten the duration of treatment and target both drug-tolerant and genetically drug-resistant *Mtb*, which requires a better understanding of how *Mtb* survives exposure to immune defenses and antibiotic therapy.

Previous work has demonstrated that a number of stresses are capable of inducing the formation of drug-tolerant *Mtb* (8–10). The most thoroughly studied inducer of drug tolerance is hypoxia. Exposure to hypoxic conditions has pleiotropic effects on the bacteria, including replication arrest (8), induced expression of dormancy-associated genes (11, 12), shifts in *Mtb* lipid composition (5, 13), and global shifts in *Mtb* metabolism and respiration (8, 14, 15). However, it remains unclear mechanistically how these changes in physiology confer tolerance to stress and antibiotics.

To address this gap in understanding, we developed a chemical screen to identify compounds that inhibit the development of hypoxia-induced stress and drug tolerance. Through this chemical approach, we identified a compound, C10, that inhibits the development of hypoxia-induced tolerance to oxidative stress and INH. In addition to blocking tolerance, C10 was found to prevent the selection for INH-resistant mutants and to resensitize an INH-resistant mutant to INH, providing evidence that INH resistance can be reversed in *Mtb*.

Results

C10 Blocks Hypoxia-Induced Tolerance to Oxidative Stress and INH.

To dissect mechanisms of persistence, we used a modified version of the culture-based hypoxia model that is routinely used to

Significance

Mycobacterium tuberculosis (*Mtb*) causes the disease tuberculosis (TB), which kills more people than any other infection. The emergence of drug-resistant *Mtb* strains has exacerbated this already alarming epidemic. We have identified a small molecule, C10, that potentiates the activity of the frontline antibiotic isoniazid (INH) and prevents the selection for INH-resistant mutants. We find that C10 can even reverse INH resistance in *Mtb*. Therefore, our study reveals vulnerabilities that can be exploited to reverse INH resistance in *Mtb*.

Author contributions: K.F., G.A.H., and C.L.S. designed research; K.F., G.A.H., H.T., J.L., D.X.Z., R.L.K., L.A.W., S.D.S., M.E.S., and C.L. performed research; J.L., J.A.D.G., S.S., M.R.H., A.G.C., M.K., T.W., A.E.G.L., E.C., C.B., K.S.K., and F.A. contributed new reagents/analytic tools; K.F., G.A.H., H.T., J.L., J.A.D.G., D.X.Z., R.L.K., L.A.W., S.D.S., M.E.S., S.J.H., C.L., F.A., and C.L.S. analyzed data; and K.F., G.A.H., and C.L.S. wrote the paper.

Conflict of interest statement: C.L.S., S.J.H., and F.A. have ownership interests in Quretech Bio AB, which licenses C10.

This article is a PNAS Direct Submission.

Published under the PNAS license.

Data Deposition: The RNA-sequencing data reported in this paper have been deposited in the Gene Expression Omnibus (GEO) database, https://www.ncbi.nlm.nih.gov/geo (accession no. GSE129820).

[1]K.F. and G.A.H. contributed equally to this work.

[2]To whom correspondence may be addressed. Email: fredrik.almqvist@umu.se or stallingc@wustl.edu.

This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1818009116/-/DCSupplemental.

International Journal of Research in Advent Technology, Vol.6, No.9, September 2018
E-ISSN: 2321-9637
Available online at www.ijrat.org

On Monoid Recognizable *l*-Fuzzy Languages

Ajitha Kumari K[1], Archana V P[2]
Department of Mathematics, B.J.M.Govt. College, Chavara, Kollam.691583[1], Department of Mathematics, M.M.N.S.S. College, Kottiyam[2]
Email: ambiliragamalika@gmail.com[1], rajesharchana@gmail.com[2]

Abstract-Here we show that the class of monoid recognizable *l*-fuzzy languages is closed under Boolean operations. Also we prove that the syntactic monoid of a recognizable *l*-fuzzy language is finite and every finite monoid is a syntactic monoid of a recognizable *l*-fuzzy language.

Index Terms: *l*-fuzzy languages; Syntactic congruence; Syntactic monoid.

1. INTRODUCTION

Zadeh [12] introduced the notion of a fuzzy subset of an ordinary set as a method of representing uncertainty. Later it came as a useful tool for describing real-life problems. Zadeh and Lee [6] generalized the classical notion of languages to the concept of fuzzy languages in 1969. A detailed account of the latest developments in the theory of automata and fuzzy languages was given in [7]. In [8] Petkovic introduced the notion of syntactic monoid of a fuzzy language and proved that every finite monoid is the syntactic monoid of a recognizable fuzzy language.

In this paper we discussed monoid recognizability of *l*-fuzzy languages. We introduce the concept of syntactic monoid of a *l*-fuzzy language and studied its properties. Also we prove that every finite monoid is a syntactic monoid of a recognizable *l*-fuzzy language.

2. PRELIMINARIES

In this section we recall the basic definitions, results and notations that will be used in the sequel. All undefined terms are as in [7, 9]. A lattice is a partially ordered set in which every subset $\{a, b\}$ consisting of two element has a least upper bound $(a \vee b)$ and a greatest lower bound $(a \wedge b)$. A lattice l is said to be bounded if it has a greatest element 1 and a least element 0. A lattice l is said to be distributive if for any element a, b and c of l, we have the following distributive properties.

(1) $a \wedge (b \vee c) = (a \wedge b) \vee (a \wedge c)$
(2) $a \vee (b \wedge c) = (a \vee b) \wedge (a \vee c)$.

Let l be a bounded lattice with greatest element 1 and least element 0 and let $a \in l$. An element $b \in l$ is called complement of a if $a \vee b = 1$ and $a \wedge b = 0$. Complements need not be unique. But if l is a bounded distributive lattice then complements are unique if they exist (cf. [10]). A lattice l is called complemented if it is bounded and if every element in l has a complement. A lattice l is called a complete lattice if every nonempty subset of l has greatest lower bound and least upper bound in l. Thus every finite lattice is complete.

A semigroup consists of a nonempty set M on which an associative binary operation $\cdot$ is defined and is denoted by $(M, \cdot)$. If there exists an element 1 satisfying $m \cdot 1 = m = 1 \cdot m$ for all $m \in M$, then M is called a monoid (semigroup with identity). Let $(M, \cdot)$ be a monoid, then a nonempty subset M_1 of M is called a submonoid of M if it is closed with respect to the induced binary operation.

Let A be a nonempty finite set called an alphabet. Elements of A are called letters. A finite sequence of letters of A is called a word. The length of the word w, in symbols $|w|$, is the number of letters of A occurring in w. A word of length zero is called empty word and is denoted by ε. A^+ denotes the set of all nonempty words over an alphabet A and $A^* = A^+ \cup \{\varepsilon\}$ is a monoid under the operation concatenation, called free monoid over A. A subset of A^* is called the language L over an alphabet A.

Let $L \subseteq A^*$. Then L is recognizable if there exists a finite monoid M and a homomorphism $\phi: A^* \to M$ such that $L = \phi^{-1}(P)$, where $P \subseteq M$. Also we say that M recognizes L.

Let $L \subseteq A^*$. For $u, v \in A^*$, we define a relation P_L by

$$uP_Lv \text{ if } xuy \in L \Leftrightarrow xvy \in L,$$

for all $x, y \in A^*$. Then P_L is a congruence, called the syntactic congruence. The quotient monoid $A^*/P_L = M(L)$ is called the syntactic monoid and the canonical homomorphism $\eta_L: A^* \to M(L)$ is called the syntactic morphism of L.

KALA SAROVAR

UGC CARE Group - I Journal
ISSN : 0975-4520

CERTIFICATE OF PUBLICATION

This is to certify the paper Entitled

ONLINE SHOPPING BEHAVIOUR OF WOMEN- A STUDY

Authored By

Dr.Sreekumar M,
Associate Professor&Head, Department of Commerce, M.N.S.S.college, Kollam District, Kerala

Published in

Vol-23 No.04(XI) October-December 2020

Kala Sarovar

ISSN : 0975-4520

UGC Care Group – 1 Journal

Editor
Kala Sarovar

Kala Sarovar
(UGC Care Group-1 Journal) ISSN: 0975-4520
Vol-23 No.04(XI) October-December 2020

ONLINE SHOPPING BEHAVIOUR OF WOMEN- A STUDY.

Dr.Sreekumar M. Associate Professor&Head, Department of Commerce, M.N.S.S.college, Kollam District, Kerala.

Abstract

Online shopping allows consumers to directly buy goods or services from a seller based on their convenience over the internet using a web browser. The largest of these online retailing corporations are Alibaba, Amazon.com and e-bay. Since the emergence of the World Wide Web, merchants have sought to sell their products to people who spend time online. Online shopping is widely increasing because it is more convenient compared to traditional way of shopping. Women are more interested in shopping and online purchase allow more convenience as it free from hindrances like Time, Place etc. And it is found that women prefer online shopping more than traditional method.

Key Words: Online, women, consumers, purchasing behaviour, internet, retailing, Ecommerce.

Introduction

We are living in an era of digitalization. Internet become an essential part of our life. The day to day activities of our life very much connected to the world of internet. E-commerce or Electronic Commerce which is the new and updated form of doing business is on the surge since its existence. This has given birth to online shopping and thus altered the traditional way to shop. Prior to this people used to physically visit the store, have the feel of the product, negotiating the prices and thus the final purchases happen. Online shopping has altogether changed this form of shopping allowing the customers an easier and riskier form to pick and pay for their products.

Purchasing behaviour of the consumers especially that of women differs. Online shopping is perceived differently by the people belonging to different age, gender and income group. Hence the demographic factors play a crucial role in shopping online, women who are considered to be playing a major role in this online shopping. Their purchasing behaviour as well as the spending pattern changed tremendously by the introduction of this online shopping. Women are the world's most powerful consumers and their impact on the economy is growing every year. Thus, online shopping has become a way of life for most of the people especially working women mainly because of the increased penetration of mobile phones. Interestingly, the total number of online women shoppers is estimated to grow at a rapid pace to touch 150 million at the end of 2020.

The demographical influence on the e-commerce sector is crucial to understand the perception and behaviour of people belonging to different segment towards the sector. The study has focused on the women's behaviour towards online shopping.

Literature Review

- Biswas & Blair (1991), in their study states that discount on prices does have a positive link with shopping intentions. Price was of least importance when Indian women shop online and the majority of them belong to a working group, hence the price doesn't make such difference in shaping the online shopping behaviour of Indian women.
- Ronald and Elizabeth (2002), in their study "Buying apparel over the internet", found that internet was fun, safe, cheaper and quicker; women spent more on apparel than men, enjoyed shopping online more than men. Even if men spent more time on internet; it was women who spent more time and money on buying apparels. It was suggested that websites should attract more apparel buyers by focusing on safety, fun and speed.
- Sandy and Minjeong (2010) in their study to understand external cues on website of apparels that encourage impulse buying found that free shipping or a shipping discount, promotional offers and purchase ideas were desired the most as reasons for impulse buying online. This study suggested online marketers to provide more of offers, new style/fashions, and gift ideas and provide more return options and expand locations.

Indian Journal of Chemistry
Vol. 60A April 2021, pp. 489-498

Synthesis, spectroscopic characterisation, corrosion inhibition studies and dyeing properties of lanthanide(III) complexes of 1-[(3-carboxyethyl-4,5-dimethylthiophen-2-yl)azo]-2-naphthol

C J Athira[a]*, M S Sujamol[b], Y Sindhu[c] & K Mohanan[d]

[a]Department of Chemistry, MMNSS College, Komiyam, Kollam, Kerala 691 571, India
[b]Department of Chemistry, St. Stephen's College, Pathanapuram, Kerala 689 695, India
[c]Department of Chemistry, All Saint's College, Thiruvananthapuram, Kerala 695 007, India
[d]Department of Chemistry, University of Kerala, Thiruvananthapuram, Kerala 695 581, India
*E-mail: aathira.ajoy@gmail.com

Received 09 September 2020, revised and accepted 15 February 2021

Ligational behaviour of the heterocyclic ligand obtained by coupling of diazotized 2-amino-3-carboxyethyl-4,5-dimethylthiophene with β-naphthol towards some selected lanthanide(III) ions has been studied. Various spectral and physico-chemical techniques have been used to confirm the coordination sites of the ligand (HTAN) and its lanthanide(III) complexes. It has been observed that these ligands coordinate to the metal ions in a neutral tridentate fashion. Thermal stability of metal chelates and structural stability of the chelating agent has been studied by thermal analysis. As lanthanides and azo dyes are reported as good corrosion inhibitors we have examined the corrosion inhibition activities of HTAN and its metal complexes. Also dyeing properties of the azo dye and some of its selected complexes towards cotton fabrics has been evaluated, as the traditional application field of the synthetic azo dyes still remains in the textile industry.

Keywords: 2-amino-3-carboxyethyl-4,5-dimethylthiophene, β-naphthol, Thermal stability, Corrosion inhibitors, Dyeing

Azo dyes are among the most profoundly explored classes of organic compounds both from theoretical and practical viewpoints. These are the largest group of organic dyes with widespread applications in many fields including dye-stuff industry, pharmacy, dosimetry, catalysis, colouring of different materials and plastics, technology of dyes and pigments, as colourants in inks due to the presence of azo (-N=N-) linkage[1]. The stability of azo compounds is boosted by the chromophoric azo group by extending the delocalised system of the arenes[2]. Owing to this well delocalised electron system they are often brightly coloured with some of them showing orange, red and yellow colours as they absorb light having its wavelength at the visible region of the electromagnetic radiation. It is also been reported that azo dyes display good inhibitory capacity for the corrosion of several materials in both acidic and basic media[3].

A large part of the azo compounds is derived from the coupling reactions of diazotized heterocyclic amines containing aromatic hydroxy and amino group compounds. Azo compounds that contain a hydroxy group conjugated with azo-linkage can be exist in solution as an equilibrium mixture of strongly hydrogen bonded azo or hydrazone forms[4,5] and the position of equilibrium being determined by including the structure of azo compound, solvent etc. Since the tautomeric ratio is quite important parameter for the applications of dyes, investigations of the azohydrazo tautomerism are of interest both from theoretical and practical aspects[5]. Azo compounds of naphthol have been widely used as dye and they are established intermediates in the synthesis of dyes[6]. Dyes having donor atoms ortho to the azo group are well-known for their aptitude to form coordination compounds with inner metal ions[7]. The stability of the metal complexes depends upon factors with the size of the chelate rings, the basicity of ligand and the nature of metal.

In the present investigation, 2-naphthol is coupled with diazotized 2-amino-3-carboxyethyl-4,5-dimethylthiophene to form a tridentate azo derivative. The presence of electron withdrawing group such as carboxyethyl adjacent to the diazotizable amino group has a bathochromic influence on the shades of these dyes on fabric and is useful for better dispersability and dye ability[8]. Literature survey reveals[3, 9,10] that these types of dyes have been used commercially and have excellent inhibitory properties with substantial

Chemical Data Collections 31 (2021) 100634

Contents lists available at ScienceDirect

Chemical Data Collections

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

Synthesis, spectroscopic characterization, dyeing performance and corrosion inhibition study of transition metal complexes of a novel azo derivative formed from 2-aminothiophene

M.S. Sujamol[a,*], C.J. Athira[b], Y. Sindhu[c], K. Mohanan[d]

[a] Department of Chemistry, St. Stephen's College, Pathanapuram 689695, Kollam, Kerala, India
[b] Department of Chemistry, MMNSS College, Kottiyam 691571, Kollam, Kerala, India
[c] Department of Chemistry, All Saint's College, Thiruvananthapuram 695007, Kerala, India
[d] Department of Chemistry, University of Kerala, Kariavattom, Thiruvananthapuram 695581, Kerala, India

ARTICLE INFO

Article history:
Received 24 September 2020
Revised 12 December 2020
Accepted 20 December 2020
Available online 29 December 2020

Keywords:
2-amino-3-carbethoxy-4,5-dimethylthiophene
2-amino-4-phenylthiazole
Azo derivative
Dyeing property
Corrosion inhibition

ABSTRACT

A novel bi-heterocyclic azo derivative is synthesized by the diazo-coupling reaction of 2-amino-3-carbethoxy-4,5-dimethylthiophene and 2-amino-4-phenylthiazole and its ligational behaviour towards Mn(II), Co(II), Ni(II), Cu(II) and Zn(II) salts is investigated. The complexes are characterized on the basis of elemental analyses, molar conductance, magnetic susceptibility measurements, UV-Visible, IR and ^{1}H NMR spectral data. Spectral data have indicated that the ligand is coordinated to the metal ion in a neutral bidentate manner. On the basis of electronic spectral data and magnetic susceptibility measurements, suitable geometry is proposed for each complex. Thermogravimetric studies of copper(II) complex are used to characterize the complex. The dyeing performance of the azo derivative and its metal complexes is examined on silk fabric. The corrosion inhibition efficiency of the ligand and its metal complex in 0.5 M H_2SO_4 for mild steel coupons is monitored by weight-loss and open circuit potential measurements .

Specifications Table

Subject area	*Co-ordination chemistry, Spectroscopy*
Compounds	*2-amino-3-carbethoxy-4,5-dimethylthiophene, 2-amino-4-phenylthiazole, 2-amino-5-[(3-carbethoxy-4,5-dimethylthiophen-2-yl)azo]-4-phenylthiazole*
Data category	*Synthesis, Spectral and Physico-chemical studies*
Data acquisition format	*Elemental analysis, UV-Visible, IR, NMR, Magnetic moment, ESR, Thermogravimetry*
Data type	*Analyzed*
Procedure	*A novel heterocyclic azo compound and its transition metal complexes have been synthesized. Their structural features were accomplished by different analytical and spectroscopic techniques and evaluated their dyeing performance and corrosion inhibition efficiency.*
Data accessibility	*Data is present with this article*

* Corresponding author.
E-mail address: mssuja2007@gmail.com (M.S. Sujamol).

Materials Today: Proceedings xxx (xxxx) xxx

Contents lists available at ScienceDirect

Materials Today: Proceedings

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

Molecular docking and dynamics simulation study of telomerase inhibitors as potential anti-cancer agents

D.R. Sherin [a,*], T.K. Manojkumar [a,*], R.C. Prakash [b], V.N. Sobha [c]

[a] Centre for Computational Modeling and Data Engineering, Indian Institute of Information Technology and Management-Kerala, Thiruvananthapuram, Kerala, India
[b] M.M.N.S.S. College, Kottiyam, University of Kerala, Kerala, India
[c] School of Biotechnology, Amrita Vishwa Vidyapeetham, Amritapuri, Kollam, Kerala, India

ARTICLE INFO

Article history:
Available online xxxx

Keywords:
Catechins
Cancer
Telomerase
Docking
Dynamics

ABSTRACT

Normal cells' genomic identity is protected by telomeres and sometimes chromosomal instability was observed due to shortening of telomerase because of successive cell divisions. Reports indicate that telomerase length is crucial in determining telomerase activity which in turn leads to cancer initiation. It is reported that telomere length regulation has been identified as a plausible strategy for cancer diagnostics and treatment. In the present MS, we explored the telomerase inhibitory activity of catechin analogues and it's oligomers using computational methods. The structural properties of different ligands discussed in the MS were computed using density functional theory. Conformational effect of different chromene subunit such as 2R, 3R conformations were explored using computational methods. The stereochemical contributions to receptor binding such as intra ligand π-interactions of these ligands were also investigated. We herein propose that these stereochemical aspects of catechins and their oligomers as the most vital factor deciding the effective binding with the N-terminal domain of telomerase which is an efficient strategy in cancer therapy.

Selection and peer-review under responsibility of the scientific committee of the International Conference on Advances in Material Science and Chemistry – 2020.

1. Introduction

Regulation of telomere length in replicative senescence by inhibiting telomerase has currently been highlighted as a potential strategy for cancer diagnostics as well as chemotherapeutics [1–3]. Telomerase is a ribonucleoprotein reverse transcriptase, composed of an RNA template (TER or hTR) and a catalytic protein subunit (TERT), which in turn is formed by the alignment of four major functional domains- the TERT N-terminal domain (TEN), the TERT RNA binding domain (TRBD), the reverse transciptase domain (RT) and the C-terminal extension (CTE) [4–7]. Inhibition of telomerase is also effective in regulating proliferation of endometriosis and has been considered as a potential non-hormonal curative strategy in the pathology of endometriosis [8–11]. Telomerase inhibition by amyloid beta (Aβ) binding has been reported to play a crucial role in cellular senescence and thereby fighting against Alzheimer's disease (AD) [12]. Thus telomerase is an important target for unwanted cellular growth, age related diseases such as AD, endometriosis as well as in cancer therapy [13–16].

The most promising methods for telomerase inhibition involve the direct disruption of capping telomeres using telomerase inhibitors along with conventional chemotherapeutics [17–20]. Talari et al. reported a molecular docking approach in pharmacophore based virtual screening of new telomerase inhibitors and suggested that the TEN domain anchor site is a useful template in rational inhibitor design [21]. Chen et al. demonstrated the importance of major natural products in telomerase maintenance [22]. Our survey of literature revealed that role of flavanoids as telomerase inhibitors were discussed recently, but not specifically investigated [23–28]. Catechins, a series of low molecular weight polyphenols that primarily consist of flavan-3-ol monomers, are present in leaves, fruits and vegetables. Takanshi et al. recently reported the anticancer activity of epicatechin oligomers longer than trimers. This will inflame us to think about the anticancer activity, especially by telomerase inhibition of catechinsuptotrimers [29]. In the present work, we have explored the scope of inhibiting human telomerase TEN domain effectively by catechins. The stereochemistry and mechanistic aspects of the interac-

* Corresponding authors.
E-mail addresses: [illegible] (D.R. Sherin), [illegible] (T.K. Manojkumar).

https://doi.org/10.1016/j.matpr.2020.10.871
2214-7853/
Selection and peer-review under responsibility of the [illegible] in Material Science and Chemistry – 2020

NOIDA INTERNATIONAL UNIVERSITY

ISSN: 2394-0298

NIU International Journal of Human Rights

A UGC CARE Listed Journal

NOIDA INTERNATIONAL UNIVERSITY

CROPPING PATTERN CHANGES IN KERALA: A THREAT TO SUSTAINABLE DEVELOPMENT

Dr. Maneesh.B Assistant Professor, Department of Economics, N.S.S.College, Nilamel, Kollam, Kerala. manbpillai@gmail.com

Abstract

The most notable feature of Kerala's agricultural development is the emergence of cash crops as a dominant sector over the six decades. The data analysis shows that the proportion of area under food grains declined from mid-seventies and an increasing role of cash crops over food crops. The nature of changes in area indicates that paddy land has been diverted either to other crops, mainly cash crops or to non-agricultural purposes such as sites for construction of building, brick-mining and infrastructural facilities such as roads, railway, canals etc. The shift in cropping patterns from food crops to cash crops and also the shift from eco-friendly subsistence farming to profit-induced cultivation using chemical fertilizers and poisonous pesticides have accelerated the pace of biodiversity loss. The results have been an acute shortage of drinking water in summer, falling water tables, soil erosion and climatic changes. Thus, in short, the shifts in cropping pattern in favour of cash crops and the consequent reduction in area under food crops is an issue of great concern that has longterm implications for the food security and ecological and environmental balance of the State.

Key words: Land use pattern, Cropping pattern, Commercial crops, WTO

SPECIAL FEATURES OF KERALA

Kerala was formed on 1 November 1956, consequent on the reorganization of States on linguistic basis. It is a narrow strip of land about 585 km in length located at the southern tip of the Indian peninsula between the Arabian Sea on the west and Western Ghats on the east. The land slopes from east to west. Based on topography, the State may be divided broadly into three regions, namely, low land, mid land, and high land. In the low land region bordering the Arabian Sea, the soil in most places is sandy, but the wet land comprising rolling hills and valleys provides a variety of crops. The soil here is mostly laterite. The high land region is almost entirely covered with forests and is best suited for plantation crops like tea, coffee, and rubber (Government of Kerala, 2006a).

The State gets copious rainfall from the south-west monsoon during June-August and from the north-east monsoon during October-November.

Rice is the staple food of the people of Kerala. Now, the Sate is highly deficient in the production of its staple food. The traditional crops of Kerala are, besides rice, coconut, arecanut, jack, mango, banana and plantain, pepper, ginger, and turmeric. The plantation crops like rubber, tea, coffee, and cardamom are grown mainly in the highland regions.

Kerala implemented land reforms as early as in 1970. Therefore, landlordism disappeared and the cultivating tenants became owners of their leased-in holdings, subject to the ceiling provisions.

Kerala has made notable achievements in health standards as reflected in the low infant mortality rate, low maternal mortality rate, low birth rate, low death rate, and high life expectancy that are far ahead of the national averages. The large size of the population, high levels of education and backwardness of industrialization have thrown up a large army of unemployed persons, the majority of them having qualifications of secondary level and above.

SPECIAL FEATURES OF KERALA AGRICULTURE

Kerala is fairly rich in natural resources, which are essentially needed for agricultural development. The high rainfall, and climate is eminently suited for a variety of cash crops and plantation crops.

ISSN : 2230-8431

SILVER JUBILEE YEAR 1994-2019

IMJMR

RESEARCHER

A Peer Reviewed Journal

Vol. XXVII No. 4
Oct-Dec 2021

Problems of Alcohol and Tobacco Uses among Youngsters	Dr. Saleena A S
Impact and Intervention Study on Health Sector and Education Sector in Pandemic Situation	Dr. Manju S V
Implementation of AI Enabled ERP System in Business: Opportunities and Challenges	Shilpa L, Dr. Swapna K Cherian
Trend in the Collection and Sales of Non-Wood Forest Products (NWFP) through Kerala State Federation of SC ST Development Co-Operatives Ltd	Sulfi P, Dr.Vinod Kumar K P
A Study on Kerala ecotourism Marketing Strategies	Balamuraly B
Work Life Balance of Women Employees	Promod Gopal, Dr. T P Vijumon
Determinants of Work Life Balance - An Analysis among Employees in Print Media Industry	Kavitha L, Dr. Dileep A S
Enlightened Marketing - A New Perspective in Marketing Management	Vijayan K
A Paradigm of the Consumer Preference on Ayurvedic Products with Special Reference to Thrissur District	Adithya Sudheerkumar, Anagha U, Pavithra V
A Comparative Study on the Allocation and Utilization of Funds by LSGs for Infrastructure Development in Kerala	Dr. Simu Rajendran
Fostering Sustainable Tourism Development	Anu Varghese, Dr. Vinod A S
Alarming Non-Performing Asset (NPA) in Priority Sector and Non Priority Sector Lending (NPSL)	Hashim M, Dr. S Sajeev
An Analytical Study on Stress among Nurses in Kerala (Comparison between Government and Private Hospitals)	Dr. Preetha S Pillai, Dr. Ambily C R
Labour Problems in Handicrafts Industry of Kerala	Lekshmi J
Service Quality of Banking Services of Federal Bank: An Enquiry using SERVQUAL Approach	Ashme Andrews, Anandhu Aravindan
E-Governance Initiatives of Municipalities in Kerala	Dr. Dhanya R

Published by
Institute of Management Development and Research
Mylem, Erayamkode, Thiruvananthapuram, Pin: 695013
Mobile: 8281107488
email : imdrtvm@yahoo.com

DETERMINANTS OF WORK LIFE BALANCE - AN ANALYSIS AMONG EMPLOYEES IN PRINT MEDIA INDUSTRY

*Kavitha L, **Dr. Dileep A S

Abstract

Work life balance is an important construct in today's world and the coping strategies adopted by people to balance work and personal life has a greater impact in organisational outcomes. The type of work in print media is round the clock and the category of employees find it difficult to cope up with industry. These industries nowadays realized the importance of the work life balance for their employees and they are making up policies for balancing between work and life. They are trying unique ways to keep their employees happy and satisfied, so it makes the working environment better for working and positively affect productivity of employees. Understanding the factors affecting work life balance enables both employers and employees to manage their responsibilities and to cope up with the pressures of competing demands. To ensure this a better understanding of factors influencing work life balance is essential and hence an attempt has been made here.

Key words:- Work Life Balance, Print Media, Job Category, Career Commitments

Work-Life Balance (WLB) has been an issue of great concern in the gloablised context, which leads to an occasional change in nature of work and added work pressure. The current work atmosphere in all sectors is marked by intense pressure, constant changes, increased technology dependence and the new scenario of virtual workplace increases more work, which in turns imbalances work and life. Unlike two decades ago, we now have dual-income families, where both husband and wife earn. This is challenging, as the equations of work and life balance are likely to be strongly affected by both

*Kavitha L, Assistant Professor of Commerce, MMNSS College, Kattiyam.
**Dr. Dileep A S, Assistant Professor and HoD, Research and PG Department of Commerce, MG College, Thiruvananthapuram.

Journal of the Indian Chemical Society 99 (2022) 100621

Contents lists available at ScienceDirect

Journal of the Indian Chemical Society

journal homepage: www.journals.elsevier.com/journal-of-the-indian-chemical-society

Hydrogen bonding interaction and topological insights of the electron localization/delocalization of L- arginine acetate

B.S. Arun Sasi [a,*], Sutheertha S. Nair [b], Bibin K. Jose [c], C. James [a], D. Sajan [d]

[a] Department of Physics, Scott Christian College, (Autonomous), Nagercoil, 629 003, Tamil Nadu, India
[b] Department of Physics MMNSS College Kottiyam, Kollam, Kerala, 691571, India
[c] Department of Mathematics, Sreenivasa Dharma College Alappuzha, Kerala, 688003, India
[d] Department of Physics, Bishop Moore College, Mavelikara, Alappuzha, Kerala, 690110, India

ARTICLE INFO

Keywords:
DFT
NBO
FT-IR
FT-Raman
QTAIM

ABSTRACT

The vibrational spectral studies of the semi-organic material L- arginine acetate (LAA) are carried out with the help of density functional calculations to derive the equilibrium geometry as well as the vibrational wavenumbers and intensities of the spectral bands. The vibrational spectrum assignments are performed using normal coordinate analysis (NCA) in accordance with the scaled quantum mechanical force field approach (SQMFF). Vibrational spectra confirm the COO^- modes split due to intra- and intermolecular association based on C–O…H, N–H…O, and O–H…O hydrogen bonding in the molecule, which lowers carboxylate wavenumbers. The natural bond orbital (NBO) analysis and DFT computations also confirm the occurrence of strong intra and intermolecular N–H…O and O–H…O ionic hydrogen bonding between charged species, providing the non-centrosymmetric structure in the LAA crystal.

1. Introduction

Nonlinear optical (NLO) molecule design has gained popularity in recent years due to its applications in electro-optic switching, optical memory storage, digital signal processing, second harmonic generation, and other fields [1–3]. The amino acid's natural chiral properties, weak Van der Waals and hydrogen bonds, zwitterionic nature, and non-centrosymmetric space group favour the essential criterion for nonlinear optical (NLO) activity. Even though amino acids are dipolar, they have unusual physical and chemical properties. As a result, amino acids are good NLO materials. Arginine crystals are gaining wide acceptance for their optical, thermal, mechanical, and dielectric properties, making them a superior alternative for device applications. In polyhedron (1 0 0) face [4,5]. The high nonlinearity, wide transparency, high laser damage threshold, thermal stability, and less hygroscopic nature of L-Arginine acetate (LAA), which belongs to the amino acid family, has attracted many researchers [6]. Physico-chemical, structural, optical, and NLO studies of pure and rare earth dopant La^{3+} are enhancing photoconductive properties [7]. Different physical behaviour like ferroelectric, dielectric, piezoelectric, and second harmonic generation [8,9] possessed by amino acids have attracted interest of researchers. Arginine compounds like L-arginine phosphate, L-arginine Di phosphate, L-arginine hydrochloride, L-arginine perchlorate [10–14] have great importance due to their efficient NLO properties. L-Arginine Acetate (LAA), an arginine family member, is considered to be an attractive crystal because of its fascinating properties. Even though the growth of L-arginine acetate is already reported by several authors, the quantum chemical computational study has been not reported so far. M. Muralidharan et al. [15] have reported the growth and characterization of LAA crystals and found that the SHG intensity is comparable with that of KDP. Renuka et al. [16] synthesized single crystal of LAA and studied its structural, optical and morphological analysis. Mechanical, thermal and optical studies of LAA have been reported by Tamasri Pal and Tanusree Kar [17]. Murugan et al. reported that optically good bulk single crystals of L-arginine acetate crystals were synthesized at ambient temperature using a low temperature solution growth method [18]. The present work deals with the vibrational spectral investigation of LAA using density functional theory calculation to elucidate the relationship between the molecular structural features and NLO properties and to interpret hydrogen bonding, electron delocalization, and intramolecular charge transfer (ICT).

* Corresponding author.
E-mail address: [redacted] (B.S.A. Sasi)

Received 13 April 2022; Received in revised form 20 June 2022; Accepted 28 June 2022
Available online 14 July 2022

Contents lists available at

Ceramics International

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

Role of surface defects in the third order nonlinear optical properties of pristine NiO and Cr doped NiO nanostructures

P. Soumya Menon [a], Jibi Kunjumon [a], Manisha Bansal [b], Sutheertha S. Nair [c], C. Beryl [d], G. Vinitha [e], Tuhin Maity [b], Priya Mary Abraham [f], D. Sajan [a,*], Reji Philip [g]

[a] Centre for Advanced Functional Materials, Department of Physics, Bishop Moore College, Mavelikara, Alappuzha, Kerala, 690110, India
[b] School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, Thiruvananthapuram, Kerala, 695551, India
[c] Department of Physics, Mannam Memorial NSS College, Kanjiram, Kottayam, Kerala, 691571, India
[d] Ultrafast and Nonlinear Optics Lab, Light and Matter Physics Group, Raman Research Institute (RRI), Sadashivanagar, Bengaluru, 560 080, India
[e] Department of Physics, School of Advanced Sciences, Vellore Institute of Technology (VIT), Chennai, 600127, India
[f] Department of Chemistry, Bishop Moore College, Mavelikara, Alappuzha, Kerala, 690110, India

ARTICLE INFO

Keywords:
Pulsed laser ablation in liquid
Optical limiting
Nonlinear absorption
Nonlinear refraction

ABSTRACT

Pristine NiO and 2% Cr doped NiO nanostructures are successfully synthesized by the modified auto-combustion method for the determination and improvement of linear and nonlinear optical behaviours, and for identifying them as suitable materials for optical limiting applications. Vibrational and linear optical properties of both nanostructures are investigated, and structural and morphological studies are carried out using XRD, FE-SEM, and HR-TEM. From the Kubelka-Munk model, the energy band gaps for pristine and doped samples are found to be 3.52 eV and 3.44 eV, respectively. Both pristine as well as Cr-doped NiO nanostructures reveal substantial nonlinear optical behaviour at the excitation wavelength of 532 nm, arising from the presence of strong reverse saturable absorption. The third order nonlinear absorption coefficients have values of the order of 10^{-10} m/W and 10^{-6} m/W, under pulsed (5 ns) and continuous wave laser excitations, respectively. These values confirm the suitability of these nanostructures for fabricating efficient optical limiting devices for safeguarding human eyes and optical sensors from hazardous laser radiation.

1. Introduction

Over the last few years, materials having good nonlinear optical (NLO) behaviour have witnessed tremendous attention because of its multiple applications in laser spectroscopy [1], photonic devices [2], optical switching [3], frequency switching [4], optoelectronic devices [5] and they are found to good at high speed telecommunications and information processing. Generally nonlinear optical behaviour of the materials are dependent on the laser excitation, pulse width, laser energy, response time and wavelength [6]. Even though various devices are demonstrated for this purpose, researchers still look forward to improve the nonlinear behaviour of the devices for practical applications. There are extensive and detailed studies on the chemical as well as the physical properties of metal oxide nano-sized structures, but the nonlinear optical properties in such materials are not well understood [7]. *Z*-scan is a simple and easy approach for measuring the nonlinear refraction index and nonlinear absorption coefficient, which provides both the sign and magnitude of the nonlinearities [7]. Researchers have widely used Z-scan approaches for determining the third order nonlinearities at 532 nm under continuous [8,9,9,10] and pulsed laser excitations [11–16].

Among the various metal oxides, NiO, a p-type transparent semiconductor having a bandgap energy between 3.6 and 4 eV [17], is expected to be an interesting nonlinear optical (NLO) material because of its high laser damage threshold, NLO coefficient and wide transparency [18]. They have been used in wide applications, like catalysis [19], battery cathodes [20], gas sensors [21], electro-chromic films [22] and dye-sensitized photocathodes [23]. Furthermore, NiO nanoparticles have been developed with the goal of achieving ferromagnetism (FM) for spintronic devices [24]. For advanced photonics devices, NiO thin films showing nonlinear optical properties are studied [25] and which play a vital role in memory elements, switches and absorbers [26]. There are several reports based on NLO properties of NiO thin films by changing the dopant and doping percentage [26–35]. Their large

* Corresponding author.
E-mail address: [redacted] (D. Sajan).

https://doi.org/10.1016/j.ceramint.2022.10.305
Received 30 May 2022; Received in revised form 17 September 2022; Accepted 24 October 2022
Available online 31 October 2022

International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume:07, Issue:07 "July 2022"

ROLE OF GRASSROOTS INSTITUTIONS IN COMMERCIAL CROPS : RUBBER PRODUCERS SOCIETIES IN PLANTATION SECTOR IN KERALA

Vijayalekshmi P J

Assistant Professor, Department of Economics, Mannam Memmorial NSS College, Kottiyam, Kollam, Kerala

DOI: 10.46609/IJSSER.2022.v07i07.023 URL: https://doi.org/10.46609/IJSSER.2022.v07i07.023

Received: 19 July 2022 / Accepted: 29 July 2022 / Published: 30 July 2022

ABSTRACT

The growth of Indian rubber plantation sector in India has been mainly through the expansion of rubber cultivation in Kerala. The achievements of Kerala's natural rubber sector has been widely recognised for its unique features. Rubber production of the country is contributed mainly by the small growers. There are more than one million smallholdings accounting for Kerala with 75% of the total production and 78 % of the area under cultivation in the country (GOI 2021) It is the nearly monopolistic contributor to the natural rubber production of India. The natural rubber production of the state was 540775 lakh tonnes and the coverage under the crop was 5.34 lakh ha(GOI 2021).Along with increase in production and productivity, agricultural marketing should be properly addressed in strengthening agricultural sector. Marketing and institutional credit no doubt has a significant role and this role has further increased in the liberalised environment. With a view to overcome the problems that the small rubber growers experiences in marketing in 1986, a grass root level organization was formed in the villages called Rubber Producer Societies (RPSs).In addition to productivity enhancement, it helps in processing and marketing of rubber. The present paper focuses the role and importance of RPSs in agriculture marketing and overall rubber production in Kerala.

Key words: RPSs, Small holders, production, productivity, Self help group

Introduction

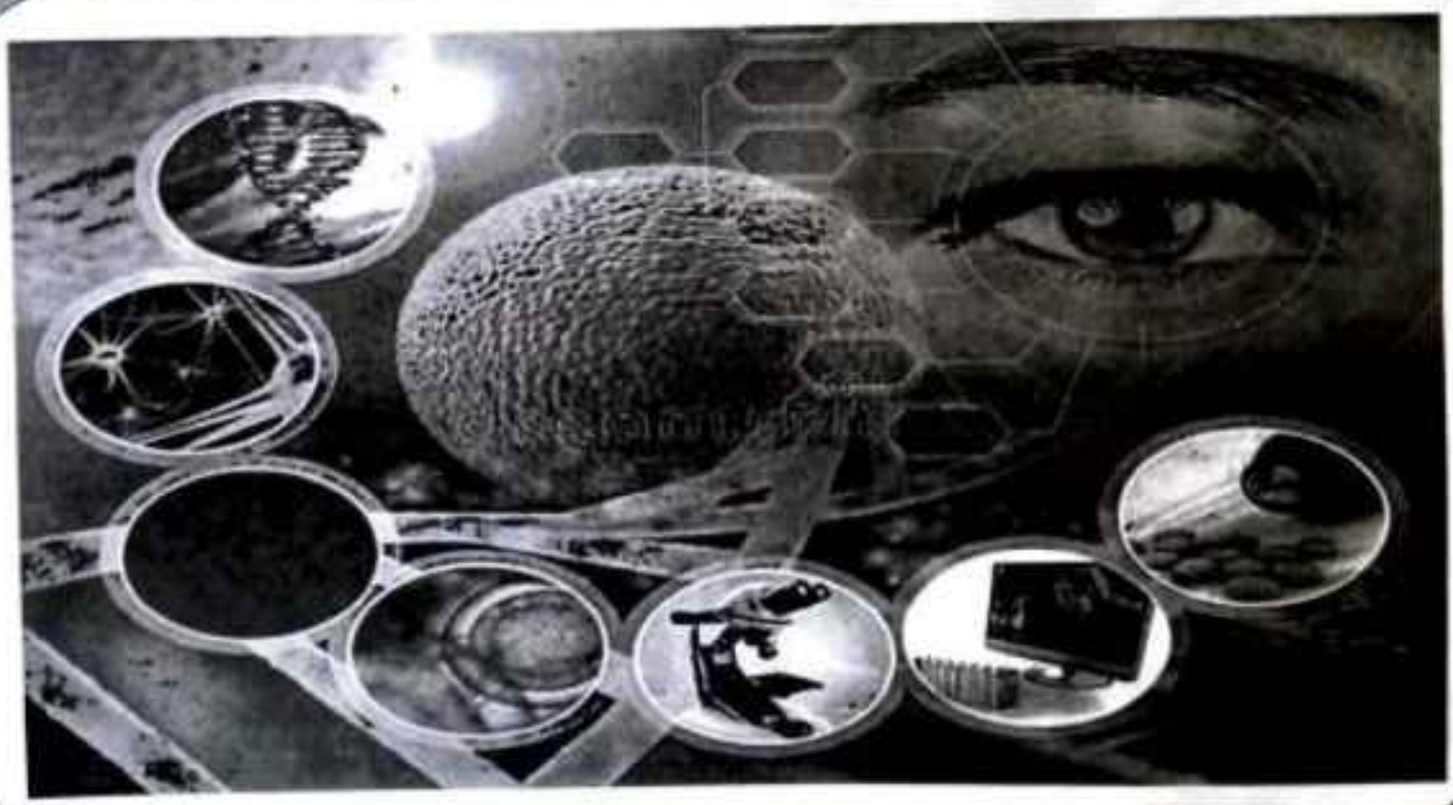
Agriculture is main single most important activity across the world. The progress in agriculture is normally regarded as a prerequisite to economic development. The success of any agriculture

Peer reviewed Journal Impact Factor:7.265 ISSN-2230-9578

Journal of Research and Development

Multidisciplinary International Level Referred Journal

April-2022 Volume-13 Issue-19



Address

'Ravichandram' Survey No-101/1, Plot,No-23,Mundada Nagar, Jalgaon (M.S.) 425102

'Journal of Research & Development' A Multidisciplinary International Level Refereed and Peer Reviewed Journal.
Impact Factor-7.265, ISSN: 2230-9578, 20 April 2022, Volume-13, Issue-19

Cropping Pattern and Sustainable Development: A Case Study Of Kerala

Dr. Maneesh. B
Assistant Professor in Economics, MMNSS College, Kottiyam, Kollam, Kerala
manbpillai@gmail.com

Abstract: The most notable feature of Kerala's agricultural development is the emergence of cash crops as a dominant sector over the five decades. The data analysis shows that the proportion of area under food grains declined from mid-seventies and an increasing role of cash crops over food crops. The nature of changes in area indicates that paddy land has been diverted either to other crops, mainly cash crops or to non-agricultural purposes such as sites for construction of building, brick-mining and infrastructural facilities such as roads, railway, canals etc. The shift in cropping patterns from food crops to cash crops and also the shift from eco-friendly subsistence farming to profit-induced cultivation using chemical fertilizers and poisonous pesticides have accelerated the pace of biodiversity loss. The results have been an acute shortage of drinking water in summer, falling water tables, soil erosion and climatic changes. Thus, in short, the shifts in cropping pattern in favour of cash crops and the consequent reduction in area under food crops is an issue of great concern that has longterm implications for the food security and ecological and environmental balance of the State.

Key Words: Cropping pattern- land use pattern - food crops- cash crops- WTO

Introduction:

Kerala was formed on 1 November 1956, consequent on the reorganization of States on linguistic basis. The soil here is mostly laterite. The high land region is almost entirely covered with forests and is best suited for plantation crops like tea, coffee, and rubber (Government of Kerala, 2006a). Rice is the staple food of the people of Kerala. Now, the Sate is highly deficient in the production of its staple food. The traditional crops of Kerala are, besides rice, coconut, arecanut, jack, mango, banana and plantain, pepper, ginger, and turmeric. The plantation crops like rubber, tea, coffee, and cardamom are grown mainly in the highland regions.Kerala implemented land reforms as early as in 1970. Therefore, landlordism disappeared and the cultivating tenants became owners of their leased-in holdings, subject to the ceiling provisions.

Methods:

This study is based on secondary data. The data are collected from journals, magazines, books and other government publications.

Discussions

Special Features of Kerala Agriculture

Kerala is fairly rich in natural resources, which are essentially needed for agricultural development. The high rainfall, and climate is eminently suited for a variety of cash crops and plantation crops. Kerala has its own specificities owing to the special feature of agriculture sector in the State. Some of its special features are; (i) highly fragmented and small size of holdings except the plantation sector, (ii) homestead farming with mixed crops yielding high income, (iii) larger area under commercial crops, especially capital intensive perennial tree crops, (iv) export orientation of crops, such as spices, cashew, rubber, coffee, tea, etc., (v) high credit and hired labour intensive cultivation and (vi) higher indebtedness of farmers. Some of these unique features are now found to be the handicaps of the sector, in the open trade environment which emerged after the formation of World Trade Organisation (WTO). Following trade liberalization, while exports of agricultural commodities from the State declined, there was rise in imports which led to fall in domestic prices of commodities and rise in price volatility. This intensified the problems already faced by the agricultural sector of the State due to high cost of cultivation, stagnant productivity etc. (Joseph and Joseph, 2005 and Jeromi, 2005).During the last few years, the problem aggravated due to deficiency in rainfall, sharp decline in prices, lower production and the consequent increase in debt burden of the farmers. As a result, close to 2,000 farmers committed suicide in the State (Government of Kerala, 2006b).In spite of significant advances in industrial and service sectors, agriculture continues to be the largest provider of employment and livelihood both at the national and state levels. In Kerala, agriculture contributed around 14.6% of GDP in 2018-19(Government of Kerala, 2020).

Stagnant agricultural income

The contribution of primary sector to the state domestic product (SDP) has been declining fast since 1980-81. Throughout 1960s and 1970s, primary sector was the dominant sector of the state economy contributing more than 50 per cent of the State Domestic Product. While analyzing the sectoral distribution

आजादी का
अमृत महोत्सव

MAH/NAN/10936/2015
ISSN : 2454-7905
SJIF 2021 - Impact Factor : 7.479

Worldwide International Inter Disciplinary Research Journal

(A Peer Reviewed)

Year - 7, Vol. I, Issue- LII, 29 March 2022

- Editor -

Mrs. Pallavi Laxman Shete

Address for Correspondence

Mrs. Pallavi Laxman Shete

Editor in Chief : Worldwide International Inter Disciplinary Research Journal (A Peer Reviewed Refereed)
Principal, Sanskriti Public School, Nanded (MH, India) Email : shrishprakashan2009@gmail.com

Dr. Rajesh G. Umbarkar

House No. 624 - Belanagar, Near Maruti Temple, Taroda (Kh.) Nanded - 431605 (India - Maharashtra)
Email - umbarkar.rajesh@yahoo.com, shrishprakashan2009@gmail.com Mob. No. 9623979167
Director : Mr. Tejas Rampurkar (For International Contacts only + 91-8857894082)

PROBLEMS AND PROSPECTS OF BAMBOO PRODUCT MANUFACTURERS DURING COVID-19: A CASE STUDY OF THIRUVANANTHAPURAM DISTRICT IN KERALA

Dr. Maneesh B.

Assistant Professor in Economics, MMNSS College, Kottiyam,Kollam, Kerala

ABSTRACT

Traditional bamboo-based industry is located in certain pockets of the State where the socially and economically weaker sections of the society are involved in production. Bamboo mats and baskets are the two major products. The manufacturing of handicraft items is a recent addition in the industry and is still in its infancy. Not much attempt has been made to introduce modernization of tools or product diversification or popularization of new products like bamboo shoot. In other words, the industry continues to retain its traditional nature. Further, there are several constraints relating to production, marketing and utilization of bamboos/products in Kerala that hinder the growth of bamboo sector in the State. The development of this sector calls for formulation and implementation of a well-knit development plan, based on reliable data and information.

INTRODUCTION

Bamboo, the fastest growing plant on earth is called the tree of the present century. It belongs to the botanical tribe Bambuseae. There are 1250 types of bamboo in the world, 137 types grow in India and 28 types grown in Kerala. About 250 crores of people directly or indirectly use bamboo. Over 4000 different types of products are made from it. More than 37000 crores of rupees worth of bamboo trade takes place every year. Out of the total bamboo supply, 5% come from land and 35% is derived from forests. It looks like tall tree, though it is regarded as the tallest of all grasses. Bamboo grows primarily in the warm parts of Asia, Africa and South America.

Bamboo is considered as Nature Steel. It is believed to have made its appearance about 200 million years ago and is one of the most primitive plant species that survive today. It is an ecological wonder. The emerging (tender) shoots of bamboo are edible. Bamboo is a wonderful carbon dioxide sink with a carbon sequestration rate as high as 47%. Bamboo plants of 1 hectare area absorb 17 tons of carbon dioxide. It is a miraculous oxygen factory generates 35% more oxygen than other timber species.

In Kerala it is found its abundance in the forests of Malayattoor, Sholayar, Ranni, Nilambur, and in other forest ranges. The best bamboo growing area in Pooyarkutty. It is well-known fact that the tropical people of the world use bamboo in a great variety of ways. Bamboo based product are produced from thin strips of bamboo. There are wide variety of such products and they have been closely associated with the development of civilizations in bamboo growing regions of the world for many millennia. The products may be primarily intended for agricultural use, such as baskets or vegetables or animals and winnowing, trays for cereals, or they may be household products such as baskets, trays, jars, case, lampshade, tans and mats.

The techniques require considerable skill and experience on the part of the weavers and the designers. A bamboo-based product unit provides income generation and skills development to those that it employs weaving can be done onsite or at home in spare time or full time. Increasing the use of local bamboo resources also encourages their sustainable management and beneath the bamboo

Peer reviewed Journal Impact Factor: 7.265 ISSN-2230-9578

Journal of Research and Development

A Multidisciplinary International Level Referred Journal

March-2022 Volume-13 Issue-15

Address
'Ravichandram' Survey No-101/[illegible] Nagar, Jalgaon (M.S.) 425102

'Journal of Research & Development' A Multidisciplinary International Level Refereed and Peer Reviewed Journal.
Impact Factor-7.265, ISSN: 2230-9578, March-2022, Volume-13 Issue-11

Macro Dimensions of Agrarian Crisis in India

Dr. Maneesh B
Assistant Professor in Economics, MMNSS College, Kottiyam, Kollam,Kerala
manbpillai@gmail.com

Abstract

For over a decade, while the Indian economy has been experiencing unprecedented rate of high growth, agriculture has been passing through a phase of deceleration in growth, and there has been widespread distress manifesting in suicides of farmers. There is a wide recognition that the crisis in agriculture is a result of deep seated malady and that the suicides are only symptoms. The crisis assumes different forms under different conditions. For instance, it is survival crisis in dry regions like northern Karnataka or southern Andhra Pradesh. It is sustainability crisis in prosperous regions like Punjab or plantation sector of Kerala. The economic reforms initiated in early 1990s not only failed to help agricultural growth but have actually aggravated the situation. In general, returns in agriculture did dwindle but it is the small farmers attempting to be upwardly mobile through heavy borrowing for investment who were trapped in serious crisis in the absence of adequate and appropriate state support services and volatile markets. This has culminated in an ever increasing incidence of farmers suicides in India. Farmers are striving hard to adjust to the new situations and develop a coping up strategy. The macro dimensions of the crisis explain the factors contributing to the crisis: the degradation of the environment, dwindling of land holding size, plateauing of the yields from the present farm technology, withdrawal of the state support etc.
Key words: Agrarian Crisis- Operational Holdings- Terms of Trade

Structural Changes In The Indian Agriculture

Demographic Pressure On Agriculture

Even at the beginning of the twenty-first century, India has continued to be rural and agricultural in terms of livelihood activities of people. In 1999-2000, 72 per cent of the population and 76 per cent of the workforce in India were rural, accounting for about one-fifth of the national income (NSSO, 2005). Within rural areas, there has been excessive dependence on agriculture. Table.1 shows that even during the period of economic reforms of the 1990s and the much-lauded high economic growth, there was no substantial increase in the share of the rural non-farm sector. The employment status of rural labour tends towards relatively more insecure casual labour, while self-employment and regular employment shows a declining share. The share of hired casual labour increased from 31.49 per cent in 1983 to 37.41 per cent in 1999-2000.

Table 1, Sectoral Share and Employment Status of Rural Workforce (per cent)

Rural employment	1983	1987-88	1993-94	1999-2000	2004-05
Agriculture	81.49	77.46	78.39	76.16	70.08
Non-agriculture	18.51	22.54	21.61	23.84	29.92
Status of rural workforce					
Self-employed	61.37	59.50	57.96	55.76	60.2
Hired-regular	7.15	7.79	6.45	6.83	7.1
Hired-casual	31.49	32.72	35.59	37.41	32.8

Source:

1. Bhalla (2005); 'India's Rural Economy: Issues and Evidence', Working Paper No. 25, Institute for Human Development, New Delhi.
2. National Sample Survey Organization (NSSO), Employment and Unemployment Situation in India (Various Rounds), New Delhi.

The concentration of workforce in the agricultural sector is much higher in rural areas, indicating that the rural economy continues to remain by and large an undiversified economy, particularly dependent on agriculture.

2 Increasing Marginalization

The high burden of labour force has, in addition been falling on a slowly contracting cultivable area. This leads to an increased number of holdings and decreased size of holdings. Between 1960-61 and 2003, the number of holdings increased from 51 million to 101 million and the area operated declined from 133 million hectares to 108 million hectares (Table.2).

ISSN No 2347-7075
Impact Factor- 7.328
Volume-2 Issue-5

INTERNATIONAL JOURNAL of ADVANCE and APPLIED RESEARCH

Publisher: P. R. Talekar
Secretary,
Young Researcher Association
Kolhapur(M.S), India

Young Researcher Association

International Journal of Advance and Applied Research (IJAAR)
Peer Reviewed Bi-Monthly

ISSN – 2347-7075
Impact Factor –7.328
Vol.2 Issue-5 Mar-Apr 2022

Sustainability of Plantation Crops in Kerala- An Analysis

Dr.Maneesh.B
Assistant Professor in Economics
MMNSS College, Kottiyam,Kollam,Kerala
manbpillai@gmail.com

Abstract

The most notable feature of Kerala's agricultural development is the emergence of cash crops as a dominant sector over the five decades. The data analysis shows that the proportion of area under food grains declined from mid-seventies and an increasing role of cash crops over food crops. The nature of changes in area indicates that paddy land has been diverted either to other crops, mainly cash crops or to non-agricultural purposes such as sites for construction of building, brick-mining and infrastructural facilities such as roads, railway, canals etc. The shift in cropping patterns from food crops to cash crops and also the shift from eco-friendly subsistence farming to profit-induced cultivation using chemical fertilizers and poisonous pesticides have accelerated the pace of biodiversity loss. The results have been an acute shortage of drinking water in summer, falling water tables, soil erosion and climatic changes. Thus, in short, the shifts in cropping pattern in favour of cash crops and the consequent reduction in area under food crops is an issue of great concern that has longterm implications for the food security and ecological and environmental balance of the State.

Key Words: Cropping pattern- land use pattern - food crops- cash crops- sustainability

Plantation Crops

In view of the potential for export, employment generation and poverty alleviation, plantation crops play a vital role in the national and state economy. Each of the four plantation crops of South India has its distinct characteristics and economic problems. Kerala has a substantial share in the four plantation crops of rubber, tea, coffee and cardamom. These four crops together occupied 7.11 lakh ha, accounting for 27.7 per cent of the total cropped area in the State. Kerala's share in the national production of rubber is 72.6 per cent. The per centage share in cardamom, coffee and tea were 91.3 per cent, 20.5 per cent and 5.2 per cent respectively in the year 2020-21.

Table.1
Plantation Crops- Area, Production and Productivity in Kerala (2018-19 to 2020-21)

	2018-19	2019-20	2020-21
AREA (ha)			
Tea	36474	35871	35871.16
Coffee	84976	85880	85880
Rubber *	551200	551030	550650
Cardamom	38882	39697	39143
PRODUCTION (MT)			
Tea	60760	59260	66850
Coffee	64676	65459	68545
Rubber *	492500	533500	519500
Cardamom	11535	10076	20370
PRODUCTIVITY (kg/ha)			
Tea	1666	1652	1864
Coffee	761	762	798
Rubber*	1549	1559	1534
Cardamom	29*	254	526

Source: Directorate of Economics and Statistics, Economic Survey
*Note * Provisional data from Rubber Board*

Considering the significant role of plantation in the economy, focus on initiatives to improve processing and value addition of plantation crops in addition to expanding, replanting and productivity, can enhance the returns from plantations.

Peer reviewed Journal Impact Factor: 7.265 ISSN-2230-9578

Journal of Research and Development

A Multidisciplinary International Level Referred Journal

May 2022 Volume-14 Issue-1

Chief Editor
Dr. R. V. Bhole
'Ravichandram' Survey No-101/1, Plot No-23, Mundada Nagar, Jalgaon (M.S.)

Address
'Ravichandram' Survey No-101/1, Plot No-23, Mundada Nagar, Jalgaon (M.S.) 425102

Journal of Research & Development
A Multidisciplinary International Level Refereed and Peer Reviewed Journal
Impact Factor: 7.245, ISSN: 2230-9578, May 2022, Volume-14 Issue-1

Sustainable Development and Climate Change in India

Dr. Maneesh.B
Assistant Professor Department of Economics MMNSS College, Kottiyam, Kollam
manbpillai@gmail.com

Abstract: Since the change in the climate is a worldwide phenomenon, India is also witnessing a part of such change. A formidable challenge to Indian agriculture comes in the form of global warming and the consequential climate change. The Indian climate has already undergone a perceptible change and its impact on agriculture has begun to crystallize.

Key words: Sustainable development, climate change, ecosystem, agrarian economy

Introduction: Environmental issues have for long been an integral part of Indian thought and social processes. The country has enacted a number of legislations on conservation of forests and ecosystems, waste management and pollution control. President of India as well as the Prime Minister emphasized the need for sustainability and announced the launch of a "Swachh Bharat Mission" for ensuring hygiene, waste management and sanitation across the nation. Climate change is an inevitable urgent global challenge with long-term implications for the sustainable development of all countries. The link between sustainable development and climate change is strong. While climate change will no boundaries, poor and developing countries, particularly the least developed countries, will be among those most adversely affected and at least able to cope with the anticipated shocks to their social, economic and natural system. Climate change is set to become an increasingly important strategic economic and political concern as it adversely affects India's high economic growth rates. Since the change in the climate is a worldwide phenomenon, India is also witnessing a part of such change. A formidable challenge to Indian agriculture comes in the form of global warming and the consequential climate change. The Indian climate has already undergone a perceptible change and its impact on agriculture has begun to crystallize.

Impacts of climate change:

Various impact assessment studies have estimated the impact of climate change in India. The melting of Himalayan glaciers due to a rise in temperature would threaten the livelihood of Indians who depend on agriculture and allied activities. Impact assessment studies have estimated that in low-latitude regions such as India, 1°C rise in temperature may lead to 5-10 per cent reduction in the yield of major crops (WTO and UNEP 2009). Of India's geographical area of 329 mha, 40 mha is flood-prone (MoWR 1980), while almost one-sixth of the area supporting 12 per cent of the population is drought-prone (Jain et al. 2007). Climate change is predicted to increase the severity of droughts and floods (Gosain et al. 2006). Also, floods and sea storms are likely to affect fish breeding, migration and harvests, with severe impacts on small fishermen.

Impact of Climate change on Indian Agriculture:

An agrarian economy like ours mostly depend on the onset of monsoon. Nearly 43 per cent of India's geographical area is used for agricultural activity. Agriculture accounts for approximately 33 per cent of India's GDP and employs nearly 62 per cent of the population. About one third of the cropland in India is irrigated, but rainfed agriculture is central to the Indian economy. Despite technological advances such as improved crop varieties and irrigation systems, weather and climate are still playing key role in Indian agricultural productivity thereby national prosperity (Banerjee, 2010). Agriculture, backbone of the rural economy, is very vulnerable to the effects of climate change because almost 60 per cent of the country's agricultural areas are rainfed (Planning Commission 2011). A small variation in temperature and precipitation can reduce yield. Various studies (TERI 2003; IPCC 2007) have confirmed that climate change would impact agriculture production. While productivity of most crops is supposed to decrease marginally by 2020, a decrease of 10-40 per cent by 2080-2100 (IPCC 2007) is possible. The risk is higher for rainfed agriculture due to its low coping mechanisms. The effects of heat on production too are expected to cause animal distress (Aggarwal et al. 2009).Theoretically, these changes in climate can affect, to a considerable extent, crops, soil, livestock, fisheries and pests. The effects of such changes can be manifested in several ways, such as reduction in crop duration (resulting in early or premature grain ripening); increase in respiration rates of plants and evapotranspiration (leading to higher moisture loss, necessitating more intensive irrigations); disturbances in the equilibrium between crops

Peer Reviewed Refereed
and UGC Listed Journal
(Journal No. 40776)

ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - IX, Issue - III,
July - September - 2022
ENGLISH PART - III

Impact Factor / Indexing
2020 - 6.306
www.sjifactor.com

Ajanta Prakashan

VOLUME - XI, ISSUE - III - JULY - SEPTEMBER - 2022
AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 6.306 (www.sjifactor.com) AP-12

6. Food Security and Public Distribution System in Kerala

Dr. Maneesh B.
Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam, Kerala

Abstract

Hunger was a critical issue in most countries during the Covid-19 pandemic. According to the "UN World Hunger Facts 2021", 957 million people worldwide do not have enough to eat on a regular basis and one billion people are living in extreme poverty among 93 hungry countries. According to the report of State Food Security and Nutrition in the World 2021, between 720 and 811 million people in the world faced hunger in 2020, 161 million more than 2019. The prevalence of under nourishment increased around 9.9 per cent in 2020 from 8.4 per cent in previous year. Even though several measures have been taken to end world hunger and malnutrition by 2030, the challenges have grown with the Covid-19 pandemic and the burden imposed by mitigation efforts. In the Global Food Security (GFS) Index 2021, India ranked 71st out of 131 countries with an overall score of 57.2 points. Eradicating hunger requires focussed policy action that addresses all the four dimensions of food security, that is, availability, access, utilisation, and stability.

Public Distribution System in Kerala

Public Distribution System (PDS) in Kerala in its present form was started in 1965 and has grown in to a universal rationing system. Based on the policy changes of GoI, the State had introduced the Targeted Distribution System (TDS) in 1997. The successful implementation of National Food Security Act (NFSA) 2013 in the State in 2016, as per the guidelines of Government of India, along with the measures for strengthening enforcement and monitoring mechanism have ensured more transparency and accountability in PDS which has a chain of 14,245 ration shops. Identification of eligible priority households as per the approved parameters adopted by the State has been done and the list is put in the public domain. Ration cards issued as per the NFSA are of the size of ATM cards. The entitlement of persons each month is communicated to them through SMS. Door delivery of food grains at fair price shops level and mobile fair price shops are arranged in hilly areas, where the Anthyodaya Anna Yojana (AAY)

Impact Factor-8.575 (SJIF) ISSN-2278-9308

B.Aadhar

Peer-Reviewed & Referred Indexed

Multidisciplinary International Research Journal

August-2022

ISSUE No- (CCCLVIII) 358-H

Rural Development

This Journal is indexed in :
- Scientific Journal Impact Factor (SJIF)
- Cosmos Impact Factor (CIF)
- International Impact Factor Services (IIFS)

For Details Visit To : www.aadharsocial.com

Aadhar Publications

Addressing Socio-Economic Vulnerabilities In Kerala With Special Reference To Scheduled Castes And Scheduled Tribes

Dr.Maneesh.B
Assistant Professor Department of Economics MMNSS College, Kottiyam, Kollam, Kerala
9946304019, maibpillai@gmail.com

Abstract

Though, the Scheduled Castes and Scheduled Tribes in Kerala are in an improved position in an all India comparison, still SCs and STs are considered as an outlier group in the socially developed state of Kerala. They are backward in every facet of socio-economic criteria and quality of life indicators. The article tries to give a peripheral insight into various developmental programmes and policies for the upliment of SC/ST communities in the state.

Scheduled Castes and Scheduled Tribes

The Thirteenth Five Year Plan in Kerala declared that the "planning process will work to protect the rights of the people of the Scheduled Castes and Scheduled Tribes, and to expand the socioeconomic achievements of all people of the Scheduled Castes and Scheduled Tribes in the State."In Kerala, Scheduled Castes and Scheduled Tribes constitute 9.1 per cent and 1.45 per cent of the population respectively. Over the period of the Thirteenth Plan, the policy of the Government of Kerala has been to ensure that allocations to the Scheduled Caste Sub Plan (SCSP) and the Tribal Sub-Plan (TSP) exceed the share of the population of Scheduled Castes and Scheduled Tribes in the total population of the State.

General profile of SC and ST population in Kerala

Sl.No	Indicators	SC	ST
1	Total Population *	30.39 lakh	4.84 lakh
2	Percentage*	9.1	1.45
3	No. of settlements**	26,342	4,762
4	No. of communities*	53	37
5	Literacy rate**	88.70%	74.44%
6	Unemployment rate**	49%	30.27%
7	Deprivation rate***	57.66%	61.68%

Source: *Census 2011, **SC and ST Survey 2013, ***SECC 2011

Development Programmes for Scheduled Castes and Scheduled Tribes

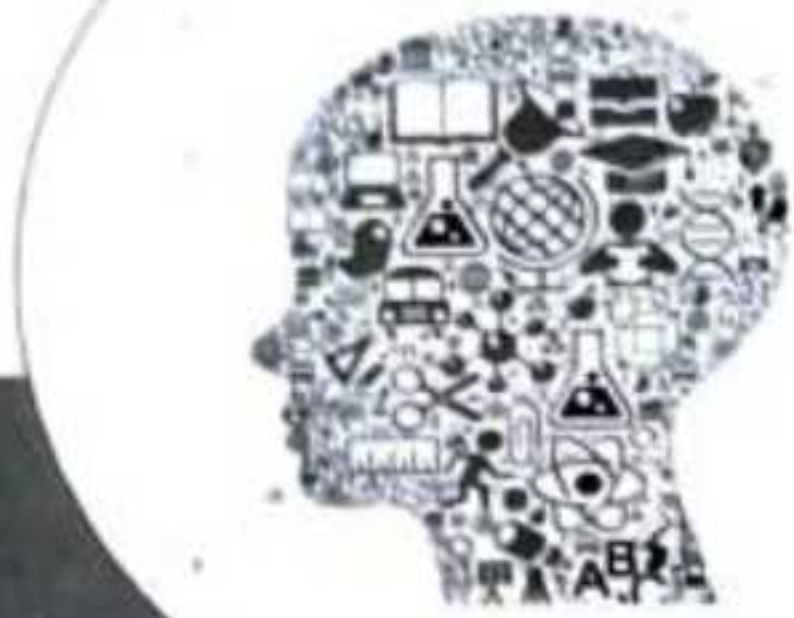
The Government of Kerala is committed to its effort to enhance human development and incomes among the people of the Scheduled Castes and Scheduled Tribes. As already stated, the Government of Kerala earmarks a portion of State Plan outlay annually for the development of SCs and STs as Scheduled Caste Sub Plan (SCSP) fund and Tribal Sub Plan (TSP) fund. At present, 9.81 per cent of total State Plan outlay is earmarked for the welfare of SCs and 2.83 per cent for the STs. Out of this, an average of 45 per cent of funds are allocated for SCSP and 23 per cent of funds are allocated for TSP to Local Governments for implementation of schemes under decentralised planning and the remaining to the SC/ST Development Departments. The total plan amount set apart for the development of SCs and STs in 2020-21 was □2,708.54 crore and □781.36 crore respectively out of the total State Plan outlay of □27,610 crore.

Development of Scheduled Castes

Government of Kerala allocates Plan fund to the SC Development Department and the Local Governments for implementing various development programmes. Besides this, Central Government allocates fund for the implementation of Centrally Sponsored Schemes. An amount of □2,708.54 crore was earmarked in the 2020-21 Budget for the welfare of Scheduled Castes. Out of this, an amount of □1,487.39 crore was allocated to the SC Development Department and □1,221.15 crore for Local Governments. SC Development Department expended □1,313.37 crore (88.30 per cent) and Local Governments expended □1,125.87 crore (92.20 per cent) out of the allocated budgeted outlay.

ISSN No
Impact Factor - 7.8
Volume-2 Issue-5

INTERNATIONAL JOURNAL of ADVANCE and APPLIED RESEARCH



Publisher: P. R. Talekar
Secretary,
Young Researcher Association
Kolhapur(M.S), India

Young Researcher Association

International Journal of Advance and Applied Research (IJAAR)
Peer Reviewed Bi-Monthly
ISSN – 2347-7075
Impact Factor –7.328
Vol.2 Issue.15 May-June-2022

AGRICULTURAL LABOURERS PROBLEMS AND REMEDIES IN INDIA

Dr. Maneesh. B
Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam
Email- manupillai@gmail.com

Abstract

Agricultural Labour in India faces various problems. Agricultural labors means one who works on the land and of others on wages. Agricultural works and agricultural workers constitute the most neglected class in Indian rural structure. Often they are not in a position to earn just enough to keep their body and have neither private nor social security. Being unorganized they do not have the most needed muscle to see better living and working condition. This paper includes problems of agricultural labourers, government measures and suggestions for improvement of the agricultural labour conditions.

Key Works: Agricultural labour problems- unorganized sector- Minimum Wages Act.

Introduction:

India is an agricultural country. Agricultural sector is a major contributor to India's GDP. About 58 per cent of the people in India depend on agriculture and allied occupations and 68 per cent people live in rural areas. Agricultural workers constitute the most neglected class in Indian rural structure. Their income is low and employment irregular. Since they possess no skill or training they have no alternative employment opportunities either. Socially and economically, a large number of agricultural workers belong to Scheduled Castes and Scheduled Tribes. Therefore, they are an oppressed class. They are not organized and cannot fight for their rights. Because of all these reasons, their economic lot has failed to improve even after various decades of planning.

Classification of Agricultural Labourers:

Agricultural laborers in India are generally classified into the following four groups:

(1) Landless agricultural laborers who are attached to some landlords.
(2) The landless agricultural laborers who are individually independent and who are employed by a landlord's who work on his land.
(3) Agricultural laborers who have own land but the income from that land is not sufficient for subsistence, so agricultural laborers work on other people's farm.
(4) A farmer who have economic holdings but whose family has one or more persons working on the farms of large landowners.

Characteristics of Agricultural Laborers in India:

Some special features are found in the case of agricultural laborers in India. It is because of these characteristics that agricultural labor in India differs from industrial labor. The characteristics of agricultural laborers in India are as follows:

1) Agricultural Labourers are illiterate: The illiteracy rate among agricultural laborers in India is very high. Agricultural laborers are illiterate and live in villages. As a result, they are not able to take any kind of agricultural training and also their bargaining power is very low.
2) Agricultural Labourers are scattered: Agricultural labourers in India is being widely scattered over more than 5.6 lakh villages, of which half have population of less than 500 each. Therefore number of agricultural labourers lies scattered all over India. There has been no successful attempt for long, to build their effective organization.
3) Agricultural Labourers are Unskilled: Agricultural labourers from smaller villages away from cities, carrying on agricultural operation in the centuries old traditional wages. Most of them in small isolated villages with around 500 populations, may not have even heard of modernization of agriculture. The agricultural labourers have to do all types of work-farm and domestic at the bidding of the landlord. Because of they are generally unskilled workers.
4) Unorganized Sector: Agricultural labourers are unorganized, illiterate, ignorant and live in scattered villages. Hence they could not organize in unions. This is almost difficult in case of farm laboures. So it is difficult for them to bargain with the land owners and secure good wages.
5) Low bargaining power: As agricultural labourers in India are uneducated and unorganized, so their bargaining power is low and their economic and social status is very poor. Most of the agricultural laborers are in the hands of village moneylenders, landlords and commission agents. Therefore, agricultural labor is the most exploited class of people in India.

ISSN No 2347-7075
Impact Factor- 7.328
Volume-2 Issue-12

INTERNATIONAL JOURNAL of ADVANCE and APPLIED RESEARCH

Publisher: P. R. Talekar
Secretary,
Young Researcher Association
Kolhapur(M.S), India

Young Researcher Association

International Journal of Advance and Applied Research (IJAAR)
Peer Reviewed Bi-Monthly
ISSN - 2347-7075
Impact Factor -7.328
Vol.2 Issue.12May-June 2022

Exploring The Problems And Prospects Of Climate Change In India

Dr. Maneesh. B
Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam, Kerala
Email- manbpillai@gmail.com

Abstract

The dependence of large sections of India's rural population on natural resources for their livelihood makes the role of climate particularly significant for the rural economy. Changes in key climate variables pose a severe threat to development due to adverse effects on the rural ecosystem and erosion of adaptive capacity. Preparedness for combating the impacts of climate change then is an imperative for ensuring sustainable rural development.

Introduction

Environmental issues have for long been an integral part of Indian thought and social processes. The country has enacted a number of legislations on conservation of forests and ecosystems, waste management and pollution control. President of India as well as the Prime Minister emphasized the need for sustainability and announced the launch of a "Swachh Bharat Mission" for ensuring hygiene, waste management and sanitation across the nation. The goals of economic and social development must be defined in terms of sustainability in all countries and the present and future consumption balance within nations has to be seen in relation to historical patterns of consumption. The key question, therefore, is whether countries like India are prepared to accommodate more global targets, given their domestic obligations of basic development including minimum necessary needs of the poor. The bottom half of the world can do its bit but it cannot be expected to shoulder the bulk of the world's development, sustainability, and climate crisis burden. It would therefore be adopt appropriate strategies to deal with climate change and attain sustainable development. Climate change is an inevitable urgent global challenge with long-term implications for the sustainable development of all countries. The link between sustainable development and climate change is strong. While climate change will no boundaries, poor and developing countries, particularly the least developed countries, will be among those most adversely affected and at least able to cope with the anticipated shocks to their social, economic and natural system. Climate change is set to become an increasingly important strategic economic and political concern as it adversely affects India's high economic growth rates. Since the change in the climate is a worldwide phenomenon, India is also witnessing a part of such change. A formidable challenge to Indian agriculture comes in the form of global warming and the consequential climate change. The Indian climate has already undergone a perceptible change and its impact on agriculture has begun to crystallize.

Impacts of climate change:

Various impact assessment studies have estimated the impact of climate change in India. The melting of Himalayan glaciers due to a rise in temperature would threaten the livelihood of Indians who depend on agriculture and allied activities. Impact assessment studies have estimated that in low-latitude regions such as India, 1°C rise in temperature may lead to 5-10 per cent reduction in the yield of major crops (WTO and UNEP 2009). Of India's geographical area of 329 mha, 40 mha is flood-prone (MoWR 1980), while almost one-sixth of the area supporting 12 per cent of the population is drought-prone (Jain et al. 2007). Climate change is predicted to increase the severity of droughts and floods (Gosain et al. 2006). Also, floods and sea storms are likely to affect fish breeding, migration and harvests, with severe impacts on small fishermen.

Impact of Climate change on Indian Agriculture:

An agrarian economy like ours mostly depend on the onset of monsoon. Nearly 43 per cent of India's geographical area is used for agricultural activity. Agriculture accounts for approximately 33 per cent of India's GDP and employs nearly 62 per cent of the population. About one third of the cropland in India is irrigated, but rainfed agriculture is central to the Indian economy. Despite technological advances such as improved crop varieties and irrigation systems, weather and climate are still playing key role in Indian agricultural productivity thereby national prosperity (Banerjee, 2010). Agriculture, backbone of the rural economy, is very vulnerable to the effects of climate change because almost 60 per cent of the country's agricultural areas are rainfed (Planning Commission 2011). The effects of heat on production too are expected to cause animal distress (Aggarwal et al. 2009). Theoretically, these changes in climate can affect, to a considerable extent, crops, soil, livestock, fisheries and pests. The effects of such changes can be manifested in several ways, such as reduction in crop duration (resulting in early or premature grain

ISSN No 2347-7075
Impact Factor- 7.328
Volume-2 Issue-9

INTERNATIONAL JOURNAL of ADVANCE and APPLIED RESEARCH

Publisher: P. R. Talekar
Secretary,
Young Researcher Association
Kolhapur(M.S), India

Young Researcher Association

International Journal of Advance and Applied Research (IJAAR)
Peer Reviewed Bi-Monthly

ISSN - 2347-7075
Impact Factor -7.328
Vol.2 Issue.9 May-June 2022

GENDER AND DEVELOPMENT IN KERALA

Dr.Maneesh.B
Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam, Kerala
Email- [illegible]

Abstract :

Achieving gender equality and empowering all women and girls is one of the sustainable goals of the United Nations (UN) Sustainable Development Goal 5 (SDG 5). The UN recognizes ending discrimination against women as not only a basic human right but as a necessary condition for a sustainable future. It is very evident that significant progress toward gender equality and women's empowerment has happened in the past four decades. However, as a global community, we are still far away from being a gender-equal world.

Introduction :

India is ranked 140th among 156 countries in the World Economic Forum's Global Gender Gap Report 2021. Further, the Gender Inequality Index (GII) also offers a picture of gender disparities in India in sectors such as health, empowerment and the labour market. Kerala stands out among the States of India in terms of several indicators of women's development. Kerala took a historic step in 2010 by implementing legislation to reserve 50 per cent of seats for women in local government. In 2021, there were 602 women headed local self-governing bodies out of a total of 1200 local bodies (Department of Panchayath, Kerala Government 2021). Kudumbashree Mission, one of the largest women empowerment projects in India has also been playing a key role in women's development. Women's participation in local bodies need to be seen also as a reflection of Kudumbrashree's constant involvement in empowering lakhs of women through training, entrepreneurship support and education. In this era of neo-liberalism, despite the impact of fiscal policy all over India, social spending in Kerala is still sensitive to areas like gender and development. The Government of Kerala and its various agencies play a significant role in paving a leading path towards a gender-equal society.

As per the 2011 census, the ratio of women to men for Kerala is 1,084, which is high compared to the national figure of 940. Women constitute 52 per cent of the total population in Kerala. Children aged 0-14 years represent 23.44 per cent of the total population in Kerala, 48.91 per cent of whom are girls. In contrast to the national average of 11 per cent, 22 per cent of all households in Kerala are female headed. In recent years there was an increase in women's employment in Departments such as Police and Excise. After the pandemic substantial recruitment of health workers has been occurred, large number of the new health workforce being women.

Education and Gender Parity :

The impressive achievement of Kerala with respect to socio-cultural development is often attributed to its high female literacy and education. High literacy can be considered as the basis of "take-off" for the social and political development of Kerala women. Kerala has the highest female literacy rate among Indian states at 92 per cent though a small gender gap exists (Census, 2011). It is also seen that the gender gap has narrowed during these six decades in Kerala. As per the NFHS 5, 2019-20 statistics, literacy rate of women (age 15-49) in Kerala has further increased to 98.3 per cent. But women in Kerala as well as India lag behind men in terms of other levels of literacy like computer literacy and basic internet knowledge. The gender gap in terms of the internet literacy is more prominent in rural areas.

In the case of general education, enrolment is universal at the primary level and gender parity has been achieved; girl students constitute 48 per cent of total student enrolment in schools. Girls outnumbered boys in terms of enrolment in higher secondary education at 51.82 per cent. At the tertiary level also the enrolment of girls is higher than boys. For example, girls constituted 64.6 per cent of total enrolment for undergraduate courses in various Arts and Science colleges in Kerala in 2020-21. With regard to post-graduation, enrolment of girls was as high as 64.69 per cent of the total enrolment. But when the intake of girls in engineering colleges and polytechnics is considered, the situation is different. Out of the total enrolled students, girls constitute only 41.85 per cent in engineering colleges and 26.51 per cent in polytechnics. The percentage of girls in technical schools is very low at 5.2 per cent.

Enrolment of girls in the professional courses like B.Tech and other technical courses like polytechnics and technical high schools is proportionately low, but the proportion is high in the case of

INTERNATIONAL JOURNAL of ADVANCE and APPLIED RESEARCH

Publisher: P. R. Talekar
Secretary,
Young Researcher Association
Kolhapur(M.S), India

Young Researcher Association

International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 7.328
Peer Reviewed Bi-Monthly
Vol.3 No.2 Sept – Oct 2022

SUSTAINABLE DEVELOPMENT: A CALL FOR A CHANGE

Dr. Maneesh. B
Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam, Kerala
Corresponding Author- **Dr. Maneesh. B**
Email:- manbpillai@gmail.com
DOI- 10.5281/zenodo.7295611

Abstract

Without environmental sustainability, economic stability and social cohesion cannot be achieved. Sustainable development refers to all the human developments that meet our current needs, without compromising the nature's ability to provide the resources for the future generations. India has covered 2.4 per cent of the world's land and 16 per cent of the world's population. This started creating extra pressure on the resources which are available in India. This results in severely unsustainable use of natural resources by several generations for so many years. Because of this India is experiencing rapid and widespread environmental degradation at alarming rates. To feed the massive population of the country and to meet the growing needs of it, a tremendous pressure is seen over all the resources in India, especially the land, which is overused for various socio-economic activities. In this paper, efforts are present here for various sustainability of the resources which are important for our future generation.

Key Words: Sustainable Development - Sustainable Development Goal (SDG)

Introduction

We know that development is possible only when we use the available resources around us and a man started using resources when he started settling down on the banks of rivers all over the world. Since the last few decades we cannot think of socio-economic development without the environment. So, to chart out the development of the world without the loss of an environment, in 1992 an Earth Summit (Agenda 21) was organised at Rio de Janeiro, which became a milestone event focusing the world's attention on the environmental problems faced by the entire world due to development and overuse of the resources. This agenda 21 adopted at the conference, represents a global consensus and political commitment at the highest level on socio-economic development and environmental cooperation.

The concepts of economic growth and development are closely related. From the standard of dynamic efficiency, the concept of development is subjective due to people's judgment of what a human problem is and how to explain and solve it. It is the judgment on the need to go from point A to point B, where B is a higher state and qualitatively preferable to point A. In this sense, dynamic efficiency is a prerequisite for economic development, defined as the widening range of alternatives open to people as more and better solutions to increasingly complex human problems. The sustainability of economic development occurs due to the coordination of intertemporal preferences between the supply and demand for solutions to human problems. If economic development involves the coordination of market arrangements, there can be no unsustainable development in the real sense of the word.

Theme: Sustainable Development and various challenges faced by India to achieve it: There are many different origins and definitions of the term Sustainable Development, but the World Commission on Environment and Development's report called the Brundtland Report in 1987 stated the best and one of the most widely recognized definition, i.e., "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". As far as the main challenges to

Peer reviewed Journal Impact Factor: 7.265 ISSN-2230-9578

Journal of Research and Development

A Multidisciplinary International Level Referred Journal

November 2022 Volume-14 Issue-20

Chief Editor

Dr. R. V. Bhole

'Ravichandram' Survey No-101/1, Plot No-23, Mundada Nagar, Jalgaon (M.S.)

Address

'Ravichandram' Survey No-101/1, Plot. No-23, Mundada Nagar, Jalgaon (M.S.) 425102

...ment Of Climate Change Vulnerability On Kerala's Agriculture

Dr Maneesh B[1] **Sreejith B**[2]
[1]Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam, Kerala
[2]Research Scholar, Fatima Mata National College, Kollam, Kerala
Email: [illegible]

DOI: [illegible]

...act
...mate change is now affecting every country in every continent and it is disrupting national economies and affecting lives around the world. Climate change-related vulnerabilities are extremely large in the state of Kerala. Extreme weather events such as temperature rise and irregular monsoons have developed into catastrophic unanticipated calamities like floods, landslides and droughts, that are now life-threatening. These changes will have far-reaching consequences for the agriculture sector of Kerala.

Keywords: Climate change, Agriculture, Temperature, Rainfall

Introduction

Climate change is a major worry since it has a negative impact on people's quality of life around the world in general and on agricultural production and food security for the farming community in particular (Sam B and Chalchisa T 2016). Emission of Greenhouse gases (GHGs) increases temperature, which in turn creates unpredictable weather, such as flash floods and drought, as well as an increase in sea level. The Intergovernmental Panel on Climate Change (IPCC) estimates that, compared to the period between 1850 and 1900, the global surface temperature would rise by 1.5°C by 2100(IPCC 2013). Extreme events are also anticipated to occur more frequently in the future. Agriculture will be impacted by these global climate changes both directly and indirectly through their impact on crops, soils, livestock, and pests. Malnutrition and deficiencies in micronutrients will result from increased climate change-related threats to food security at 2°C or higher global warming levels (IPCC 2022). These risks will be exacerbated by increases in the frequency, intensity, and severity of droughts, floods and heat waves, as well as by continued sea level rise.

The state of Kerala is currently threatened by extreme climate events despite being known for its moderate tropical environment. The previous few years have seen an increase in temperature, unreliable monsoons, and a water shortage in Kerala. However, in recent years, these have evolved into extremely dangerous unanticipated tragedies such as heavy rains, floods, landslides, droughts and tsunamis that will continue to haunt us. These unexpected calamities have had a significant impact on the agriculture sector of Kerala. The state's paddy production was harmed by heavy monsoon rains in 2007, followed by unusual summer showers in March 2008. Seasonal crops and plantations were severely damaged across the state during the 2002 monsoon slack over Kerala. The most sensitive plants like black pepper, cardamom, coffee, tea, and cocoa are get affected due to increasing temperatures in Kerala.

Objectives

1. To understand the climate profile of Kerala
2. To assess the effect of climate change on agriculture Production in Kerala

Data Source And Methods

The study is based on secondary data. Reports prepared by the Intergovernmental Panel on Climate Change, India Meteorological Department, the Department of Environment and Climate Change, Kerala and Articles that lend support were reviewed to determine the effect of climate change on agriculture in Kerala. Line charts were used in analysing the climate profile of Kerala.

Results And Discussion

Extreme weather conditions like temperature rise and changes in the amount and distribution of rainfall adversely affected the production of food and plantation crops in Kerala.

1. Climate Profile of Kerala

Kerala experiences a tropical monsoon climate with heavy rainfall that [illegible] seasonally and sweltering summers. There are four seasons in the state. 1) The [illegible] season lasts from March until the end of May. 2) The South West Monsoon season followed, lasting until the start of [illegible] The North East Monsoon season lasts [illegible]

UGC CARE LISTED
ISSN No.2394-5990

संशोधक

• वर्ष : ९० • डिसेंबर २०२२ • पुरवणी विशेषांक ११

इतिहासाचार्य वि. का.राजवाडे संशोधन मंडळ, धुळे

AGRICULTURAL LABOUR CHALLENGES IN INDIA

Dr.Maneesh.B
Assistant Professor
Department of Economics
MMNSS College, Kottiyam, Kollam, Kerala
Email- manbpillai@gmail.com

Abstract :

In today's world, the agricultural sector employs half of the world's labour force with an estimated 1.3 billion workers active in agricultural production worldwide. The majority of agricultural workers are found in developing countries. A great majority are small scale farmers. They have been more often victims rather than beneficiaries of the green revolution, the technological development and globalization trends which characterised the 21st century. This means that workers in agriculture run at least twice the risk of dying on the job as compared with workers in other sectors.

Key Words: Agriculture, Technology, Workers Transformation, Workers and Farmers, Wages.

Introduction:

The importance of agriculture in the context of the Indian economy is paramount. Not only is it a pivotal component in achieving several of India's goals – attaining food security, an 8 % GDP growth rate and enhancing rural income but it is also the sector with highest share of workers in the country. The average growth rate in the agriculture sector in the last five years has been 4.1%. It is an established trend that as an economy matures; there is a movement of agricultural workers from low productivity agriculture to higher productivity sectors. However in India, the trend has not been limited to just declining share of agriculture in total employment but also has led to a significant decline in absolute number of people employed in the agricultural sector. A comparison across two time periods, 2004-05 and 2011-12, indicates that while there was an increase in the size of the total workforce in the country, the size of the agricultural workforce reduced by 30.57 million people. The share of agricultural workforce in total workforce declined from 56.7% to 48.8%. in the same period. Factors such as high remuneration and growth of opportunities in alternate sectors coupled with the relatively lower rise in wages in agricultural occupations as compared to other sectors have led to the migration of workforce away from agriculture which has resulted in labour shortage and consequent escalation of cost of cultivation. Furthermore, government schemes like MGNREGA which have a detrimental effect on the eventual output and price. Other nations facing this issue have responded by widespread use of technology on farms to replace many traditional farming occupations.

Definition of Agricultural Labourers :

In our country the overall labourers force comprises of a majority of agricultural labourers. Government of India has been made a various attempts to define agricultural labourers by different committees appointed by the government from time to time.

Classification of Agricultural Labourers:

Agricultural labourers in India are generally classified into the following four groups:

(I) Landless agricultural labourers who are attached to some landlords.

JME

JOURNAL OF MANAGEMENT & ENTREPRENEURSHIP

Vol: 16, No.02 (VI), April - June 2022

Xavier Institute of Management & Entrepreneurship

Work Interference with Personal Life among Employees in Newspaper Industry

ha L
tant Professor of Commerce,
NSS College, Kottiyam.
946790612
withaleela@gmail.com

Dr. Dileep A S
Assistant Professor and Head,
Research Department of Commerce,
MG College, Thiruvananthapuram.

Abstract

Both job and personal life are crucial to an employee, and he or she must spend sufficient time to both. Most research studies have emphasised the relevance of examining work interference with personal life and personal-life interference with work in order to find the balance that employees maintain between their work and non-work domains. According to researchers, the direction of interference, whether work interferes with personal life or personal life interferes with work, is determined by the domain from where the stronger demand emanates. As a result, in this study, the interference has been employed from the direction of work to personal domains since it is discovered stronger among employees in the newspaper sector because the rewards in this industry typically depend on talent, creativity, and highly skilled labour. They have a particular work culture when compared to other types of organisations, and this study determines whether a marital status-based analysis of work interference with personal life differs among employees in the newspaper sector.

Key words: work interference with personal life, marital status, work--life conflict, newspaper industry

Introduction

With the advancement of technology, work is no longer limited to the four walls of an office. Because we live in a society where technology is widely used and computers, smart phones, tablets, and other devices are widely available, the workplace can be anywhere. Employees must be available for work at all times and places, which might have a negative impact on their personal lives. Work--life balance is both a process and a changing phenomenon. Employees nowadays find it difficult to reconcile their personal and professional duties since the demands of these positions are contradictory in numerous ways. What happens at work, for some employees, remains at work

The International Journal of Analytical and Experimental Modal analysis

An UGC-CARE Approved Group - II Journal

An ISO : 7021 - 2008 Certified Journal

ISSN NO: 0886-9367 / web : http://ijaema.com / e-mail: submitijaema@gmail.com

IJAEMA

Certificate of Publication

This is to certify that the paper entitled CERTIFICATE ID:IJAEMA/6804

"COVID 19 AND ITS IMPACT ON WORK LIFE BALANCE
A study among the South Indian Bank Employees in Kottayam
District of Kerala, India."

Authored by :

Mrs. VIDHU V L, Assistant Professor

From

MMNSS College Kottiyam.

Has been published in

IJAEMA JOURNAL, VOLUME XIV, ISSUE I, JANUARY- 2022

Michal A. Olszewski Editor-in-Chief
IJAEMA JOURNAL

6.3 IMPACT FACTOR

ISO International Organization for Standardization 7021-2008

http://ijaema.com/

COVID 19 AND ITS IMPACT ON WORK LIFE BALANCE

A study among the South Indian Bank Employees in Kottayam District of Kerala, India.

Mr JOSHUA GEORGE ROJI, Mr RATHEESH R J, Mrs VIDHU V L, DR. K. ANIL KUMAR, Dr. PRAKASH.C

Abstract

The coronavirus (COVID-19) outbreak has caused widespread concern and economic hardship for consumers, businesses and communities across the globe. The banking sector of India has been affected and raised with crisis includes financial impact effects on results of operations, future periods and liquidity and capital resources, potential global recession, the effects on our workforce/reduction in productivity, decrease in consumer confidence reducing consumption, cyber security risks, supply chain disruptions, difficulties with funding, not having enough information to make good decisions, impacts on tax, trade, or immigration, etc…

The work life balance of a bank employees has completely affected through the arrival of covid-19 which includes change in their work environment, reduction in salary, low productivity, decreases the commitment towards the bank. This study This study compares the satisfaction level of work life on the basis of gender, analysis the opportunities and challenges faced by the bank employees during covid pandemic era. This study is required for every banking institution in order to overcome the crisis made through covid -19. It is needed to find out the strategic measures to overcome the crisis raised during covid-19 and also its impact on work life of the bank employees. The hypotheses were tested using tools like One Way Anova, Chi-square test T-test. Test analysis were undertaken to determine whether there was a significant difference in the variables defined.

Key Words: work life balance of a bank employee, opportunities, challenges, level of satisfaction and strategies during covid-19

1.1 Introduction

Work-Life Balance issues have slowly become a popular debate in India. Work-Life Balance is one in which the demands of professional and personal life are balanced. It has a wide set of criteria and there are several problems where they tend to overlap. Life and work converge and bind together. Employees are the most important resources of an organization. Attraction and retention of the right people are

STAR Research Journal

Available online at www.starresearchjournal.com (Star International Journal)

ECONOMICS

A STUDY ON WOMEN WORK LIFE BALANCE IN TEXTILE INDUSTRY

Mrs. Devi Priya R, Guest Faculty MMNSS College, Kotiyam Kollam Kerala

ABSTRACT

The textile industry in India traditionally after agriculture is the only industry that has generated huge employment for both skilled and unskilled workers. Work life balance involves the minimization of works related stress and the establishment of a stable and sustainable way to work while maintaining health and general wellbeing. Work life balance has emerged as a hot topic in recent years fuelled in part by changing trends in women's social roles.

INTRODUCTION

The textile industry in India is vital to the economy of the country. It contributes to over 5% of the GDP of india and earns 18% of the total foreign exchange earnings. Over 50% of the employees are women who help to sustain the family income. State of the women employees in the textile sales sector is very underprivileged in kerala. Exploitation is very acute in this field. The labour is unstable and irregular. In a situation where unemployment is high and alternative job opportunities are few, any attempts to demand better conditions lead to the loss of existing job. The fear of having no work and no income restrain the workers from asserting their legal rights.

In such a context it is important to make a study regarding the work life of sales girls and to make an analysis whether there provided work life is optimum to the efforts they take . Sales girls need to work for more than 8 hours which is against the standard time of work and it will effect their work life balance and their satisfaction towards the job. In spite of the prolonging working hours they are not getting basic facilities like toilet breaks, enough relaxation time, even the right to sit was enforced recently after much agitation and great strikes of sales girls in textile shops in Kerala.

The term 'Quality Work Life Balance is an essential concept highlighting the favourable situations in a working environment. A better Quality Work Life Balance improves the growth of employees along with the organization growth. Work pressure, lack of salary, insufficient break time, health problems due to prolonging working hours are the major challenges faced by sales girls in textile shops. Under such context the project aims to

STAR RESEARCH JOURNAL

An online International Peer-Reviewed Journal

ISSN: 2321-676X

Is here by awarding this certificate to

MRS. DEVI PRIYA R

In recognition of the publication of the paper entitled

A STUDY ON WOMEN WORK LIFE BALANCE IN TEXTILE INDUSTRY

Published in SRJ: Volume 10, Issue 06(4), June (2022)

Editor in Chief

VET Institute of Arts and Science

(Co-education) College

(Affiliated to Bharathiar University) (Run by Vellalar Educational Trust)
Thindal, Erode, Tamil Nadu, India - 638 012.

CERTIFICATE

This is to certify that Dr/Mr/Ms

DEVI PRIYA R

RESEARCH SCHOLAR, BHARATHIAR UNIVERSITY, COIMBATORE

Presented a paper entitled **ARTIFICIAL INTELLIGENCE AND THE CHANGING WORLD OF DIGITAL MARKETING**

In the 2nd International Virtual Conference on

"AI FOR SUSTAINABLE DEVELOPMENT- CHALLENGES AND OPPORTUNITIES" organized by School of Commerce, VET Institute of Arts and Science (Co-education) College, Thindal, Erode, Tamil Nadu, India – 638 012, on 25th November 2022.

Dr.S.Arulraj	Dr.V.P.Nallaswamy	Dr.R.Saravanan	Thiru.S.D.Chandrasekar
Convenor	Dean, Academics	Principal	Secretary

www.vetias.ac.in

Shodhsamhita
शोधसंहिता

ISSN No. 2277-7067

CERTIFICATE OF PUBLICATION

This is to certify that

Devi Priya R
Guest Faculty, Manam Memorial NSS College, Kottiyam Kollam Kerala, India

For the paper entitled

A STUDY ON THE MARKETING STRATEGIES USED BY WOMEN ENTREPRENEURS IN HOME BAKING BUSINESS

Vol. No. IX, Issue- 4 (I) January – June 2022

in

Shodhsamhita
Impact Factor: 4.95
UGC Care Group 1 Journal

Editor-in-Chief

SHODHSAMHITA
शोधसंहिता

ISSN 2277-7067
UGC CARE Group 1

STUDY ON THE MARKETING STRATEGIES USED BY WOMEN ENTREPRENEURS IN HOME BAKING BUSINESS

Devi Priya R
Guest Faculty, Manam Memorial NSS College, Kottiyam Kollam Kerala, India

ABSTRACT

With the rise of the home baking industry across India, we have seen more and more women engaging in business activities. Overall, baking has been a truly empowering sector for women. The most important challenge faced by women entrepreneurs in home baking business is marketing of their products. Women entrepreneurs need enhancements in the area of promotion, advertisement strategies, areas of packaging, etc. The present study is an attempt to analyse the different marketing strategies used by women entrepreneurs engaged in home baking business and to identify the major challenges faced by women entrepreneurs engaged in home baking business.

INTRODUCTION

Women entrepreneurs may be defined as a woman or a group of women who initiate, organize, develop and run a business concern. The circumstances in which a woman entrepreneur has to operate in our society must receive recognition. Many a problem faced by women are not the same as an ordinary entrepreneur would face. Thus, it is necessary to take into account such factors which only women entrepreneurs encounters. This study aims at exploring one such area where it seems women are empowered but reality is afar.

The bakery is one of the largest segments in India in the processed food category. The industry offers a lot of growth and business opportunities. The changing customer habits and lifestyle are making the traditional bakeries obsolete and given enormous growth to home bakers. Baking can be made healthier and the customer is happy to pay a premium for the same.

OBJECTIVE OF THE STUDY

- To study the different marketing strategies followed by women entrepreneur in home baking business.
- To analyze the prospects of women entrepreneurs engaged in home baking business.
- To know the factors that motivate women entrepreneurs engaged in home baking business.
- To study about the various challenges faced by women entrepreneur in home baking business.

RESEARCH METHODOLOGY

The study is descriptive in nature. Data for the study were collected from 100 women entrepreneurs engaged in home baking business. Samples for the study was selected based on convenient sampling.

The Data is collected from primary sources through interview schedule. Secondary sources particularly from websites, books, newsletter and from journals and other online sources.

Tools of analysis. The data collected were analyzed with the help of table and percentage.

XI
mber - 4
ISSN No.2320-7019
January, 2022

EXCELLENCE IN EDUCATION

A Multidisciplinary International Peer Reviewed/Refereed Journal

APH PUBLISHING CORPORATION

Consumer Perception Towards Food Delivery APPS

Devi Priya R.*

Abstract

The purpose of this study is to find consumer behaviour towards Food Delivery Apps. The study shows most preferred app used by consumer to order food online and factors leading to consider it as the most preferable app. There are many factors related to customer's ordering behaviour- like on time delivery, diversity of payment option, variety of restaurant options, service provider behaviour etc. There is gradual shift in way people order food. The purpose of this study is to know what are factors that defines consumer's perception and to find most popular app in the food delivery industry.

Keywords: Consumer Behaviour, Consumer preference, most affordable Food delivery App, most preferred online food delivering app, Factors related to customer's ordering behaviour

INTRODUCTION

Online food ordering and delivery is a new type of business model in the current era of e-commerce and that leads to the startups of several online business. Technology has played a key role in revolutionizing the food delivery service, it has contributed to the changes in consumer preferences. Convenience is the prime factor to the consumers, as to place an order is a simple as few clicks on any mobile devices. The recent development of the Internet has augmented the e-commerce industries in a country like India. E-commerce development has made Online food ordering services seamless for people who want to get food delivered at their doorstep. Although consumers continue to go out for the meals, consumers feel very convenient to order food online since it frees the customer from personally visiting the restaurants. The popularity of online food ordering and delivering services is steadily growing, and the expectations of the users are also increasing. Zomato and Swiggy currently dominate the online food delivery market in India. This study is aimed to investigate consumer's views about the online food delivery services they receive from different portals and to understand the consumer's perception, needs and views towards online food ordering.

RESEARCH QUESTIONS

This study is designed to seek answers to the following questions:

- Do consumers prefer online food delivery services rather than direct walk in?
- Which is the most preferred online food delivery service portal?
- What is the level of satisfaction received by consumers through the food delivery service providers?

*Guest Faculty, Mahatma Memorial NSS College, Kottiyam, Kollam (Kerala) India.

Contents lists available at ScienceDirect

Analytical Biochemistry

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

Bioconjugation of Meldrum's acid activated furan: A detergent compatible assay for protein quantitation

Kalyani Ajayan [a,1], Sainath S [a], Ajmal Sadik [a], Manu Mohanan Nair [a], Anju M. Nair [a], Karthika K. S [a], Anagha Vijayakumar [a], Sudarslal Sadasivan Nair [b], Bipin Nair [a], Prakash Chandran R [b], Sobha Vijayan Nair [a,*]

[a] School of Biotechnology, Amrita Vishwa Vidyapeetham, Amritapuri, Kerala, 690525, India
[b] Department of Chemistry, Mannam Memorial N.S.S. College, Kanjiyar, Kerala, 691571, India

ARTICLE INFO

Keywords:
DASA
Detergent compatibility
Protein quantitation
Meldrum's acid activated furan
Colorimetric assay
BSA

ABSTRACT

A simple yet efficient assay for the quantitation of proteins ranging from plasma proteins to purified proteins from whole cell lysate, based on the bioconjugation reaction between protein and Meldrum's acid Activated Furan (MAF) is described. This easy to use, sensitive method is based on the conjugation of amine functionalities present on the protein with MAF to form the corresponding Donor Acceptor Stenhouse Adducts (DASAs) with characteristic absorption in the visible region. The reaction is rapid as well as reproducible and shows a proportionate increase in color change over a broad range of protein concentration. The assay was found to be sensitive up to 0.125 mg/mL concentration of the protein and was compatible with most of the commonly employed detergents and isolation protocols which makes it ideal for the estimation of protein samples containing detergents. Another striking feature of this protocol is its tolerance towards other major interference contributors such as chelating agents, reducing agents, carbohydrates and protease inhibitors.

1. Introduction

Accurate quantitation of protein content is one of the most critical steps in cell biology, molecular biology and other life science research applications [1,2]. While modern instrumental methods including chromatography, electrophoresis [3] and mass spectrometry [4] are expensive and time consuming, the conventional spectrophotometric methods are cheap, fast and are the most common techniques to quantitate protein concentrations. Spectrophotometric assays generally employ UV–Vis or fluorescent spectroscopy to determine the concentration of protein, relative to a standard or using an assigned molar extinction coefficient. The common protein assays include the photometric dye-based absorbance measurements, viz. Biuret, Lowry, Bradford and Bicinchoninic acid assays and the fluorescent dye-based assays like amine derivatization and detergent partition assays [5–11]. Since the Biuret method has poor sensitivity, it is unsuitable for estimating microgram concentrations of protein, irrespective of its tolerance to interfering agents [12] The Bradford reagent as well as Lowry's method is sensitive to detergents like SDS, which are extensively used in protein solubilisation [13]. New strategies like engaging nanoparticles to enhance the efficiency of protein quantitation have been reported [14]. For instance, an approach based on polydopamine/protein competition for surface binding on microplates has been utilized for serum protein determination [15]. In this communication, we report a conceptually different, yet efficient assay for protein quantitation based on the bio-conjugation of Meldrum's acid Activated Furan (MAF) to these ubiquitous biomolecules. The bioconjugation involves a facile reaction between the amine groups present in the protein with MAF, which affords the corresponding Donor Acceptor Stenhouse Adducts (DASAs). These protein derivatives are characterized by their characteristic deep purple colour, which facilitates their quantitation by spectrophotometric methods. Our studies proved that the assay was unaffected by the presence of detergents in the normal experimental range. The fact that the assay was carried out in dimethyl sulfoxide makes it particularly attractive for the quantitation of hydrophobic proteins, which can be solubilised in DMSO and estimated without any interference from the

Abbreviations: DASA, Donor Acceptor Stenhouse Adducts; MAF, Meldrum's acid Activated Furan; DDW, Double Distilled Water.

* Corresponding author. School of Biotechnology, Amrita Vishwa Vidyapeetham, Clappana P.O, Kollam, 690 525, Kerala, India.
E-mail address: [illegible] (S.V. Nair).
[1] Present address: Department of Biology, Indian Institute of Science Education and Research Tirupati, A. P, India- 517507.

https://doi.org/10.1016/j.ab.2022.114998
Received 2 September 2022; Received in revised form 2 November 2022; Accepted 21 November 2022
Available online 26 November 2022

Education and Society
(शिक्षण आणि समाज)

Special Issue
UGC CARE Listed Journal
ISSN 2278-6864

Education and Society

Since 1977

The Quarterly dedicated to Education through Social Development and Social Development through Education

February 2023

(Special Issue-1/ Volume-III)

INDIAN INSTITUTE OF EDUCATION

128/2, J. P. Naik Path, Kothrud, Pune - 411 038

P- 103

Growth of Information Techonology in Kerala

Dr. Maneesh B.
Assistant Professor in Economics,
MMNSS College, Kottiyam, Kollam (Kerala).

stract:

The state's unique model of development is marked by high levels of social progress and corresponding slow economic growth. What receives less attention is the move made by the state in the last decade and a half to rectify the trends in economic growth by placing greater emphasis on the development of the information and communication technology (ICT) sector. Recognizing the role of information, knowledge, education, and science in spurring economic progress, the state government has developed an IT policy designed to encourage the growth and development of this sector. The very features of the Kerala model, its high literacy rates and investments in education, places it in a unique position to take advantage of the potential of ICTs to promote not only economic growth, but also social arrangements within science and education.

Introduction:

The Information Technology (IT) sector in Kerala has been playing an important role in the development of the State. In recognition of the sector's potential and critical importance, the State Government has made earnest efforts to create a sound and world class infrastructure for the sector and to develop the State's digital technology capacities and resources. This has enabled the State to be at the forefront in implementing information and communication technology projects, e-Governance initiatives, e-literacy programmes, and in the creation of basic IT infrastructure facilities. Kerala possesses some very significant advantages. The State has a remarkable level of mobile/telephone penetration. Internet penetration through broadband and mobile is also very high. Kerala's achievements in literacy and school education have clearly stood the State in good stead in achieving computer literacy. Currently, Kerala's IT footprint in the national IT sector is reasonably significant given the relative size of the State's economy.

One very positive sign for the future is the active start-up ecosystem in the State that has been recognised internationally for its efforts. The extent such investment in the IT industrial sector can be regionally or spatially decentralized remains open, despite the State's commitment in recent years to a hub and spoke model that sought to facilitate more decentralised investment. As start-ups play a key role in the development of the Electronics and IT sectors of the country, the State's focus on supporting fast growing start-ups through multiple policy interventions will be significant in creating a vibrant and inclusive start-up ecosystem. Among the States of India, Kerala stands out as among the highest with respect to mobile penetration. Through the ambitious KFON project Kerala is becoming the State with highest coverage of high-speed fiber connectivity. The early implementation of the KFON project has the potential to raise the level of economic development of the State to a higher level. The project itself is an innovative collaboration

Education and Society
(शिक्षण आणि समाज)

Special Issue
UGC CARE Listed Journal
ISSN 2278-6864

Education and Society

Since 1977

The Quarterly dedicated to Education through Social Development and Social Development through Education

April 2023

(Special Issue-1/ Volume-III)

INDIAN INSTITUTE OF EDUCATION

128/2, J. P. Naik Path, Kothrud, Pune - 411 038

Climate Change and Sustainable Development in Kerala Agriculture

Dr. Maneesh B.

Assistant Professor, Department of Economics,
MMNSS College, Kottiyam, Kollam, Kerala, India

Abstract:

Climate change-related vulnerabilities are extremely large in the state of Kerala. Extreme weather events such as temperature rise and irregular monsoons have developed into catastrophic unanticipated calamities like floods, landslides, and droughts, that are now life-threatening. These changes will have far-reaching consequences for the agriculture sector of Kerala.

Keywords: Climate change, Agriculture, Temperature, Rainfall

Introduction:

Climate change is a major worry since it has a negative impact on people's quality of life around the world in general and on agricultural production and food security for the farming community in particular (Sani S and Chalchisa T,2016). Emission of Greenhouse gases (GHGs) increases temperature, which in turn creates unpredictable weather, such as flash floods and drought, as well as an increase in sea level. The Intergovernmental Panel on Climate Change (IPCC) estimates that, compared to the period between 1850 and 1900, the global surface temperature would rise by 1.5°C by 2100(IPCC,2013). Extreme events are also anticipated to occur more frequently in the future. Agriculture will be impacted by these global climate changes both directly and indirectly through their impact on crops, soils, livestock, and pests. Malnutrition and deficiencies in micronutrients will result from increased climate change-related threats to food security at 2°C or higher global warming levels (IPCC,2022). These risks will be exacerbated by increases in the frequency, intensity, and severity of droughts, floods, and heat waves, as well as by continued sea level rise.

The state of Kerala is currently threatened by extreme climate events, despite being known for its moderate tropical environment. The previous few years have seen an increase in temperature, unreliable monsoons, and a water shortage in Kerala. However, in recent years, these have evolved into extremely dangerous unanticipated tragedies such as heavy rains floods, landslides, droughts, and tsunamis that will continue to haunt us. These unexpected calamities have had a significant impact on the agriculture sector of Kerala. The state's paddy production was harmed by heavy monsoon rains in 2007, followed by unusual summer showers in March 2008.Seasonal crops and plantations were severely damaged across the state during the 2002 monsoon slack over Kerala. The most sensitive plants like black pepper, cardamom, coffee, tea, and cocoa are get affected due to increasing temperatures in Kerala. Extreme weather conditions like temperature rise and changes in the amount and distribution of rainfall adversely affected the production of food and plantation crops in Kerala.

1. Climate Profile of Kerala

Kerala experiences a tropical monsoon climate with heavy rainfall that occurs seasonally and sweltering summers. There are four seasons in the state 1) The hot season lasts from March until the end of May. 2) The South West Monsoon season followed, lasting until the start of October. The North East Monsoon season lasts from October to December, and the winter season lasts for two months in January and February. Due to the presence of the Arabian Sea in the west, the state experiences exceptionally high humidity levels also (Department of Environment and Climate Change, 2014). The sections that follow provide information on temperature and rainfall.

1.1 Temperature

The state's average minimum and maximum temperatures range from 22 to 24 °C and 32 to 34 °C, respectively. The annual mean temperature varies by location, with the coastal belt experiencing a range of 25.5 to 27.5 °C, the middle region experiencing 27.5 to 29.5 °C, and the mountainous areas experiencing 17.5 to 21.5 °C. In the summer, the High temperatures cause the soil's top layer to dry out and create a drought situation.

1.2 Rainfall

INDIAN JOURNAL OF ADULT EDUCATION

UGC CARE Group1 Journal

ISSN 0019-5006

CERTIFICATE OF PUBLICATION

This is to certify the paper Entitled

WORKLIFE BALANCE OF WOMEN EMPLOYEES IN BANKS

Authored By

Dr.Sreekumar M

Associate Professor & Head, Department of Commerce, N.S.S.College, Kottiyam, Kollam District, Kerala

Published in

Vol. 81, No. 4(V) October-December 2020

Indian Journal of Adult Education

Editor

सत्यं शिवं सुन्दरम्
Estd. 1949

Journal of
The Maharaja Sayajirao University of Baroda

Certificate of Publication

Certificate of publication for the article titled:

INFLUENCE OF SOCIAL MEDIA MARKETING ON THE DECISION MAKING OF CONSUMERS- A STUDY

Authored by

Dr.Sreekumar M,
Associate Professor & Head, Department of Commerce, M.M.N.S.S.college, Kollam District, Kerala

Volume No .54 No2(XVI)2020-2021
in
Journal of The Maharaja Sayajirao University of Baroda

ISSN : 0025-0422

(UGC CARE Group I Journal)

Editor
Journal MSU of Baroda

केरल केन्द्रीय विश्वविद्यालय / കേരള കേന്ദ്ര സർവകലാശാല
CENTRAL UNIVERSITY OF KERALA
(ESTD UNDER THE CENTRAL UNIVERSITIES ACT 2009)

Azadi Ka Amrit Mahotsav
आज़ादी का अमृत महोत्सव

Department of Commerce and International Business
School of Business Studies
in association with
Internal Quality Assurance Cell (IQAC),
Innovation and Entrepreneurship Development Centre (IEDC),
Central University of Kerala Alumni Association (CUKAA)

INTERNATIONAL CONFERENCE ON COMMERCE, MANAGEMENT & INTERDISCIPLINARY SUBJECTS (ICCMIS)

28-29 October 2021 (Thursday and Friday)

Certificate

This is to certify that **Mahima C V**, Assistant Professor from Department of Commerce, MMNSS College, Kottiyam, Kollam, has **participated and presented a paper** titled ***A Study on Effectiveness of Skill Upgradation Programmes Among Weavers in Handloom Sector*** in the *International Conference on Commerce, Management & Interdisciplinary Subjects (ICCMIS)* organized by the Department of Commerce and International Business, School of Business Studies, Central University of Kerala, held on 28-29 October 2021.

Prof (Dr) T Mallikarjunappa
Director, ICCMIS
Head, Department of Commerce
and International Business,
Central University of Kerala

Prof (Dr) V Balachandran
Chairman, ICCMIS
Dean, School of Business Studies
Central University of Kerala

ANEKANT EDUCATION SOCIETY'S

TULJARAM CHATURCHAND COLLEGE OF ARTS, SCIENCE AND COMMERCE

Affiliated to

Savitribai Phule Pune University, Pune

Organized by

One Day Multidisciplinary International e-Conference

On

TRANSFORMING INDIAN AGRICULTURE FOR THE CHALLENGES OF 21ST CENTURY

Date:-25th March 2022, Day-Friday

CERTIFICATE

This is to certify that ~~Prof./Dr./Mr./Ms.~~ MANEESH.B DEPT. OF ECONOMICS, MMNSS COLLEGE, KOTTIYAM has participated in One Day Multidisciplinary International e-Conference on ***'Transforming Indian Agriculture for the Challenges of 21st Century'*** Jointly Organized by the ***Tuljaram Chaturchand College of Arts, Science and Commerce*** on Date: -25th March 2022

He/She has participated and presented a research paper entitled CO-OPERATIVE FARMING IN INDIA

ORGANIZING SECRETARY
Mr. K.V. Kulkarni
Dept. of Economics

CO-CONVENER
Dr. S.K. Patil
Head Dept. of Economics

CONVENER
Dr. C.V. Marumkar
Principal

MGC ARC-2022

MAHATMA GANDHI COLLEGE

TWO-DAY INTERNATIONAL WEBINAR ON

EFFECT OF GLOBAL COVID PANDEMIC AND ECOLOGICAL CRISIS IN BUSINESS SECTORS: IMPLICATIONS AND SOLUTIONS

Organised by

PG AND RESEARCH DEPARTMENT OF COMMERCE

21st & 22nd February 2022

Certificate

Dr. Manoosh. B. Assistant Professor in Economics , MMNSS College, Kottiyam, Kollam has participated and presented a paper entitled The Effectiveness of Solid Waste Management System in Kollam District

in a two day International Webinar on "EFFECT OF GLOBAL COVID PANDEMIC AND ECOLOGICAL CRISIS IN BUSINESS SECTORS: IMPLICATIONS AND SOLUTIONS" organized by Post Graduate & Research Department of Commerce, Mahatma Gandhi College, Thiruvananthapuram on 21st and 22nd February 2022.

Dr. Pradeep Kumar N (Co-ordinator)	Dr. S. Jayadev (Research Committee Co-ordinator)	Dr. Dileep A.S. (HOD, Commerce)	Dr. Ampili M. (Principal)

THIRUVANANTHAPURAM, KERALA, INDIA

www.mgcollegetvm.ac.in

IQAC INTERNATIONAL CONFERENCE SERIES

HHMSPB NSS COLLEGE FOR WOMEN, NEERAMANKARA

(Affiliated to the University of Kerala, Reaccredited with A grade by NAAC)

CERTIFICATE

This is to certify that Dr. Maneesh .B, Assistant Professor in Economics, MMNSS College, Kottiyam, Kollam , presented a paper titled Challenges of Sustainable Development in India in the International Conference on "Feminization of Indian Agriculture: Determinants and Implications" organised by the PG Department of Economics in association with the IQAC, HHMSPB NSS College for Women, Neeramankara, Thiruvananthapuram, Kerala on 26th March 2022.

Dr Subha R Nair
(IQAC Coordinator)

Dr Mini M Nair
(HoD and Convenor)

Dr S Devika
(Principal)

Mahatma Gandhi Vidyamandir's

Maharaja Sayajirao Gaikwad Arts, Science & Commerce College, Malegaon Camp, Malegaon

Dist. Nashik, Maharashtra 423105
http://www.mgcollege.org | (02554) 252077

Affiliated to Savitribai Phule Pune University, Pune (MH)

Certificate

Of Paper Presentation

This is to certified that

Prof./ Dr. Maneesh. B

of MMNSS College, Kottiyam, Kollam, Kerala

Presented a paper entitled

"Cropping Pattern Changes: A Threat to Sustainable Development."

At the National E-Conference
organized by Department of Economics

held on 29th – 30th March, 2022

Dr. D. N. Sonawane	Dr. B. M. Sonawane	Dr. M. V. Hiray	Dr. D. F. Shirud
Co-Ordinator	Co-Ordinator	Convener & HoD	President

Sahyadri Shikshan Mandal, Dindori

MAHANT JAMANADAS MAHARAJ ART'S,COMMERCE & SCIENCE COLLEGE, KARANJALI

Tal.-Peth, Dist.-Nasik,Maharashtra, India Pin-422208
Email- mjmcollege1@yahoo.com

and,

GLOBAL FOUNDATION

Bacheri, Tal-Malshiras, District-Solapur, Maharashtra, India Pin-413310
Email- gfoundation892021@gmail.com

Organized By

One Day Multidisciplinary

International E-Conference

On

CURRENT UPDATES IN – SCIENCE, SOCIAL SCIENCE AND HUMANITIES

Date- 8th October 2022

Certificate

This is to certify that Prof./Dr./Mr./Ms. Maneesh. B, Assistant Professor, Department of Economics, MMNSS College, Kottiyam, Kollam has participated in One Day Multidisciplinary International e-Conference on ***"Current Updates In – Science, Social Science And Humanities"*** Jointly Organized by the **Mahant Jamanadas Maharaj Art's, Commerce and Science College, Karanjali** In collaboration with **Global Foundation, Solapur (MS), India** on Friday, 8th October 2022.

He/She has participated and presented a research paper entitled Climate Change and its impact on Environment

Convener **Dr. P.T. Wankhedkar,** Department of Zoology, Mahant Jamanadas Maharaj Art's, Commerce and Science College, Karanjali	**Co-ordinator** **Dr. N. R. Giri,** HOD, Department of Zoology Mahant Jamanadas Maharaj Art's, Commerce and Science College, Karanjali	**Organizer** **Miss. U. S. Kale** General Secretary Global Foundation Bacheri, Tal-Malshiras, District-Solapur (Maharashtra), India	**Chief Organizer** **Dr. M. S. Shinde,** I/C Principal IQAC Coordinator and HOD, Department of Physics Mahant Jamanadas Maharaj Art's, Commerce and Science College, Karanjali

National Institute of Education, Kurundwad

Sahakarbhushan S. K. Patil College, Kurundwad

(NAAC Accreditation 'B+' Grade)

At/Post-Kurundwad, Tal- Shirol Dist- Kolhapur 416106 India (MS), India

organized by

One Day Interdisciplinary International e-Conference

On

RECENT TRENDS, ISSUES, AND CHALLENGES IN SOCIAL SCIENCES AND LANGUAGES TOWARDS SUSTAINABLE RESEARCH

Date- 25th November 2022

CERTIFICATE

This is to certify that Prof./Dr./Mr./Ms. MANEESH.B, ASSIST. PROF, ECONOMICS, MMNSS COLLEGE, KOTTIYAM, KOLLAM has participated in One Day Interdisciplinary International e-Conference on ***"Recent Trends, Issues, and Challenges in Social Sciences and Languages towards Sustainable Research"*** organized by the Department of History, English, Economics, Political Science, Geography and IQAC Cell of ***Sahakarbhushan S. K. Patil College, Kurundwad*** on ***25th November 2022***, in Virtual mode.

He/~~She~~ has presented a research paper entitled ROLE OF EMERGING TECHNOLOGIES IN RURAL DEVELOPMENT.

Coordinator
Dr. S. A. Tambade
Head Dept. of English
Sahakarbhushan S. K. Patil College, Kurundwad

Convener
Prof. R. S. Kadam
Head Dept. of Geography
Vice Principal / IQAC Coordinator

Organizing Secretary
Dr. Y. M. Chavan
I/C Principal
Sahakarbhushan S. K. Patil College, Kurundwad