

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.3 Research Publications and Awards

3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years

Index for supporting documents for the year 2021

S. No	Title of paper	Name of the author/s	Page No
1	Memories of a Geisha: Quest for Identity	Dr. Thammaiah. R. B	1
2	Collision of cultural ideologies in the novel- riot	Dr. Thammaiah. R. B	2
3	Feminist Movement in the Third World Countries	Dr. Thammaiah. R. B	3
4	Assertion of Language through Theatre Arts	Dr. Thammaiah. R. B	4
5	Narratives of women representation in modern Indian theatre	Dr. Thammaiah. R. B	5
6	Emerging Trends in Kannada Theatre	Dr. Thammaiah. R. B	6
7	Growth performance, carcass composition, and digestive enzyme activity of <i>Labeo fimbriatus</i> in tanks provided with feed and periphyton substrate in two orientations	Umalatha	7
8	An account of periphyton, plankton and water quality in <i>Labeo fimbriatus</i> culture tanks provided with feed and sugarcane bagasse as periphyton substrate in two orientations	Umalatha	8
9	Apparent digestibility of dried azolla powder incorporated diets in rohu <i>Labeo rohita</i> (Hamilton, 1822)	Umalatha	9
10	Antimicrobial activity of florets of <i>musa acuminata</i> against <i>Escherichia Coli</i> , <i>pseudomonas</i> and <i>bacillus</i>	Rashmi D	10
11	Study On Proteolytic Enzyme from Probiotic Non-Lactic Acid Bacteria Isolated from Sheep Milk	Rashmi D	11
12	Studies on Screening of Paint Degrading Microorganisms Isolated from Wall Scrapings	Yamuna G.	12
13	Studies on Screening of Paint Degrading Microorganisms Isolated from Wall Scrapings	Rashmi D.	13
14	Studies on Carotol Rich Essential Oil from Wild <i>Cymbopogon martini</i> (Roxb.) Watson	Krupa J	14
15	Studies on Carotol rich essential oil from wild <i>Cymbopogon martini</i> (Roxb.) watson	Hemalatha J	15
16	“Genotoxic impact of carcinogenic and natural feed on lifecycle of <i>Drosophila melanogaster</i> -a qualitative study”	Dr. Nethra Subramanya	16
17	“Study of dermatoglyphic patterns and its relation to Intelligence quotient in <i>Homo sapiens</i> ”	Dr. Nethra Subramanya	17
18	Chemical Diversity in the essential oil of wild <i>Cymbopogon giganteus</i> (Chiov.)	Hemalatha J	18
19	A Study on factors leading to Gradual weakening of Paper currency usage in India	Rajani Balaji	19
20	a Study on factors leading to Gradual weakening of Paper currency usage in India	Karthik P	20

16	Occurrence of endogenous Piper yellow mottle virus in black pepper.	K. P. Deeshma	17
17	Detection and quantification of phytic acid in black pepper variety Panniyur-1 using Poly acrylamide gel electrophoresis.	K. P. Deeshma	18
18	Novel EST-SSR marker development and validation in black pepper cultivars and varieties	K. P. Deeshma	19
19	Effect of Dietary protein levels on the growth of carnatic carp <i>Barbodes carnaticus</i> (Jerdon 1849) Fingerlings	Umalatha	20
21	Digestibility of dry matter and nutrients from three ingredients by the carps, <i>Labeo fimbriatus</i> (Bloch, 1795) and <i>Cyprinus carpio</i> Linnaeus, 1758 with a note on digestive enzyme activity	Umalatha	21
22	“Existing & Novel Methods of Water Harvesting”	Preenon Bagchi	22



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Memoirs of A Geisha: Quest For Identity

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ABSTRACT

Culture refers to the systems of knowledge shared by a relatively large group of people. It is a way of life. The food you eat, the clothes you wear, the language you speak in and the God you worship all are aspects of culture. Culture thus refers to a human-made environment which includes all the materials and non-materials products of group life that are transmitted from one generation to the next. These may be transmitted through symbols, constituting the distinctive achievements of human groups, including their embodiment as artifacts.

It is the expression of our nature in our modes of living and thinking. It may be seen in our literature, in religious practices, in recreation and enjoyment. It has two distinctive components namely material. Material culture consists of objects that are related to the material aspect of our life such as our dress, food and household goods. Non-Material culture refers to the ideas, ideals, thoughts and beliefs. Culture varies from place to place and country to the country. Its development is historical process. The culture which we inherit from our predecessor is called our culture heritage. Culture heritage includes all those aspects or values of culture transmitted to human beings by their ancestors from one generation to generation.

INTRODUCTION

While culture is defined as the "personality of society" it is not entirely homogenous in nature not all people within a social system, share the same language, system, share the same language religion, customs and tradition. Every society is composed of a smaller subunit homogeneous within and heterogeneous outside all which makes one beautiful compels society such sub-unit or sub group are known as subcultures.

A single culture can be taken into various consumer subcultures. A subculture can be defined as a culture that is not dominant in its society we have varying values and beliefs, customs and tradition etc. The important subculture categories are nationality, geographical location, religion, race and caste, gender and age. We all are distinct with respect to culture and different in terms of language, customs and tradition. Within a country, we could be different across geography, climate conditions, religious and terrains. People tend to develop regional affinity and identification this gets reflected in food they eat, clothes they wear. People also exhibit differences when it comes to the religions that they belong to. All the religions are different from one another and have different values and beliefs, customs and tradition. Culture and its components also vary across race and caste; all are different from one another. Such racial sub-cultures also impact behavior. According to Hebdige in his work "The meaning of style Subculture: he argued that subculture is subversion to normally. He wrote that subculture can be perceived as negative due to their nature of criticism to dominant societal standard.

Phill Cohen is one of the most influential British sub-cultural and he describes subculture as the term subculture could be applied to any group of individuals whose behavior differs from the rest of society. For example we hear about occupational subculture, religious subcultures, immigrant subculture, internet subculture or cybercrime subculture and so on. Japanese subculture has been long considered as ephemeral youth culture compared to authentic traditional culture. It contains, however, subversive power which encourages younger generations to re-create the world they live in. A wide variety of youth subcultures have appeared in Japan since World War 2, many of them are polite sensibilities and subverting mainstream society with behavior considered hedonistic, self-centered and deviant. Among the subcultures that attract the most attention, both among and in academic circles. Some of the popular subcultures of Japan are;

Cosplay: The short form of costume role play. It originated in Japan but quickly spread through North America, Europe and more recently in South America and Australia. This subculture is centered on wearing costumes and reenacting scenes or behavior inspired by their source.

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Page 2370



COLLISION OF CULTURAL IDEOLOGIES IN THE NOVEL- RIOT

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Abstract:

The genesis of the book may be traced to the simmering Hindu-Muslim discontent of the 1980's culminating in the Babri Masjid violence at Ayodhya. In particular, Shashi Tharoor has in mind the description of a riot that actually broke in 1989 in Kargone, Madhya Pradesh. Simultaneously, the report of the death of American woman in a different part of the world: in South Africa, a social worker, who had gone there to help the cause of the blacks, was ironically killed by a black youth. In *Riot*, the two incidents coalesce into a single event: the death of Priscilla Hart, a volunteer from the United States working for a population-control awareness program, killed in a communal riot that breaks out in a small Indian town. This central event merges into a larger network of ideas with other related issues, all of which are worked into the narrative of *Riot*. The background is the Hindu-Muslim riots over the Ram Shila Pujan but, unlike *The Great Indian Novel*, Tharoor here chooses to work on a small canvas, a small, dusty town called Zalilgarh. At the same time, the story reaches out across narrow confines, taking into its purview two antipodal, culturally disparate continents, individuals and situations.

Tharoor is concerned with innovative forms of narration: conspicuous by its absence is the conventional 'once upon a time' story, the 'dear reader...' approach, or the omniscient narrator. 'Down with the omniscient narrator. It's time for the omniscient reader,' says a character in the novel, making Tharoor's attempt a self-conscious exploration of narration drawing the reader into the act of decoding of the story. *Riot* is not a conventionally structured novel: there is no formal beginning or end, no linearity or narrative or plot or formal constructions of the genre. It is more of a collage that brings together many different fragments of a jigsaw puzzle that the reader must put together to form a coherent whole. The pieces comprise an astonishing variety - there are diary entries, letters, memoirs, excerpts from scrapbooks and journals, transcripts of interviews, conversations overheard, entries in notebooks, journalistic reports, a handful of poems, even a birthday card and a cable. All the various pieces of the collage are different takes on a central event - the death of Priscilla Hart. How did she and what were the circumstances? The reader is faced with the task of groping through the evidence and unraveling the story. At times, one has the uneasy feeling of being a voyeur peeping into a private chamber, reading another's personal diaries or letters, or eavesdropping into somebody else's very special, very intimate encounters. But the embarrassment is not allowed to linger, as almost immediately, there is a swing toward the impersonal, an interview conducted by an objective reporter, the official voice of police personnel in charge, or simply, a shift of perspective. All this is part of the narrative strategy. The story is not told to us, but it is shown through the pieces of the collage.

At the same time, what *Riot* seeks to present is not simply a whodunit tale or the story of the poignant death of a visiting American. It goes beyond mere statistics, beyond the factual details of the tragedy, to be reconstruct the emotional life of the woman sketched vividly in a scrapbook that she maintains: the idealism that brought her to that remote spot, the passion for her job, the love interest in her life, the secret rendezvous from time to time, the uncertainty and the agony of entering into a doomed love affair. Her paramour, Lakshman, a local Indian administrator, who is married but finds himself involved in



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Feminist Movement in the Third World Countries

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Abstract

Feminism is a significant ideology, fast developing in the modern times. It emerged as a concept in the west with the objective of providing a space for women in the society, later on embracing the superb ideas of an egalitarian society, where the dialectics of male dominance and female subordination are erased. Having started as a social movement, it became a discourse, wielding a formidable influence on world literature and branching out as French, Italian, American, Canadian, Black feminism and Third World feminism in literature. Feminism does not consider reading as an inactive or passive act because depending upon the readers' time, place, culture and intensity, the meaning of the text changes. Feminism refuses the imposition of the rule that one has to read the text in Black feminism some particular method. It calls this forcing of a single meaning on the readers 'language politics' that has been done all along patriarchal criticism. It has made us realize that no reading is done without any previous knowledge or experience.

Keywords: Feminism, Black feminism, Third World feminism, Eco-feminism and Power Fiminism



Research Article

Assertion of Language through Theatre Arts

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Abstract: Language can also be defined as any method of communicating ideas, by a system of signs, symbols, gestures or the like, where body language is an integral part. There are some languages which are spoken in different parts of the world. Art forms an important aspect of man's life, and has been the mirror of society. Time and again, art in all its manifestations has been both an entertainment and an education. Theatre has provided many words and meanings which we use - ignorant of their origins - in everyday writing and speech. Theatre is an effective tool teachers can use to build language, writing, reading comprehension and critical thinking skills in students. Through a variety of theater activities, students can develop tools to understand unfamiliar vocabulary, analyze characters and create their own dramatic texts where Volume, clarity of pronunciation, expression, posture, eye contact is developed, using drama texts in the classroom.

Keywords: Language, Theatre, signs Indian dramaturgy .

INTRODUCTION:

Language has always been a very essential means of communication between people across countries and across different cultures too. It thus forms an integral part of man's life. Primitive man must have communicated as we all know, through sounds, drumming, clapping, tapping and the like. Language is the medium of communication between humans. There are thousands of languages, which are spoken in the world. When one has to talk about languages, there can be sign language, written language and the spoken language. Even the computer programs are written in different 'computer languages'. Animals also have their own language, which is used to communicate with one another. However, it is the human language which has a complex structure. There are different set of rules, which are used to relate different symbols to their meanings.

Etymologically "Language" finds its origins in Middle English from the French and also from the Latin word lingua. That aspect of human behavior that involves the use of vocal sounds, symbols to express and communicate thoughts and feelings, also which has been historically established among a social or a cultural group, involves a grammar and vocabulary and offers a sufficient communication only among its users that can be termed as a language.

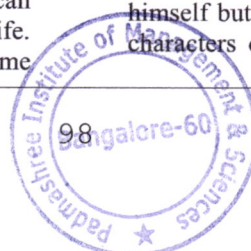
Language arts courses are very important in schools. It teaches students different skills such as speaking, listening, reading, and writing properly, which can relate to and benefit other areas of education and life. Language learning through theatre texts, outline some

of the benefits it can bring to the language learning classroom and some of the differing methods and approaches that can be utilized to fully exploit the potential of theatre texts.

Art forms an important aspect of man's life, and has been the mirror of society. Time and again, art in all its manifestations has been both an entertainment and an education. Theatre has provided many words and meanings which we use - ignorant of their origins - in everyday writing and speech. Theatre is an effective tool teachers can use to build language, writing, reading comprehension and critical thinking skills in students. Through a variety of theater activities, students can develop tools to understand unfamiliar vocabulary, analyze characters and create their own dramatic texts where Volume, clarity of pronunciation, expression, posture, eye contact is developed, using drama texts in the classroom.

The very origins of Indian dramaturgy or natya is described as a *kreedaniyakam* (entertainment) created by Brahma, in the form of a fifth Veda, which was pleasing to the eye as well as the ear, instructive and enjoyable to all sections of people and created from the elements chosen from the four Vedas.

In the *Sangitopanishad*; *nrtya* is described as that which pleases all the five senses, makes one forget his misery and provides pleasure at all times. Hence aesthetic pleasure or *rasas* are experienced by the actor/dancer in equally the same degree as the poet himself but the actors are those who are portraying the characters on stage and achieve this through constant



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NARRATIVES OF WOMEN REPRESENTATION IN MODERN INDIAN THEATRE

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ABSTRACT

The mechanics of theatre production need not be known to its audience because what they eventually see on stage is nothing but a rebuilding of life. Hence it is not surprising that theatre became a very popular and powerful form of art until it was challenged by the modern mass media. Hitherto it can be safely said that theatre even today wields a formidable influence on the people and can be as during the 16th century it was the most popular and influential form of entertainment. It is intended to study the plays of two well-known Indian dramatists and see how they all tend to depict the transformation that has been witnessed in the Indian psyche and society. The Indian social set up has changed, but in a subtle, unnoticeable way. But the change has not escaped the eyes of these dramatists. Voices of the hereto suppressed women, is being heard and depicted in contemporary dramas. The surprising fact about it is that women are given expression by male playwrights, than the women playwrights.

KEYWORDS: *Mechanics, Theatre, Indian Dramatists, Psyche*

INTRODUCTION

Theatre has been a very sole form of art since the very beginning. It has been an enabling and enriching medium of art. Also it has been the best form of art to reach the masses more effectively. No other art form has ever been able to reach as many people as much as drama did. The drama audience require very little or no preparation at all to appreciate a play, unlike any other form of art, such as music and dance, which all need a certain amount of preparation and a degree of taste. Music, painting, sculpture, architecture and all other forms of art need the audience to have cultivated a taste to appreciate what is being presented as the expression of art. They all require a certain amount of knowledge, without which the art expression falls flat. Play does not need any such preparation as it is an expression of life itself.

Though the Indian English Theatre began very early in year 1831 on a very promising note with the publication of Krishna Mohan Banerjee's *The persecuted or Dramatic scenes illustrative of the present state of Hindoo society in Calcutta*, the Indian English theatre failed to establish itself strongly as an independent entity (M.K.Naik, *A history of Indian English Literature*, 102). More plays were written in regional languages than in English. Recently more number of dramatists has started to write in English. Yet the number of plays translated from regional languages to English is more than those written in English itself. Be it translated or plays written in English, it took more than a generation or two for the radical, social, revolutionary spirit to surface again after it was first demonstrated in the pioneering work of Banerjee nearly more than a century ago. After the initial attempts of staging poetic dramas, with romance, mythology, freedom struggle, mahathma, ideals, morals, ethics, social reformation etc as the theme, the Indian drama gradually turned to more

RESEARCH ARTICLE

EMERGING TRENDS IN KANNADA THEATRE

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Abstract:

Gender Impersonation rituals are undoubtedly one of the most important rites of Indian cultural and traditional practices. Spacing of this gender impersonation in ritual theatre in the contemporary times is the need of the hour. This is heading towards a newer perspective of understanding an art form and its importance. The fast and far growing ideology of today is demanding for addressing the role of impersonator in ritual arts to/by the various aspects of this cultural artistic ritual practice.

Despite the progress made by Indian feminist movements, women living in modern India still face many issues of discrimination. India's patriarchal culture has made the process of gaining land-ownership rights and access to education challenging. In the past two decades, there has also emerged a disturbing trend of sex-selective abortion. To Indian feminists, these are seen as injustices worth struggling against.

Kannada theatre and Cinema had carved a place of their own in the National platform. There have been a few path breaking plays and movies in Kannada in the past. Kannada has always voiced the

concerns of the marginalised. The upper caste Brahmin, who had a strangle hold on most of the artistic forms earlier, had also gained control of the Kannada literary, theatre and cinematic worlds. But there have been different attempts by different groups to break free from this kind of unarticulated oppression and create space for the hitherto neglected and marginalised sections. However women issues and feminist questions have, for some strange reason, been kept at bay.

Keywords: feminism, marginalised, cinema, discrimination and theatre

Gender Impersonation rituals are undoubtedly one of the most important rites of Indian cultural and traditional practices. Spacing of this gender impersonation in ritual theatre in the contemporary times is the need of the hour. This is heading towards a newer perspective of understanding an art form and its importance. The fast and far growing ideology of today is demanding for addressing the role of impersonator in ritual



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Growth performance, carcass composition, and digestive enzyme activity of *Labeo fimbriatus* in tanks provided with feed and periphyton substrate in two orientations

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An account of periphyton, plankton and water quality in *Labeo fimbriatus* culture tanks provided with feed and sugarcane bagasse as periphyton substrate in two orientations

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Funding information

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Abstract

An on-farm study with periphyton based culture systems was conducted for 90 days in 16 m² soil-based and fertilized out-door cement tanks. The objective was to evaluate the effect of provision of feed and orientation of substrate on the water quality and taxonomic composition and biomass of periphyton and free plankton. Fertilization of tanks was done with cattle dung applied at 4.5 t/ha, followed by single super phosphate (SSP) and urea, each at 50 kg/ha. Fortnightly fertilization schedule included cow dung at 2.25 t/ha, urea and SSP, both at 50 kg/ha each. The treatments consisted of tanks receiving no feed and no substrate (NFNS), receiving only feed (FNS) and those receiving only sugarcane bagasse as periphyton substrate at 2 t/ha (3.2 kg/tank) either vertically suspended in water column (NFSV) or applied to tank bottom (NFSB). Fish in three tanks of FNS treatment were fed daily at 5% of body weight with a 25% crude protein pelleted feed. Fingerlings of *Labeo fimbriatus* were stocked at 10,000/ha 10 days after manuring. The percentage weight gain of fish was 425.08 ± 23.51, 597.41 ± 60.11, 659.17 ± 73.43 and 676.95 ± 22.41 g, respectively, in NFNS, FNS, NFSV and NFSB tanks. Principal component analysis revealed higher plankton density in FNS tanks and “moderate negative loading” of nitrate-N in NFSV tanks. The total planktonic genera attached as periphyton from NFSV treatment were 58 compared to 51 from NFSB treatment. The total number of free planktonic genera encountered in water from the NFSB treatment tank was the highest (87 numbers) followed by FNS (65), NFSV (64) and NFNS (42). The dry matter content of periphyton showed no difference ($p > 0.05$) between the substrate orientations. The study indicated that changing the orientation of substrate did not have any impact on the quality of culture water and periphyton biomass.

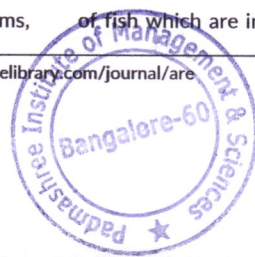
KEYWORDS

bagasse, *Labeo fimbriatus*, periphyton, plankton, substrate, water quality

1 | INTRODUCTION

Novel approaches that trigger primary food production can improve the productivity and efficiency of fish production systems,

contributing to the sustainability in aquaculture. Enhancing periphyton through installation of substrates offers a new pathway in this regard, since periphyton is effectively utilized by many species of fish which are in the lower strata of food chain. Comparing the





Note

Apparent digestibility of dried azolla powder incorporated diets in rohu *Labeo rohita* (Hamilton, 1822)

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ABSTRACT

Dry matter and nutrient digestibility of dried azolla powder incorporated in the traditional feed was evaluated in advanced fingerlings of *Labeo rohita* (Hamilton, 1822) reared in aerated indoor plastic tanks. The fish were fed nearly isocaloric diets formulated to contain azolla powder, replacing the main ingredients, groundnut cake and rice bran of the Control diet at 10, 20, 30 and 40% levels. Total dry matter digestibility and major nutrient digestibility were estimated using acid insoluble ash as the marker. Digestibility (%) of dry matter, protein, fat and nitrogen free extract (NFE) showed a declining trend with increased azolla incorporation. Only protein and fat digestibility of 20% azolla diet was comparable with that of the Control, with higher incorporation levels resulting in significant reduction in the digestibility values.

Keywords: Alternate protein source, Feed ingredient, Fish feed, Rohu

The small leafed floating aquatic plants *Azolla* spp. are distributed all over the world in freshwater ecosystems of temperate and tropical regions (Kannaiyan and Kumar, 2006) and can be grown easily with minimal expenditure. These aquatic plants with high biomass and protein levels can be used as feed ingredient owing to higher crude protein (24 to 30% on dry weight basis) and essential amino acid content than the majority of green forage crops and other aquatic macrophytes (Panigrahi *et al.*, 2014). *Azolla* is known to contain other constituents such as minerals, chlorophyll, carotenoids, vitamins (Umalatha *et al.*, 2018) and some probiotics and biopolymers (Pillai *et al.*, 2002). There are studies on the use of azolla in the culture of catla (Asadujjaman and Hosain, 2016), rohu (Mohanty and Dash, 1995; Maity and Patra, 2008; Datta, 2011; Panigrahi *et al.*, 2014; Kumari *et al.*, 2017), fimbriatus (Gangadhar *et al.*, 2015), silver barb (Das *et al.*, 2004), tilapia (Micha *et al.*, 1988; Sithara and Kamalaveni, 2008; Youssouf, 2012) and black tiger shrimp (Sudaaryano, 2006). Results of these studies, however, are mostly inconsistent and ambiguous. Dietary azolla supplementation in most cases seems to be beneficial in terms of growth performance of fish and often resulted in reduced feed cost. Considering its ease of cultivation, higher productivity and nutritive value and the increasing interest in ecologically sound integrated farming systems, it is worth exploring the potential of azolla as an ingredient for fish feed.

The feed cost constitutes a major portion of the production cost in aquaculture practices irrespective

of whether it is intensive or semi-intensive. A judicious choice of dietary constituents leading to reduced feed cost is the key to profitable fish farming. Several dietary formulations suiting to the feeding habit of herbivorous aquatic species are commercially available. The conventional carp feed is a mixture of rice bran and groundnut cake in equal proportions. The cost of a kilo of groundnut cake varies from ₹30-50/- depending on quality, while that of rice bran ranges from ₹20-25/- per kg. High cost of these feed ingredients leads to increased expenditure on fish production, which in turn reduces the profit margins in aqua-farming. Therefore, the main criterion for commercial fish farming is the availability of appropriate cost effective feed, formulated from locally obtainable ingredients which are able to fulfill the nutritional requirements of the cultured species. The present study was conducted considering this urgent need for alternate, locally available feed ingredients and in view of the limited availability of literature on the use of azolla as a dietary ingredient for the Indian major carps. Digestibility of ingredients being the key to the use of any feed ingredient, this study evaluated the effect of incorporating varied levels of dried azolla (*Azolla microphylla*) powder in the conventional feed of one of the important Indian major carps, rohu *Labeo rohita* (Hamilton, 1822), on the digestibility of dry matter and major nutrients.

The basal diet (Control) was formulated with groundnut oilcake and rice bran (Table 1). Finger millet (ragi) was used at 9% level as the binder. *A. microphylla*



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ANTIMICROBIAL ACTIVITY OF FLORETS OF MUSA ACUMINATA AGAINST ESCHERICHIA COLI, PSEUDOMONAS AND BACILLUS

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Disc diffusion, TLC, Bio-autography

ABSTRACT

The banana florets have been an important part of our traditional medicine but despite their medicinal properties, the florets obtained from the banana plants have not been properly studied and utilized. This study is an assessment of the antimicrobial property of the different solvent extracts of the *Musa acuminata* florets. The antimicrobial activities of the florets are determined by using the Kirby Bauer Disc diffusion method of the three different extract on three different microorganisms. The banana florets were extracted using three different extract viz., Acetone, Chloroform and Ethyl Acetate and were tested on three different bacterial species *Bacillus spp.*, *Escherichia coli* and *Pseudomonas spp.* Partial purification of the different solvent extracts were also done using the Thin Layer Chromatography. All the three extract of the florets shows significant antimicrobial activity on the different microorganisms used for the study. All extract of the florets showed antimicrobial activity against *Bacillus spp.* The acetone extract of the floret shows the highest inhibitory activity against *Bacillus spp.*, while the chloroform extract shows little to no zone of inhibition when tested against both *Escherichia coli* and *Pseudomonas spp.* The Ethyl Acetate extract shows antimicrobial activity when tested against *Bacillus spp.*, and *Escherichia coli* but showed little to no zone of inhibition when tested against *Pseudomonas spp.* The bio autography of the banana floret extract was also done by using Thin Layer Chromatography (TLC) contact (indirect) method and the study revealed major antimicrobial compounds produced by banana florets and showed positive TLC bio autography against the tested organisms.

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INTRODUCTION

Musa acuminata.

Bananas are one of the most popular fruits in the world due to their flavor, nutritional value, and health benefits. In terms of monetary value, it is ranked fourth among the world's food crops. Bananas are the fourth most important crop in developing countries, following rice, wheat, and maize. (Sharrock and Frison, 1998). The fruit is an elongated edible fruit that is usually curved and has soft flesh covered by a skin that can be green, yellow, red, purple, or brown depending on the variety. The fruit grows in clusters that dangle from the top of the banana plant. (Merriam-Webster).

Nutritional Value of florets of Musa acuminata (Jiwan et al., 2018)

Banana blossoms have a similar nutritional value to banana fruits. They are an excellent source of vitamins and minerals, as

well as a good source of fibre and protein. They have been shown to be a good source of phytochemicals, which act as antioxidants in nature.

Medicinal and therapeutic properties of florets of Musa acuminata.

Since ancient times, vegetables, fruits, and spices have been used to treat and relieve ailments such as diarrhoea, headache, and nausea. Many compounds with therapeutic and medicinal properties have been identified, isolated, and extracted by researchers from various parts of plants. The compounds are now being used on a large scale in industries and laboratories to produce a variety of products. The florets from the banana blossom are one of the potential part of the banana which have large potential in the field of therapeutics and medicinal field. They contain a variety of compounds that aid in various body functions, such as vitamins and minerals, which aid in boosting the immune system, ensures proper body metabolism, controls

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Study On Proteolytic Enzyme From Probiotic Non Lactic Acid Bacteria Isolated From Sheep Milk

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Abstract—Probiotics are live micro-organisms that “when administrated in adequate amount confer a health benefit on the host (WHO). The milk samples from sheep, buffalo, cow and goat were collected aseptically and 25 isolates were isolated in Tryptone soya agar. Among that, 10 isolates were confirmed for the probiotic proteolytic non lactic acid bacteria proteolytic zone in caseinate TSA medium. According to biochemical tests, identification and characterization of enzymes indicates that isolates might belong to *Enterobacteriaceae* and *Proteus* family. The test yielded 5 potent bacterial isolates from sheep milk which showed constant and maximum production in 1% caseinate TSA media supplemented with varied concentrations of MnCl, NaCl and ZnCl salts at 35°C. The Rf values of TLC profiling of proteolytic enzyme were obtained in the range from 0.81 to 0.87. The autobiography profiling of the TLC plates resulted in the formation of zone of inhibition confirmed for the proteolytic activity.

IndexTerms—Autobiography, *Enterobacteriaceae*, Probiotics, *Proteus*, Proteolytic activity and TLC profiling.

I. INTRODUCTION

The word ‘probiotic’ comes from Greek language ‘Probios’ which means ‘for life’ opposed to ‘antibiotics’ which means ‘against life’. The history of probiotics began with the history of man by consuming fermented foods that is well known Greek and Romans consume very much. Probiotic is a live microbial supplement which affects host’s health positively by improving its intestinal microbial balance. Than this definition was boarded by Havenaar and Huis that held in 1992 including mono or mixed culture of live microorganisms which applied for animal and man [1]. In October 2001, reported that probiotics are ‘live microorganisms which when administered in adequate amount confer health benefits on the host’, is accepted by FAO/ WHO [2]. The range of food products containing probiotic strains is wide and still growing. The main products existing in the market are diary based on including fermented milks, cheese, ice-cream, buttermilk, milk powder and yoghurt etc. Probiotics were showed reliable probiotics properties were examined for further probiotics properties including tolerance to different concentration of bile salts, NaCl, antimicrobial activity and bile salt hydrolase activity [3][4].

The defense mechanisms of microbes are of different types based on the nutritional and environmental parameters in which they reside. A number of factors mitigate the severity and survival rate of competition between the competitors. Microbial antagonism is defined as the suppression or interference of the normal growth of one microbe by another. The mechanism of antagonistic activity involves antibiosis, direct parasitism, competition and induced resistance.

Induced resistance is a mechanism where one microbiome gets mutualistic with the other of same or

different species wherein they involve in the defense system against a broad range of microorganisms by associating with a selected host. The induced systemic resistance enhances the host immune system against the pathogens [5].

The defense mechanism of the microbial population mainly depends on the bioactive peptides released during the course of reproduction and growth. Bioactive peptides (BP) are defined as the protein fragment or a protein conjugate that have a positive impact on body’s function and health condition by affecting the digestive, endocrine, cardiovascular, immune and nervous systems. They are the organic substances formed by covalently bond amino acids which are known as amide or peptide bonds [6]. Although few bioactive peptides exist free in its natural or native form, while the vast majority of them is encrypted in the structure of the parent proteins and is released mainly by enzymatic processes. The growing interest in bioactive peptides has incentivized the scientific community and nutraceutical to explore the development of new functional products based on these peptides [7].

Milk contains two proteinase system plasmin and lysosomal proteinase derived from bloods which are involved in dissolving blood clots and defense mechanism respectively. Proteases are group of enzymes which hydrolyses peptide bond of proteins and break them down into polypeptide or free amino acids. Proteases are present in all forms of life viz. plant, animals and microorganisms and are essential for cell growth and differentiation. Proteases are classified into exopeptidases and endopeptidases based on their ability to cleave peptide bonds. Exopeptidases cleave peptide bonds at C- and N- terminus and are further divided into aminopeptidases, dipeptidases, dipeptidylpeptidases,



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Studies on Screening of Paint Degrading Microorganisms Isolated from Wall Scrapings

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ABSTRACT

The present study was an effort to obtain paint degrading bacterial isolate from wall scrapings. The study included that microorganisms such as bacteria, not only cause discoloration of paint surfaces but also, they can directly cause degradation of the materials through their metabolic activities. The Halophilic microorganisms are well known for their paint degrading activity. As evidenced from the literature survey, there is a great diversity of bacteria and fungi that are capable of growing on paint coating. The presence of various polymer compounds used in paint manufacturing makes it resistant to degradation and continue to be a potential hazard to the environment as well as humans. Use of nonabrasive and environmentally safe methods, to reduce the impact of microbial activities can further reduce the damage as well as help in bioremediation of paint contaminated water, soil and environments to clean up.

Keywords: Bioremediation, Contamination, Halophilic microbes, Polymers.

Introduction

Paint is one of the oldest synthetic substances known to mankind with a history stretching back into pre historic times (Karigar *et.al*, 2017). These are uniformly dispersed mixtures which have viscosity ranging from a thin liquid to a semisolid plate (Nwachukwu *et.al*, 2015). Paint is eventually a mixture of: Binder, solvent, pigment, thinner, drier, extender, additives, (Fichera *et.al*, 2015, Monico *et.al*, 2016, Fraga *et.al*, 2018, Hayashi *et.al*, 2019 & Hewlett *et.al*, 2019).

The modern household paints fall into two broad categories, i.e.,

- (a) 'orthodox', the oil-based or solvent-based paints, thinned with mineral turpentine or other organic solvents, and
- (b) 'emulsion paints', the water-based vinyl or acrylic paints that may be thinned with water (Kanhar *et.al*, 2016).

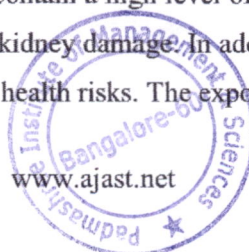
Degradation of paints

Factors that influence deterioration of paints and paint products include the anaerobic environment in the paint, the organic nature of the paint's components, the microbial quality of the packaging materials and the hygiene level of the manufacturing plant processing units.

The consequence of their microbial deterioration such as foul smell, viscosity loss, discoloration and visible surface growth has serious economic, implication on the paint industry (Altenburg *et.al*, 2017).

Health hazards

Volatile organic compounds (VOC's) present in paint may lead to respiratory, allergic or immunogenic defects in humans (Mendell *et.al*, 2013). Frequently, paints contain a high level of mercury or lead and their ingestion may lead to serious health problems such as nerve and kidney damage. In addition, other metal such as chromium and cadmium are also reported that they provide many health risks. The exposure of VOCs has been related to organic



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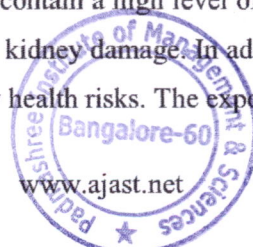
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Studies on Carotol Rich Essential Oil from Wild *Cymbopogon martini* (Roxb.) Watson

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ABSTRACT

Essential oils are volatile liquids having aromatic fragrance. There are secondary metabolites that plants produce for protection from pest & predators, attraction of pollinators & seed dispersal. The essential oils are made up of mixture of compounds that give a characteristic flavor and odor. *C. martini* belonging to poaceae commonly known as Palmarosa, which one of the important essential oil-bearing plant having rich geraniol content, the oil is extensively used in perfumes, soaps, cosmetics, tobacco and medicine. During the present study, the essential oil of *Cymbopogon martini* (Roxb.) Wats. was collected from Akkur village, Ramanagara Taluk and District was analyzed using GC-MS to reveal the fingerprint compounds. Gas Chromatography-Mass Spectrometric analysis of the oil provided 59 constituents of compounds dominated by terpenoid compounds like carotol (12.34%), alpha-pinene (3.06%), camphene (9.32%), D-limonene (8.22%), borneol (6.03%), geraniol (2.60%), camphor (7.51%), bornyl acetate (3.65%), linalool (2.56%), alpha-terpeniol (1.18%), geranyl acetate (8.44%) and caryophyllene oxide (5.45%) along with the presence of other components in traces. The study showed the presence of new compounds in high percentages, rather than the standard geraniol. The essential oil compounds are known to possess huge utility in biopesticides, pharmaceutical and food industries. The variation in composition of the essential oil in wild *C. martini* is due to the ecological conditions for the plant growth.

Keywords : Wild *Cymbopogon martini*, DNA Bar-coding, Essential oil, GCMS, Terpenoids, Carotol

CYMBOPOGON MARTINII (Roxb.) belonging to Ruseae series of genus *Cymbopogon* possess two varieties such as motia ($2n=20$) and sofia ($2n=40$) (Google Wikipedia). It is commonly known as Rosha grass which yield essential oil rich in geraniol and at a commercial scale utilized for manufacture of soaps, perfumery, cosmetics, medicine and aromatic products (Verma *et al.*, 2010). Majority of these *C. martini* contain essential oil with several biological activities such as insecticidal, anti-protozoan, anticancer, anti-HIV, anti-inflammatory and anti-diabetes effects (Avoseh *et al.*, 2015). India's overall export value of Palmarosa oil has increased by 61.75 since 2018, with the shipments worth 2.969 USD million (Google Wikipedia). Chemically these oils are diverse mixtures of terpenes or phenylpropenes (Sangwan *et al.*, 2000). *C. martini* is widely distributed in India under diverse adverse climatic conditions covering the planar and the hill stressed regions (Sangwan *et al.*, 2000). This crop native to India is largely cultivated in Madhya

Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu and Uttar Pradesh, besides cultivating in Brazil, Madagascar, Indonesia (Verma *et al.*, 2010). *C. martini* is a highly cross-pollinated crop and survives by with standing environmental stress conditions and hence a lot of variations are observed with yield of essential oils in the species (Smitha *et al.*, 2008). These cultivars of *C. martini* differ in oil content and quality at the intra and inter-species levels (Neelam *et al.*, 2001). Genotype was identified and assigned to its classification by utilization of taxonomic literature (Nirmala *et al.*, 2017). The variations are attributed to genetic makeup of the genotypes and its interaction with environmental variations (Vinutha and Hegde, 2014).

The plant derived essential oils form the basis of many large chemical, pharmaceutical and perfumery industries and make up a significant proportion of the agro chemical trade worldwide (Wissal *et al.*, 2016).

Studies on Carotol Rich Essential Oil from Wild *Cymbopogon martinii* (Roxb.) Watson

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GENOTOXIC IMPACT OF CARCINOGENIC AND NATURAL FEED ON LIFECYCLE OF DROSOPHILA MELANOGASTER - A QUALITATIVE STUDY

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ABSTRACT - In spite, the known health risks of tobacco smoking, many people including pregnant women continue smoking. The effects of developmental nicotine exposure are known, but the underlying mechanisms are not well understood. *Drosophila melanogaster* is a model organism that can be used for uncovering genetic and molecular mechanisms for drugs of abuse. In the present experimental study, the life cycle of *Drosophila melanogaster* on exposure to Nicotine, Honey, Methanol and a combination of Nicotine and Methanol culture media was observed and analysed. It was inferred that the life cycle of the fly was affected in comparison to the normal life cycle of the *Drosophila*. Nicotine feed affected the developmental time and also decreased the survival rate whereas Methanol feed showed increased longevity and Morphometry. Honey feed increased the growth rate as compared to the normal life cycle of the fly. It is evident from the study that carcinogen, Nicotine affects the life cycle and the development of the fruit fly.

Key words: Carcinogenic feed, CNS, *Drosophila melanogaster*, Genotoxic Impact, Longevity, Life Cycle, Morphometry,

I. INTRODUCTION

Drosophila melanogaster, the common pomace fly, has been used as a model organism in each medical and research for over a century. Work by Thomas Hunt Morgan (1866-1945) and his students at university at the start of the 20th century junction rectifier to nice discoveries like organic phenomenon inheritance which radiation causes mutations in genes. However, the employment of pomace fly wasn't restricted to genetic analysis. Experimentation with this model organism has conjointly junction rectifier to discoveries in neurobiology and Neurodevelopmental studies, as well as the premise of time unit rhythms. Its advanced systema nervosum, preserved medicine perform, and human sickness-related loci enable pomace fly to be a perfect model organism for the study of neurodegenerative disease, that it's used these days, aiding analysis into diseases

like Alzheimers and encephalopathy, that have become additional rife in today's aging population.

D. melanogaster is usually employed in analysis as a result of its fast life cycle, comparatively straightforward biology with solely four pairs of chromosomes, and huge variety of offspring per generation. It had been originally associate degree African species, with all non-African lineages having a standard origin. Its geographic vary includes all continents, as well as islands. *D. melanogaster* could be a common tormentor in homes, restaurants, and alternative places wherever food is served. Flies happiness to the family Tephritidae also are referred to as "fruit flies". this will cause confusion, particularly within the Mediterranean, Australia, and South Africa, wherever the Mediterranean pomace fly *Ceratitidis capitata* is associate degree economic tormentor [1, 2, 3].

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Study of Dermatoglyphic Patterns and its relation to the Intelligence Quotient in *Homo sapiens*

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ABSTRACT- Fingerprints of an individual are considered as their own recognition; study of these patterns is called Dermatoglyphics. Although there is a heritable factor behind the various patterns, ridge count vary significantly based on a lot of factors and there is insignificant evidence towards the association of such patterns to cognitive ability. Association between fingerprint patterns and intelligence quotient was previously documented by Nanakorn *et al.*, (2011). This study involves the association of various dermatoglyphic patterns linked to clasping of hands (a known heritable trait) and IQ (Intelligence Quotient). The samples considered in the study were the undergraduate and postgraduate students, aged between 12-28 years. The Fingerprint patterns of samples that were studied were ulnar loop, Radial loop, Plain whorl, Central pocket, double loop, Accidental whorl, Plain arches and tented arches. Fingerprints were collected by ink printing method. The collected fingerprints were analyzed and various patterns associated with intelligence were studied and the pattern of inheritance was compared to Hand clasping. Various dermatoglyphic patterns were found in equal proportions across all the test subjects as: Loops - 50%, Whorls - 45% and Arches - 5%. There was no statistically, significant correlation between the various dermatoglyphic patterns and intelligence. Variances in intelligence of people can be associated with characteristics like Quantitative Reasoning, Logical thinking etc.

Keywords: Dermatoglyphic patterns, IQ, Mendelian trait, Education, Loops, Arches, Whorls

I. INTRODUCTION

Dermatoglyphics- derma, means "skin", and glyph, is "carving". This is the scientific study of fingerprints, lines, mounts and shapes of hands, as distinct from the superficially similar pseudoscience of palmistry. Skin patterns start appearing in the 12th-16th week of embryo development and formation completes in 24th week (six foetal months). Once formed do not change whole life time. Patterns develop in the form of mounds on the tips of digits, interdigital, thenar and hypothenar areas of hands. Also, as regressed areas on regions of soles. Study of fingerprints started early days like 1000BC in Chinese and Babylonian civilization for signing the legal documents. Dermatoglyphics also refers to the making of naturally occurring ridges on certain body parts, namely palms, fingers, soles, and toes. In a 2009 report, the scientific basis underlying dermatoglyphics was questioned by the National

Academy of Sciences, for the discipline's reliance on subjective comparisons instead of conclusions drawn from the scientific method. Dermatoglyphics can be correlated with genetic abnormalities, aids in the diagnosis of congenital malformations at birth or soon after. Where, we generally correlate Mendelian trait with dermatoglyphics. Systematic and scientific study was done at the end of 19th century using automated fingerprinting systems [1] [2] [3].

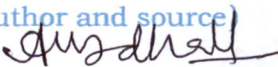
II. OBJECTIVES

- To survey the people for the particular Mendelian trait chosen for the study.
- To study the dermatoglyphic patterns relevant to the particular Mendelian trait.
- To study & analyse the correlation of dermatoglyphic patterns with the Intelligence Quotient

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Chemical Diversity in the Essential Oil of Wild *Cymbopogon giganteus* (Chiov.)

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ABSTRACT

The wild *Cymbopogon giganteus* (Chiov.) collected from Jnanabharathi campus, Bangalore University, Bangalore was subjected to hydro-distillation for extraction of its essential oil. GC-MS analysis was carried out to study the chemical composition of the essential oil. The yield of the essential oil obtained from hydro-distillation method was found to be 0.2 per cent v/w and a total of 50 compounds were identified. The dominant compounds were found to be Isocarveol (25.89%), trans-p-mentha-2,8-dienol (13.39%), Limonene (9.66%), 1,4-Methano phthalazine, 1, 4, 4a, 5, 6, 7, 8, 8 a-octahydro-9, 9-dimethyl-, (1 α , 4 α , 4a α , 8a α) (8.30%), cis-p-mentha-2, 8-dien-1-ol (6.62%), Carvone (4.40%) and Carveol (3.19%). These secondary metabolite compounds are known to possess potential bioactivities of medical significance.

Keywords : *Cymbopogon giganteus*, Essential oil, GC-MS analysis, Monoterpenoids, Sesquiterpenoids

THE genus *Cymbopogon* comprises about 140 species (Kumari *et al.*, 2007) of which *Cymbopogon giganteus* (Chiov.) is one of the species that is known to be economically important for the production of essential oils. Essential oils are complex mixture of volatile secondary metabolites. The variation in the composition of essential oil depends upon environmental conditions and the methods used for extraction. *Cymbopogon giganteus* (Chiov.) is a perennial grass that belongs to the polytypic genus *Cymbopogon* in the family Poaceae (Graminae) and the species is widely spread in the tropic and subtropic regions of Asia, Africa and America with a distribution ranging from hilly and savanna regions to deserts and xeric shrub lands (Rao, 1997). The plant has a rhizome-bearing stem that enables it to perennate (survive an annual unfavourable season) underground and can grow up to 6 to 9 feet (Letouzey, 1972). The Essential oil of *Cymbopogon giganteus* has vast commercial values in flavors, fragrances, cosmetics, perfumery, soaps, detergents, toiletry, tobacco products and pharmaceuticals (Ganjewala *et al.*, 2009).

GC-MS analysis of the essential oil showed that, out of the different compounds formed, terpenoid sare

most abundant and are present as monoterpenes, sesquiterpenes and their derivatives like alcohols, esters, ketones and others. Terpenoids form a unique group in the sense of the range and diversity of compounds they represent. The structural type and their derivatives comprise thousands of compounds and form the vast groups in nature (Connolly and Hill, 1992). The presently studied essential oil of wild *Cymbopogon giganteus* constituted variousterpenoids that are produced from isoprene units through Mevalonate pathway. The characteristic odour of the essential oil of *Cymbopogon giganteus* is due to its high content of monoterpenoid alcohols *i.e.*, Isocarveol, trans-p-mentha-2, 8-dienol, cis-p-mentha-2, 8-dien-1-ol, Carveol etc. The trace constituents present in the oil are responsible for the characteristic olfactory note of the oil (Raina *et al.*, 2003).

Investigation of the chemical composition of the essential oil from leaves, inflorescence and stem have been carried out. (Raina *et al.*, 2003). During the present investigation, the essential oil from wild *Cymbopogon giganteus* was analysed by GC-MS and the finger print compounds present in the oil were recorded.



[Home](#) [Archives](#) / [Vol 8 No S1-Feb \(2021\)](#) / [Articles](#)

A Study on Factors Leading to Gradual Weakening of Paper Currency Usage in India

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Keywords: Cashless economy, Paper currency, Digital payments

ABSTRACT

Globally we are witnessing a rapid proliferation in new electronic forms of payment owing to rapid developments in digitalization and data processing. The movement towards a cashless society that started very slowly through cheques, debit and credit card, followed by numerous steps adopted by banks introducing netbanking facilities with NEFT, IMPS, RTGS today the evolution is accelerated with the advent of robust payment mechanisms such as mobile-based bank apps and other payment applications and mobile wallets. With these newer payment modes becoming more accessible, convenient, and cost-efficient, there is widespread adoption of cashless means in developing and emerging economies. The Indian government's demonetization initiative made 86% of cash in circulation declared as illegal tender overnight on November 8, 2016. The much recent global pandemic of 2020 filled the public with fear of bacterial, fungal, and parasitic contamination of currency notes. These factors have further lead to the decline in the usages of paper currency. This paper explores some of the issues associated with the waning of paper currency usage in India.

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Abstract

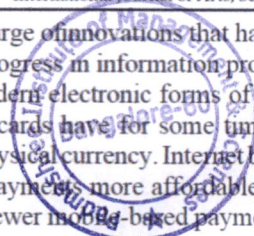
Globally we are witnessing a rapid proliferation in new electronic forms of payment owing to rapid developments in digitalization and data processing. The movement towards a cashless society that started very slowly through cheques, debit and credit card, followed by numerous steps adopted by banks introducing netbanking facilities with NEFT, IMPS, RTGS today the evolution is accelerated with the advent of robust payment mechanisms such as mobile-based bank apps and other payment applications and mobile wallets. With these newer payment modes becoming more accessible, convenient, and cost-efficient, there is widespread adoption of cashless means in developing and emerging economies. The Indian government's demonetization initiative made 86% of cash in circulation declared as illegal tender overnight on November 8, 2016. The much recent global pandemic of 2020 filled the public with fear of bacterial, fungal, and parasitic contamination of currency notes. These factors have further lead to the decline in the usages of paper currency. This paper explores some of the issues associated with the waning of paper currency usage in India.

Keywords: Cashless economy, Paper currency, Digital payments

Introduction

Money has taken many forms in history –but has had three consistent functions: store of value, unit of account, and medium of exchange. The characteristics of money- Durability, Portability, Divisibility, Uniformity, Limited supply, and Acceptability have impacted the usage propensity of several forms of money.

Money in physical form currency and coins. For centuries physical currency has been the most common and extensively accepted payment system owing to its easiness and robustness. For the customer, physical currency provides secrecy in transactions, emotional feel of affluence, psychological comfort of having greater control over financial planning and guard from cyber threats or financial institution failures and requires no supporting technology. For Businesses, the physical currency is very important, with most transactions based on the exchange of physical form of legal tender.



Anuradha