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RESEARCH ARTICLE

Use of statistical experimental methods for optimization of collagenolytic protease production by *Bacillus cereus* strain SUK grown on fish scales

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Abstract
In this study, novel and cheap sources like fish scales and molasses were used for the production of collagenolytic protease. Statistical optimization of different parameters for the production of collagenolytic protease by *Bacillus cereus* strain SUK has been carried out using response surface methodology (RSM). Three most significant medium components identified by Plackett-Burman (PB) were fish scales, molasses, and incubation time, which were further optimized using central composite design (CCD). The medium having fish scales 9.38 g l^{-1}, molasses 2.42 g l^{-1}, and incubation time of 67.34 h was found to be optimum for maximum collagenolytic protease production. *B. cereus* strain SUK has shown multiple plant growth-promoting traits, whereas degraded fish scale hydrolysates (FSHs) were having antimicrobial as well as plant growth-promoting abilities. The collagenolytic efficiency of this isolate can be exploited in an eco-friendly process of bioconversion of fish waste, representing an alternative way of waste management that could be used to produce various value-added products, such as collagenolytic protease, microbial biomass, amino acids, protein hydrolysates, and collagen peptides.

Keywords Collagenolytic protease · *Bacillus cereus* strain SUK · Response surface methodology · Plant growth-promoting traits · Fish scale hydrolysates

Introduction

In a world with 7.3 billion people, which is expected to grow by another two billion by 2050, human race has the huge challenge of feeding the planet while safeguarding its natural resources for future generations. Fishing industry is one of the established food sectors, which can supply ample amount of food to deliberately growing population (FAO 2014). A huge amount of fish production additionally inclines nearly equal amount of waste as that of final product. During processing of fish, significant amount of waste (20–80% depending upon the level of processing and type of fish) is generated (Ghaly et al. 2013). Immense quantity of waste produced should be properly treated, but a good care cannot be taken for all the waste produced. The numbers of ways are used to dispose the waste, which is polluting our environment in a very rigid manner. Landfilling and incineration are some of the methods which are used many times, but they are not fruitful as they are costly as well as require a good maintenance (Kim and Venkatesan 2014). Moreover, it results in the loss of useful biological resources, such as proteins.

Maintenance of high agriculture productivity is also a prerequisite to cater the demands of growing population (Perez-Montano et al. 2014). Currently, the productivity is diminishing due to the lack of sufficient nutrient availability to plants. Use of plant growth-promoting bacteria (PGPB) is gaining strong impulse among researchers and scientist. PGPB are reported for escalating the yield of various crops (Ahemad and Kibret 2014). Various bacteria, such as the *Bacillus*, *Rhizobium*, and *Pseudomonas*, have been extensively studied for their plant growth-promoting (PGP) factors in vitro as well as under field conditions (Vejan et al. 2016).

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जम्मू-काश्मीर राज्याच्या ग्रामीण भागातील उच्च शिक्षणाची स्थिती, समस्या आणि संभाव्य उपायोजना

श्री भारत बापू बिचितकर

गोषवारा:

भारतातील उच्च शिक्षण प्रणाली जगातील सर्वात मोठी शिक्षण प्रणाली म्हणून गणली जाते. देशाच्या अनेक राज्यातील सुमारे ६५% लोकसंख्या ग्रामीण भागात राहते. मात्र देशांच्या ग्रामीण भागातील उच्च शिक्षण पध्दतीत अनेक समस्या आहेत. भारताचे उत्तरेकडील जम्मू आणि काश्मीर राज्यही याला अपवाद ठरत नाही. आज जम्मूआणि काश्मीर राज्यात उच्च शिक्षणाच्या अनेक नामवंत संस्था असून, त्याच्या आधारावर राज्य आधुनिकीकरण आणि समृद्धीच्या मार्गावर निरंतर वाटचाल करत आहे. तरिही जवळपास ७२.७९ टक्के ग्रामीण लोकसंख्या असलेल्या जम्मू आणि काश्मीरराज्याच्या ग्रामीण भागातील उच्च शिक्षणात चांगल्या प्रतीच्या उच्च शैक्षणिक सुविधांचा अभाव आहे.जम्मू आणि काश्मीरराज्यातील बहुसंख्य उच्च शैक्षणिक संस्था शहरी क्षेत्रातच एकवटलेल्या आहेत, जिथे ग्रामीण भागातील युवक आपल्या कुटुंबापासून

श्री भारत बापू बिचितकर: सहायक प्राध्यापक, इतिहास विभाग,श्री शिवाजी महाविद्यालय, बार्शी

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मध्ययुगीन समतानायक महात्मा बसवण्णा आणि अस्पृश्यता निर्मूलन

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स्तावीक :–

महात्मा बसवण्णा हे 12 व्या शतकातील थोर संत, साहित्यिक, सद्दी, सामाजिक क्रांतिचे जनक आणि मानवतावादी महामानव होते. नी स्वतःचा विचार आणि आचरणाच्या माध्यमातून समाजाला नवीन ण आणि आकार दिला. संस्कृतीच्या इतिहासाचा प्रवाह बदलून त्याला छत वळण देण्याचं कार्य केवळ महान क्रांतिकारकच करू शकतो. तिकारकांना जुन्या वाटा, जीर्ण झालेले विचार मोडून नवविचारांची ष्ठापणा करावयाची असते. जग जसं आहे तसं सामान्य मनुष्य कारतो कारण त्याशिवाय त्याला गत्यंतर नसते. पण क्रांतिकारक मात्र ल्या अंतःकरण प्रवृत्तीला अनुसरून समाजाची आणि जगाची घडण ण्यासाठी प्रयत्नांची पराकाष्ठा करतो. आपण प्रमाण मानलेले आदर्श प्रत्यक्षात साकार झाल्याशिवय तो स्वस्थ त नाही. या प्रयत्नातूनच नवं जीवन, नवी विचारधारा समूर्त होऊ लागते. पण जुनं आपोआप गळून पडत ही. जे जगजीर्ण झालं आहे. त्याला भाबडेपणाने कवटाळून ठेवण्याची लोकप्रवृत्ती असते. क्रांतिकारकांला मात्र ी रचना अभिप्रेत असते. म्हणूनच जो जीर्णतेवर आणि कर्मठ बनलेल्या जड आचारपद्धतीवर प्रहार करून याच्या उदयासाठी अखंड परिश्रम करतो, अशा विचारशील क्रांतीकारकात महात्मा बसवण्णांचा समावेश होतो. पृश्यता निर्मूलन झाल्याशिवाय राष्ट्राचा व समाजाचा विकास होणार नाही हे महात्मा बसवण्णांनी जाणले होते ून याला अनुसरुन महात्मा बसवण्णांनी केलेल्या कार्याची चर्चा आपण प्रस्तूत शोध निबंधात करणार आहोत.

भारतीय समाजव्यवस्थेची अस्पृश्यता ही एक अमानवीय समस्या होय. किंबहुना भारतीय समाजव्यवस्थेला ालेला महाभयंकर आजार म्हणजे अस्पृश्यता होय. या संदर्भात डॉ. बाबासाहेब आंबेडकर प्रतिपादन करतात , हिंदूतील अस्पृश्यता ही एक विचित्र आणि जगाच्या पाठीवर इतर कोणत्याही भागातील मानवतेला अपरिचित ट आहे.[1] अस्पृश्यतेमुळे मनुष्याला पशूपेक्षाही हीन वागणून देण्यात येत असे. वैदिक कालीन वर्णव्यवस्थेच्या तीतून स्पृश्य–अस्पृश्यता जोपासणारी व शुद्रांना मानवी अधिकार नाकारणारी जातीव्यवस्था अस्तित्वात आली. जातीव्यवस्थेच्या जोखडात भारतीय समाज व शुद्रातिशुद्र वर्ग दिर्घकाळ शोषित व पीडित राहिला. या काळात ाने विचार करण्याऐवजी समाजाच्या विचाराचा केंद्रबिंदू देव आणि दैव हाच होता. या पार्श्वभूमीवर महात्मा वण्णांनी मानवतावादाची हाक व शिकवण तत्कालीन समाजाला दिली. मरगळलेल्या चेतनाहिन बनलेल्या ाजात मानवतावादी विचाराने चैतन्य प्राप्त करून देण्याचा प्रयत्न केला. जात ही कल्पना शूचित व सोवळे श्य, विटाळ या कल्पनेवर आधारलेली असून काही स्पृश्य तर काही जाती अस्पृश्य समजल्या जातात. समाजाचे वर्गीकरण अन्य कोणत्याही देशात आढळून येणार नाही.[2] म्हणून अस्पृश्यता निर्मूलन झाल्याशिवाय राष्ट्राचा व ाजाचा विकास होणार नाही हे महात्मा बसवण्णांनी जाणले होते. अस्पृश्यता नष्ट झाल्याशिवाय जातीयता नष्ट ार नाही, जातीयता नष्ट झाल्याशिवाय सामाजिक समता प्रस्थापित होणार नाही आणि त्याशिवाय समाजाची,

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महात्मा बसवण्णांचा जातीअंताचा लढा

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प्रास्ताविक

वर्णव्यवस्था आणि जातिव्यवस्था ही हिंदू समाजरचचचचनेची दोन महत्वाची अंगे होत. वर्ण आशि जात ही पारंपारिक हिंदू समाजाची दोन वैशिष्टये होय. हिंदूच्या जातिव्यवस्थेचे अर्थात जातिरथेचे मूळ वर्ण संकल्पनेत शोधले जाते. जातिव्यवस्था ही हिंदूची एक प्रभेदक वैशिष्टये असलेली व्यवस्था होय. कारण भारतातील सर्व समाजात जातिव्यवस्था शिरलेली आहे. हिंदू समाजात ब्राम्हण,क्षत्रिय,वैश्य व शुद्र अशा 4 प्रमुख जाती आणि असंख्य उपजाती निर्माण झाल्या आहेत. उच्च नीचना हे जातिव्यवस्थेचे डॉ. जी. एस घुर्ये यांनी सांगितलेले एक प्रमाणभूत वैशिष्टये होय.याप्रमाणे कोणतीही जात ही इतर जातीपेक्षा श्रेष्ठ अथवा कनिष्ठ असते. ही जातीची श्रेष्ठकनिष्ठता समाजमान्य असते. चार वर्ण आणि अक्षरशः हजारो जातीच्या उतरंडीवर आधारलेला भारतीय समाज जगात श्रेणीबध्द समाजाचा वस्तूपाठ म्हणून मानला जातो. येथिल संपूर्ण सामाजिक,आर्थिक जीवन त्या उतरंडीभोवतीच फिरताना दिसतें. कुटूंबसंस्थेपासून राज्यसंस्थेपर्यंत सर्वत्र श्रेणी आहेत.आणि वर अधिसत्ता व खाली आज्ञापालन या सुत्रानूसार त्या एकमेंकाशी जोडल्या गेल्या आहेत हे नित्य सरावाचे झाल्यामुळे भारतीयांनी शतकानुशतके या उतरंड रचनेला स्वाभाविक,नैसर्गिक मानले. चार वर्ण ही हिंदू समाजाची फक्त संकल्पनात्मक चौकट असून देशभर ती सर्वत्र सारखीच आहे आणि हजारो वर्ष टिकून आहे. किंबहूना असेही म्हणता येईल की चातुर्वर्ण्य व्यवस्था ही येथील समाजशास्त्रीय वस्तुस्थिती कधीच नव्हती,तर विषम समाजरचनेला समर्थन व बळकटी देणारी ती विचारप्रणाली होती.वर्णव्यवस्था, जातीव्यवस्था आणि सामाजिक विषमतेची उतरंड महात्मा बसवण्णांनी मोडून सामाजिक समतेचा पुरस्कार करून इ.स. च्या 12 व्या शतकातच वर्णव्यवस्था आणि जातिव्यवस्था अनावश्यक ठरविण्यासाठी उभारलेल्या जातीअंताच्या लढयाची चर्चा आपण प्रस्तुत शोधनिबंधत करणार आहोत ते पुढिलपप्रमाणे

शोधनिबंधाचे उदिष्टये

1) महात्मा बसवण्णाच्या जातीअंताच्या लढयाचा अभ्यास करणे.
2) महात्मा बसवण्णांनी सामाजिक समतेसाठी केलेल्या कार्याचा अभ्यास करणे.

महात्मा बसवण्णांचा जन्म इ.स.1105 मध्ये वैशाख शुध्द अक्षय तृतीयेला कर्नाटकातील विजापूर जिल्हयातील बागेवाडी येथे मादरस व मादलांबिका या दाम्पत्यांच्या पोटी झाला. इ.स. 12 वे शतक हे जातीयतेने, अंधश्रध्देने, कर्मकांडाने पोखरलेले होते. अशा परिस्थितीमध्ये महात्मा बसवण्णांनी नव भारताच्या उभारणीसाठी समग्र कांती केली. कांती म्हणजे अचानकपणे झालेला बदल असा सामान्यतः कांतीचा अर्थ घेतला जातो. परंतू माझ्या मते कांतीचा हा अर्थ संकुचित व अपूर्ण आहे. तर कांती म्हणजे सामाजिक जीवन ज्या मूल्यव्यवस्थेवर उभे असते.त्या मूल्यव्यवस्थेत बदल करणे होय. हा बदल महात्मा बसवण्णांनी यशस्वीरित्या घडवून आणला म्हणून ख–या अर्थाने ते मध्ययुगीन भारताच्या इतिहासाचे महानायक ठरतात,असे प्रतिपादन केले तर ते अतिशयोक्ती ठरणार नाही.

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Some studies on Tube well Water Quality and Bacteriological contamination in Barshi Town. (MS), India

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ABSTRACT

Groundwater is generally considered a "safe source" of drinking water because it is abstracted with low microbial load with little need for treatment before drinking. However, groundwater resources are commonly vulnerable to pollution, which may degrade their quality. An assessment of microbial and physicochemical qualities of borehole water in the rural environs of Barshi town, was carried out. The study aimed at determining levels of physicochemical and bacteriological (both faecal and total coliform bacteria). contaminants in drinking water using standard microbiology methods. Furthermore, identities of isolates were determined using the. Results were compared with World Health Organisation (WHO) and Department of Water Affairs water quality drinking standards. All analyses for physicochemical parameters were within acceptable limits except for turbidity while microbial loads during spring were higher than the WHO and Indian standerd. The detection of ***Escherichia coli***, ***Salmonella*** **and** ***Klebsiella*** **species** in borehole water that was intended for human consumption suggests that water from these sources may pose severe health risks to consumers and is unsuitable for direct human consumption without treatment. The study recommends mobilisation of onsite treatment interventions to protect the households from further possible consequences of using the water.

Gorund water is one of the major sources of drinking water supply in Barshi town, & is being exploited to fulfill the scarcity of water. An attempt has been made here to present a general scenario of water quality. Fifty one tube well water samples collected from different locations from Barshi town were analyzed for routine physic – chemical & bacteriological quality. It was found that 31%, 21%, 94%, 21% of total samples for chlorides, hardness, total solids & pH exceed the recommended by WHO. Thus it seems that all water samples are unfit for drinking and proper measures should be taken.

Keywords: Ground water quality, *Escherichia coli*, *Salmonella* and *Klebsiella* species Tubewell water, pollution, chloride, hardness.

INTRODUCTION: -

On a global scale, groundwater represents the world's largest and most important source of fresh potable water . Groundwater provides potable water to an estimated 2.5 billion people worldwide daily and has proved to be the most reliable resource for meeting rural water demand in the sub-Saharan Africa . Due to inability of governments to meet the ever-increasing water demand, most people in rural areas resort to groundwater sources such as boreholes as an alternative water resource. Thus, humans can abstract groundwater through a borehole, which is drilled into the aquifer for industrial, agricultural and domestic use. However, groundwater resources are commonly vulnerable to pollution, which may degrade their quality.

Generally, groundwater quality varies from place to place, sometimes depending on seasonal changes , the types of soils, rocks and surfaces through which it moves . Naturally occurring contaminants are present in the rocks and sediments. As groundwater flows

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Evaluation of bacteriological quality of ice creams and milk shakes marketed in Barshi city, Maharashtra, India

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ABSTRACT

Various kinds of ice creams and milk shakes are prepared from milk, milk powder, cream, sugar, emulsifiers, stabilizers, flavouring agents, colours, nuts, fruits etc. They are widely consumed by people everywhere in the world as favorite dairy product. They are prepared on large scale in food industries and also are prepared by street vendors as well as in ice cream parlors locally. Un-hygienic preparation, improper storage temperature, prolonged storage time of ice creams and milk shakes are recognized as one of the major causes of microbial food-borne diseases particularly typhoid, dysentery, cholera, gastro etc caused by bacteria. Also food poisoning botulism by anaerobic bacteria *Clostridium botulinum*, amoebic dysentery by protozoa *Entameoba hystolytica*, jaundice by viruses *Hepatitis* etc diseases are caused through consumption of contaminated ice creams and milk shakes. This study was aimed to evaluate the presence of bacteria *Escherichia coli, Salmonella, Shigella, Vibrio, Staphylococci and Bacillus cereus* in ice creams and milk shakes being served by street vendors and ice cream parlors in Barshi city of District Solapur (Maharashtra State, India), because these pathogenic bacteria are considered as most commonly occurring and causing diseases through these ice creams and milk shakes. *E. coli* are normal flora of intestine but can cause disease in lower immunity persons, but *E. coli* 0157:H7 strains are pathogenic. Forty five ice creams, milk shake and kulfi samples from 15 centers were collected in sterile containers and analyzed for presence of these pathogenic bacteria. Presence of *E. coli* indicates possible fecal contamination of ice creams and milk shakes. Coliforms Count using Most Probable Number (MPN) method and the total colony count (Colony Forming Unit, CFU) by Standard Plate Count (SPC) were performed; while for isolation of pathogenic bacteria selective media were used. MacConkey broth for counting MPN of coliforms and Nutrient agar for SPC was used. Selective isolation media Eosin Methylene Blue (EMB) agar for *E. coli*, Xylose Lysine Deoxycholate (XLD) agar for *Salmonella* and *Shigella*, Thiosulfate-Citrate-Bile Salts-Sucrose (TCBS) agar for *Vibrio*, Mannitoal Salt Agar (MSA) for *Staphylococci* and Mannitol-Egg Yolk-Polymyxin (MYP) agar for *Bacillus cereus* were used. Bacterial strains isolated from various ice creams and milk shakes were identified on the basis of cultural characters, morphology and biochemical characters. 102 pathogenic bacterial strains were isolated from 45 samples. The identified bacterial genera were as *Escherichia coli* (100%) in 45 samples of 15 ice cream centers; *Salmonella spp* (20%) in 09 samples of 3 ice cream centers, *Shigella spp.* (20%) in 09 samples of 03 ice cream centers, *Vibrio spp* (20%) in 09 samples of 3 ice cream centers, *Staphylococcus aureus* (40%) in 18 samples of 6 ice cream centers and *Bacillus cereus* (27%) in 12 samples of 4 ice cream centers. Out of 15 ice cream centers, the occurrence of above pathogenic bacteria was not found in samples of 5 ice cream centers (33%) except *E. coli* while pathogenic bacteria were found in samples of 10 ice cream centers (67 %). The causes of occurrence of these pathogens were analyzed by enquiring these 10 centers and found that; highly contaminated water, unhygienic conditions

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Bacteriological Quality of Freshly Squeezed sugar-cane juices and public health risks vended in Solapur district, Maharashtra, India

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ABSTRACT

Sugarcane juice is a nutritious, tasty drink extracted from squeezed sugarcane *Saccharum officinarum.* It is rich in vitamins, mineral salts, simple sugars and organic acids that are assimilated by human beings. However, the major problem encountered is the lack of hygiene during crushing operation resulting in the contamination of the juice with a heavy load of micro-organisms which arises due to improper cleaning of the sugarcanes and handling of the finished product. Raw sugarcane juice is a carbohydrate-rich, low acid food and is therefore susceptible to the growth of molds and yeasts, spoilage bacteria and also of pathogenic bacteria. It has been found that most of the centers and street vendors do not take proper precautions to avoid microbial contamination. Contaminated water, ice, machines, glasses etc add disease causing microorganisms in the juice. Un-hygienic preparation, improper storage temperature, biological vectors such as flies and insects and prolonged storage time are recognized as one of the major causes of microbial food-borne diseases particularly typhoid, dysentery, cholera, gastro etc caused by bacteria *Escherichia coli, Salmonella, Shigella, Vibrio, Staphylococci and Bacillus cereus.* This study was aimed to evaluate the presence of these bacteria in sugarcane juices being served by street vendors and juice centers located in Solapur district (Maharashtra State, India), because these pathogenic bacteria are considered as most commonly occurring and causing diseases through these juices. Twenty five samples from 25 juice centers were collected in sterile containers and analyzed for presence of these pathogenic bacteria. Presence of *E. coli* indicates possible fecal contamination of juices. Total Coliforms Count by Most Probable Number (MPN) and the total colony count (Colony Forming Unit, CFU) by Standard Plate Count (SPC) methods were performed. MacConkey broth for counting MPN of coliforms and Nutrient agar for SPC were used; while for isolation of pathogenic bacteria, selective isolation media such as Eosin Methylene Blue (EMB) agar for *E. coli,* Xylose Lysine Deoxycholate (XLD) agar for *Salmonella* and *Shigella*, Thiosulfate-Citrate-Bile Salts-Sucrose (TCBS) agar for *Vibrio*, Mannitoal Salt Agar (MSA) for *Staphylococci* and Mannitol-Egg Yolk-Polymyxin (MYP) agar for *Bacillus cereus* were used. Bacterial strains isolated from various sugarcane juices were identified on the basis of cultural characters, morphology and biochemical characters. 47 pathogenic bacterial strains were isolated from 25 samples. The identified bacterial genera were as *Escherichia coli* (100%) in 25 samples; *Salmonella spp* (20%) in 05 samples, *Shigella spp.* (20%) in 05 samples, *Vibrio spp* (12%) in 03 samples, *Staphylococcus aureus* (20%) in 05 samples and *Bacillus cereus* (16%) in 04 samples. Out of 25 juice centers, above pathogenic bacteria other than *E. coli* were found in samples of 13 centers (52 %) while they were not found in samples of 12 juice centers (48%) except *E. coli.* The causes of occurrence of these pathogens were analyzed by enquiring these 13 centers and found that; highly contaminated water, unhygienic conditions of water storage and unclean utensils, presence of unhygienic

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Bioactivity study of *Tridax procumbens* extracts on *Staphylococcus aureus*

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ABSTRACT

Many ancient traditions including the Ayurveda, Siddha and the Unani systems of medicine have advocated the use of several herbal preparations like plant juices and extracts for diseases including infectious ones. Traditional medicine is an important source for the development of novel chemotherapeutic agents which are less toxic and more economic. Many plants and their parts are used for the treatment of various diseases in different parts of the world, and are being screened for antimicrobial activities and the results obtained from these scientific studies have aided in the rationalization of medical use of these plants. Traditionally, *Tridax procumbens* has been in use in India for wound healing and as an anticoagulant, antifungal, and insect repellent. The juice extracted from the leaves is directly applied on wounds. Its leaf extracts were used for infectious skin diseases in folk medicines. this study was carried out to compare the antibacterial activity of aqueous and ethanolic extracts of the leaves and stems of T. procumbens and to study the efficacy of the extracts against pus forming *Staphylococcus aureus* pathogens in wounds. The antibacterial activity was determined by the agar well-diffusion method. As per the results, S. aureus showed maximum zone of inhibition by ethanolic extract than aqueous extract. The ethanolic extract of tridax procumbens was evaluated for their MIC against S. aureus at 15 to 16 mg/ml and aqueous extract at 10 to 11 mg/ml.

Key words: *Tridax procumbens*, *Staphylococcus aureus*, antibacterial activity, ethanolic extract than aqueous extract.

INTRODUCTION

Ethno botanical information from India estimates that many plant species are used in its codified and folk healthcare traditions (Ved and Goraya, 2007). As sources of biologically active molecules and blue prints for the development of modified derivatives with enhanced activity and /or reduced toxicity, plant-derived drugs form an important segment of the modern pharmacopoeia. With ethno- pharmacologists, microbiologists and botanists combing the earth for such natural treasures, much of the research is being spotlighted on plants and their phytochemicals. This could translate into effective drugs as well as nutritional supplements (nutraceuticals) (Cowan, 1999). Many ancient traditions including the Ayurveda, Siddha and the Unani systems of medicine have advocated the use of several herbal preparations like plant juices and extracts for diseases including infectious ones. Traditional medicine is an important source for the development of novel chemotherapeutic agents which are less toxic and more economic (Adamu et al., 2005).

Traditional medicinal knowledge and its use for finding active chemical structures for medicine is necessary to have co-operative efforts between modern and traditional health workers and researchers (Srinivasan et al., 2001). In developing countries, traditional medicine occupies a central place among rural communities but enough information is not available about the chemical composition and real biological possibilities of most of the plants traditionally in use. Many plants and their parts are used for the treatment of various

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REPORTING A NEW SPECIES OF SENGA FARTADENSIS IN A FRESHWATER FISH MASTACEMBELUS ARMATUS FROM SOLAPUR DISTRICT

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Abstract

The paper deals with the new species of the genus Senga fartadensis form freshwater fish M. armatus in Solapur district. The differentiating character of Senga fartadensis Sp. Nov. The differentiating character of Senga fartadensisSp.Nov.are scolex triangular No.of hooks 80-90 in number, neck present, testes are 250-305 in number, ovary is butterfly shape and bilobed.

Keywords: M. armatus, Senga fartadensis, Solapur.

Introduction:-

The genus Senga was established by Dollfus, 1934 with its type species S. oesnardi from Betta splendens at Vinecunes, France. S. ophiocephalina Tseng, 1933 as Anchistrocephalus ophiocephalina from Ophiocephalus argus at Taimen, China and identified with a form previously recorded by Southwell, 1913 as Anchitrocephalus polyptera (Anchitrocephalus)Monticelli, 1890 Syn. Anchistrocephalus Luhe, 1899 from Ophiocephalus striatus in Bengal, India S. pcynomera Woodland, 1924 as Bothriocephalus pcynomera from Ophiocephalus marulius at Allahabad, India. S. lucknowensis. Johri, 1956 from Mastacembelus armatus in India. Fernando and Furtado, 1963 recorded S. malayana from Channa striata, S. parva and S. filiformis from Channa micropeltes at Malacca. Ramadevi and Hanumantha Rao, 1966 reported the plerocercoid of Senga sp. from Panchax panchax. Tadros, 1968 synomised the genus Senga with the genus Polyonchobothrium and proposed new combinations for the species. Furtadoand Chauhan, 1971 reported S. pahangensis from Channamicropeltes at Tesak Bera. Shinde, 1972 redescribed S. besnardi from Ophiocephalus gachua in India. Ramadevi and Rao, 1973 reported another species of S. visakhapatanamensis India. Ramadevi (1976) described the life cycle of S. visakhapatnamensis from Ophiocephalus punctatus in lake at Kondakaria, Andhra Pradesh, India. But they do not agree with Tadors statements. Wardle, McLeod and Radinovsky, 1974 put Senga as a distinct genus

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An efficient, cost effective, sensing behaviour liquid-liquid extraction and spectrophotometric determination of copper(II) incorporated with 4-(4′-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole: Analysis of food samples, leafy vegetables, fertilizers and environmental samples

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ABSTRACT

The aim of the present work is to develop an efficient, simple and selective moreover cost-effective method for the extractive spectrophotometric determination of copper(II) by using the Schiff base 4-(4′-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole [CBIMMT]. This chromogenic reagent forms a yellow coloured complex with copper(II) in acetate buffer at pH 4.2. The copper(II) complex with ligand is instantly extracted into chloroform and shows a maximum absorbance at 414 nm which remains stable for >48 h. The composition of extracted complex is found to be 1:2 [copper(II): reagent] which was ascertained using Job's method of continuous variation, mole ratio method and slope ratio method. Under optimal conditions, the copper(II) complex in chloroform adheres to Beer's law up to 17.5 μg mL^{-1} of copper(II). The optimum concentration range obtained from Ringbom's plot is from 5 μg mL^{-1} to 17.5 μg mL^{-1}. The molar absorptivity, Sandell's sensitivity and enrichment factor of the extracted copper(II) chelate are 0.33813×10^4 L mol^{-1} cm^{-1}, 0.01996 μg cm^{-2} and 2.49 respectively. In the extraction of copper(II), several affecting factors including the solution pH, ligand concentration, equilibrium time, effect of foreign ions are optimized. The interfering effects of various cations and anions were also studied and use of masking agents enhances the selectivity of the method. The chromogenic sulphur containing reagent, 4-(4′-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole has been synthesized in a single step with high purity and yield. The synthesized reagent has been successfully applied first time for determination of copper(II). The reagent forms stable chelate with copper(II) in buffer medium instantly and quantitatively extracted in chloroform within a minute. The method is successfully applied for the determination of copper(II) in various synthetic mixtures, complexes, fertilizers, environmental samples such as food samples, leafy vegetables, and water samples. The results are compared with those obtained with a reference procedure. Good agreement was attained. All the obtained results are indicative of a convenient, fast method for the extraction and quantification of micro levels of copper(II) from various environmental matrices without use of sophisticated instrumentation and procedure. The method showed a relative standard deviation of 0.42%.

1. Introduction

Copper is one of the very essential elements that plays a vital role in the biological systems. Copper occurs naturally in many vegetables, meat and grains. In biological systems, copper counter acts the toxicity of zinc suggesting Cu—Zn antagonism [1]. Copper and its salts are more toxic to some lower organism(s) than to human beings. It turns toxic at higher level due to its accumulation in cell membranes and

Abbreviations: CBIMMT, 4-(4′-Chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole; RSD, Relative standard deviation; UV–Vis., Ultraviolet visible; AAS, Atomic absorption spectrophotometer; LOD, Limit of detection; LOQ, Limit of quantification.

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मैत्रेयी पुष्पा की कहानियों में नारी समस्या और नारी सशक्तिकरण के परिपेक्ष्य में

डॉ. अर्चना शिवाजीराव कांबळे, हिंदी विभाग, श्री शिवाजी महाविद्यालय, बार्शी

सारांश: स्वातंदत्र्योत्तर भारत होने में अनेक परिवर्तनों ने भारतीय सामाजिक परिवेश का बहुत हद् तक प्रभावित किया। एक और जहाँ इन परिवर्तनों ने प्रगति एवं विकास की दिशा दिखाई, वहाँ दूसरी ओर मूल्यों में विघटन आया एवं अन्य नवीन मूल्यों की निर्मिती हुयी। स्वतंत्रता प्राप्ति, औद्योगिक विकास, वैज्ञानिक प्रगति, पाश्चात्य सभ्यता के प्रभाव नगरीकरण, शिक्षा-कला, संस्कृति आदि की धारणाओं में परिवर्तन ने परिवेश बदलने की ही नवीन समस्याओं को जन्म दिया। समाज की समस्या का भी अब व्यक्ति की दृष्टि से आकलन होने लगा। परिवेश, आस-पास के वातावरण की समस्याओं का भी व्यक्ति की दृष्टि से आकलन होने लगा। परिवेश तथा वातावरण की समस्याएँ इस रुप मे सामने आयी।

प्रत्येक व्यक्ति समस्याग्रस्त होता है। विश्व का कोई भी व्यक्ति समस्याओं से मूक्त नहीं हैं। व्यक्ति के सामने किसी न किसी प्रकार की समस्या होती है। वह समस्याओं से छूटकारा पाने के लिए प्रयत्न करता है। मनुष्य की कुछ समस्या वैयक्तिक होती है और उसका परिणाम भी व्यक्ति तक सीमित होता है। मनुष्य के सामने अलग-अलग प्रकार की समस्याएँ है इसलिए वह क्रियाशील रहता है, अगर समस्याएँ नही होती तो वह अकार्यक्षम बन जाता है। वैयक्तिक समस्याओं की तरह समाज में अनेक सामाजिक समस्याओं का अस्तित्तव है। समाज उन समस्याओं को सूलझाने का प्रयत्न किया जाता है। प्रत्येक काल में समस्याओं का स्वरुप अलग-अलग रहा है। प्राचीन काल में समस्याएँ दिखाई देती थी। किन्तु अब यह समस्याएँ समाज में नही है। समाज परिवर्तन के साथ परिवार विघटन, जनसंख्या, बेकारी, तलाक, भ्रष्टाचार, इसके अतिरिक्त नौकरी करनेवाले स्त्रियों के सामने अनेक प्रश्न हैं, समस्याएँ है। उनसे जूझते-जूझते स्त्री को अपना और परिवार का खयाल रखना पड़ता है।

अंतिम दशक लेखिकाओं ने अपने कहानियों में समस्याओं को स्पष्ट करने का प्रयास किया है। इनमें लेखिका मैत्रेयी पुष्पा जी का नाम विशेष उल्लेखनीय है। मैत्रेयी पुष्पा द्वारा लिखित "ललमनियाँ" कहानी संग्रह सन १९९६ में प्रकाशित है। मैत्रेयी जी "ललमनियाँ" कहानीसंग्रह में अपनी कहानियों में नारी के हकों के प्रति सजग होने का इशारा करती है। स्वयं निर्णय क्षमता, आत्मसम्मान, स्वयं अस्तित्त्व की पहचान बनाने में नारी को प्रेरित किया है। जीवन में शिक्षा का महत्त्व प्रतिपादित करते हुए हर नारी को शिक्षा प्राप्त करनी होगी और आत्मनिर्भर होकर जमाने के सामने अपने कर्तृत्व दिखाने होगे। इसके ही साथ वे अपना यह भी विचार रखती है कि, नारी का जीवन चैतन्यमय हो, इस तरह के प्रयत्न नारी को स्वयं करने होंगे। राजनीति में जाकर सिर्फ दूसरों के निर्णयों पर नहीं चलना चाहिए, स्वयं का रास्ता नारी को स्वयं बनाना होगा। स्त्री में मानवतावादी विचार विद्यमान है।

"ललमनियाँ" कहानी संग्रह में संग्रहित कहानी "फैसला" है। कहानी में प्रमुख नायिका वसुमती है। कहानी में मुख्य समस्या स्त्री के प्रति होनेवाला अन्याय और शोषण है। इसके ही साथ सामाजिक और राजनैतिक स्तर की समस्या भी दिखाई देती है। इसमें नारी के चुनावी क्षेत्र में सहभाग का वर्णन है। चुनाव क्षेत्र में महिलाओं की संख्या शुरु से ही कम रही है। इस कहानी में मैत्रेयी पुष्पा जी ने उनके सहभाग पर प्रकाश डालने की कोशीश की है।

रनवीर की पत्नी वसुमती ग्यारहवीं पढ़ी है। वह ग्रामपंचाय की सरपंच है लेकिन सारा कारोबार उसका पति रणवीर ही देखता है। गाँव की स्त्रियाँ वसुमती को वोट देकर अपना नेता अर्थात सरपंच के रुप में चुनती है। उससे न्याय की उमीद रखते है। लेकिन वह चाहकर भी उनके लिए न्याय नहीं देती है। वसुमती सरपंच है, वह गाँव के स्त्रियों पर होनेवाले अन्याय, अत्याचार के खिलाफ सरपंच के रुप में न्याय देना चाहती है। लेकिन वह स्वयं ही अपने पति के दबाव में है, वह पति के अन्याय या शोषण को सहती है, कुछ नहीं करती।

वसुमती भले ही गाँव की सरपंच हो गयी है, लेकिन गाँव के लोग और उसका पति उसकी तरफ सामान्य गृहस्थी संभालनेवाली सामान्य स्त्री समझते है। उसे नेतृत्व करनेवाली सरपंच के रुप में नहीं देख सकते है। यहाँ कहानी में मैत्रेयी जी ने समाज में रहनेवाले पुरुष स्त्रीयों को राजनीतिक क्षेत्र में नेतृत्व के रुप में नहीं सह पाते है, उनको हमेशा अनेक षड्यंत्रों से दबाव में रखने की कोशिश करते है। इन बातों पर प्रकाश डाला। वसुमती अपने पति के अन्याय, शोषण के प्रति लड़ती है। पति के दबाव के बावजूद गाँव के स्त्रियों को न्याय देने की कोशिश करती है।

आज वर्तमान काल में परिस्थिति बदल रही है। आज सरकार ने महिलाओं के लिए आरक्षण और विविध योजनाएँ कार्यान्वित की हैं। आज ग्राम और शहर में राजनैतिक क्षेत्र की महिलाएँ अपने राजनैतिक पद का कारोबार स्वयं देखती है अपने पति या किसी और को हस्तक्षेप करने नहीं देती है। आज की स्त्री राजनैतिक क्षेत्र में नेतृत्व करके समाज में पीड़ित, शोषित महिलाओं को न्याय देने की

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युगप्रवर्तक महात्मा कबीर

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सारांश :

भक्तिकाल का प्रारंभ निर्गुण संत काव्य से होता है। इस धारा के कवियों में उन संत कवियों का स्थान है, जिन्होंने एकेश्वरवाद में आस्था व्यक्त करते हुए निर्गुन-निराकार ईश्वर की भक्ति का संदेश दिया है। भक्ति के क्षेत्र में ये संत कवि भारतीय निर्गुन भावना के समीप होते हुए अद्वेत दर्शन के प्रतिपादक थे किंतू दर्शन की मात्र पीठिका उन्हें स्वीकार्य थी। दार्शनिक मतवाद या भेदाभेद के प्रपंच से उनका साक्षात कोई संबंध नही था। सामाजिक स्तर पर इन संतो ने पाखंड एवं अंधविश्वासों की परी दृढ़ता से खंडण किया। अन्य रुढ़ियाँ और मिथ्याडंबरों के प्रति जैसी अनास्था इन संत कवियों ने व्यक्त की। इन संत कवियों का बड़ा भाग निम्न वर्ग से संबंध रखता था किन्तू आचरण की पवित्रता और आचरित सत्य की प्रतिष्ठा के कारण इनकी वाणी का प्रभाव समाज के उच्च वर्ग पर भी पड़ा था। निर्गुन संतो के द्वारा तत्कालिन समाज में एक प्रकार की वैचारिक क्रांति का उदय हुआ और परंपरागत रुढ़िवादित पर इन्होंने गहरा प्रहार किया। इन कवियों की वाणी का प्रभाव सामान्य जनता पर भी पड़ा और समाज के सभी वर्गों के व्यक्ति इनसे प्रभावित हुए। संत कवियों के पास धर्म, दर्शन, भक्ति और चरित्र निर्माण के लिए अपना नीजि संदेश था। धर्म के क्षेत्र में संकिर्णता के ये घोर विरोधी थे, दर्शन के क्षेत्र में संकिर्णता के ये घोर विरोधी थे, दर्शन के क्षेत्र में अर्द्वेत दृष्टि से एकेश्वरवाद के समर्थक थे। भक्ति के क्षेत्र में ये कर्मकांड रहित निष्ठा और समर्पण में विश्वास रखते थे।

भक्तिकाल की निर्गुण धारा के संत कवि कबीर ने नाथ पंथियों की हठयोग साधना में "भक्ति भावना" का समावेश कर उसकी नीरसता को सरसता में परिवर्तित कर दिया। भक्त कबीर रामानंद के शिष्य थे तथा वैष्णवों के प्रति आदरभाव रखते थे। कबीर का जीवनवृत्त भी प्रायः अंधकारमय है। उनके जन्म, मृत्यू, वास-स्थान, यथार्थ नाम के संबंध में असंदिग्ध रुप से कुछ कहा नहीं ज सकता है। वे सिकंदर लोधी के समकालीन थे। कबीर का जन्म लगभग सं. १४५५ में हुआ ऐसा माना जाता है। स्वामी रामानंद कबीर के दीक्षा गुरु थे। इस कथन की पुष्टि अन्तः साक्ष्य के आधार पर भी हो जाती है, कबीर का कहना है, "काशी में हम प्रकट भये, रामानंद चेताए।"

कबीर के जन्म के बारे में कई किवदंतियाँ प्रचलित है। कुछ एक का कहना है कि एक विधवा ब्राम्हणी ने उन्हें जन्म दिया था। इनका पालन-पोषण निःसंतान जुलाहा दंपति निरु और निमा ने किया। इस बात का समर्थन कबीर का आपने आप को जुलाहा कहने से भी हो जाता है। कबीर गृहस्थी थे। इनकी पत्नि का नाम लोई था। डॉ. रामकुमार ने इनकी एक अन्य पत्नी भी मानी है जिसका नाम धनिया या रमजानिया था। कमाल और कमाली इनके पुत्र और पुत्री थे। कबीर की कई उक्तियों से आभास मिलता है कि इनका पारिवारिक जीवन सुखी नहीं था। कुछ विद्वानों ने इनके निहाल और निहाली नामक पुत्र तथा पुत्री भी माने हैं।

कबीर का व्यक्तित्व :

महात्मा कबीर परम संतोषी, उदार, स्वतंत्र चेता, निर्भिक, सत्यवादी, अहिंसा, सत्य और प्रेम के समर्थक सात्विक प्रकृति, बाह्याडंबर विरोधी और क्रांतिकारी सुधारक थे। वे मस्तमौला लापरवाह, और फक्कड़ फकीर थे। वे जन्मजात विद्रोही थे और उनमें एक अदम्य साहस एवं अखंड आत्मविश्वास था। वे प्रखर प्रतिभा और विलक्षण, अथक सशक्त व्यक्तित्व से संपन्न थे। वे सिकंदर लोदी के सामने झुके नहीं। कबीर का व्यक्तित्त्व आजीब सा है। डॉ. हजारीप्रसाद द्विवेदी इस संबंध में लिखते है, "कबीर सिर से पैर तक मस्त मौला, स्वभाव से फक्कड़, आदत से अक्खड़, भक्त के सामने निरिह, भेषधारी के आगे प्रचंड, दिल के साफ, दिमाग से दुरुस्त, भीतर से कोमल, बाहर से कठोर, जन्म से अस्पृश्य, कर्म से वंदनिय थे। युग प्रवर्तक की दृढ़ता उनमें विद्यमान थी, इसीलिए वे युग प्रवर्तन कर सके।"

कबीर के ग्रंथ :

"बीजक" कबीर की प्रामाणिक रचना मानी गयी है। इसमें कबीर के उपदेशों का उनके शिष्योंद्वारा संकलन है। "बीजक" के तीन भाग है-

१. साखी
२. शब्द
३. रमैनी आदि।

कबीर का सिद्धांत : कबीर निराकारवादी है। "निराकार की प्राप्ति ज्ञान से संभव है।" कबीर ने बार-बार 'राम' शब्द का प्रयोग किया है, किन्तू उनके "राम" सगुण अर्थात दशरथ पुत्र राम न होकर परमब्रम्ह् का प्रतिक है। कबीर एकेश्वरवादी है, किन्तु उनका एकेश्वरवाद मुस्लिम एकेश्वरवाद से भिन्न पड़ता है। कबीर द्वारा प्रतिपादित ईश्वर व्यापक है, वह समस्त संसार में रम रहा है और इसमें समस्त संसार रम रहा है। कबीर की भक्ति अन्यन्य भाव से संपन्न है। वह सर्वथा निष्काम है।

ललमानियाँ में नारी विमर्श
(फैसला, तुम किसकी को बिन्नी?ललमनियाँ कहानियों के संदर्भ में)

डॉ. अर्चना शिवाजीराव कांबळे
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वर्तमान षताब्दी महिला सषाक्तिकरण एवं स्त्री विमर्ष का नाम है। जब से महिला सषाक्तिकरण वर्श मनाया गया तभी से नारी, महिला, स्त्री षब्द, विशय या मुद्दो के सागर की गहराई से धरातल पर उभर कर मानों एक तरह से उछल कर सामने आए है। यह षब्द अपनी अर्थवत्ता चाहे जितनी गहराई में हो, किन्तु यह सब जागरूक साहित्यकारों, पत्रकारों, लेखकों समाजसेवियों, फिल्म कार्यकर्ताओं, मीडिया तक विष्वस्तरीय समस्त जगत् में ऊथल–पुथल मचा देने वाला सिध्द होकर आया है। स्त्री की वर्तमान स्थिति, स्त्री मुक्ति, स्त्री स्वातंत्र्य, स्त्री की आस्मिता का सर्वेक्षण, स्त्री आंदोलन उसके निरंतर सुधार के लिए जा रहे प्रयत्नो, प्रयासों पर सर्वेक्षणात्मक लेख बिल्कुल आधुनिक फैषन के बाजार में चल रहा है। उसका अपरिहार्य अंग बन गया है। सभी की नजर में नारी केंद्र है। साहित्य का ज्वलंत विशय स्त्री विमर्ष है। लेखक, साहित्यकार और बुध्दिजीवी सदियों से पीछे ढकेली गयी। षोशित, दलित स्त्री को ही केंद्र मे लाने के लिए संघर्शरत है। सभी समय के साथ परिवर्तित हो रही स्त्री की स्थिति को नजरबंद कर रहे है। हर तरफ स्त्री की पुकार, उसके लिए कुछ करने का जुनून स्त्री स्वयंसेवी संस्था, संगठनों तथा स्वयं महिलाओं में भी ऐसी सजगता पनप रही है। हर जगह स्त्री पर आंदोलन हो रहे है तथा स्त्री पर छपते लेख, विचार, चिंतन, है किन्तु उन सबका अर्थ या तो किसी भावुकता संकल्प, इच्छाषक्ति आदि षब्दो से होता है।

स्त्री की आजादी का प्रष्न हमारी सारी बहसों का मुख्य मुद्दा है। हमारे यहाँ वर्शा से जब की स्त्री का स्वातंत्र्य और अस्मिता की बात हमारे सामने आती है। स्त्री या तो अबला होती है या फिर सबला हो जाती है किन्तु जिस मोड पर पुरूश खडा है उस मोड़ पर वह नहीं आ पाती है। उसके प्रति कभी तिरस्कार भाव से देखा जाता है। कभी उसे संकुचित निम्न वर्ग का मानकर उसका षोशण किया जाता है, या कभी उसकी तरफ व्यापक दृश्टि से भी देखा जाता है, उसे वंदनिय पूजनीय योग्य भी माना जाता है। लेकिन उसे मानव रूप नहीं दिया। कायम उसके प्रति निम्न संकुचित दृश्टि रखी। यही उसकी एक विडंबना है। स्त्री एक मानव रूप है, उसे सारे मानवाधिकार मिलने चाहिए ।

आज स्त्री विमर्ष का मुद्दा ज्वलंत होने से अनेक विचारों के मंथन से अनेक लाभ हुए है। आज समाज में स्त्रियाँ खुद को कमजोर नहीं समझ रही है। वह स्वयं को अबला नंही सबला समझ रही है, वह अनेक पुरूपों के समाज के रूढी परंपरा के विविध बंधनों से मुक्त हुई। उसका षैक्षिक, वैचारिक स्तर उँचा हुआ है, उसे यह लगने लगा है,"हम औरतों को भी भूख लगती है, हमारे अंदर भी कुछ कर गुजरने के सपने जगते है, हमारे अंदर क्षमता है, करूणा है तो वक्त–बेवक्त नफरत और ईर्श्या के भाव भी पैदा होते है। एका तानाषाहा व्यवस्था और संस्कृति हमें भी उतना ही तानाषह बन सकती है, जितना किस पुरूश को सत्ता का नषा हमें भी उस हद तक पागल बना जा सकता है, जिस हद् तक पुरूशो को, जिस तरह मर्दो को यौन की भूख सताती है, उसी तरह समाज ने जो यौन अधिकार उन्हें दे रखे है, हमे भी चाहिए। समाज जिन पाबंदियों को न्यायजनक मानता है, उसे मानने को पुरूशों को भी उतना ही बाध्य होना है जितना हमें।" स्त्री एक पुरूश की प्रतिस्पर्धा कर रही है, या पुरूश से बराबरी करना चाहती है, या उससे अपने आप को बड़ा मानती है। वह आज षिक्षित है, हर क्षेत्र में पुरूशों से आगे है, हर बात में पुरूशो से भी सक्षम होने के बावजूद उसे अपना और परिवार का निर्णय लेने का अधिकार नहीं है या निर्णय लेने का स्वतंत्र नहीं दिया है, हमेषा वह दूसरों पर अवलंबित है, उसका जीवन एक पुरूश के बिना पूरा नहीं है। उसे बार–बार यह एहसास दिलाया जाता है कि, वह दूसरों पर अवलंबित है, खास तौर पर पुरूशो पर। आज आधुनिक युग में स्त्रियां अपने आप को परिवर्तित कर रही है। वह स्वयं निर्णय ले रही है, वैचारिकता उच्चस्तर की रख रही है, अर्थात वह आत्मनिर्भर बन रही है, सक्षम हो रही है फिर भी इतना सब

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Catalysis

Aerosil-Supported Ionic-Liquid-Phase (ASILP) Mediated Synthesis of 2-Substituted Benzimidazole Derivatives as AChE Inhibitors

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Aerosil supported ionic liquid phase (ASILP) has been prepared by confinement of ionic liquid [Bmim]PF_6 on the aerosil support by adsorption interactions. This novel ASILP served as robust heterogeneous catalyst in the synthesis of biologically relevant 2-substituted benzimidazoles from *o*-phenylenediamines and aryl aldehydes in high yields under mild reaction conditions. The molecular docking studies revealed potential of 2-substituted benzimidazoles to act as acetyl cholinesterase inhibitors (AChE).

Introduction

The advent of green chemistry principles has raised a strong attention in redesigning synthetic processes so that use of hazardous substances and the generation of toxic waste can be avoided.[1] A number of strategies and scientific tools have been explored to realize sustainable chemical processes.[2] With this regard, much attention has recently been focused on the concept of supported ionic liquid phase (SILP) catalysis involving immobilization of ionic liquids (ILs) onto a surface of a porous high area support material.[3] This novel class of advanced materials constitutes one of the powerful green tools for catalyzing sustainable chemical processes. The interest in SILP catalysts stems from their interesting properties such as environmentally benign nature, high activity and selectivity, easy handling, ease of product separation and the efficient catalysts recycling. In addition, the processes applying SILP catalysts can be performed in continuous mode using fix bed reactors.[4] The concept of SILP catalysis has significantly progressed in the last few years, resulting in new applications for various organic transformations.[5] The SILP catalysts are usually prepared by depositing ILs on the surface of high area porous material either by covalent bonding or adsorption interactions.[6a,b,c] The majority of the supports used in SILP catalysis are either porous silica gels or polymer based materials.[7] In addition, carbon nanotubes,[8] active carbon cloth,[9] chitosan,[10] magnetic nanoparticles,[11] and carbon nanofibers supported on sintered metal fibers[12] have also been sporadically employed as supports. To expand the scope of SILP catalysis, it is necessary to explore new fundamental approaches to current catalytic systems. To achieve this objective, it is necessary to evaluate compatibility of new supports in the synthesis of SILP catalysts since their performance is strongly dependent upon the choice of support material. In this regard, we sought to explore the compatibility of aerosil which is commercially available, pyrogenic, amorphous silica powder with primary particles of spherical shape with average diameter of 7–40 nm with high specific surface area of 200 m^2/g. These intriguing features of aerosil spurred us to investigate its compatibility as a support in the synthesis of SILP catalysts.

Benzimidazoles are a class of pre-eminent heterocycles and the molecular scaffold of prime medicinal importance.[13] 2-Substituted benzimidazoles constitute important class of benzimidazoles that have received significant attention because of their biological activities such as antibacterial, anticancer, anti-oxidants, anti-inflammatory, anti-diabetic, antiviral, antiproliferative and antituberculosis activity.[14] Owing to their high therapeutic potential, synthesis of 2-substitiuted benzimidazoles has received increasing attention from various scientific communities. The traditional routes for synthesis of 2-substituted benzimidazoles involve the reaction between *o*-phenylenediamine and carboxylic acid or their derivatives[14] and thermal or acid promoted cyclization of *N*-(*N*-arylbenzimidoyl)-1,4-benzoquinoneimines.[15] Recently, direct condensation of *o*-phenylenediamine and aryl aldehydes is reported to be the most convenient method for the preparation of 2-substituted benzimidazoles.[16] A variety of catalyst such as TiO_2NPs,[17] UHP/12,[18] $CeCl_3$·$7H_2O$,[19] saccharose,[20] zeolite,[21] CAN /methanol,[22] solid acid Scolicite,[23] heteropoly acid,[24] imidazolium trifluoroacetate protic ionic liquid,[25] carbon disulphide,[26] CoCl2 6H2O,[27] have been reported to catalyse this

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महात्मा बसवण्णांचे - स्त्री विषयक विचार व कार्य

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• प्रस्तावना :

भारतीय समाज व्यवस्थेचा मूलभूत आधार असलेली स्त्री विविध रुढी, परंपरा आणि धार्मिक बंधनानी प्राचीन काळापासूनच बंधिस्त केल्याने ती अधिकार व हक्कांपासून वंचित होऊन शरीर असून प्राण नसल्यासारखी झाली होती. भारतातील जवळपास सर्व शास्त्रे, स्मृती व पुराणकारांनी स्त्री ही जन्मत:च शुद्र असते. यावर शिक्कामोर्तब केले होते. प्राचीन काळापासून वेद अध्ययन, शिक्षणाचा, संपत्तीचा घटस्फोटाचा अधिकार मिळू न देता केवळ पुरुषांच्या उपभोगाची एक वस्तू म्हणूनच तिला सेवेसाठी वापरण्याचा प्रघात होता आणि जवळपास आजही तो सुरुच आहे. म्हणूनच डॉ. आ. ह. साळुंखे संबोधतात एकूणच हिंदू संस्कृतीने स्त्री जीवनावर प्रचंड स्वरुपाचा अन्याय केला आहे. कोणत्याही समाजातील स्त्रियांचा दर्जा, स्त्रियांचे स्थान अभ्यासताना त्या समाजाला स्त्रीयाप्रती पाहण्याचा दृष्टीकोन काय आहे. त्यांना समाजाने कोणते अधिकार दिलेत कोणती बांधणे लादलेली आहेत. समाजात एकंदरीत वागणूक कशी मिळते इत्यादी बाबींचा वेध घेणे क्रमप्राप्त ठरते. किंबहुना हबर्ट स्पेन्सर या विख्यात समाज शास्त्रज्ञांच्या मते समाजाची प्रगती अथवा अधोगती, विकसितपणा अथवा मागसलेपणा हा मुख्यत: त्या समाजातील स्त्रियांना दिल्या जाणाऱ्या वर्तणुकीवर अर्थातच सामाजिक दर्जावर अवलंबून असतो. म्हणूनच स्त्रियांचा दर्जा हा त्यांच्या विकासाचा एक प्रमुख आधार असतो. त्यामुळे अनेक तत्वज्ञ, विचारवंत, संत, समाजशास्त्रज्ञ व समाजसुधारकांनी स्त्रियांच्या सामाजिक दर्जाच्या अभ्यासाला विशेष महत्व दिले आहे. म्हणून प्रस्तून शोध निबंधामध्ये इ. स. १२ व्या महात्मा बसवण्णाचे स्त्री विषयक विचार व कार्यचा आढावा घेण्यात आलेला आहे. तो पुढील प्रमाणे

भारतीय समाजव्यवस्थेमध्यें स्त्रियाकडे पाहण्याच्या दृष्टिकोन 'चुल आणि मुल' असे असताना त्या कालखंडात महात्मा बसवण्णांनी स्त्रीविषयक समतेचे विचार मांडून 'स्त्री-पुरुष समानता' संकल्पनेला खऱ्या अर्थाने ऐतिहासिक पार्श्वभूमी लाभली. पुरुष प्रधान संस्कृतीचा वरचष्मा आजही समाजव्यवस्थेमध्ये आहेच. बसवण्णांनी

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काश्मीर प्रश्न आणि आंतरराष्ट्रीय समुदायाचे इतिहासलेखनः विशेष संदर्भ प्रा. ख्रिस्तोफर स्नेडेन

श्री भारत बापू बिचितकर
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(मो. नं. ८८०५६९५९५९)

गोषवाराः

काश्मीर प्रश्न हा भारत आणी पाकिस्तान या दोन देशांतील काश्मीर प्रदेशाच्या अधिकारावरून सुरु असलेला प्रादेशिक वाद असून, तो स्वातंत्र्योत्तर भारताच्या इतिहासात मागील सात दशकांपासून अनिर्णीत अवस्थेत आहे. पहिल्या भारत-पाकिस्तान युध्दा दरम्यान भारताने हा प्रश्न संयुक्त राष्ट्र संघटनेच्या सुरक्षा परिषदेत उपस्थित केल्यामुळे दोन देशांतील या प्रश्नाचे आंतरराष्ट्रीयकरण झाले. तेंव्हापासून मागील सात दशकांत आंतरराष्ट्रीय स्तरावर यावर सापक बाधक चर्चा होत राहिली आहे. सहाजिकच राष्ट्रीय व आंतरराष्ट्रीय पातळीवर अनेक पत्रकार, शिक्षणतज्ञ, अभ्यासक, संशोधक आणि इतिहासकार काश्मीर प्रश्नावर विपूल प्रमाणात विविधांगी चर्चा व लेखन करत आहेत. सुरुवातीच्या काळातील याबाबत झालेल्या इतिहासलेखनात काश्मीरचा प्रश्न हा भारत आणि पाकिस्तान या दोन देशांपूरताच मर्यादित आहे असा मतप्रवाह होता. परंतू अलिकडच्या काळातील कांही इतिहासकारांच्या इतिहासलेखनातील मतप्रवाह बदलताना दिसत आहेत. ऑस्ट्रेलियातील ख्यातनाम अभ्यासक प्रा. ख्रिस्तोफर स्नेडेन यांनी त्यांच्या इतिहासलेखनातून आजवरच्या इतिहासलेखनापेक्षा वेगळे मत मांडले आहे. त्यांच्या मते काश्मीर समस्येत तीन शक्तींचा समावेश आहे. एक भारत, दुसरी पाकिस्तान आणि तिसरी म्हणजे काश्मीरी जनता. भारताच्या दृष्टीने अतिसंवेदनशील असलेल्या काश्मीरच्या समस्येवर जागतीक समुदायाच्या इतिहासलेखनाचा हा बदलता मतप्रवाह निश्चितच विचार करावयास लावणारा आणि भारताच्या दृष्टीने चिंतेचा आणि काश्मीरी जनतेच्या मनात संभ्रम निर्माण करणारा आहे.

प्रस्तावनाः

स्वातंत्र्यप्राप्तीपासून काश्मीरचा प्रश्न ही भारताच्या दृष्टीने एक अतिसंवेदनशील राष्ट्रीय समस्या बनली आहे हे नाकारता न येणारे वास्तव आहे. भारतीय स्वातंत्र्याच्या कायद्यानुसार अखंड हिंदूस्तानची फाळणी होऊन त्यातून दि. १५ ऑगस्ट. १९४७ पासून भारत आणि पाकिस्तान हे दोन स्वतंत्र देश अस्तित्वात आले. भारत आणि पाकिस्तानच्या स्वातंत्र्याबरोबरच काश्मीर प्रश्नाचाही उगम झाला. तेंव्हापासून आजपर्यंत हा प्रश्न सुटलेला नाही. दिर्घकाळ अनिर्णीत अवस्थेत राहिलेल्या काश्मीर प्रश्नाबद्दल राष्ट्रीय तसेच आंतरराष्ट्रीय पातळीवर अनेक अभ्यासक चर्चा, करत असतात. एवढेच नव्हे तर यावर विपूल प्रमाणात संशोधन व इतिहासलेखनही झाले आहे. काश्मीर प्रश्नावर सुरुवातीला झालेल्या इतिहासलेखनात एकवाक्यता दिसत होती. परंतू जस-जसा काळ बदलत गेला तस-तसे याबाबतच्या इतिहासलेखनातील सुरही बदलत चालले आहेत. विशेषतः आंतरराष्ट्रीय समुदायाच्या अलिकडच्या काळातील याबाबतच्या इतिहासलेखनातील दृष्टिकोन कांहिसा बदललेला जाणवतो. याचे अगदी ताजे उदाहरण म्हणजे, ऑस्ट्रेलियाचे ख्यातनाम अभ्यासक प्रा. ख्रिस्तोफर स्नेडेन यांनी काश्मीरच्या समस्येवर लिहिलेला 'काश्मीरः दि अनरिटन हिस्ट्रीफ हा ग्रंथ होय. जागतीक पातळीवरच्या आघाडीच्या प्रकाशन संस्थांपैकी एक असलेल्या हार्पर कोलोन्स, इंडिया या प्रकाशन संस्थेने दि. ३० मे, २०१३ रोजी हा ग्रंथ प्रकाशीत केला.

प्रा ख्रिस्तोफर स्नेडेन हे दक्षिण आशियाच्या प्रदेशातील राजकिय डावपेचांचे विश्लेषण करणारे ऑस्ट्रेलियाचे एक मुत्सद्दी विश्लेशक आहेत. शिवाय काश्मीर समस्येवर संशोधन करण्यासाठी त्यांनी वारंवार जम्मू आणि काश्मीरला प्रत्यक्ष भेटी देऊन, काश्मीर विवादामध्ये सहभाग असलेल्या अनेक वरिष्ठ राजकाणी व्यक्तींच्या मुलाखती घेऊन' काश्मीर समस्येचे विविधांगी राजकिय विश्लेषण केले आहे. त्यामुळे त्यांच्या काश्मीर समस्येवरील इतिहासलेखनाला गांभियाने घ्यावेच लागेल. काश्मीर समस्येबाबत त्यांचे हे इतिहासलेखन आजवर राष्ट्रीय व आंतरराष्ट्रीय स्तरावर झालेल्या इतिहासलेखनापेक्षा कांहीशा वेगळ्या दृष्टिकोणातून असल्याचे जाणवते. म्हणून ऑस्ट्रेलियन इतिहास संशोधक प्रा. ख्रिस्तोफर स्नेडेन यांचे काश्मीर समस्येबाबतचे इतिहासलेखन अभ्यासाचा व संशोधनाचा विषय बनले आहे. प्रा. ख्रिस्तोफर स्नेडेन यांच्या इतिहासलेखनातील वेगळ्या विचारप्रवाहाचा परामर्श घेणे हा प्रस्तूत शोधनिबंधाचा मुख्य उद्देश आहे.

शोधनिबंधाचे उद्देशः

१. काश्मीर समस्येबाबत राष्ट्रीय व आंतरराष्ट्रीय पातळीवर झालेल्या इतिहासलेखनाचा आढावा घेणे.
२. ऑस्ट्रेलियन इतिहास संशोधक प्रा. ख्रिस्तोफर स्नेडेन यांच्या काश्मीर समस्येबाबतच्या इतिहासलेखनाचा आढावा घेणे.
३. ऑस्ट्रेलियन इतिहास संशोधक प्रा. ख्रिस्तोफर स्नेडेन यांच्या काश्मीर समस्येबाबच्या इतिहासलेखनातील वेगळ्या विचारप्रवाहाचा शोध घेणे.

गृहितकेः

काश्मीर समस्येबाबत राष्ट्रीय व आंतरराष्ट्रीय पातळीवर विपूल प्रमाणात इतिहासलेखन झालेले आहे.
ऑस्ट्रेलियन इतिहास संशोधक प्रा. ख्रिस्तोफर स्नेडेन यांनी काश्मीर समस्येबाबत केलेले इतिहासलेखन एक दर्जेदार राजकिय विश्लेषण आहे. ऑस्ट्रेलियन इतिहास संशोधक प्रा. ख्रिस्तोफर स्नेडेन यांच्या काश्मीर समस्येबाबच्या इतिहासलेखनातील विचारप्रवाह आंतरराष्ट्रीय समुदायाच्या इतिहासलेखनापेक्षा वेगळा आहे.

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MAHATMA GANDHI'S APPROACH TOWARDS GENDER EQUALITY

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INTRODUCTION :

In the Indian Patriarchal Male Dominated Society,which is believed that women should remain bounded to their families and under the boundaries of legal and customary subjection of their husbands or other male members in the family from birth to death. In fact gender equality is not in existence in India. In the Vedic period women were free and enjoyed more rights and good status in the society than in post Vedic, medieval and British periods.

During pre-Gandhian period specialy early in the Nineteenth century gender inequality and gender violence were one of the serious social problems. Women were treated as the root cause of all evil and treated responsible for downfall of family and prosperity. Women had subordinate social status than men and they were totally dependent on men. Women were remained under legal and traditional boundaries of their husband, sons or other male members in their families. She has strong strength that the male society has to restrict her in traditional customs and practices. Some heinous practices like sati, female infanticide, child marriage, purdah (veil), dowry, polygamy, repeated and un-willing pregnancies, permanent and pathetic widowhood, illiteracy, wife beating and verbal and mental abuse made life of common women very hard.

Later on period in the Nineteenth century some social reformers namely Jyotiba Phule and Savitribai Phule,Gopal Ganesh Agarkar andRaja Ram Mohan Roy, etc. missionaries and government had made efforts for removal of the hardships of women and to bring them upwards in equal level of men in the country by providing them an opportunities like Education but a very little portion of women get benefits from these .

In these days Gandhi's thoughts and ideas of Gender Equality gave new outlook towards the gender equality and non violence. He not only opposed the harmful practices and encouraged regeneration of women but he gave the ideal status to women not just equal and different but superior to men.

OBJECTIVES OF THE STUDY :

01.To study the concept Gandhijis idea of Gender Equality.
02.To study the present scenario of Gender Equality.

METHOD OF RESEARCH:

The research article is based on the secondary data i.e. Books, News paper Articles, Periodicals, etc.

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"जम्मू-काश्मीरमधील स्त्रीयांवर होणारे घरगुती हिंसाचारः महिला सक्षमीकरणातील एक समस्या"

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गोषवाराः

जम्मू आणि काश्मीर राज्यातील महिला कौटूंबिक हिंसाचार, अनिष्ठ सामाजिक प्रथा, सशस्त्र संघर्ष आणि दहशतवाद याच्या बळी ठरतआहेत. त्यामुळे त्या केवळ पदोपदी अपमानीत होऊन निराश आहेत असे नाही, तर सतत छळांच्या धक्कादायक अनुभवामुळे मानसिक आजाराने त्रस्त आहेत. स्त्री-पुरुषांतील लैंगिक भेदभाव जम्मू आणि काश्मीरच्या सामाजिक जीवनाचे एक अविभाज्य अंग बनला आहे. अशा लैंगिक भेदभावाने स्त्रीयांच्या भाषण स्वातंत्र्य, शिक्षण आणि रोजगाराच्या संधी हिरावून घेतल्या आहेत. आजही जम्मू आणि काश्मीरमधील अनेक भागातील स्त्रीया शिक्षण, आरोग्य, रोजगार व राजकारणातील सहभाग यासारख्या संधीपासून वंचित असून, लिंगभेद, कौटूंबिक हिंसाचार, हुंडा पध्दत, असमान वेतन, बालमजुरी आणि स्त्रीभ्रृणहत्या यासारख्या समस्यांनी त्रस्त आहेत. त्यामुळे तेथील महिलांच्या सक्षमीकरणावर विपरित परिणाम होत आहे. यावर मात करण्यासाठी केंद्र सरकार, राज्य सरकार आणि काही बिगरसरकारी स्वयंसेवी संस्था (एनजीओ) यांनी पुढाकार घेऊन प्रयत्न सुरु केले आहेत. मात्र त्यात एकवाक्यता आढळून येत नाही. म्हणून जम्मू-काश्मीरमधील महिलांच्या सक्षमीकरणासाठी सर्व यंत्रणांनी एकत्रीतपणे व समन्वयाने काम केल्यास महिला सक्षमीकरणातील समस्या व आव्हानांचा सामना करणे सुलभ होईल असा आशावाद व्यक्त केला जातो.

प्रस्तावनाः

भारतातील उत्तरेकडील महत्वाचे राज्य असलेल्या जम्मू आणि काश्मीरचा प्रदेश भारताच्या फाळणीनंतर भारत आणि पाकिस्तान यांच्यात वादग्रस्त प्रदेश बनले आहे. त्यामुळे तेथील मानवी जीवन आणि सार्वजनिक संपत्तीचे प्रचंड नुकसान होत असून सामान्य जनजीवन विस्कळीत झाले आहे. परिणामी जम्मू आणि कश्मीरमधील सामान्य नागरिकांस अनेक समस्यांना तोंड द्यावे लागते. तेथील बहुतेक लोकसंख्या अधिकारांपासून वंचित आहे. विशेषत: तेथील स्त्रिया सर्वात असुरक्षित आणि अत्याचाराचे लक्ष ठरत आहेत. राज्याच्या सामाजिक, आर्थिक आणि राजकीय परिस्थितीमुळे तेथे लैंगिक भेदभाव असून, तेथील राजकीय, सामाजिक आणि आर्थिक प्रक्रियेतील महिलांचा सहभाग अत्यल्प आहे. अशा प्रकारच्या लैंगिक भेदभावाने स्त्रीयांच्या अभिव्यक्ती स्वातंत्र्य, शिक्षण आणि रोजगाराच्या संधी हिरावून घेतल्या आहेत. तशातच या प्रदेशात वारंवार सशस्त्र संघर्ष आणि दहशतवादी कारवायांची संकटे निर्माण होतात. भारतातील इतर राज्यांप्रमाणे जम्मू आणि काश्मीर राज्यातील स्त्रीया पारंपारिक रिती-रिवाजाने बंदिस्त असल्यामुळे मुलांचे संगोपन आणि घरगुती व्यवहाराच्या व्यवस्थापनाच्या जबाबदारीपुरतेच तेथील स्त्रीयांचे कार्यक्षेत्र मर्यादित राहिले आहे. त्यामुळे तेथील महिलांच्या सक्षमीकरणावर विपरित परिणाम होत आहे.

याशिवाय जम्मू आणि काश्मीरमधील महिलांवर होणारे कौटूंबिक हिंसाचार हा देखील महिला सक्षमीकरणातील एक अडथळा बनला आहे. महिलांवर नियंत्रण ठेवण्याच्या पुरुषांच्या मानसिकतेमुळे महिलांना कनिष्ट दर्जाचे वागणूक मिळते. यातून महिलांवर कौटूंबिक हिंसाचार होताना आढळतात. त्यामुळे महिलांचे आर्थिक स्वावलंबन आणि महिलांचे शिक्षण यावर मर्यादा पडतात, असे जम्मू आणि काश्मीर पोलीसांच्या अहवालानुसार स्पष्ट करण्यात आले आहे. सन 1993 च्या गोस्वामी अहवालात म्हटले आहे की, भारतातील स्त्रियांविरूद्धच्या कौटूंबिक हिंसाचाराचे मुख्य कारण पुरुषांची बदलती जीवनशैली आहे. पुरुषांच्या मद्यपान, अंमली पदार्थांचे

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काश्मीर समस्याः महिला सक्षमीकरणातील एक अडसर ?

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गोषवाराः

आधुनिक काळात 'महिला सक्षमीकरण' या संकल्पनेचा जगभर बोलबाला सुरु असून, भारतातही त्यावर विपूल प्रमाणात विचारमंथन, चिंतन आणि लेखन होताना दिसते. वर्ण, जात, लिंग यावर आधारावरीत भारतीय समाजरचना सामाजिक विषमतेचे समर्थन करणारी आहे. भारतातील विषम समाजरचनेत जशी दलित-अस्पृश्यांना कनिष्ठ दर्जाची वागणूक देत आली, तशीच स्थिती भारतीय महिलांच्या बाबतीतही आहे. अलिकडच्या काळात सुरु झालेल्या स्त्रीवादी चळवळींच्या वाढत्या प्रभावामुळे स्त्रीयांच्या उन्नतीची आवश्यकता जगभर चर्चिली जावू लागली आहे. भारतात महिलांच्या स्थितीत सुधारणा होऊन त्यांची उन्नती व्हावी यासाठी प्रयत्न करणारे राज्यकर्ते आणि समाजसुधारक यांची प्रदिर्घ परंपरा आहे. अशा पार्श्वभूमीवर महिला सक्षमीकरण यासारख्या विचारांना भारतात उल्लेखनीय प्रतिसाद मिळाला. महिलांच्या कल्याणाचे अनेक कायदे करुन आणि नवनविन योजना आखून भारतात हे धोरण प्रभाविपणे रावविले जाते. मात्र भारताचा अविभाज्य घटक असलेल्या जम्मू आणि काश्मीर राज्यात मात्र महिलांच्या सक्षमीकरणाच्या बाबतीतील चित्र निराशाजनक दिसते. स्वातंत्र्यप्राप्तीपासून निर्माण झालेल्या काश्मीर समस्येमुळे जम्मू आणि काश्मीर राज्यातील परिस्थितीत निरंतर अराजकता राहिली आहे. परिणामी महिला सक्षमीकरणासारख्या धोरणाकडे राज्यकर्त्यांचे दुर्लक्ष राहिले आहे.

प्रस्तावनाःप्राचीन काळापासून भारतीय समाजरचना पुरुषप्रधान संस्कृतीचे समर्थन करणारी असल्यामुळे समाजातील महिलांचे स्थान दुय्यम राहिले आहे.[१] अर्थात भारताचा अविभाज्य भाग असलेला जम्मू आणि काश्मीरचा प्रदेशही याला अपवाद नाही. स्वातंत्र्य प्राप्तीनंतर देशात सरकारी पातळीवरुन अनेक कायदे, नियम याद्वारे स्त्रीयांच्या सामाजिक उन्नतीसाठी प्रयत्न केले जात असून, त्यातून महिला सक्षमीकरणाच्या दिशेने आशादायक बदल घडत आहेत. मात्र स्वातंत्र्य प्राप्तीपासूनच निर्माण झालेल्या काश्मीर समस्येमुळे जम्मू आणि काश्मीरच्या प्रदेशात निरंतर सुरु असलेल्या हिंसाचाराच्या घटना आणि भारतीय राज्यघटनेने या राज्याला बहाल केलेला विशेष घटनात्मक दर्जा, यामुळे भारत सरकारच्या महिला सक्षमीकरणाच्या धोरणांची तेथे प्रभावीपणे अंमलबजावणी होत नाही. काश्मीर समस्येमुळे जम्मू आणि काश्मीर प्रदेशात सतत घडत असलेल्या हिंसाचाराच्या घटनांनी तेथील स्त्री जीवन प्रभावित झाले आहे. काश्मीर समस्येतून उद्भवलेली परिस्थिती तेथील महिला सक्षमीकरणातील एक अडसर ठरत आहे असे मानावे लागेल. म्हणून काश्मीर समस्येमुळे जम्मू आणि काश्मीर प्रदेशातील परिस्थिती तेथील महिला सक्षमीकरणात अडसर ठरत आहे का? याची चिकित्सा करणे हा प्रस्तूत शोधनिबंधाचा मुख्य उद्देश आहे.

शोधनिबंधाचे उद्देशः

४. महिला सक्षमीकरण संकल्पनेची चिकित्सा करणे.

Female teachers calculated 't' value ('t'=1.98). It has been found insignificant at 98 degree of freedom.Since the obtained t-value is accurate the minimum significance value at 0.05 level.Higher mean (X_1=12.80) is in favour of the group two of female teacher of CBSE as compared to the group one (X_2=11.20). The mean difference between group one and two is 1.60. Thus it can be interpreted that the score of both groups of U.P. Board and CBSE is significant. Therefore previously framed null hypothesis is accepted.

Conclusion at a Glance-

1- The male teachers of U.P. Board and CBSE at Meerut city have no magnitude of job satisfaction with their teaching job.

2- The female teachers of U.P. Board and CBSE at Meerut city have average magnitude of job satisfaction with their teaching job.

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03

DEMONETIZATION CONTROLLED TERRORISM? : PREDICTION AND REALITY IN KASHMIR REGION.

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Abstract:

After the independence of India terrorism in Jammu and Kashmir region became a burning issue in India. It is a well-known fact that the insurgency in Jammu and Kashmir is sustained by terror financing in the form of counterfeit currency notes of INR 500 and INR 1000from across the border.The Authorities of the Government of India thought about the demonetization of Indian currency notes of INR 500 and INR 1000. Therefore, the Prime Minister of India Narendra Modi announced the demonetization in an unscheduled live televised address to the nation at 8.15 pm on dated 8th November, 2016. After the announcement finance authorities were explained that there is one of the major purposes behind the action of demonetization, it was check to terrorism funding in the form of counterfeit currency notes. It is clarified thatthe Government of India presumed thatterrorist activities in Jammu and Kashmir will have desisted after the action of demonetization. But even after the action of demonetization terrorist attacks occurred constantly in Jammu and Kashmir region.Therefore, it is needless to say that the action of demonetization has become effective, for controlling the terrorism in Jammu and Kashmir region in India.

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ORIGINAL PAPER: SOL-GEL AND HYBRID MATERIALS FOR DIELECTRIC, ELECTRONIC, MAGNETIC AND FERROELECTRIC APPLICATIONS

Ni^{2+}-substituted Mg–Cu–Zn ferrites: a colloidal approach of tuning structural and electromagnetic properties

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Abstract

A robust synthesis approach to Ni^{2+}-substituted $Mg_{0.8-x}Ni_xCu_{0.2}Zn_{0.8}Fe_2O_4$ ($0 \le x \le 0.25$ mol.) ferrimagnetic oxides using citrate assisted sol–gel process is reported. The route utilizes simple metal nitrate precursors in aqueous solution, thus eliminating the need for organometallic precursors. Citric acid acts as a fuel for the combustion reaction and forms stable complexes with metal ions preventing the precipitation of hydroxilated compounds to yield the composite ferrite structure by auto-combustion process. The XRD signatures, especially (3 1 1) plane, confirmed the formation of spinel structure. The linear growth of lattice constant from 8.385 to 8.409 Å was observed by Ni^{2+} substitution from 0 to 0.25. The dense microstructure is observed with the average grain size of 0.42–2.18 μm. The transport properties revealed the semiconducting behavior of as-prepared ferrite material, with an increase in the DC-electrical resistivity by the incorporation of nickel. The magnetic properties viz. initial permeability (μ_i) and magnetic moment (n_B) are explained, based on the deviation in saturation magnetization (M_s), anisotropy constant (K_1), density values, and exchange interactions. Furthermore, the effect of adding Ni^{2+} on the Curie temperature, frequency-dependent dielectric properties of the ferrite material are also discussed.

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s10971-018-4665-3) contains supplementary material, which is available to authorized users.

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Specific capacitance, energy and power density coherence in electrochemically synthesized polyaniline-nickel oxide hybrid electrode

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ABSTRACT

In the present manuscript, polyaniline (PAni), nickel oxide (NiO), and a fine nanosheet-type network of PAni-NiO hybrid film electrodes are prepared using electrodeposition technique and envisaged as electrode materials in electrochemical capacitor application. Furthermore, these film electrodes are characterized for their structural and morphological studies with the help of X-ray diffraction and scanning electron microscopy measurements, respectively. Atomic force microscopy revelation affords the roughnesses of electrode surfaces. Contact angle elucidation explodes the hydrophilic nature of PAni, NiO and PAni-NiO hybrid electrode surfaces. Electrochemical measurements confirm that the PAni-NiO hybrid electrode shows synergic effect as its specific capacitance measured at a scan rate of 5 mV/s in 1 M Na_2SO_4 electrolyte is noticeably higher (936.36 F/g) than the PAni and NiO electrodes (601 and 263.5 F/g). All these electrodes exhibit remarkable capacity retention performance after 2000 cycles. The nanosheet network of PAni-NiO hybrid electrode offer a great reaction surface area for rapid ion and electron transfer with good stability as well, which all are advantageous for enhancing the electrochemical capacitance performance.

1. Introduction

Energy is at the focus of the scientific society in respond to the changes in global environment. Supercapacitor (SC) or electrochemical capacitor, also called ultracapacitor, are very useful electrochemical energy storage devices with special features like long cycle-life, high power density and fast charge-discharge ability at high rates [1,2]. Electrochemical capacitor are offering higher power with long durability desired for energy devices like backup source in electrical devices and peak power sources for electrical vehicles. Depending upon energy storage mechanisms, they are of two types *viz.* redox supercapacitors and electrochemical double layer capacitors [3]. To fabricate SC electrode, series of materials such as carbons, conducting polymers and metal oxides have been envisaged. Due to higher electrical conductivity, availability of various forms and states, chemical stability in acidic medium and mechanical robustness, conducting polymers like polypyrrole, polyaniline (PAni) and polythiophene which are derived from pyrrole, aniline and thiophene monomer respectively are being used as active electrodes not only in rechargeable batteries but also in electrochemical capacitors [4–7]. PAni is more interesting material because of advantage of easy synthesis methods; PAni active electrode fabricated either by electrochemical or chemical polymerization of aniline monomer [8]. As compare to carbon and polymer-based materials, metal oxide gives not only higher charge density but also improved electrochemical stability for capacitor. However, lower value of voltage window makes the use of metal oxide ultracapacitor an inappropriate for high energy density device applications [9]. The lightweight conducting polymers, PAni has shown potential applications in supercapacitor electrode material in terms of high-capacitance and suitable electrical conductivity, but due to degradation during charge/discharge process it suffers from poor stability [10].

In the community of transition metal oxides, nickel oxide (NiO) has broadly been studied because of its high specific capacitance, high surface area, and low-cost [11]. So far, numbers of routes to synthesize NiO electrodes in different nanoforms have been reported including chemical bath deposition [12]. Powder-nature electrodes have also been developed by using a soft or hard template, precipitation methods [13–15] and hydrothermal processes [13,16]. Specifically, NiO is capable electrode material for supercapacitors application along with many other applications like fuel cells, catalysis, gas sensors, and electrochromic films [17,18]. One of the important disadvantages to use NiO in supercapacitors is its high resistivity [19].

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Isolation and Characterization Study of Feather Degrading Bacteria

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Keywords: Feather, Compost, Keratinase, Degradation.

ABSTRACT

In present study, we first to reduce the problem of feather disposal & reduce the environmental pollution and also produce feather compost which can be used in agricultural field. Feather show 90% protein in its composition. The main component can be keratin protein. It is fibrous and insoluble in nature protein is highly cross-linked with disulphide bonds. In chicken, feather accounts up to 5-7% of the live weight. Three different bacterial were screened from natural habitat i.e. soil whose degradation potential is considerable & identified with the help of biochemical test and on VITEK-2 autoanalyzer. The Isolate no II shows considerable feather degradation, this indicate that Isolate no II have good potential for keratinase enzyme production. The present study helps to screen keratinase producing microorganisms and it's potential for enzyme production.

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In Vitro Evaluation of Antibacterial Potential of Endophytic Bacteria

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ABSTRACT

Microbial endophytes as a source of bioactive metabolites have led to the development of pharmaceutical products finding new applications. Endophytes are an eclectic group of microbes having the capability to chemically colligate the bridge between microorganisms and plants due to their relatively high metabolic versatility. They inhabit internal plant tissues without causing any apparent harm to the host plant and they are extremely considered as underexplored drug resources having the ability to produce novel bioactive pharmaceutical compounds. In the present study, two endophytic bacteria *Viz. Bacillus spp.* and *Pseudomonas spp.* were isolated form root tubers of *Asparagus densiflorus* and their antibacterial potential was evaluated by using pathogenic strains of *Staphylococcus aureus* and *Escherichia coli*. The isolated organisms were identified on the basis of their morphological and biochemical characterizations with the help of Bergey's Manual Determinative Bacteriology.

Keywords: Endophytic bacteria, Root tubers, *Bacillus spp., Pseudomonas spp.*

INTRODUCTION

Endophytes refer to a high diversity of microorganisms that inhabit plant host tissues at specific growth stages, and establish mutualism with the host without causing obvious disease symptoms (Petrini 1991). Endophytes produce metabolites with various biological activities, such as improving plant growth and productivity (Siciliano and Germida 1999) and enhancing disease-resistance, insect-resistance and adversity-resistance (Clay and Holah 1999).

Bacteria reported as endophytes include a significant range of both Gram-positive and -negative bacteria belonging to genera of Alpha-, Beta- and Gamma-proteobacteria, as well as Actinobacteria and Firmicutes (Bacon and Hinton, 2006).

Among the microorganisms interacting with plants, endophytes are defined as those that colonize the internal tissues of plants during the entire or part of their host's lifecycle without causing external damage (Ryan *et al.*, 2008).

Although research regarding endophytic bacteria is still overlooked, it is one of the most promising aspects of microbiological studies. Endophytic bacteria promote plant growth, possess the capacity to solubilize phosphate and contribute assimilable nitrogen to plants (Rosenblueth and Martinez-Romero, 2006). Further-more, their plant growth-promoting activity may be due to the production of phytohormones and/or enzymes involved in growth regulator metabolism (Taghavi *et al.*, 2009). These bacteria colonize the same ecological niche in plants as plant pathogens and have widely recognized mechanisms of biocontrol activity such as competition for ecological niche or substrate,

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Production of Flavored Banana Wine without a Fermenter

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ABSTRACT

Wine is one of the most recognizable high value-added products from Banana. Banana- based wine has a good flavor and can be considered a healthy alcoholic beverage. The juice was extracted from banana (*Musa sapientum*) pulp by the addition of lemon juice and was inoculated with Baker's yeast (*Saccharomyces cerevisiae*) and held at 30±2°C for twenty one days. The result of the yeast count increases at 48 hours and at 96 hours the yeast count decreased gradually. The pH of the Banana wine produced at the end of fermentation (21 days) decreased (4.5) while the testable acidity of the Banana wine (14.05) produced increased. The total dissolved solids, total suspended solids decreased with increasing length of the fermentation time of juice. The alcohol content of the wine increased with 14%.

Keywords: Banana, Wine, Baker's yeast, etc.

INTRODUCTION

Wine is an alcoholic drink typically made from fermentation. In Greek mythology, Dionysus, son of Zeus invented wine while living in the ancient Mount Nysa amongst nymphs. This is one of the reasons why Dionysus is often referredto as the "God of Wine. It is believed the Phoenician traders introduced the Greeks to the joys of wine. After the Phoenicians did the Greeks this favor, wine industries were established in most of Western Europe. Alexander the Great also introduced the drink to Asia. The ancient Greek wine became so popular in Europe that vine cuttings from Greece's grapes, so they could grow their own quality wine. This means that many of the grape varieties we know today were fathered by the Greek varieties. The ancient Greeks highly valued sweet wine, as do current day Greeks. This may have been due to its staying power, but more likely its popularity stemmed from the sweetness and higher alcohol percentage. It is no well-kept secret that the Greeks like to mix their wine with water (including sea water amazingly) and to add honey and spices. The ancient Greeks used to line theamphoras with tree resin, which gave it a very distinctive flavour. It is thought that developed into the wine Greeks and much of the world drink and enjoy today, known as retsina.

Wine is a popular and important drink that accompanies and enhances a wide range of cuisines from the simple and traditional stews to the most sophisticated and complexhaute cuisines. Wine is often served with dinner. Sweet dessert wines may be served with the dessert course. In fine restaurants in Western countries, wine typically accompanies dinner. Wine production is essentially a microbiological process where yeast and bacteria consume sugars, amino acids and other compounds leading to the formation of a microbiologically safe, stable and enjoyable beverage. Wine can be made from more than just grapes. Apples make a light white wine that is best when aged at least 2 years. That helps make them a good base wine for blending. Blackberries yield a bold red wine, best when aged 2 years. Blueberries make a light rosé that is ready to drink after just 1 year. Cherries create a delicious jewel-tone cherry wine that is great for holidays and special occasions. Plums get

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Research Article

Co^{2+} substituted Mg–Cu–Zn ferrite: Evaluation of structural, magnetic, and electromagnetic properties

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Abstract: We report the synthesis of Co^{2+} substituted Mg–Cu–Zn ferrite via citrate gel combustion process and thereby its structural, transport, and magnetic properties for the use in electromagnetic energy absorption application. The polycrystalline ferrite system is investigated by interplay of stoichiometric composition with $Mg_{0.25-x}Co_xCu_{0.25}Zn_{0.5}Fe_2O_4$ ($0 \leqslant x \leqslant 0.25$). Structural investigations using X-ray diffraction (XRD) and selected area electron diffraction (SAED) reveal the formation of spinel structure with linear growth of lattice constant due to Co^{2+} substitution. The microstructural analysis (TEM and SEM) depicts the dense microstructure with the average grain size of 0.42–1.25 μm. The elemental analysis (EDS) confirms the elemental composition of the as-prepared ferrite with respect to the initial concentrations of the synthetic composition used. The observed variations in initial permeability (μ_i) and magnetic moment (n_B) are explained based on deviation in saturation magnetization (M_s), anisotropy constant (K_1), density values, and exchange interaction. The temperature dependence of DC resistivity confirms the semiconducting behavior of the as-prepared ferrite material, with an increase in the DC resistivity by an incorporation of cobalt. Furthermore, the effects of adding Co^{2+} on the Curie temperature, frequency dependent dielectric properties of the ferrite material are also discussed.

Keywords: Co–Mg–Cu–Zn ferrite; spinel phase; electrical resistivity; saturation magnetization; anisotropy constant; Curie temperature

1 Introduction

The uncontrolled and progressive growth of modern communication technologies associated with increased

5. Diversity of Fish Faunta at Chandani Dam (Pimpalwadi) (M.S.)

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Abstract

The present investigation deals with the diversity and the seasonal fluctuations in the population of fishes in relation to different physiochemical parameters at Chandani Dam in Pimpalwadi, tahsil Paranda, district Osmanabad (M.S.).During the period form Feb 2010 to Jan 2011, the different species of fishes have been identified from the family cyprinidae and clupidae and notopterodae. It was found that seasonal fluctuations are occurring in the Population of the fishes, the physico chemical parameters of the dam were also studied and the results were interpreted with the fluctuations of the available fish fauna.

Keywords: Diversity of Fishes, Physico-chemical parameters, Chandani Dam.

Introduction

The present work was undertaken to study the diversity of fishes at Chandani Dam (Pimpalwadi). This dam is a medium irrigation project located at Pimpalwadi, Tal-Paranda, Dist Osmanabad. Fish Fauna is an important group of aquaculture. Fishes of fresh water or the o land water bodies of Indian Subcontinents have been a subject of study science from last century Hamilton(1822), Day(1878), Tiwari (1981), Talwar & Jhingran (1991), Rao & et al (1999) Pai et al (2003). The scientific data on the fisheries of Chandani Dam is not available, hence prese work was undertaken for study.

Material and Method

Fishes were collected from the Chandani Dam with the help of local fishermen. Fis Markets were regularly visited & common species were observed & noted, Different types of f species were collected from the dam.

Those species were presented on 10 formalin & thought to the laboratory for furth taxonomic identification.

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"कर्मवीर दादासाहेब गायकवाड यांचे १९३७ च्या निवडणुकीतील योगदान"

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प्रास्ताविक:—

भारतीय राजकीय जीवनात अस्पृश्यांना राजकीय अस्तित्व मिळवून दयावयाचे असेल तर त्यासाठी आपला स्वतंत्र पक्षच पाहिजे आणि आपल्या पक्षामार्फतच आपण आपले सामाजिक, राजकीय, आर्थिक लढे देऊन प्रश्न सोडविले पाहिजेत असे डॉ.बाबसाहेब आंबेडकरांना वाटत होते. म्हणून ते याच दृष्टीने पावले टाकीत होते. तसेच इ.स.१९२७ चा चवदार तळयाच्या सत्याग्रहानंतर डॉ. बाबासाहेब आंबेडकरांनी आपली भूमिका आणि रणनीति बदलली होती. अस्पृश्य वर्गास आता केवळ धार्मिक सुधारणांची चळवळ चालवून जातीव्यवस्थेच्या प्रश्नांची सोडवणूक होणार नाही. तर राजकीय, आर्थिक व शैक्षणिक चळवळी उभ्या केल्या पाहिजेत अशी त्यांनी भूमिका घेतली होती. म्हणून त्यांनी अस्पृश्य समाजाला प्रथम संघटनात्मक रुप देण्यासाठी दादासाहेब गायकवाड, आर.आर.भोळे, अनंतराव चित्रे, जाधव, भोळे इ. या आपल्या सहका—यांशी विचार विनिमय करुन त्यांनी दि.१५ ऑगस्ट १९३६ मध्ये 'स्वतंत्र मजूर पक्ष' या नवीन राजकीय पक्षाची स्थापना केली. तसेच त्यांनी त्या पक्षाचा कार्यक्रम विस्तृतपणे मांडणारा जाहिरनामा प्रसिध्द केला त्यात भूमिहीन गरीब कुळे, शेतकरी, कामगार इत्यादींच्या समस्या मांडल्या होत्या.

❖ संशोधनाची उदिष्टये:—

१. इ.स. १९३७ च्या निवडणूकीतील कर्मवीर दादासाहेब गायकवाड यांची भूमिका व दृष्टीकोन अभ्यासने.
२. कर्मवीर दादासाहेब गायकवाड यांचा १९३७ च्या निवडणुकीतील योगदानाचा अभ्यास करणे.

❖ संशोधन पध्दती:—

प्रस्तुत शोध निबंध हा प्राथमिक व दुय्यम साधन सामग्रीवर आधारीत आहे. या विषयाच्या अभ्यासासाठी संदर्भ ग्रंथ, पुस्तके, मासिके, वर्तमानपत्रातील लेख इत्यादी माहिती गोळा करुन ऐतिहासिक व विश्लेषनात्मक पध्दतीने विषयाची मांडणी करण्यात आली आहे.

❖ इ.स. १९३७ ची निवडणूक व दादासाहेब गायकवाड:—

इ.स. १९३७ ची निवडणूक जशी जवळ येऊ लागली तसे प्रत्येक पक्षात वातावरण तयार होऊ लागले व निवडणुकीचा प्रचार सुरु झाला. डॉ. बाबासाहेब आंबेडकरांनी दादासाहेब गायकवाड यांना

कर्मवीर दादासाहेब गायकवाड आणि मराठवाड्यातील भूमिहिनांचा सत्याग्रह

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प्रस्तावनाः-

देशाला स्वातंत्र्य मिळाल्यानंतर पहिल्या दोन दशकात या देशात हरितक्रांतीला सुरूवात झाली, पतंप्रधान पंडित नेहरूंनी तर कृषी क्षेत्रातील तंत्र विज्ञानाला सरकारच्या माध्यमातून गती दिली. शेती क्षेत्रासाठी शासनाने व खाजगी भांडवलदारांनी वित्त पुरवठ्याची सोय केली. भारताच्या ग्रामीण भागात सर्वच राज्यांमध्ये शेतीला रोजगार निर्मिती करणाऱ्या उद्योगाचा दर्जा प्राप्त झाला. पण ह्या सर्व प्रगतीच्या पोटामध्ये भूमिहीन शेतमजूरांची संख्या ग्रामीण भागात वाढत चालली होती. एकंदर लोकसंख्येच्या साधारणतः चौथा हिस्सा असलेला हा भूमिहीन शेतमजूरांचा वर्ग, शेती उद्योगात दुर्लक्षित आणि भरडला जात होता. भूमिहीन शेतमजूरांच्या किमान वेतनाचा कायदा नव्हता आणि नंतर तरी तो अस्तित्वात आला, तरी ग्रामीण भागामध्ये त्याच्या काटोकोर अंमलबजावणीवर लक्ष ठेवणारी यंत्रणा, स्वातंत्र्यानंतरच काय पण आजसुध्दा अस्तित्वात नाही आणि म्हणूनच स्वातंत्र्याच्या दुसऱ्या दशकाच्या मध्यात दादासाहेबांनी भूमिहीन शेतमजूरांच्या वेदनेला वाचा फोडली.

आज देशाला स्वातंत्र्य मिळून साठ वर्षे होऊन गेली तरी ह्या देशातील भूमिहीन शेतमजूरांच्या भौतिक जीवनात कोणती सुधारणा झाली हा मोठा प्रश्न आहे. म्हणून जेव्हा दादासाहेबांनी या भूमिहीनांच्या सत्याग्रहाला सुरूवात केली तेव्हा त्यांना या सत्याग्रहाची गरज का भासली हे आपल्या लक्षात येईल. आज या देशातील शासकीय आकडेवारीच सांगते की, या शंभर कोटीच्या पुढे असलेल्या लोकसंख्येच्या देशात वीस कोटीच्या पुढे लोक असे आहेत की, त्यांना दोन वेळेचे साधे जेवण सुध्दा मिळत नाही आणि तीस कोटी लोक दारिद्रय रेषेखालचे जीवन जगत आहेत. त्यामुळे भूमिहीनांना जमीन मिळवून देण्यासाठी "सत्याग्रह" या हत्याराचा स्वतंत्र भारतात चांगल्या पध्दतीने वापर होऊ शकतो याची जाणीव डॉ.बाबासाहेब आंबेडकर यांना होती. म्हणून त्यांनी भारतातील भूमिहीनांच्या सत्याग्रहाचा प्रयोग मराठवाड्यात करण्याचा मनोदय इ.स.१९५० नंतर त्यांनी दादासाहेब गायकवाड यांच्याकडे बोलून दाखवला एवढेच नव्हे तर, या सत्याग्रहाच्या नेतृत्वाची जबाबदारी देखील त्यांनी दादासाहेबांवर टाकली.

संशाधनाची उदिष्टेः-

१. मराठवाड्यातील भुमिहिनांच्या सत्याग्रहाविषयी दादासाहेब गायकवाड यांची भूमिका व दृष्टिकोन अभ्यासने.
२. भुमिहिनांच्या सत्याग्रहातील दादासाहेब गायकवाड यांच्या व्यापक लढाऊ संघर्षाचा व नेतृत्त्वाचा अभ्यास करणे.
३. कर्मवीर दादासाहेब गायकवाड यांचे मराठवाड्यातील भूमिहिनांच्या सत्याग्रहातील योगदानाचा अभ्यास करणे.

संशोधन पध्दतीः-

प्रस्तूत शोध निबंध हा दुय्यम साधन सामग्रीवर आधारीत आहे. या विषयाच्या अभ्यासासाठी संदर्भग्रंथ, पुस्तके, मासिके, वर्तमानपत्रातील लेख इत्यादी माहिती गोळा करून ऐतिहासीक व विश्लेषनात्मक पध्दतीने विषयाची मांडणी करण्यात आली आहे.

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"कर्मवीर दादासाहेब गायकवाड यांचे राज्यसभेतील योगदान"

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प्रास्ताविक -

लोकसभेत ज्याप्रमाणे दादासाहेब गायकवाड यांनी आपल्या अभ्यासपूर्ण, विचारप्रवर्तक दृष्टीने अनेक ठरावावर, अहवालावर, सरकारच्या मागासजातीच्या शैक्षणिक धोरणावर टीका केली. सरकारला त्यांच्या भाषणांची दखल घ्यावी लागली. तशाच पध्दतीने दादासाहेबांनी राज्यसभेतही आपल्या कर्तृत्वाने व वक्तृत्वाने सर्वसामान्यांच्या व दलितांच्या प्रश्नांना वाचा फोडली त्यांची २९ मार्च १९६२ ला राज्यसभेवर निवड झाली आणि संसदेमध्ये त्यांनी पाच वर्षे अत्यंत विचारप्रवर्तक अशा पध्दतीने कार्य केले.

- संशोधनाची उद्दिष्टये :-
  १) दादासाहेब गायकवाड यांनी राज्यसभेत मांडलेल्या प्रश्नांचा अभ्यास करणे.
  २) दादासाहेब गायकवाड यांनी राज्यसभेत उपस्थित केलेल्या प्रश्नांची व्याप्ती व उपयुक्तता अभ्यासणे.
  ३) दादासाहेब गायकवाड यांच्या राज्यसभेतील योगदानाचा अभ्यास करणे.

- संशोधन पध्दती :-

प्रस्तूत शोध निबंध हा प्राथमिक व दुय्यम साधन सामग्रीवर आधारीत आहे. या विषयाच्या अभ्यासासाठी संदर्भ ग्रंथ, पुस्तके, मासिके, वर्तमानपत्रातील लेख इत्यादी माहिती गोळा करुन ऐतिहासिक व विश्लेषणात्मक पध्दतीने विषयाची मांडणी करण्यात आली आहे.

- दादासाहेब गायकवाड यांचे राज्यसभेतील योगदान :-

दलित व मागासलेल्या लोकांच्या प्रश्नांच्या संदर्भात बिल नं.२ वर राज्यसभेत बोलताना कर्मवीर दादासाहेब गायकवाड म्हणाले, "मानवी जीवन जगण्यासाठी सामान्य माणसाला काय हवे आहे? मानवी जीवन जगण्यासाठी त्याला अन्न, घर, पिण्याला पाणी पाहिजे व अंगावर घालायला कपडे पाहिजे, खेडयातून लाखो लोक नव्हे तर कोटयावधी लोक बेकार असल्याचे दिसून येईल. लोकांना दिवसाचे वेतन काय? अस्पृश्यता संबंध देशभर पाळली जाते. अस्पृश्यता निवारण कायदा पास झाला आहे, तर सरकार काय करत आहे? पंतप्रधान सांगतात, "अस्पृश्यता आस्ते आस्ते जाईल व त्याला काही वेळ लागेल." असे सांगितले. तेव्हा मला आश्चर्य वाटले. "पिण्याच्या पाण्याबद्दल बोलायचे झाले तर मी म्हणेन की, ही अत्यंत आवश्यक गरज आहे आणि खेडयांतील सर्व लोकांना पाणी मिळते की, नाही हे सरकारने पाहिले पाहिजे."[१] दादासाहेबांच्या

Women and Sports

Prof. Ramhari Shivaji Nagtilk
Shri Shivaji Mahavidyalaya, Barshi.

==========

Introduction:

Practitioners and researchers have identified lifelong sport and active recreation participation as positive contributors to individual health and well-being, social capital, community development and economic outcomes (for example, reduced health-care costs). While structured sport activities provide an avenue to engage in competitive pursuits and develop strong social connections with others, active recreation provides a more unstructured physical activity space that individuals can use freely in their leisure time and achieve a personal sense of enjoyment. Similar to other forms of physical activity such as active living (the integration of physical activity into everyday routines at home, school, work or at play), participation in sport and active recreation improves women's and girl's overall health and physical, social and emotional well-being, as well as reducing stress levels and the risk of chronic diseases.

Yet women and girls are less likely to take part in sport and active recreation compared to their male counterparts. Statistical data from a range of countries (for example, Australia, Germany, United Kingdom and the USA) indicate that males participate more frequently than females in sport and more often in team sports. Differences in participation rates are also apparent among groups of women. For example, it could be expected that younger women and working women would be more likely to participate in sport and active recreation compared to women with young children, due to the lack of time available to mothers who hold substantial caring roles within the family environment. While women generally are positioned as an 'at risk' population due to their lack of physical activity, women with young children are seen to be at higher risk as they are even less likely to engage in adequate physical activity to manage their own health[11,12]. For instance, compared with mothers of older children or childless women, mothers of very young children engage in fewer out-of-home activities and are likely to do no physical activity other than walking for transport and housework.

Overall patterns of participation highlight trends which reveal 'inequalities in participation'. Such trends can be used to identify specific groups who are 'priority groups' (e.g. women with young children) in terms of sport and active recreation development. Focusing initiatives to promote and increase participation among priority groups is a key feature of sport development[14]. While the benefits of sport and active recreation for women and girls (and barriers to participation) are well established, this article aims to explore 'benefits and barriers' for a particular group of women (i.e. mothers of young children) and provide a conceptual framework to consider how organisational practices can facilitate better inclusion of this group of women in community sport and active recreation.

Benefits of sport and active Recreation

Preventing ill health and enhancing wellbeing

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Postcolonial Studies

"CULTURAL NATIVISM IN CHINUA ACHEBE'S THINGS FALL APART AND BEN OKRI'S THE FAMISHED ROAD"

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Abstract:

Cultural nativism has the basis of the assertion of culture unaffected by colonialism. It favours the interests of the inhabitants of a country over those of settlers. Cultural nativism presented in African literary works resist the cultural change due to a Western style for dominating, restructuring and having authority over the natives. Chinua Achebe and Ben Okri presented the details of the acculturation and effects of it on the native culture to assert the cultural identity in their novels.

In the US, the term Nativism was first used to describe several political and social movements that flourished between 1830 to 1925 .When it emerged in the 19th century, natives marshaled a backlash against newly arrived immigrants who did not fit the mold of the 'ideal citizen' or 'real American', which was essentially someone who was white Anglo Saxon and Protestant.

Nativism combining xenophobia, or a fear of outsiders, with chauvinistic nationalism, or a belief in the superiority of one's homeland, is a potent ideology that has found roots in various societies around the world. Nativism may be asserted for the purpose of ethnic, religious, cultural or racial identity. Nativism means the assertion of natural traits, especially in opposition to acculturation. It protects the interests of native inhabitants against those of invaders. According to Bill Ashcroft, Gareth Griffiths, and Helen Tiffin (2005:159) nativism is a term for 'desire to return to indigenous practices and cultural forms as they existed in pre-colonial society.' Makarand Paranjape defines nativism as 'a form of indigenism whose agenda can be summed up as a cry for cultural self-respect.' (Nativism: Essays in Criticism). Webster's dictionary defines nativism as 'the revival or perpetuation of an indigenous culture especially in opposition to acculturation.'

Dr Devy argues that the only way to get rid of the clutches of that amnesia is to preserve the practices and traditions of India. Fanon's Black Skin, White Masks (1952) explored the ways in which the black colonized races internalized the ideas of their white colonizers. His Wretched of the Earth (1961) uncompromisingly defends violence in the cause of overthrowing colonialism. (Sim&Loon, 138) The novels of Joseph Conrad (Heart of Darkness) and Joyce Cary (Mister Johnson) represent African culture that lacks and does not depict the true state of things. Their literary works also spurred Achebe to present the African culture in true contexts due to the policy of the oppressors. Chinua Achebe expresses the reality using the different techniques. Ben Okri talks about apartheid slavery, the erosion of old cultures and values, the eternal cycle of life and death.

The research paper challenges to colonial and neo- colonial oppression with a special emphasis on cultural nativism. It focuses on cultural nativism in Chinua Achebe's Things Fall Apart and Ben Okri's The Famished Road.

Things Fall Apart presents the African world in three parts. Part 1 is devoted to the rise and reputation of Okonkwo, the protagonist. It simultaneously focuses our attention on the aspect of Ibo culture and traditions. Part 2 is given to expose the anarchy in the Ibo culture and the advent of the white man and his civilizing mission in this side of Africa. It also exposes the way in which the Christian Missionaries exploit the rigidity of the native culture to further their interests e.g. spreading their religion Further, it records the fall and the disgrace of the native clan at the instance of the white man .It shows the return of the Okonkwo to his own village and the tensions

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2

Impact In Agricultural Climate Change in Maharashtra

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Research Paper - Geography

ABSTRACT

Maharashtra is the third largest and the second most populous state in the country. It accounts for 9.4% of the state 9.4% of the total geographical area and occupies a substantial portion of the Deccan Plataus. In th western peninsular of the subcontinenm. The Western Ghats, which run parallel to the coast at an average elevation of 1200 metresform one of the three water shead ofthe country from which originate several important rivers the most notable being odavari and Krishna. To the north of the state the rivers tapi and Narmada flow westward into the Arabian Sea Administratively the state is divided into 35 district. Based on socio political and other geographical considerations, the state is divided into five main regions. Vidharbha (north eastern region) Marathwada, Khandesh, North Maharashtra (Desh) and Western Maharashtra (Konkan). Covering the entire Western Ghats, the Konkan region is known to receive the maximum rainfall in the state.

Introduction :-

Maharashtra experiences extreme climate conditions and the impacts of climate change will further execrable its current vulnerability. Maharashtra has its economy inextricably tied to climate sensitive sectors, primarily agriculture, which is the backbone of the economy. Altered rainfall and precipitation pattern could affects hydrological system and agricultural production and produce This is likaly to endanger livelihoods of

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REGISTRAL FEATURES OF JOURNALISTIC WRITING

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ABSTRACT

This paper deals with the register used in English language newspapers. Journalistic writing makes use of various strategies to attract the readers' attention. The use of abbreviations, pun, alliteration, stylistic deviations and idioms is an integral part of journalistic writing. Punctuation marks are also creatively used in it. The lexis and grammar are used in a special way to have a telling effect on readers. Headlines are worded to give a punch to news stories.

***Keywords**: Register, lexis, idioms, deviations, clipping, acronyms etc.*

INTRODUCTION

This paper deals with English used in English newspapers. It also lays stress on the use of idioms in headlines. English used in English newspapers is a variety used in the field of journalistic writing. The term 'register' used in sociolinguistics means a language variety which has certain features typical of certain fields or occupations. English language newspapers use a specific style of writing which is different from English used in other fields.

Newspapers give information to people about local, regional, national and international events. The language used in English newspapers is easy to understand so that most of the readers should understand it. At the same time, it should be spiced up so as to make them want to read on. That's why headlines are very short and easy to understand. Journalists take care of making headlines simple and direct. Economy in words is a mantra used in framing headlines. They keep headlines compact, vigorous, short and expressive for maximum effect. Various strategies are deployed in journalistic writing. English newspapers are bristled with abbreviations and short words. These words are not only short but also striking and attention

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THE STUDY OF *AS YOU LIKE IT* FROM AN ECOCRITICAL PERSPECTIVE

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ABSTRACT

Ecocriticism is a recent trend in the field of criticism, emerged in the 1980s in the Western American Universities. But the history of ecocriticism goes back to the 1970s which emerged as a concept at the meetings of Western Literary Association. Simply defined, ecocriticism denotes the study of literature and biological and physical environment. In the USA the acknowledged founder is Cheryll Goltfelty whose collection of essays entitled The Ecocriticism Reader: Landmarks in Literary Ecology is a key collection of essays. The term ecocriticism is derived from 'criticism' and shortened form of 'ecology'- the science which studies the interrelations between the plant, animal life and their physical habitats. Ecocriticism in the USA was inspired by the writings of three major nature poets and essayists R.W.Emerson, H.D.Thoreau, and Margaret Fuller. Emerson's 'Nature' came out in 1836 anonymously. Thoreou's 'Walden' was published in 1854 and Fuller's 'Summer on the Lakes' during 1843. These were the chief writings from which ecocriticism seems to have been emerged.

ECOCRITICISM:

Ecocriticism is known in the UK as Green Studies or environmental criticism, which emerged in the early 1990s. But the British ecocriticism was influenced by the writings of great nature poets, William Wordsworth, S.T.Coleridge, Shelley, Keats and Byron etc. British ecocriticism is less developed than that of the USA. Jonathan Bate is the chief exponent of British ecocriticism. The history of the British ecocriticism goes back to the 1730s. The English pre-romantic poet James Thomson wrote about nature in his longest poem 'The Seasons', published between 1726-30. In this poem Thomson described the marvellous beauty of nature through lucid and simple language. But it was William Wordsworth, the

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ANTIBACTERIAL POTENTIAL OF *ADHATODA VASICA* AND *BAUHINIA RACEMOSA* AGAINST MULTI DRUG RESISTANT *KLEBSIELLA* SPECIES

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ABSTRACT

Historically plants provided best source of drug compounds. In the present study *Adhatoda vasica* and *Bauhinia racemosa* showed good antibacterial activity against multi drug resistant *Klebsiella species*. Well diffusion method was used for checking antimicrobial potential of medicinal plants. Different type of *Klebsiella* species isolated from urine sample on MacConkeys agar medium which were labeled as K1 to K10. These isolates identified with the help of VITEK-2 compact and 16srRNA sequencing this sequence submitted on ENA, their accession no. released. Drug resistant capacity of *klebsiella* species was checked on VITEK -2 compact. *Adhatoda vasica* showed best antibacterial activity against *Klebsiella* species and maximum species showed resistant against *Bauhinia racemosa*.

KEYWORD: *Adhatoda vasica*, multi drug resistant, *Bauhinia racemosa*, *Klebsiella spp.*, VITEK-2.

INTRODUCTION

Today's most problematic urinary tract infection causing multi drug resistant bacteria are *pseudomonas* and *Klebsiella* species. These bacteria are resistant to antibiotic but medicinal plants are most effective against different type of infection. In medicinal plants present the bioactive compounds which showed the antibacterial activity against *Klebsiella*, *Pseudomonas, Staphylococci, Proteus.* Multi drug resistant bacteria to one or more therapeutic classes but it showed inhibition zone against some medicinal plants. It detect the

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Sprayed tungsten-doped and undoped bismuth ferrite nanostructured films for reducing and oxidizing gas sensor applications

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[d] School of Chemistry, University College Cork, Cork T12 YN60, Ireland
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Gas sensor

ABSTRACT

This work reports the chemical spray synthesis of bismuth ferrite ($BiFeO_3$, abbreviated as BFO) and tungsten-doped bismuth ferrite (W-$BiFeO_3$, abbreviated as BWFO) nanostructured films and their nitrogen dioxide (NO_2) and hydrogen (H_2) gas sensor applications. The influence of tungsten-doping on the structure, morphology, surface area, and the characteristics towards NO_2 and H_2 gas sensing of BFO has been studied and explored and also compared with pristine BFO. The W-doping in BFO, confirmed by X-ray diffraction, energy dispersive X-ray and Fourier-transform infrared spectroscopy measurements, is proposed to explain the relative improvement in gas sensing performance between BFO and BWFO nanostructured films. At dilute concentration (100 ppm) of NO_2 and H_2, BWFO displays an enhanced sensitivity over BFO, which is attributed to specific changes in the morphology, structure and surface area.

1. Introduction

Metal oxide semiconductor (MOS) gas sensors have been studied extensively and are used practically in various fields [1,2]. In view of the advantages of low-cost, simplicity of use and large number of gases available that require detection, such as inflammable gases [3], hazardous nitrogen dioxide (NO_2) and hydrogen (H_2) [4] and other environmental gases [5], metal oxide-based sensing materials have attracted considerable interest. The working mechanism of most metal-oxide semiconductor (MOS)-based gas sensors relies on the sensitive variations to the electrical conductivity of the sensing channel layer [6,7], controlled by a gate voltage in a device with field-effect transistor geometry. Many MOS materials including ZnO, SnO_2, In_2O_3, WO_3, CuO, and Fe_2O_3, etc., have been studied widely as gas-sensing materials [8,9]. To-date, a range of synthesis methods has been developed to achieve MOS in film and/or powder forms with various morphologies and dimensions for sensing applications [10–12], often tuned to maximize surface sensitivity or functional porosity to certain gases, but deposited in a manner that makes MOS structure fabrication feasible. MOS-based sensors have been reported to detect various gases, including H_2 [13], CO [14,15], NH_3 [16], NO_x [17] and organic vapors [18–21], but sensitivity and stability (electrical and environmental) still require updating. MOS sensors still have serious limitations for high temperature gases and, importantly, good selectivity from gas mixtures, particularly using simpler oxides [22].

Bismuth ferrite ($BiFeO_3$, abbreviated as BFO) is one of the most promising MOSs with several prototypical multifunctional properties that are of great technological and fundamental importance [23]. The crystallographic structure of BFO is still discussed controversially in the literature. Some agreement appears to be made on the rhombohedral-distorted perovskite structure (ABO_3, where A and B cations of different charges) [24]. Many studies have reported the synthesis of BFO nanostructures for various applications [5]. Several deposition methods have been envisaged to grow BFO films/powders. Physical deposition methods, such as solid-state [25,26], pulsed laser deposition [27–29], molecular beam epitaxy [30] and sputtering [31,32], sol-gel, [33,34], co-precipitation [35,36] and hydrothermal methods [37,38] have been applied to the synthesis of BFO films with various morphologies. In addition, there

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2018, 7 (3): 686-694

(International Peer Reviewed Journal)

Kinetics and Mechanism of Oxidation of Thiosemicarbazide by Waugh-type 9-Molybdomanganate(IV) in Aqueous Perchloric Acid

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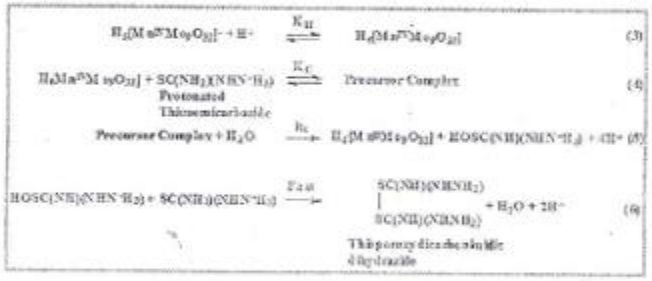
ABSTRACT

Kinetics and mechanism of oxidation of thiosemicarbazide by Waugh-type polyoxometalate, 9-molybdomanganate (IV), was investigated under pseudo-first-order condition in aqueous perchloric acid. The stoichiometry was found to be 1 mole of $[Mn^{IV}Mo_9O_{32}]^{6-}$ per two moles of thiosemicarbazide indicating thioperoxy dicarbonimidic dihydrazide as the product. The rate of reaction increases with increase in hydrogen ion, 9-molybdomanganate (IV) and thiosemicarbazide concentrations. The protonated forms of both the oxidant and thiosemicarbazide are active species. The thiosemicarbazide is in its protonated form and converted into a tautomeric form, with a negative charge on the sulfur atom and interact with the active form of the oxidant at the oxygen atoms of type-2 forming a precursor complex. The precursor complex formed decomposes with the formation of sulfenic acid as an intermediate. The results of effects of ionic strength, solvent polarity and the temperature also support the proposed mechanism.

Graphical Abstract



Scheme 3

Keywords: Polyoxometalate oxidation, Reaction mechanism, 9-molybdomanganate, Thiosemicarbazide.

Klebsiella pneumoniae LS4 gene for 16S ribosomal RNA, partial sequence

GenBank: LC373454.1

FASTA Graphics

Go to:

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  JOURNAL   Unpublished
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GenBank

Klebsiella pneumoniae LS1 gene for 16S ribosomal RNA, partial sequence

GenBank: LC371686.1

FASTA Graphics

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  TITLE     Klebsiella pneuminae LS1, the Multi Drug Resistant Bacterium
  JOURNAL   Unpublished
REFERENCE   2  (bases 1 to 931)
  AUTHORS   Suman,L., Sunil,P. and Dilip,K.
  TITLE     Direct Submission
  JOURNAL   Submitted (13-FEB-2018) Contact:Lokhande Suman Shri Shivaji
            Mahavidyalaya, Department of Microbiology; Kurduwadi Road, Barshi,
            Maharashtra 413411, India
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      121 gccacactgg aactgagaca cggtccagac tcctacggga ggcagcagtg gggaatattg
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      721 ctgccagtga taaactggag gaaggtgggg atgacgtcaa gtcatcatgg cccttacgac
      781 cagggctaca cacgtgctac aatggcatat acaaagagaa gcgacctcgc gagagcaagc
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      901 gaatcgctag taatcgtaga tcagaatgct a
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Month 2018

Glycerol Mediated Synthesis, Biological Evaluation, and Molecular Docking Study of 4-(1*H*-pyrazol-4-yl)-polyhydroquinolines as Potent Antitubercular Agents

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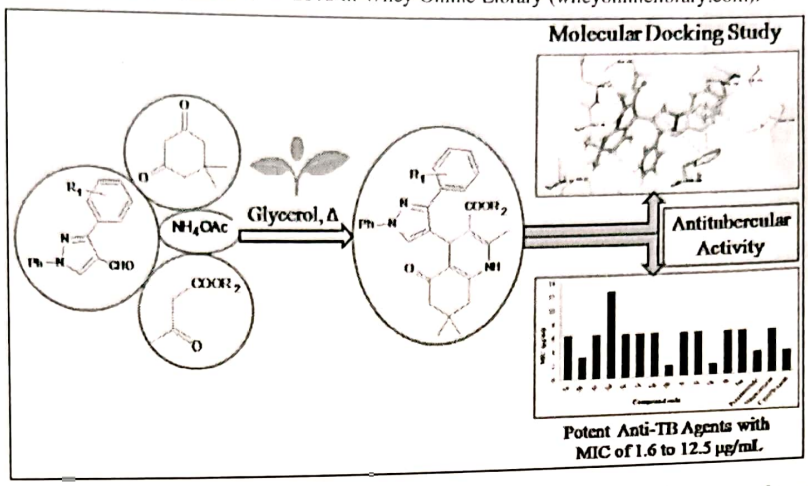

A series of 4-(1*H*-pyrazol-4-yl)-polyhydroquinolines were synthesized through one-pot four-component Hantzsch condensation of 1,3-diphenyl-1*H*-pyrazole-4-carbaldehydes, ammonium acetate, dimedone, and alkyl acetoacetate in glycerol as a green reaction medium. The structures of the compounds are verified by spectroscopic methods and screened for their antimicrobial activity against *Mycobacterium tuberculosis* H37RV strain. Almost all the synthesized derivatives reveal excellent antitubercular activity based on minimum inhibitory concentration. Especially the compounds **5h** and **5k** exhibit outstanding antitubercular activity with minimum inhibitory concentration 1.6 μg/mL. In addition, molecular docking study of synthesized scaffolds against enoyl-acyl carrier protein reductase from *M. tuberculosis* was performed to propose the binding modes.

INTRODUCTION

Tuberculosis (TB) is the most worrying infectious disease in the world owing to its high mortality and morbidity and consequently declared as a serious global health emergency by World Health Organization [1]. It is one of the oldest and an incredibly widespread disease caused by the pathogen *Mycobacterium tuberculosis* and is still a foremost peril to human being [2]. Recently, it has been documented that approximately one third of global population is infected with this most dangerous pathogenic microorganism, and particularly, in several developing countries, it is not easy to control this dangerous dreadful infection [3]. The first-line drugs like ethambutol, pyrazinamide, isoniazid, and rifampicin are easily accessible in market and commonly used in treatment of TB. Even though, in the report of World Health Organization, it has been estimated that in 2016, 10.4 million new TB affected persons were accounted, and around 56% people were died due to this disease especially in developing countries such as India, Indonesia, China, the Philippines, and Pakistan [1]. Furthermore, about 4.9 lakh new infected people of multidrug-resistant TB and an additional 1 lakh patient with rifampicin-resistant TB were found in 2016 [1]. Generally, an investigation for the development of potent antitubercular (anti-TB) drugs has been paying attention on the construction of molecules having enzyme inhibitory property. The enzyme enoyl-acyl carrier protein (enoyl-ACP) reductase is needed for fatty acid elongation in the

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Unexpected formation of 4,5-dihydro-1H-pyrazolo[3,4-b]pyridine derivatives as a potent antitubercular agent and its evaluation by green chemistry metrics

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ABSTRACT

The present study describes L-hydroxy proline catalyzed unpredicted formation of 4,5-dihydro-1*H*-pyrazolo[3,4-*b*]pyridines instead of expected 4,7-dihydro-1*H*-pyrazolo[3,4-*b*]pyridines in aqueous ethanol at ambient temperature through one-pot three-component reaction. Furthermore, this protocol was evaluated using green chemistry metrics indicating green relevance of the present synthetic methodology. Most of the synthesized compounds were evaluated for their antitubercular activity against *Mycobacterium tuberculosis* H37RV strain, showing excellent results based on minimum inhibitory concentrations (MIC). Among the screened derivatives 4f, 4i, and 4j exhibited antitubercular activity with promising MIC value of 1.6 µg/mL.

ARTICLE HISTORY
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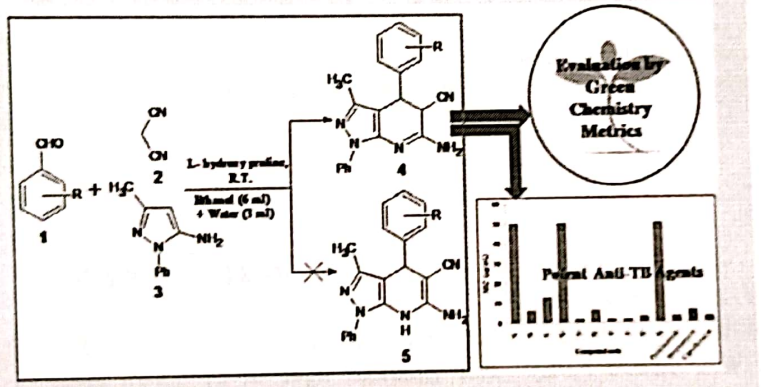
KEYWORDS
Pyrazolo[3,4-b]pyridine; green chemistry metrics; antitubercular activity

GRAPHICAL ABSTRACT



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SYNTHESIS OF SCHIFF BASE AS DNA *GYRASE B* INHIBITOR, ANTIBACTERIAL, ANTI-INFLAMMATORY AND ANTIOXIDANT AGENTS

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ABSTRACT

A series of some 4-{[(*Z*)-(1,3-diphenyl-1*H*-pyrazole-4-yl)methylidene]amino}-5-methyl-4*H*-1,2,4-triazole-3-thiols were synthesized by reaction of substituted 1,3-diphenyl-1*H*-pyrazole-4-carbaldehyde with 4-amino-5-methyl-4*H*-1,2,4-triazole-3-thiol in acidic medium. The synthesized compounds were characterized by ^{1}H NMR, ^{13}C NMR, IR and mass spectroscopic techniques. The products were obtained in high yield and were screened for anti-inflammatory, antioxidant and antibacterial activities against various pathogenic bacteria. Compound EP 8 (71.55%) and EP 10 (74.31 %) exhibited excellent anti-inflammatory activity while compound EP 5 (56.87 %) and EP 8 (52.50 %) exhibited good antioxidant activity. Molecular docking study exhibited the possible mode of action of synthesized derivatives by inhibition of DNA *gyrase B*.

Keywords: Triazolethiol, DNA *gyrase B* inhibitor, Molecular docking, Schiff base, anti-inflammatory, antioxidant activity

INTRODUCTION

Nitrogen containing heterocycles constitute the major portion of chemical entities, which are part of many biologically active pharmaceuticals, fine chemicals, natural products and play a vital role in increasing the quality of life.[1] The compound 1, 2, 4-triazole and its derivatives were reported to show various pharmacological applications like antimicrobial, anticancer, antioxidant, anti-inflammatory and analgesic properties.[2-5] They have other applications such as dyes, lubricants and analytical reagents.[6] Nowadays, drugs like alprazolam (anxiolytic agent), itraconazole (an antifungal agent), rizatriptan (antimigraine agent), fluconazole and ribavirin (antiviral agent) are the best examples of effective molecules with triazole nucleus.

Further, the pyrazole derivatives also reported exhibiting diverse biological activities.[7-9] During the last few decades a significant number of new species with a wide range of biological activities (e.g. anticancer, antimicrobial etc.) and low cytotoxicity have been reported. This is due to the fact that pathogens frequently undergo mutations and exhibit the resistance to the particular antibiotics.[10-12] Recently, there has been significant progress in 1, 3-diarylpyrazole chemistry.[13-20]

The derivatives of 4-amino-5-methyl-4*H*-1,2,4-triazole-3-thiol are ultimate heterocyclic compounds by virtue of the presence of vicinal amino and mercapto groups. These constitute a ready-made building block for construction of various organic heterocycles.[21] Schiff bases and their metal complexes derived

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नादांकित, तेजांकित सप्तस्वर चैतन्य

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तेजांकित, नादांकित, लयांकित, स्वरांकित चैतन्यदायी, आनंददायी असे हे जीवन. पंचमहाभूतांनी निर्मित निसर्गातील सर्व जीवसृष्टी. या जीवसृष्टीतील प्रत्येक प्राणीमात्रांत नादलयीचे तत्त्व अंतर्भूत असते.

जीवन हा एक आनंदाचा उत्सव आहे. आनंद म्हणजे परमानंद, आत्मानंद. सुख दुःखाच्या पलीकडे आपल्या मनांत, देहांत आनंदाच्या लहरी उमटत असतात. निसर्ग संगीतमय आहे. पक्षी सूर्योदयापूर्वी किलबिल-किलबिल करतात. मोर पाऊस पडला की आनंदाने नाचतो. कोकिळा वसंत ऋतूत गाते, झाडांची, पानांची सळसळ मनाला आनंद देते. नदीतील पाण्याचे जिवंत संगीत मनाला नवचैतन्य देते. वाऱ्याची झुळूक सुखावून जाते. निसर्गातील प्राणी, पक्षी आपापल्या आवाजात एकमेकांशी हितगुज करतात. प्रत्येकाच्या देही नाद व लयतत्त्व अंतर्भूत आहे.

नाद हा शब्द संस्कृतातील नद् या धातूपासून झालेला आहे. त्याचा अर्थ अव्यक्त असा आहे. अखिल ब्रह्मांडात अनाहत नाद भरलेला आहे. हा नाद अखंड, अद्वितीय, अलौकिक व आनंदमय असा आहे. संपूर्ण सृष्टीचे चैतन्यमय स्वरूप असलेला हा नाद आहे. संपूर्ण विश्व हे नादाधिष्ठीत आहे. वेद-उपनिषद, योग, दर्शन, व्याकरण तसेच भारतीय विद्वानांनी नाद-ब्रह्माचा स्विकार केलेला आहे. सूक्ष्म नाद म्हणजे श्रुती. श्रुती म्हणजे कानांनी स्पष्ट ऐकू येणारा संगीतोपयोगी नाद. नादाचे दोन प्रकार आहेत. आहत नाद व अनाहत नाद. आहत म्हणजे आघाताने निर्माण होणारा व अनाहत म्हणजे आघाताशिवाय निर्माण होणारा. स्वराचा प्रवास अनाहताकडून आहतापर्यंतचा असतो. आहतातून स्वरांच्या माध्यमात व नंतर सूक्ष्म श्रुतींच्या रूपात व्यक्त होतो. स्वरानुभूती आनंदस्वरूप असते. प्रत्येक स्वरातून एक विशिष्ठ अनुभूती येते. एकच स्वर वेगवेगळ्या स्वरसमूहाबरोबर येतो तेव्हा त्या स्वराची अनुभूती वेगवेगळी असते. या २२ (बावीस) श्रुती असून त्यांची स्वतंत्र नावे आहेत. या २२ श्रुतींमधूनच सप्त स्वरांची निर्मिती झाली आहे.

निसगातून प्रेरणा घेऊन संगीताचा आविष्कार झाला असे म्हटले जाते. मांडुकी-शिक्षेत म्हटले आहे की, मोरापासून षड्ज, वृषभापासून ऋषभ, बकऱ्यापासून गांधार, क्रौंच पक्षापासून मध्यम, कोकिळेपासून पंचम, घोड्यापासून धैवत व हत्तीपासून निषाद स्वर घेतले आहेत. सुरांची ओढ व लयीचे आकर्षण ही मानवी मनाची सहज प्रवृत्ती आहे. षड्ज म्हणजे सहा स्वरांना जन्म देणारा मूळ स्वर. सा, रे, ग, म, प, ध, नि, सां म्हणजे आरोह व सां, नि, ध, प, म, ग, रे, सा म्हणजे अवरोह होय.

तेराव्या शतकातील 'संगीत रत्नाकर' या ग्रंथात शारंगदेवांनी संगीताची व्याख्या केलेली आहे. त्यानुसार गीतम्, वाद्यम्, नृत्यम् त्रयम् संगीतमुच्यते। याचा अर्थ गायन-वादन-नृत्य म्हणजे संगीत होय.

संत ज्ञानेश्वरांनी संगीतासाठी 'नादब्रह्म' हा शब्दप्रयोग केला आहे. नादब्रह्माकडून परब्रह्माकडे नेणारा हा प्रवास आहे. ज्ञानेश्वरीतील तेराव्या अध्यायात त्यांनी म्हटले आहे,

कां नादब्रह्मचि मुसे आलें। कीं गंगापय असललें। संगीत म्हणजे सम्यक गीत. संगीत कलेद्वारे सौंदर्यानुभूतीत 'नाद-ब्रह्म' साक्षात्कार होतो. १५ व्या अध्यायात ते म्हणतात,

नादब्रह्म खुजें। कैवल्यही तैसें न सजे।
ऐसा बोलु देखिजे। जेणें दैवे।।१५.१३।।

ते म्हणतात, आसमंतात ऐकू येणारा नाद, जो अत्यंत सुरेल, सुस्वर असा आहे. संगीतात अद्भूत शक्ती आहे. या नादाचे वर्णन त्यांनी सहाव्या अध्यायात 'नादचित्रांची रूपडी' असे केलेले आहे.

संत ज्ञानेश्वरांनी आपल्या अभंगात देखील स्वर सौंदर्याचे विशेष वर्णन केले आहे. ते म्हणतात, तुम्ही गातासां सुस्वरें। ऐकोनि द्या उत्तरे। कोकिळे वर्जावे। तुम्हीं बाईयांनो।। (अ.क्र. ६३२)

तेथ सानुसानु स्वर। दोहिलें अंबर। हास्यवदन सुंदर।। (अ.क्र. ९)
तोंचि नादु सुस्वर आला। पावया छंदे।। (अ.क्र. १८)

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संतश्रेष्ठ ज्ञानेश्वर महाराज – समाज प्रबोधनासाठी अभंग निर्मिती

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१३ व्या शतकात साहित्य संगीतासारख्या प्रभावी माध्यमाद्वारे समाजापर्यंत पोचणे आवश्यक वाटल्याने ज्ञानेश्वरांनी ज्ञानेश्वरी, अभंग, गौळणी, हरिपाठ, विराण्या इ. साहित्य ओवी आणि अभंगांसारख्या गेय छंदात निर्माण केले. संतश्रेष्ठ श्री ज्ञानेश्वर महाराजांनी सामान्य जनांच्या कल्याणासाठी, प्रबोधनासाठी अभंगांची निर्मिती केली. ज्ञानी, प्रज्ञावंत व साधकांसाठी भगवद्गीतेचे तत्त्वज्ञान ज्ञानेश्वरीच्या रूपात सांगितले. ज्ञानेश्वरी हे श्रीमद् भगवद्गीतेवरील भाष्य आहे. भगवद्गीता हा हिंदूंचा आद्य ग्रंथ मानला जातो. सातशे श्लोकांतील आशय ज्ञानेश्वरांनी नऊ हजार ओव्यांतून सांगितला आहे. अमृतानुभव, चांगदेव पासष्टी हे पण त्यांचे अध्यात्मविषयक ग्रंथ आहेत.

महाराष्ट्रातील संत साहित्याचा मूळ उद्देश समाज शिक्षण, लोकोद्धार, समाजातील सर्व थरातील लोकांप्रती वाटणारे प्रेम, आदर, बंधुता, समानता इ. व्यक्त करण्यासाठी प्रामुख्याने आहे. संतांचे साहित्य लोकांपर्यंत सहज पोचणारे आहे. ज्ञानेश्वर काळात मुद्रण कला अस्तिवात नव्हती. ग्रंथ निर्मिती प्रत्यक्ष वक्ता श्रोता अशा माध्यमातून समाजापर्यंत पोचत असे. संगीत आणि साहित्य यांचा अनुबंध फार प्राचीन काळापासून आहे. प्रत्यक्ष ऐकूनच म्हणजे संगीताच्या प्रभावी माध्यमाद्वारे साहित्य समाजापर्यंत पोचत असे. कीर्तन, प्रवचनाच्या माध्यमातून अभंग घराघरात पोचला.

ज्ञानेश्वरांनी अभंग, गौळणी, हरिपाठ, विराण्या इ. च्या माध्यमातून समाज शिक्षण, समाजोद्धार या हेतूने आपले विचार पोचविले. लोकांना परिचित अशा ओवी, अभंग या छन्दाद्वारे साहित्य निर्मिती केली. त्यांचे समग्र साहित्य सांगीतिक नाद, लय या तत्त्वांची अनुभूती देतात. अभंग हा मराठी भाषेतील एक लोकप्रिय छंद प्रकार आहे. अभंग म्हणजे ओवींची गेय माला होय. ज्याला भंग नाही तो अभंग अशी व्याख्या सांगितली जाते. समाजातील सर्व थरातील लोकांना भक्तीमार्गाकडे, अध्यात्माकडे वळविण्यासाठी त्यांनी अभंग हे अत्यंत प्रभावी माध्यम वापरले. आजपर्यंत ज्ञानेश्वर, निवृत्तीनाथ, सोपानदेव, मुक्ताबाई, नरहरी सोनार, सेना न्हावी, चोखामेळा इ. संतांचे अभंग सर्व पिढ्यांना श्रवणाने कंठस्थ झाले व मुखोद्गत राहिले. हे अभंग आपल्या महाराष्ट्राचा सांस्कृतिक व आध्यात्मिक ठेवा आहे.

अभंग म्हणजे ग्रंथाचे कर्तृत्व किंवा कर्तेपण व तद्वाचक कविनामाची मुद्रिका. मराठीत अभंग रचनेची सुरवात साधारणपणे निवृत्तीनाथांपासून झाली. ज्ञानदेव हे निवृत्तीनाथांचे बंधू आणि शिष्य. त्यामुळे त्यांनीही अभंग निर्मिती करणे सहजच होते. अभंग हा तीन अक्षरांचा साधासुधा शब्द, कानामात्रा नसलेला. त्याने आपले अभंग नाव हे मराठी साहित्यात सार्थ ठरविले.

Klebsiella pneumoniae LS2 gene for 16S ribosomal RNA, partial sequence

GenBank: LC373153.1

FASTA Graphics

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  JOURNAL   Unpublished
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  AUTHORS   Suman,L., Sunil,P. and Dilip,K.
  TITLE     Direct Submission
  JOURNAL   Submitted (19-FEB-2018) Contact:Lokhande Suman Shri Shivaji
            Mahavidyalaya, Department of Microbiology; Kurduwadi Road, Barshi,
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GenBank

Klebsiella pneumoniae LS3 gene for 16S ribosomal RNA, partial sequence

GenBank: LC373453.1

FASTA Graphics

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  AUTHORS   Suman,L. and Pawar,S.
  TITLE     Klebsiella sp. LS3, the Multi Drug Resistant Bacterium isolated
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  JOURNAL   Unpublished
REFERENCE   2  (bases 1 to 844)
  AUTHORS   Suman,L., Sunil,P. and Dilip,K.
  TITLE     Direct Submission
  JOURNAL   Submitted (22-FEB-2018) Contact:Lokhande Suman Shri Shivaji
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2348-7143
December-2018

Agricultural Land use Efficiency and Changes Therein in Lower Sina Basin

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Abstract:

Land use efficiency may be defined as the extent to which the net sown area is cropped or re-sown. With help of *Land use efficiency one can understand the degree of optimum use and performance of cultivated as well as cultivable land. Land use efficiency indicates micro-regional differences. The efficiency of land use in a region is determined by the interaction of man and physical, socio–economic and technological factors. Study of agricultural land use efficiency is fruitful in many ways as it provides an adequate understanding of an agricultural land use and development of the region. Therefore attempt is made here to study agricultural efficiency in Lower Sina Basin. The paper is base on secondary data source. To determine agricultural efficiency the Jasbir Singh's technique is applied. The study reveals that high agricultural efficiency in Paranda Tahsil is a result of development of surface irrigation facilities due Sina Kolegaon project and high rainfall.*

Key wards: Land use, Agricultural efficiency.

Introduction:

Land is an important and basic natural resource, which is used for different purposes such as agriculture, industry, settlements, roads, gardens, dams and so on. Land is our great heritage-a neglected, exploited and robbed heritage. The appalling part of the story is that the inheritories are themselves plunders and yet the land continues to supply the lifeblood of our civilization and national existence (Ali S.M. 1949). Land use efficiency may be defined as the extent to which the net sown area is cropped or re-sown. The gross cropped area as the percentage of net sown area gives the measure of land use efficiency, which in other words, is the intensity of cropping and referred to the number of crops grown on the same area in any one agricultural year (Singh, 1975). The efficiency of land use in a region is determined by the interaction of physical, socio-economic and technological factors. Several attempts have been made for computing agricultural efficiency. The agricultural efficiency was first measured by Kendall (1968) on the basis of ranking coefficient. The same technique was used by several geographers like L. D. Stamp (1960) and Shafi (1960). The weakness of ranking coefficient method, namely, neglect of the areal strength of crops was removed by Sapre and Deshpande (1964). A futher modification has been attempted by Bhatia (1967) (Shinde S. D., 1980). Gupta (1968) and M. Ali (1972) among Indian Geographers paid attention to the study of land use efficiency in India (Narkhede & Gatade, 2010).

Study of agricultural land use efficiency is fruitful in many ways as it provides an adequate understanding of an agricultural land use and development of the region. Land use efficiency represents the degree of optimum use and performance of cultivated as well as cultivable land (Narkhede & Gatade, 2010). It is recognized that the picture of the region as a

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A Geographical Study of Sex Ratio in Satara District

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Abstract:

Sex ratio is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. Changes in sex composition largely reflect the underlying socio-economic and cultural pattern of a society in different ways. It is an important social indicator to measure the extent of prevailing equity between males and females at a given point of time. Since, it influences the marriage and growth rate of population. Sex ratio is an index of socio-economic conditions, revealing in an area and is useful tool for regional analysis. Sex ratio also influences the volume and nature of social need and employment and consumption pattern. In India, sex ratio is generally expressed in terms of number of females per 1000 males. Sex composition varies both in time and space. The aim of present paper is to assess study of sex ratio in the study region. The entire investigation is based on secondary sources of data. The secondary data obtained from District census handbook, District Gazetteers, District statistical department, Socio-economic review and district statistical abstract of Satara district. Collected data is processed and presented in the forms of tabular and graphical. According to revised figures of 2011 census, the sex ratio of the Satara district is 998. There are is high variation in sex ratio in the study region Spatially and temporally.

Keywords: Sex Composition, Sex Ratio, Male, Female.

Introduction:

The sex ratio of a population may either be expressed as the number of males per 100 females or as the number of females per 100 males (Bhende & Kanitkar, 2006). Sex ratio is defined as the number of females per one thousand males (Census of India, 1991). Sex ratio of a population refers to the balance between male and female in any population. In India sex ratio is generally expressed in terms of number of females per 1000 males. Sex ratio shows the proportion of male and female in a total population. Sex composition is expressed with the help of a ratio know as sex ratio. In India Sex ratio is defined as "***number of females per 1000 males in the population***". There three types of sex ratio primary, secondary and tertiary sex ratio. The sex ratio a population at the time of enumeration is known as tertiary sex ratio. Population geographers are concerned more with the regional variation in the tertiary sex ratio. This tertiary sex ratio is determined by three basic determinants including the sex ratio at birth, the sex ratio at death and sex ratio of the migrants. (Chandana, 2007)

Sex ratio or sex composition of population is one of the important biological compositions of population. Sex ratio varies both in time and space. Birth rate, mortality rate and migration these three factor affect on the variations in sex ratio. Sex composition of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. Changes in sex ratio composition largely reflect the underlying socio-economic and cultural pattern of a society in different ways. It is an important social indicator to measure the extent of prevailing equity between males and females at a given

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ISSN : 2348-7143
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Impact of Educational Attainment on Per Hectare Yield of Sugarcane: A Case Study of Village Chavanwadi in Solapur District

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Abstract:

Agricultural productivity is the Function of a number of factors including physical, socio-economic and technical organization. Increase in agricultural productivity is largely related to the choice of inputs, and their relative quantities, and the techniques and the skill with which they are used in the production processes. The choice of farm inputs, and their relative quantities, and the techniques and the skill is largely depend on Education and educational attainment of farmers. The farmer those have higher educational attainment can adopt innovation for agriculture than lower educated or illiterate farmers. Adoption of innovation in agriculture save time, money, reduces labour work and lead agricultural productivity and quality of product. Therefore an effort is made here to examine impact of educational attainment of farmers on per hectare yield of Sugarcane. The paper is mainly based on primary data sources. To examine the impact of educational attainment of farmer on per hectare yield of Sugarcane the coefficient of correlation, Coefficient of determination and regression equation technique has been employed. The study reveals that increase of eduction of farmers by one standard causes for increase of per hectare yield of Sugarcane 6.59 tons in village Chavanwadi.

Key wards: Educational attainment, per hectare yield, Sugarcane, Correlation.

Introduction:

Productivity is some one's ability to produce more economically and efficiently. Therefore, agricultural productivity could be defined as the ratio of output to input in relation to land, capital, over all resources employed in agriculture (Noor Mohamad, 1995). Agricultural productivity is the function of a number of factors including physical, socio-economic and technical organization (Mohammad & Majeed, 1995).

The regional differences in agricultural productivity are the result partly of natural advantages of abiotic environment and partly of farming efficiency as controlled by cultural ecology. Increase in agricultural productivity is largely related to the choice of inputs, and their relative quantities, and the techniques and the skill with which they are used in the production processes (Singh & Dhillon,1984). The choice of farm inputs, and their relative quantities, and the techniques and the skill is largely depend on education and educational attainment of farmers. According to 2001 Census of India,'a person aged 7 years and above who can both read and write with understanding in any language has taken as literate'. Literacy influences overall socio-economic development of any region. A certain level of literacy is, therefore, a basic requirement for people to get out of ignorance and backwardness (Gosal and Chandna, 1972). Attainment means something that you have achieved or success in achieving smething (Hornby A. S., 2015). Educational attainment means success in achieving the education up to particular standard. The farmer those have higher educational attainment can adopt innovation for agriculture than lower educated or illiterate farmers. Adoption of innovation in agriculture save

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Major Environmental Problems Causing Threat to Agro-development

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Research Paper - Geography

Abstract:

A country's environmental problems vary with its stage of development, structure of its economy, production technologies in use and its environmental policies. While some problems may be associated with the lack of economic development (e.g. inadequate sanitation and clean drinking water), others are exacerbated by the growth of economic activity (e.g. air and water pollution). Poverty presents special problems for a densely populated country with limited resources.

Most of the land area in the country shows evidence of degradation, thus affecting the productive resource base of the economy. Out of the total geographical areas of 329 million hectares, 175 million hectares are considered degraded (Table 11.1). 10.

Erosion by water and wind is the most significant contributor to soil erosion with other factors like water logging, salivation etc. adding to the in situ degradation. While soil erosion by rain and river in hill areas causes landslides and floods, deforestation, overgrazing, traditional agricultural practices, mining and incorrect sitting of development projects in forest areas have resulted in opening up of these areas to heavy soil erosion. In the arid west, wind erosion causes expansion of desert, dust storms, whirlwinds and

Journal of chemical & engineering data

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Article

pubs.acs.org/jced

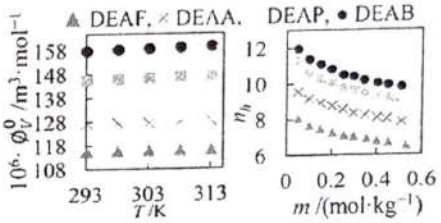
Density and Speed-of-Sound Measurements for Dilute Binary Mixtures of Diethylammonium-Based Protic Ionic Liquids with Water

Shrikant P. Musale, Kunal R. Patil, Rajshree J. Gavhane, and Dilip H. Dagade*

Department of Chemistry, Shivaji University, Kolhapur 416004, India

Supporting Information

ABSTRACT: Physicochemical properties of diethylammonium (DEA)-based protic ionic liquids and their aqueous solutions were obtained using experimental measurements of density (ρ) at different temperatures from T = (293.15 to 313.15) K and the speed of sound (w) at 298.15 K. Four DEA-based protic ionic liquids (PILs) with carboxylates as anions were synthesized. The standard entropy (S^0) and lattice potential energy (U_{POT}) for pure PILs were estimated from molecular volumes at 298.15 K obtained using experimental density data. Apparent molar volumes (ϕ_V), isobaric expansivity (α), isentropic compressibility (β_S), and isothermal compressibility (β_T) have been obtained for aqueous solutions of PILs using experimental density and speed-of-sound data. These data have been further used to understand the electrostriction and concentration dependence of internal pressure. The Passynski method has been used to estimate concentration-dependent hydration numbers of PILs. The results obtained have been discussed in terms of concentration- and temperature-dependent hydrophobic hydration, hydrophobic ion association, water structural changes, and so on. It has been observed that hydrophobic hydration persists in the entire studied concentration and temperature ranges. A critical examination of the data and results obtained reveals that the studied bio-ionic liquids can act as potential candidates in the pharmaceutical industry and in protein chemistry.



1. INTRODUCTION

Ionic liquids (ILs) have already attracted the attention of the scientific community due to their unique properties. Protic ionic liquids (PILs) are another class of ILs which are easily synthesized in high purity by the combination of a Brønsted acid and a Brønsted base. The unique feature of PILs is that they have an available proton on the cation which is responsible for hydrogen bonding, so they strongly interact with polar solvents.[1] The researchers showed a keen interest in the use of PILs as catalysts for organic synthesis,[2,3] biological applications,[4] self-assembly media,[5,6] electrolytes in fuel cells,[7] and industrial applications.[8] The multitude of applications for protic ionic liquids was excellently reviewed by Greaves et al.[9] This review focused on the use of PILs for specific applications and the need to know the properties of ionic liquids when mixed with an additional solvent or solute. Limiting the use of ionic liquids as an alternative to traditional organic solvents are the toxicity and expensive production cost of ILs. To overcome these limitations, researchers are in a continuous search to synthesize "bio-ionic liquids",[10,11] which are defined as ionic liquids made up of solely biomaterials, i.e., both the cation and anion constituents are of biological origin (either naturally occurring or from the metabolites of biochemical processes existing in living organisms). The ammonium-based PILs to some extent decrease the window of limitations, as they are low-toxicity and low-cost alternatives from the applications perspective. In the dissolution of polymers, separation processes, and organic synthesis, ammonium-based ionic liquids play a major role.[12−14] To diversify the applications of ammonium-based PILs and to know the intermolecular interactions with the solvent, the physiochemical properties of aqueous solutions of PILs must be studied. Ammonium-based PILs such as diethylethanolammonium,[15] n-butylammonium,[16] and triethylammonium[17] have been studied to provide reliable thermodynamic data and to know the interactions between PILs and solvent. As new protic ionic liquids are emerging at high rates, sufficient thermodynamic data is needed to know the interactions between PILs and various solvents. In our laboratory, the ion−ion and ion−solvent interactions in aqueous solutions of ionic liquids have been studied previously using vapor pressure osmometric,[18−20] volumetric, and speed-of-sound measurements for aqueous solutions of ionic liquids.[17,18,21,22] Considering the importance of bio-ionic liquids and the need for thermophysical data as outlined above, we report in this article the thermodynamic properties of pure diethylammonium-based carboxylate ionic liquids and their aqueous solutions. For this, four PILs were synthesized with diethylammonium (DEA) as a cation and an aliphatic carboxylate ($RCOO^-$ where R = −H, $-CH_3$, $-CH_2CH_3$, and $-CH_2CH_2CH_3$) as an anion. The resultant PILs are diethylammonium formate [DEAF], diethylammonium acetate [DEAA], diethylammonium propionate [DEAP], and diethylammonium butanoate [DEAB]. The density of these PILs and their aqueous solutions has been

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SYNTHESIS OF SCHIFF BASE AS DNA *GYRASE B* INHIBITOR, ANTIBACTERIAL, ANTI-INFLAMMATORY AND ANTIOXIDANT AGENTS

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ABSTRACT

A series of some 4-{[(Z)-(1,3-diphenyl-1*H*-pyrazole-4-yl)methylidene]amino}-5-methyl-4*H*-1,2,4-triazole-3-thiols were synthesized by reaction of substituted 1,3-diphenyl-1*H*-pyrazole-4-carbaldehyde with 4-amino-5-methyl-4*H*-1,2,4-triazole-3-thiol in acidic medium. The synthesized compounds were characterized by ^{1}H NMR, ^{13}C NMR, IR and mass spectroscopic techniques. The products were obtained in high yield and were screened for anti-inflammatory, antioxidant and antibacterial activities against various pathogenic bacteria. Compound EP 8 (71.55%) and EP 10 (74.31 %) exhibited excellent anti-inflammatory activity while compound EP 5 (56.87 %) and EP 8 (52.50 %) exhibited good antioxidant activity. Molecular docking study exhibited the possible mode of action of synthesized derivatives by inhibition of DNA *gyrase B*.

Keywords: Triazolethiol, DNA *gyrase B* inhibitor, Molecular docking, Schiff base, anti-inflammatory, antioxidant activity

INTRODUCTION

Nitrogen containing heterocycles constitute the major portion of chemical entities, which are part of many biologically active pharmaceuticals, fine chemicals, natural products and play a vital role in increasing the quality of life.[1] The compound 1, 2, 4-triazole and its derivatives were reported to show various pharmacological applications like antimicrobial, anticancer, antioxidant, anti-inflammatory and analgesic properties.[2-5] They have other applications such as dyes, lubricants and analytical reagents.[6] Nowadays, drugs like alprazolam (anxiolytic agent), itraconazole (an antifungal agent), rizatriptan (antimigraine agent), fluconazole and ribavirin (antiviral agent) are the best examples of effective molecules with triazole nucleus.

Further, the pyrazole derivatives also reported exhibiting diverse biological activities.[7-9] During the last few decades a significant number of new species with a wide range of biological activities (e.g. anticancer, antimicrobial etc.) and low cytotoxicity have been reported. This is due to the fact that pathogens frequently undergo mutations and exhibit the resistance to the particular antibiotics.[10-12] Recently, there has been significant progress in 1, 3-diarylpyrazole chemistry.[13-20]

The derivatives of 4-amino-5-methyl-4*H*-1,2,4-triazole-3-thiol are ultimate heterocyclic compounds by virtue of the presence of vicinal amino and mercapto groups. These constitute a ready-made building block for construction of various organic heterocycles.[21] Schiff bases and their metal complexes derived

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Ion-Pair Based Solvent Extraction of Rhodium (III) from Malonate Medium Using 4-heptylaminopyridine as an Extractant: Application to Alloys and Environmentally Relevant Matrices

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Abstract: The main task of this research article is the extraction and subsequent separation of rhodium(III) from malonate medium (0.02 M) at pH 7.5 by a newly synthesized chelating reagent, 4-heptylaminopyridine(4-HAP). The reagent has been used to build up novel analytical procedure its determination at trace level. During the optimization of the present method, the influence of a variety of parameters like pH of medium, 4-HAP concentration, weak organic acid concentration, organic diluents, shaking time and stripping agents on the extraction of rhodium(III) was studied. From the slope analysis the probable composition of extracted species was found to 1:2:1 (metal: malonate: extractant). The effect of different interfering ions is studied together with the suitable masking agents. The applicability of the method was checked by separating rhodium(III) from binary and ternary metal ion mixtures, alloys and some environmentally relevant matrices.

Keywords: Environmental samples; Rhodium(III); 4-Heptylaminopyridine; solvent extraction.

Abbreviations

4-HAP, 4-heptylaminopyridine; THF, Tetra hydro furan; NMR, Nuclear magnetic resonance; EDTA, Ethylene diamine tetra acetic acid; AAS, Atomic absorption spectrophotometer; 2',4',-dinitro APTPT, 1-(2',4'-dinitro aminophenyl)-4,4,6-trimethyl-1,4-dihydropyrimidine-2-thiol; 4'-Bromo PTPT, 1-(4-bromophenyl)-4,4,6-trimethyl-1,4-dihydropyrimidine-2-thiol; DMG; Dimethyl glyoxime; PAN, 1-(2-Pyridylazo)-2-napthol; PAR, 4-(2-Pyridylazo) resorcinol; 4'-Chloro PTPT, 1-(42 -Chlorophenyl)-4,4,6-trimethyl-1,4-dihydro pyrimidine-2-thiol.

Introduction

Rhodium metal is present at about 0.001 ppm in the earth's crust. It is known for its physical beauty, stability in corrosive medium and unique chemical and physical properties. Due to its low abundance in earth's crust it commands a high price. In combination with platinum metals rhodium metal is now widely used. Rhodium is commonly used

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पद्मभूषण कर्मवीर भाऊराव पाटील यांचे शैक्षणिक कार्य

प्रा. विजयश्री गवळी

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प्रस्तावना :–

आधुनिक महाराष्ट्राच्या शैक्षणिक जडणघडणीमध्ये कर्मवीर डॉ. भाऊराव पाटील यांचा फार मोठा वाटा आहे. बहुजनांच्या शिक्षणासाठी रयत शिक्षण संस्थेची स्थापना करून त्यांनी वसतिगृहात्मक शिक्षणाची व्यवस्था केलेली पहायला मिळते. 'विद्येविना मती गेली' असे म्हणणाऱ्या म. ज्योतिबा फुले आणि राजर्षी शाहू महाराज यांचा आदर्श त्यांच्यासमोर होता. सुदैवाने कर्मवीरांना छत्रपती राजर्षी शाहू महाराजांचा प्रत्यक्ष सहवास लाभलेला होता. त्याचाही परिणाम त्यांच्या विचार सरणीवर झाल्याचे निदर्शनास येते.

'शिक्षणानेच आमचा तरणोपाय आहे असे माझे ठाम मत आहे. शिक्षणाशिवाय कोणत्याही देशाची उन्नती झाली नाही हा इतिहास आहे. अज्ञानात बुडून गेलेल्या देशात उत्तम लढवय्ये कधीही निपजणार नाहीत. म्हणूनच सक्तीच्या व मोफत शिक्षणाची हिंदुस्थानला अत्यंत आवश्यकता आहे.'[१] असे विचार छत्रपती शाहू महाराजांनी मांडले. त्याचाच प्रभाव कर्मवीरांच्या शिक्षणाच्या कार्यावर झालेला पहायला मिळतो.

राजर्षी शाहू महाराजांनी वेगवेगळया जातीची वसतिगृहे काढून शिक्षण प्रसाराचे मोठेच काम केले होते. काळ जसा पुढे सरकत राहिला तस तसे शिक्षण विचारही बदलत गेला. शिक्षण हे सामाजिक परिवर्तनाचे साधन आहे. हे खरे पण समाजाच्या मनामध्ये रूतून बसलेली जातीभेदाची कल्पना उखडून काढणे फार कठीण काम होते. हे खडतर कार्य कर्मवीर भाऊरावांनी सुरू केले हेच त्याचे क्रांतिकारी कार्य आहे. या संदर्भात मा.प. मंगुडकर यांनी म्हटले आहे की, 'त्या काळामध्ये निरनिराळया जाती जमातींसाठी आणि पोटजातींसाठी वेगवेगळी वसतिगृहे होती. जातीयतेची भावना समाजात खोलवर रूजलेली होती. अशा या काळात १९२२–१९२३ साली कर्मवीर भाऊराव पाटील यांनी आपल्या वसतिगृहातून वेगवेगळया धर्माच्या व जातींच्या स्पृश्य –अस्पृश्य विद्यार्थ्यांना एकाच वसतिगृहात ठेवण्याचा उपक्रम सुरू केला. हा प्रयत्न कर्मवीर भाऊराव पाटील यांनी भारताच्या इतिहासात प्रथमच केला'[२]

कर्मवीर नोकरीच्या निमित्ताने महाराष्ट्रभर नांगर विकण्याचे काम करीत होते. तेव्हा त्यांच्या लक्षात आले की सबंध बहुजन समाज अज्ञानाच्या आणि म्हणूनच दारिद्रयाच्या चिखलामध्ये रूतून बसलेला आहे. त्याला बाहेर काढण्यासाठी शिक्षण हीच एक परिवर्तनशील बाब आहे कारण शिक्षण हा मुलभूत मानवाधिकार आहे. दारिद्रयाशी जर प्रभावीपणे लढायचे असेल तर शिक्षण हेच एकमेव प्रभावी माध्यम आहे असे भाऊरावांचे ठाम मत होते. अनेक वर्षांच्या निरीक्षणाने आणि अनुभवाने त्यांनी ही विचारसरणी स्वीकारली होती. छत्रपती राजर्षी शाहू महाराजांच्याही पुढे पाऊल त्यांनी टाकले. याबाबत डॉ. श. नि. पवार यांनी म्हटले आहे की, 'शिक्षण आणि सामाजिक परिवर्तन हया प्रक्रियेत कर्मवीर भाऊराव पाटील यांनी पुढचे पाऊले रयत शिक्षण संस्थेच्या मदतीने ज्ञानाची गंगा खेडयापाडयापर्यंत पोहोचविण्याचे अतिशय खडकर असे काम केले'[३]

कर्मवीर आण्णांच्या मनामध्ये बहुजनांच्या शिक्षणाची जी वसतिगृहात्मक शिक्षणाची योजना होती त्याचा आरंभ काले (जि. सातारा) इथे ४ ऑक्टोबर १९१९ रोजी झाला. संपूर्ण महाराष्ट्रभर अत्यंत आत्मियतेने आणि जीवन जगण्याच्या शिक्षणवृत्तीमुळे आण्णांनी जी शैक्षणिक चौकट निर्माण केली ती अभुतपूर्वच म्हटली पाहिजे. अगदी चार विद्यार्थ्यांच्या बळावर उभी राहिलेली रयत शिक्षण संस्था महाराष्ट्रामध्ये सदैव पुरोगामी विचार–प्रसारासाठी तत्पर राहिलेली दिसते. कर्मवीरांच्या कार्याने हे सामाजिक यश म. गांधी यांनी सुध्दा नावाजलेले आहे. हे नमूद केलेच पाहिजे. २५/०२/१९२७ रोजी राष्ट्रपिता म. गांधी यांनी आण्णांच्या संस्थेला भेट दिली आणि 'छत्रपती शाहू बोर्डिंग हाऊस' असे नामकरण केले.

रयत शिक्षण संस्थेचे बोधचिन्ह म्हणून अणांनी वडाचे झाड स्वीकारले. सर्वसामान्यांसाठी कार्य करणारी व

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समन्वयवादी संत रविदास

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रविदास (रैदास) एक महान संत थे। रविदास ने समाज कल्याण के लिए कार्य किया। उनके पदों में समाज का विकास और समाज का कल्याण स्पष्ट रुप से व्यक्त हुआ है। संत रविदास इस पुस्तके में आचार्य चन्द्रशेखर शास्त्रीजी ने लिखा है "उज्जवल चरित्र और शुध्द आचरण से हृदय का परिष्करण होता है। हृदय - परिष्करण से व्यक्ति का विकास होता ही है, समाज का भी विकास और कल्याण होता है। उज्ज्वल चरित्र और आचरण केवल उन संतों के पास होता है, जो कामनाओं को त्यागकर, सतत ईश्वर - आराधना में लगे रहते हैं, और अपने सुखों के लिए नहीं, मानव- मात्र के सुखों तथा कल्याण के लिए प्रयत्न करते रहते हैं।"

संत नाभादासजी के अनुसार स्वामी रामानंदजी के १२५ प्रमुख शिष्यों ने अनंतानंद, कबीर सुखानंद, सुरसुरानंद, नरहर्यानंद पीपा भावानंद, रविदास, धन्ना सेना सुरसुरी आदि का उल्लेख मिलता है।

इन प्रमुख शिष्यों से एक बात स्पष्ट हो जाती है। स्वामी रामनंदजी एक मानवतावादी व्यक्ति थे। उन्होंने सभी वर्ग एवं वर्ण के व्यक्तियों को भक्ति में दीक्षित किया था और अपना शिष्य बनाया था। रामानंदजी के शिष्यों में रविदास चमार, कबीर जुलाहा, धन्ना जाट, सेन नाई, और पीपा क्षत्रिय राजा थे। इन भक्तों में नारी को भी स्थान दिया था।

रामनंदजी ने अपने निवार्ण से पहले धन्ना, कबीर, रविदास और सेन को काशी में रहकर सुरसुरानंद को पंजाब में भावनंद को दक्षिण में नरहर्यानंद को उत्कल में गालवानंद को कश्मीर में प्रचार - प्रसार करने का आदेश दिया था।

एक बात स्पष्ट होती है कि कबीर और रविदास हिंदी के संत भक्त कवियों में चर्चा में रहे हैं। इन दोनों में भी रविदास, कबीर से आयु में जेष्ठ और भक्ति में भी श्रेष्ठ माने जाते थे। डॉ. हजारीप्रसाद त्रिवेदीजी लिखते है 'एकबार ब्रह्मज्ञान के विषय में कबीर से पुछा गया तो उन्होंने बताया कि मैं जब बच्चा था, मां की गोद में चढकर रास्ता पारकर आया हूँ रविदास से पूछो, वे बड़े धे और मां ने उनके सिर पर कुछ गट्टर भी रख दिया था। वे ही रास्ते का मर्म बना सकते है।

मैं तो आया मां गोद में, क्या जानूं मारग क्या होय।
राह पुछों रैदास से, जिन गठरी लाई ढोय।।

रविदास की महानता को समझने के लिए उनके युग की तस्वीर पर दृष्टि डालना आवश्यक है, क्योकि इस तस्वीर में ही उनकी महानता और उनका बडप्पन हुआ है। रविदास जिस समय में पैदा हुए थे, एक तरह से हम उसे अंधरे का युग कह सकते है। कहा जाता है, कि उस समय राजनीतिक, धार्मिक और सामाजिक हर एक क्षेत्र में निराशा फैली हुई थी। चारो ओर अंधेरा ही अंधेरा देख रहा था। साहस और अपने विश्वास को जनता खो चुकी थी। अलग अलग भागों में देश बंटा हुआ था। बिदेशीयो के आक्रमण से लोग में क्षय का वातावरण फैला हुआ था। राजा - महाराजा आपस में ही लड रहे थे। कभी अपने ही लोग विदेशियों का साथ दे रहे थे।

धार्मिक क्षेत्र की स्थिति भी इतनी अच्छी नहीं थी। कुछ लोग स्वयं को श्रेश्ठ मानते थे। और इसरों को नीच समझते थे। मंन्दिरो, वेदों, शास्त्रों पर कुछ लोग अपना ही अधिकार मानते थे। नारी को भी इन अधिकारों से दूर रखा गया था। अच्छुतों की ओर देखले का दृष्टीकोन अच्छा नहीं था। और छुआछुत और गरीबी का प्राबल्य था। इस घटना के संदर्भ में आचार्य चंद्रेशखर शास्त्री जीने लिखा है-'ज्ञान का सुर्य डुब चुका था और डुब चुका था साहस और पौरुष का सुर्य। चारों ओर अंधेरा, भयंकर अंधेरा । भय और निराशा को छोडकर कहीं कुछ नहीं था, कहीं कुछ नहीं।'

इस प्रकार महिला लेखिका आंने समकाल में नारी के बदलते सम्बन्ध टुटते मूल्य, बदलती दृष्टियाँ, छिन्न-छिन्न होती अस्थाएँ और विकास को उभारते हुए अपने अस्तित्व की लढाई और नारी मन की छटपटाहट को सामाजिक अनुभवों के साथ जोडकर देखने का प्रयास किया है। आज की शिक्षित नारी अपने अधिकारों के प्रति सजग एवं सतर्क होकर अपने अधिकारों की माँग कर रही है। पुरूषों के अवैध बंधनों को चुनौती देकर स्वावलंबी होने के लिए भी संघर्ष करने लगी है।

संदर्भ

१) डॉ. रजनी तिवारी - भारत में दलित व्यवस्था और संसदीय लोकतंत्र
२) डॉ. सुशी मिलाल - आधुनिक हिन्दी कहानी में नारी की भूमिकी
३) डॉ. उषा झा - हिन्दी कहानी और स्त्री विमर्श
४) मजुला भगत - तिसरी औरत
५) मलू भंडारी - स्त्री - सुबोधिनी
६) मैत्रेयी पुष्पा - ललमनियाँ
७) डॉ. नीहारिका - नारी तुम केवल सबला हो
८) रजतरानी 'मीनू' - धोखा

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खण्डकाव्य में चित्रित नारी

प्रा. डॉ. सुब्राव नामदेव जाधव

हिंदी साहित्य में नारी के अलग - अलग रुपों का चित्रण किया गया है। गद्य - पद्य के माध्यम से जैसे कहानी, नाटक, उपन्यास, काव्य, खण्डकाव्य, प्रबंध काव्य, महाकाव्य आदि विधाओं में नारी का चित्रण मिलता है। स्त्री- पुरुष सम्बधों का अंकन अलग- अलग रचनाकारों ने किया हैं।

साठोत्तरी हिंदी खंडकाव्य में नारी संवेदना का चित्रण अलग ढंग से मिलता है। एक बात सच है कि साहित्य नारी की दृष्टि से जागरण या परिवर्ततन का समय रहा है। नारी संघटन के संदर्भ में डॉ. मृदुला वर्मा ने लिखा है। साठोत्तर हिंदी सहित्य नारी की दृष्टि से जागरण का काल रहा है। इस काल में नारियों ने संगठित होकर अपने अधिकारों की लडाई लढी और उनका नया रुप सामने आया। नारी मुक्ति आन्दोलन, सामाजिक परिवर्तन और आधुनिकता ने नारी संवेदना को विकसित किया। इन सब कारणों से समाज में नारी की स्थिति बदली और नारी के विभिन्न रुप उभरकर सामने आये ।

खण्डकाव्य के माध्यम से नारी विद्रोह, नारी संवेदना, नारी प्रेम, नारी विश्वास आदि का चित्रण किया है। खण्डकाव्य लिखने में रामधारी सिंह, दिनकर दुष्यंतकुमार, कुंवर नारायण, नरेश मेहता, नागार्जुन, डॉ. रामकुमार वर्मा, प्रभाकर माचवे आदि

प्रा. डॉ. सुब्राव नामदेव जाधव : हिंदी विभाग, श्री शिवाजी महाविद्यालय, बार्शी

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विश्व में हिंदी का महत्त्व

डॉ. सुब्राव जाधव
श्री शिवाजी महाविद्यालय, बार्शी
हिंदी विभाग
मो.नं. 9011233426

युरोप में ही सबसे पहले विदेशी भाषाएँ पढ़ाने की परंपरा का सुत्रपात हुआ। उनमें भी हिंदी भाषा का अध्ययन-अध्यापन काफी देर शुरू हुआ। यूरोप के देशों मे विशिष्ट राजनीतिक संबधों के कारण स्वभावतः हिंदी का अध्ययन-अध्यापन सबसे पहले इंग्लंड में प्रारंभ हुआ, उसके बाद १६२१ से जर्मनी तथा सोवियन यूनियम में, १६२५ से चेकोस्लोवाकिया में, १६२८ से फ्रांस में, १६३८ से स्वीडन में तथा फिर इटली आदि अन्य देशों में।

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'जूठन' में चित्रित घुटन

डॉ. सुब्राव नामदेव जाधव
हिंदी विभाग, श्री शिवाजी महाविद्यालय, बार्शी

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हिंदी आत्मकथा - साहित्य में अलग अलग विचार धाराओं को लेकर साहित्य का सजृन हुआ। दलित रचनाकारों में मोहनदास नेमिशराय, जयप्रकाश कर्दम, विपीन बिहरी, सुरजपाल चौहान, प्रभाकर गजभिये, ओमप्रकाश वाल्मीकि आदि रचनाकर चर्चा में रहें हैं।

कहानीकार, कवि, तथा आत्मकथा लेखक के रुप में ओमप्रकाश वाल्मीकि चर्चा में रहें हैं। वाल्मीकि का जन्म उत्तर प्रदेश के बरला नामक गांव में ३० जून १९५० में हुआ। एक बात स्पष्ट है कि हिन्दु धर्म व्यवस्था ने जिस जाति को अछूत माना है, उस जाति में उनका जन्म हुआ।

ओमप्रकाश वाल्मीकि जी ने अपनी आत्मकथा में दलित जीवन - की घुटन का यथार्थ के साथ चित्रण किया है। सच्चे अर्थो में 'जूठन' में दलित समाज, दलित जीवन, दलित परिवार की घुटन का चित्रण मिलता हैं। 'जूठन' में ओमप्रकाश वाल्मीकि ने उच्चवर्णियों के अमानवीय व्यवहार और आर्थिक परिस्थितीयों जीने वाले अपने परिवार का अंकन किया है। स्वयं लेखक इस कुचक्र को अपने आंखों से देखा था। जुठन में ओमप्रकाश वाल्मीकि ने अपने परिवार का संदर्भ देते हुए लिखा हैं "मेरे परदादा का नाम जाहरिया था।उनके दो पुत्र थे। बडे बेटे का नाम था बुध्द तथा छोटे बेटे का नाम था कुन्दन। बुध्द के बी दो बेटे थे। बडे बेटे का नाम था सुगम चन्द और छोटे बेटे का नाम था छोटन लाल। छोटनलाल वाल्मीकि के पिता थे। उनकी मां का नाम मुकुंदी था।

पिता छोटनलाल के परिवार में पांच लडके और दोन लडकियां थी। उनकी सबसे छोटी बेटी सोमनी जब दोन तीन साल की थी तब गुजर गयी। सुखबीर उनके सबसे बडे पुत्र थे। (बीमारी मे चल बसे) जगदीश की मृत्यू युवावस्था में ही हो गयी। जसबीर जनेसर ओमप्रकाश और बहन माया एक साथ रहते थे।

जूठन में ओमप्रकाश वाल्मीकि ने लिखा है "हमारा घर चन्द्रभान के घेर से सटा हुआ था उसके बाद कुछ परिवार मुसलमान जुलाहों के थे। गंदी बस्ती मे जीवन जीनेवाला परिवार का चित्रण करते हुए ठीक लिखा है, 'जोहडी' के किनारे पर चुहडों के मकान थे जिनके पीछे गाव भर भी और में जवान लडकियाँ बडी - बुढ़ी, यहाँ तक कि नई नवेली दुल्हने भी इस डब्बोवाली के किनारे खुले मे टट्टी - फरागन के लिए बैठ जाती थी रात के अंधरे में ही नही दिन के उजाले में भी पर्दो में रहनेवाली त्यागी महिलाएँ घूँघटे काढे दुशाले औरे इस सार्वजनिक खुले शौचालय में निवृत्ति पाती थी।" 'जूठन' मे वाल्मीकि ने दलितों की मकान की समस्या का परिचय दिया है। वाल्मीकि का मानना है कि 'इस माहौल में यदि वर्ण व्यवस्था को आदर्श - व्यवस्था कहने वालों को दो - चार दिन रहना पड जाए तो उनकी राय बदल जाएगी । ऐसे माहौल में पाच भाई एक बहन दो चाचा एक ताऊ का परिवारचाचा और तास अलग रहते थे। घर में सभी कोई न कोई काम करते । इस संदर्भ में डॉ. सुजाता श्रीधर पाटील ने ठीक लिखा है दरिद्रता मनुष्य को श्रमशाली बनाती है। इसका परिवार भी तगावों के घर साफ सफाई करना, मंजुरी करना, मृत जानवरों की खाल निकालना, आदि काम करके अपने जीवन की लडाई लड रहे थे।' 'जुठन" में वाल्मीकि ने भूख की समस्या का चित्रण किया है। वाल्मिकि जी का परिवार सुखदेव सिंह के घर काम करता था।उसके बेटी के व्याह पर वाल्मीकि जी के माता-पिता ने जी-जान सफाई का काम किया। दलितों का शोषन ऐसे अवसरों पर अधिक होता है। सारे मेहमान

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Research articles

Effect of Dy^{3+} substitution on structural and magnetic properties of nanocrystalline Ni-Cu-Zn ferrites

S.M. Kabbur [a], U.R. Ghodake [a], D.Y. Nadargi [b], Rahul C. Kambale [c], S.S. Suryavanshi [b]

https://doi.org/10.1016/j.jmmm.2017.12.006

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Effect of Dy^{3+} substitution on structural and magnetic properties of nanocrystalline Ni-Cu-Zn ferrites

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Highlights

- Diverse structural and morphological parameters on Dy substitution in NiCuZn ferrite.
- Analysis of magnetic properties w.r.t. exchange interaction and cation distribution.
- Complex initial permeability based on grain size, saturation magnetization.
- Small magnetic loss factors attributed to high density and synthesis method.
- Low sintering temperature making the samples suitable candidate for MLCI

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GIRISH KARNAD'S *TALE-DANDA*: SOCIAL-CULTURAL PERSPECTIVE

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ABSTRACT

Girish Karnad is a standout amongst the most acclaimed and most well-known Indian dramatists. Today no investigation of Indian dramatization in English can be finished without the incorporation of Girish Karnad. He was intrigued by the conventional plays. He admits, I have been genuinely fortunate in having a multi-pronged ability. He was a good performing artist, a distributer, and a producer. However, he is generally refreshing for his specialized trials just as showing a wide scope of topics and subjects. He consolidates fantasy and reality, past and the present; he acquires unbelievable and authentic figures to who can convey his message of rebuilding the present society. Tale-Danda is a serious work of art; it projects Karnad's socio-religious perspective. He chooses history and myth to present a represent a contemporary problem mirroring the social scenario of India today. He says in the preface to Tale-Danda that he thought of this play in the light of the 'Mandir' and 'Mandal' issue which triggered off so much of social unrest. The play shows Karnad's analysis in artistic terms of a segment of history to bring forth the unfortunate implications of its invariable repetitions in history. So many times blood has been spilt in the name of religion and caste, but to no avail. Caste bias still persists, 'sharanas' are born in every generation people like Buddha and Gandhi, but the caste system, religious bigotry, fanatics still exist to divide the society into factions, fanned by politicians who play the power game. The fire which is fanned by them may consume the entire country one day. This system certainly stands in the way of an all-round development of the country.

Girish Karnad is a standout amongst the most acclaimed and most well-known Indian dramatists. Today no investigation of Indian dramatization in English can be finished without the incorporation of Girish Karnad. He was intrigued by the conventional plays. He admits, I have been genuinely fortunate in having a multi-pronged ability. He was a good performing artist, a distributer, and a producer. However, he is generally refreshing for his specialized trials just as showing a wide scope of topics and subjects. He consolidates fantasy and reality, past and the present; he acquires unbelievable and authentic figures to who can convey his message of rebuilding the present society. His sensational manifestations incorporate among others *Yayati*, *Tughlaq*, *Hayavadana*, *Naga-Mandala*, *Flame* and *the Downpour* and *Tale Danda*. Karnad aesthetically connects up the past and the present in his plays, notwithstanding when he takes up an unbelievable or a recorded figure like Tughlaq in *Tughlaq* or Lord Bijjala and Basavanna in *Tale Danda*, he relates them to the present occasions, they hold a contemporary importance.

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PORTRAYAL OF INDIAN WOMEN IN INDIAN THEATRE

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KMJM, Washi, Maharashtra, India.

Theatre is one of the most seasoned type of mass correspondence. The significant normal for theatre - it is live and concerns individuals, and therefore fabricates a live association with groups of onlookers. At the point when theatre is used to challenge social and political imbalances and the social indecencies pervasive in the general public, it tends to be named as Theatre of dissent. It is a sweeping term used to feature the predicament of sufferers: mistreated, stifled and discouraged. As a rule, challenge is of two sorts; formal and casual dissent. Formal challenge comprises of a particular plotted structure where on-screen characters speak to the author's point of view while the casual dissent incorporates one's close to home hatred against any type of suppression; when one individual talks, feels energetic about the subject and goes about as an entertainer and the other individual (audience) goes about as crowd of people. In the nation like India, Theatre of dissent turns into the need of an hour to improve the ethical qualities and to spread mindfulness with respect to one's key rights and to guarantee wellbeing and security of each person.

Challenge Theatre develops when the administration neglects to benefit strength in the nation in regard of abhor wrongdoing, bigotry, appalling violations against lady and wrongdoing by and large. In contemporary India, the wellbeing of ladies is an issue of gigantic concern; barbaric exercises like assaults, corrosive assaults, tyke sexual maltreatment, endowment dangers and conjugal assaults have made a choked out jail for a ladies even inside their homes. Theatre goes about as an incredible medium that incorporates creative energy alongside the demonstrations of challenge and insubordination; and plans to change the vision, considerations and convictions of the onlookers. Theatre raises our awareness about the social disasters; for which not an individual; not by any means an administration is dependable, rather it depends on the aggregate activity and response of the individuals from the general public. In this manner, theatre acts a great stage to feature issues revolved around ladies and writers attempt to expel window ornament from the frowned upon subjects.

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PREMCHAND'S *GODAAN*: A SUBALTERN READING

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ABSTRACT

Premchand's Godaan (1936), the exemplary Indian novel in Hindi, displays a study of Hindu religious conventionality, network situated governmental issues, the questionable job of English instructed urban middleclass and Hindu majoritarianism, which are decisively the confinements of Indian patriot talk, and furthermore the qualities of the socio-political portrayal of the dairy animals with reference to the Cow-Protection development in 1890s and 1910s in the Bhojpuri talking territory (comprising of the district of Godaan). In this manner the unexpected decrease of the untouchable relic to the profane religious universality in Godaan is a subaltern investigate of Indian patriot talk.

KEYWORDS

Subaltern, Hindi, Indian novel, humanism, religion

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Effect of Mn dopant on structural & optical behavior of Fe_2O_3 nanoparticles

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Abstract:

Photocatalytic materials play an important role in the field of renewable energy such as artificial photosynthesis, solar cell etc. Hence, to improve photocatalytic performance via optical property is one of the challenging points in these days. Iron oxide (Fe_2O_3) with direct and indirect band gap has been extensively studied by many researchers in past years due to its excellent physical properties. However, in the field of photocatalysis this material is being ignored because of fast electron-hole recombination rate. This problem can be overcome by doping with suitable and appropriate amount of dopant material. In this report oval shaped Mn doped Fe_2O_3 nanoparticles have been successfully synthesized by simple hydrothermal method. Different (1, 2 and 3) mol% Mn were doped into Fe_2O_3 and its existence was confirmed by and XPS. The effect of dopant on crystal structure and morphology was studied by X-ray Diffraction and SEM, TEM respectively. The optical properties of synthesized Mn doped Fe_2O_3 nanoparticles were measured by diffuse reflectance spectra (DRS).

Introduction: The study of nanoparticles which is intermediate between the bulk and atomic/molecular system. Nanoparticles show different properties than the bulk and atomic system which are very useful in various fields like medicine, healthcare, engineering, agriculture, electronics, defense etc. Hence the study of those properties of nanoparticles such as structural optical, mechanical, thermal, catalytic and magnetic is very interesting and exciting[1-2]. Various well established physical and chemical methods have been used to synthesis nano materials in different shape and size. Here nanoparticles are synthesized by simple hydrothermal method. Artificial photosynthesis replicate the natural process of photosynthesis that converts water and carbon dioxide into carbohydrates and oxygen using sun light as the energy source. Photocatalytic material play an important role in the field of renewable energy such as artificial photosynthesis, solar cell etc. Hence to improve photocatalyticperformance via optical property is one of the challenging points. Iron oxide (Fe_2O_3) with direct and indirect band gap has been extensively studied by many researchers in past year due to its excellent physical properties [3-6]. Fe_2O_3 has wide applications such as ferrofluide, refrigeration, magnetocaloric and biomedical fields. Metal doped nanostructure Fe_2O_3 crystal is highly desirable. This dopant play important role to improve the optical absorption coefficient, donor density, electrical conductivity and flat band potential. In this work Mn is doped in Fe_2O_3 which is synthesized by hydrothermal method. The prepared samples were characterized for crystal structure by X-ray diffraction, surface morphology by Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM) and optical properties by Diffuse Reflection Spectra (DRS).

Experimental details

Chemicals:Ferric chloride hexahydrate($FeCl_3.6H_2O$, ~97%, Sigma Aldrich made), Manganese chloride tetrahydrate ($MnCl_2.4H_2O$, >98%, Sigma-Aldrich) and sodium hydroxide (NaOH, beads, 20-40 mesh, reagent grade, 97%). All chemicals were used as received without further purification. For this experiment deionizes water is used and Millipore water purification system

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कष्टकऱ्यांचे कैवारी डॉ. बाबासाहेब आंबेडकर

प्रा. समाधान विठ्ठल लोंढे
सहायक प्राध्यापक, राज्यशास्त्र विभाग
श्री शिवाजी महाविद्यालय, बार्शी

गोषवारा :-

डॉ. बाबासाहेब आंबेडकर ही केवळ व्यक्ती नसून तो विचार आहे. हा विचार प्रेरणादायी आणि प्रवाही आहे. त्यांचे जीवन आणि कार्य हे तळागाळातील हजारो वर्षाच्या सामाजिक अन्याय आणि आर्थिक शोषणामुळे भरडलेल्या लोकांकरिता प्रेरणा आहे. जाज्वल्य-राष्ट्रनिष्ठा आणि देशप्रेम हे बाबासाहेबांच्या जीवन आणि कार्याचे अतूट अंग आहे. भारताचे नुसते स्वातंत्र्य नको होते, त्याचबरोबर दलित आणि अस्पृश्यांच्या सामाजिक आणि आर्थिक उत्थानाचा संबंध स्वातंत्र्याशी जोडणे आवश्यक वाटत होते. आधुनिक भारताच्या जडणघडणीत विविध क्षेत्रात काम करत असणारे कामगार व कर्मचारी आदींच्या सुखी जीवनासाठी त्यांनी केले कार्य बहुमोलाचे आहे.

प्रस्तावना :-

प्राचीन काळापासून कष्टकरीवर्गाला प्रस्थापित व्यवस्थेने न्याय दिला नसल्याचे पाहिला मिळते. कष्टकरीवर्गाच्या हालआपेष्टा कमी करण्यासाठी थोर व्यक्तींनी कार्य केले. स्वातंत्र्य लढा सुरु असताना कष्टकरी समाजाच्या समस्या सोडविण्याचा प्रयत्न करण्यात आल्याचे दिसून येतो. पारतंत्र्यातून भारताची मुक्तता झाल्यानंतर नवभारताची उभारणी करण्याकामी डॉ. बाबासाहेब आंबेडकर यांचे कार्य अभ्यासासाठी प्रस्तूत शोधनिबंधाचा मुख्य उद्देश आहे.

शोधनिबंधाचे उद्देश :-

१. कामगार प्रश्नांची चिकित्सा करणे.
२. कष्टकऱ्यांच्या उन्नतीसाठी डॉ.बाबासाहेब आंबेडकर यांनी केलेल्या राजकीय कार्याचा अभ्यास करणे.
३. कामगारांच्या न्याय्य लढातील अडथळ्यांची चिकित्सा करणे.

गृहितके:-

१. डॉ. आंबेडकरांनी कष्टकरीवर्गाचे हित जोपासले.
२. कष्टकरी समाजाची परिस्थिती बदली आहे.
३. सध्या कष्टकरी समाजाचे अस्थिर जीवन बनले आहे.

माहिती संकलन आणि विश्लेषण :-

डॉ.बाबासाहेब आंबेडकर यांनी कष्टकरी समाजाच्या हितासाठी बजावलेली बहूमोलाची कामगिरीचे अध्ययन करताना तत्कालीन ऐतिहासिक नोंदी, त्यांच्याबद्दल इतर विचारवंतांनी मांडलेली मते, घडलेल्या घडामोडी यांची माहिती विविध साधनांद्वारे प्राप्त केलेली आहे. तसेच शोधनिबंधासाठी विविध संदर्भग्रंथ, मासिके, साप्ताहिक, संकेत स्थळ यासारख्या दुय्यम साधनांचा वापर करण्यात आलेला असून त्याआधारे विश्लेषण करण्यात आले आहे.

भारतातील कामगार लढ्याची पार्श्वभूमी:-

भारताच्या बाहेर मालक आणि कामगार असे दोन प्रकार पाहिला मिळतात. यामुळे आपल्या कामाचा न्याय्य मोबदला मिळविण्याकरिता तेथील कामगार वर्ग संघटित झालेला दिसून येतो. तसेच त्यांना योग्य असे नेतृत्व मिळाळ्याने

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Research Paper

A Study of Relation between Emotional Maturity and Mental Health among Youth

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ABSTRACT

Conducted study on emotional maturity and Mental Health among youth in Barshi. Simple random sampling method for used data collection. Main purpose of the correlation in emotional maturity and mental health of boys and to see the correlation in emotional maturity and mental health of girls. Eight youth selected for this study. The data was obtained using emotional maturity scale by Bhargava M and Mental Health Inventory (MHI) by Jagdish and Srivastava. The finding the prediction of positive correlation between emotional maturity and mental health of boys. There is negative correlation between emotional maturity and mental health

Keywords: *Emotional Maturity, Mental Health, Youth*

"The Youth of today are the nation of tomorrow" is an old saying but of immense significance for a country like Indian which has only recently emancipated itself from the subjugation of British. Today all people in higher positions in government and non-government sector thought that the future of India lies in the hands of the youth and would depend on their abilities and positive attitude towards own life and others life.

The youth roles under the impact of transition and their attitude and aspirations. youth have several problems like institutional, educational religious and cultural. It require a judgment regarding their potentialities and personality growth. Hence they outlook of their personality in the new culture of family, college neighborhood.

Emotional Maturity

Emotional maturity is the result of healthy emotional development. The emotional mature person is able to hide his feelings; such a person is not subject to swings in mood and can suffer in silence. when he dose express emotions, he does so with moderation, decently, and

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Extraction and characterization of acid soluble collagen from fish waste: Development of collagen-chitosan blend as food packaging film

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ABSTRACT

Skin of *Centrolophus niger* (black ruff) commonly referred as Medusa, is used for the extraction of Acid Soluble Collagen. This is the first report of collagen extraction from skin of black ruff where lactic acid with 45% yield proved to be efficient solvent. SDS-PAGE, UV visible absorbance, FT-IR and SEM analysis confirmed that extracted collagen is native type I. Extracted collagen showed emulsifying activity index as 20.24 $m^2 g^{-1}$ and emulsion stability index of 15.86 min. Collagen was used for the preparation of collagen-chitosan film which could be used for food packaging purpose. Film incorporated with 5% pomegranate peel extract declined solubility in water remarkably and showed antibacterial effect against food borne pathogens like *Bacillus saprophyticus* LNB 333F5, *Bacillus subtilis* NCIM 2635, *Salmonella typhi* NCIM 2501 and *Escherichia coli* NCIM 2832. Thus, present study deals with extraction and characterization of collagen from fish waste and its application in the development of antibacterial active food packaging film.

1. Introduction

Fisheries and aquaculture sector has grown in several countries over the recent years for economic development. The fish processing industries generates around 50–80% solid and liquid waste during numerous processing stages. Such waste is not utilized, but landfilled, burned or dumped in water bodies causing serious environmental problems [1]. Nitrates and phosphates from fish waste stimulate algal blooms and destruct aquatic life by reducing dissolved oxygen levels. Thus, these traditional waste disposal methods have great impact on environment by affecting terrestrial as well as aquatic ecosystem [2,3]. The utilization of fish processing waste is an important opportunity to sustain environment. As per current scenario, waste utilization strategy includes recovery of value added products from fish waste as it is potential source of proteins, minerals, bioactive peptides, fish oils, enzymes, amino acids and so on. Fish skin, scales, fins and bones are rich in type I collagen which serves as the major structural protein in vertebrates.

Collagen has right-handed triple super-helical structure consisting of three similarly sized left handed helical polypeptide chains with a Gly-X–Y repeating motif, in which the X and Y positions are often occupied by proline and hydroxyproline, respectively. There are about 27 types of collagen reported so far. The collagen types were classified by their size, function and distribution which differ considerably in their amino acids composition. Type I collagen show two alpha (α1 and α2) and single beta (β) chain. Generally, type I collagen has the highest percentage and extensively applied in industry. It provides tensile stiffness for tendons and fascia in organs.Collagen has unique ability to form insoluble fibers with high tensile strength and stability [4]. Hence, use of collagen is being increased in food, cosmetic, pharmaceutical, tissue engineering and biomedical industries day by day because of its excellent biodegradability, biocompatibility and weak antigenicity [5,6]. Traditionally, primary sources of collagen were limited to land based animals such as bovine and pigs. But in recent years, allergic reactions and outbreak of bovine spongiform encephalopathy, transmissible spongiform encephalopathy, foot and mouth disease, ovine and caprine scrapie and other zoonoses reduce their use for collagen extraction [7,8]. Frequent use of collagen and its derived products thus, demands newer and safer sources of collagen. Collagen from fish skin, bone, fin and scales is used as gelling, stabilizing, foaming and emulsifying agent in food items. Similarly insolubility, biodegradability and fibril forming capacity of collagen allow its use in active food packaging material. Biopolymers are getting noticeable attention in food industries. Several biopolymers like chitosan, gelatin, banana starch, agar, collagen and alginate had been employed in film preparation for packaging [9–11]. Additionally, formation of blend using two or more biopolymers yields superior packaging films with better physical and mechanical properties [12]. Recently, many studies have been

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Research paper

Sensitive and selective liquid-liquid extractive spectrophotometric determination of Bismuth(III) from water, pharmaceuticals and synthetic mixtures

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ABSTRACT

In the present research, a cost effective, selective and sensitive extractive spectrophotometric procedure has been developed for the determination of bismuth(III). The method was based upon the complexation reaction of Bi(III) with the sulphur containing reagent, 4-(4′-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole in dichloromethane to form orange colored complex at room temperature from hydrochloric acid-potassium chloride buffer having pH 2.0 in presence of potassium iodide. The 1:1:1 orange colored ternary [Bi(III)-CBIMMT-iodide] complex has λ_{max} 409 and 490 nm and stable for more than 72 h. The extracted complex have molar absorptivity 8.860×10^3 L mol^{-1} cm^{-1} and 6.875×10^3 L mol^{-1}cm^{-1} while Sandell's sensitivity is 0.02358 μg cm^{-2} and 0.03039 μg cm^{-2} at 409 nm and 490 nm respectively. The system adheres to Beer's law from 4.0 to 21.5 and 5.3–22.5 μg mL^{-1} at 409 nm and 490 nm respectively; however Ringbom's plot suggests optimum concentration range as 5.25–14.5 and 5.30–12.5 μg mL^{-1} at 409 and 490 nm respectively. The values of limit of detection and limit of quantification of the method are 0.26 and 0.79 μg mL^{-1} respectively. The enrichment factor of the method is 2.499 and the method has been applied for analysis of environmental and real samples and separation of Bi(III) from related metals ions.

1. Introduction

There is elevated need of reliable procedures and techniques for the determination of trace metals in food and water samples due to their adverse effects on living biota and also these metals reduces the fertility of soil (Belabad and Soltani, 2018; Dutta et al., 2018). Bismuth has been considered to be of great strategic and industrial importance due to its "green" nature, which has made it a better substitute for metals which deemed less favorable environmentally, and it is used in numerous technological fields. It has two main oxidation states as Bi(III) and Bi(V) (Didi et al., 2011). Out of these, pentavalent state of bismuth is thermodynamically unstable while trivalent state of bismuth is stable (Egorysheva et al., 2015). Bismuth has many applications in variety of fields including pharmaceuticals such as antacids, antiseptic, antibacterial, anti-ulcer, anti-HIV and radio therapeutic agents and ulcer (Sivasekar et al., 2014). It is widely used in cosmetics such as hair dyes and topical dermatological creams (Koper and Grabarczyk, 2011; Sung and Huang, 2003) as a reagent for purification of sugar (Fathirad et al., 2013), as an additive in metallurgical operations, in alloys of some semiconductors and in the preparation and recycling of uranium nuclear fuels (Yamini et al., 2002). In recent days, Bi_2Te_3 is widely used as a cooling substance for low temperature thermoelectrical power generation. Bismuth containing pharmaceuticals has been used for the healing of some microbial infections, gastro-intestinal track disorder as indigestion, nausea and heartburn. Bismuth in the form of its sub carbonates and sub galletes is also useful for the cure of diarrhea, dysentery (Gadhari et al., 2010; Li et al., 2013). In addition to these useful applications, a number of toxic effects are also observed due to bismuth and its compounds like neurotoxic, nephrotoxic, osteoarthrapathy, kindey damage symptoms, nephropth and hepatitis. Thus nowadays, enormous attention has been focused towards the quantitative determination of bismuth species in various matrices such as ground water samples, pharmaceuticals, ores and soils (Madrakian et al., 2003; Mierzwa et al., 2013; Dhanvate et al., 2015).

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शेतकऱ्यांच्या सामाजिक वास्तवाचे यथार्थ दर्शन 'शेतकऱ्याचा असूड'

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प्रस्तावना :–

महाराष्ट्रामध्ये प्रबोधनाची पहाट ज्यांच्यामुळे उगवली ते महात्मा जोतिबा फुले. यांचे सगळेच साहित्य कालीन सामाजिक सत्याचे दर्शन घडविणारे आहे. ज्या काळामध्ये जात –पातीचा आत्यंतिक तीव्र असा संघर्ष होता त्यावेळी महात्मा फुले यांनी अतिशय जागृकपणे, चिकाटीने आणि नियोजनपूर्वक लेखन केलेले आहे. त्यांचे स्वातंत्र्य समतेशिवाय शक्य नाही याची जाणीव त्यांना सुरूवातीपासूनच होती.

शेतकऱ्याचा असूड' या पुस्तकाचे लेखन १८ जुलै १९८३ रोजी केले. या पुस्तकाच्या लेखनसंयोजकाच्या नात्याने महात्मा फुले यांनी म्हटले आहे की, 'शेतकऱ्याचा असूड' हे लहानसे पुस्तक जोतीराव गोविंदराव फुले यांनी शुद्र शेतकऱ्यांच्या करितां केले आहे.[१]

परंपरेने शेतकऱ्यांचे होणारे शोषण जगासमोर कुणीही मांडणार नाही यासाठी हे पुस्तक त्यांनी लिहिले आहे. जोतीरावांचा बहुजनांच्या प्रती असलेला सामाजिक दृष्टिकोन यातून स्पष्ट होतो. हे पुस्तक 'लहानसे आहे असे जरी त्यांचे म्हणणे असले तरी केवळ शेतकऱ्यांच्याच सर्व प्रकारच्या शोषणाचे इतके मार्मिक आणि वास्तवदर्शी पुस्तक आजही फारसे लिहिले गेले नाही असे म्हटले तर ते अतियोक्तीपूर्ण होणार नाही. केवळ दहा प्रकरणामध्ये विभागलेल्या या पुस्तकामध्ये शेतकऱ्यांची पिळवणूक कोणाकोणाकडून होते याचे वास्तवदर्शी चित्रण केलेले आहे.

ब्रिटीश शासनामध्ये सर्वत्र ब्राम्हण नोकरवर्गाचे प्राबल्य असल्यामुळे तिथे शेतीवर अवलंबून असणाऱ्या कुणबी, शेतकरी आणि धनगर यांच्या दु:खाचा विचार तर होत नाहीच उलट त्यांच्याकडे लक्षपूर्वक दुर्लक्ष करून त्यांची उपेक्षाच केली जाते. याच्या मुळाशी 'अविद्या' असल्याचे जोतीराव सांगतात.

'विद्येविना मति गेली, मतीविना निति गेली
नीतीविना गति गेली, गतीविना वित्त गेले
वित्ताविना शूद्र खचले, इतके अनर्थ एका अविद्येने केले'[२]

'शेतकऱ्याचा असूड'मधून शेतकऱ्यांच्या शोषणाचे सुक्ष्मपणे विवेचन महात्मा फुलेंनी केलेले आहे. त्यांचे निरीक्षण, बुध्दिवादी दृष्टिकोन, विचारांची प्रखरता आणि रूढी परंपरा शोधून त्या पलीकडील अर्थकारण यांची चिंतन शीलता ही म. फुल्यांच्या व्यक्तिमत्वाची ठळक वैशिष्टये असून त्याचा प्रत्यय येते येतो.[३]

समाजाच्या केंद्रस्थानी धर्मव्यवस्था असल्याने त्या धर्माचा धाक शेतकऱ्यांना होता. शेतकऱ्याच्या जन्मापासून ते त्याच्या मृत्यूपर्यंत विविध विधींनी भटब्राह्मणांनी शेतकऱ्यास घेरूनच टाकलले होते. रूढी आणि परंपरा याचा धाक इतका होता की त्याचे रूपांतर भीतीमध्ये कधी झाले हेही शेतकऱ्यांना कळनासे होते. साहजिकपणे त्याला कर्मकांडात गुंतविले जाते आणि त्याची लूट होते. त्याचे नमुने जोतीरावांनी दिले आहेत. वास्तव लिहिण्याचे धाडस आजही क्वचितच् पहावयास, वाचावयास मिळते.

त्यांना शिक्षणापासून वंचित ठेवण्याचे वास्तव जोतीराव सांगतात. आर्यभटांच्या संस्कृत शाळेत प्रवेश देत नाहीत. प्राकृत, मराठीत मुलांच्या शिक्षणाची हेळसांड होते. मुद्दामच कमी दर्जाचे शिक्षण त्यांना दिले जाते. त्यामुळे शाळेविषयी शेतकऱ्यांच्या मुलांमध्ये उदासिनता येते.

पंचागांच्या सहाय्याने शेतकऱ्यांची फसवणूकच होते. अंधश्रध्देलाच श्रध्दा समजली जाते आणि त्याचे वाईट परिणाम साग्रसंगीत सांगितले जातात. लग्नविधी, गर्भावस्थेतील विधी, नामकरण, लग्न–मृत्यूचे विधी, हे सगळे विधी ब्राहमण शेतकऱ्याकडून करवून घेतात. भरपूर दक्षिणा घेऊन त्याना कर्जबाजारी करतात.

विठ्ठल नामाचा छंद, धंदा वा जप निरंतर केला तर जीवनात आनंदाचा कंद गवसतो असा प्रगल्भ आशावादी विचार जनाबाईच्या अभंगातून प्रकटलेला आहे

निष्कर्ष :

- संत कवयित्रींनी आत्मविश्वासाने काव्य लेखन करुन सर्वधर्म समभाव मूल्याची जोपासना केली.
- भक्तीसाठी मनाच्या शुध्दतेची गरज आहे हा संदेश दिला.
- सुसंगतीमुळे जीवन फलद्रूप आहे.
- वारकरी संप्रदायाने स्त्रीयांना, शूद्रांना आपल्या संप्रदयात स्थान दिले.
- धार्मिक अध्यात्मिक व सामाजिक परिवर्तनाच्या कार्यात संत कवियत्रींचे योगदान मोलाचे आहे.
- संत कवियित्रींनी आपले विचार अभंगाच्या माध्यमातून मोकळेपणाने, प्रांजळपणे मांडले आहेत.

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संत साहित्यातील सामाजिक विचार

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जि. सोलापूर

प्रस्तावना :—

संत साहित्य आणि मराठी भाषा यांचे एक अद्वितीय नाते आहे. मराठी भाषेच्या आरंभ काळातील संतांची अभंग निर्मिती ही समाज जीवनातील परिवर्तनाच्या प्रेरणेनेतून झालेली आहे. संत ज्ञानदेव ते संत तुकाराम या संतांच्या काळातील महाराष्ट्रातील संप्रदाय आणि सामाजिक, राजकीय परिस्थिती समजून घेणे महत्त्वाचे वाटते. या काळात महाराष्ट्रात नाथ, महानुभाव, सुफी, दत्त, भागवत, जैन असे संप्रदाय निर्माण झालेले होते. ते जनमानसावर आपल्या परिने प्रभाव पाडून स्वसंप्रदायाचे महत्त्व रुजवत होते. विविध संप्रदाय आणि समाजातील जनमानसाचे अज्ञान यांची नाडी ओळखून ज्ञानदेवांनी नाथ आणि भागवत संप्रदायाचे एकत्रीकरण करुन वारकरी संप्रदायाचे पुनर्ज्जीवन केले. महाराष्ट्राच्या सांस्कृतिक जडणघडणीत वारकरी संप्रदायाचे महत्त्वाचे योगदान आहे. विठ्ठल भक्तीच्या माध्यमातून समाजात आमुलाग्र बदल घडवून आणण्याचे अनमोल कार्य वारकरी संतांनी केले आहे. बाराव्या शतकापासून ते अठराव्या शतकापर्यंत संत साहित्याची अखंड निर्मिती होत होती.

संतकृपा झाली इमारत फळा आली।।
ज्ञानदेवे रचिला पाया। उभारीले देवालया।।
नामा तयाचा किंकर। तेणे केला हा विस्तार।।
जनार्धन एकनाथ। खांब दिला भागवत।।
तुका झालासे कळस। भजन करा सावकाश।।

असे वर्णन संत बहिणीबाई यांनी केले आहे.

समाजाने वाळीत टाकले असतानाही संत ज्ञानेश्वरानी 'हे विश्वचि माझे घर' अशी विश्वात्मक शिकवण दिली आहे. 'आम्हा सापडले वर्म करु भागवत

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इस्तेमाल करों, दूर फेंको 'जूठन' में चित्रित सच

डॉ. सुब्राव जाधव
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विभाग - हिंदी

जिस प्रदेश का नाम उत्तर प्रदेश है। इस प्रदेश ने अलग अलग बदलाव देखे, झेले। इस प्रदेश में संत, महंत, नेता कवि जन्में। ऐसे प्रदेश में ३० जून १९४० में एक दलित रचनाकार ओमप्रकाश वाल्मीकि का जन्म हुआ था। बदलाव सिर्फ एक सपना ही सपना रह गया। सामाजिक, राजनितिक, धार्मिक, सांस्कृतिक संघर्ष दिन ब दिन बढता गया। ओमप्रकाश वाल्मीकि को जूठन लेखना पडा।

'जूठन' एक ऐसी आत्मकथा हैं। आदमी को आदमी के रूप में स्विकार नहीं किया जाता था। जहॉ जनावर की तरह वहा उच्चवर्ग के लोग दलितों के प्रति व्यवहार करते थे।

ओमप्रकाश वाल्मीकि ने जूठन में अपने जीवन, परिवार, भाई, भाभी मॉ, बाप, पडोसी आदि का दर्द भरा जीवन चित्रण किया हैं। जुठन आत्मकथा को पढने के बाद यह बात सच निकली लेखने सही लिखा था। "अस्पृश्यता का ऐसा माहौल कि कुत्ते बिल्ली, गाय - भैंस को छूना बुरा नही था। लेकिन यदि चूहड़े का स्पर्श हो जाए तो पाप लग जाता था। सामाजिक स्तर पर इनसानी दर्जा नहीं था। वे सिर्फ जरूरत की वस्तु थे। काम पूरा होते ही उपयोग खत्म इस्तेमाल करो, दूर फेंको।"

पानी, जमीन, आकाश सब पर समान अधिकार होना चाहिए। ऐसा सिर्फ लिखा है। नेता समजासेवी, साहित्यकार, संत बाबा सब के सब मंच पर जोर शोर से कहते है। परिस्थिति अलग है जमीन हम सबकी है लेकिन हमारा अधिकार नहीं हैं। वाल्मीकि ने अपने परिवार, पडोसी आदि जिस गंदी बस्ती में रहते है उनका चित्रण किया है वे लिखते - "हमारा घर चंद्रभान तगा के घर से सटा हुआ था। उसके बाद कुछ परिवार मुसलमान जुलाहों के थे। चंद्रभान तगा के घेर के ठीक सामने एक छोटी -सीं जोहड़ी (जोहड़ का स्त्रीलिंग) थी, जिसने चूहड़ो के बगड और गांव के बीच एक फासला बना दिया था।"

वाल्मीकि ने स्पष्ट किया है कि सामाजिक दर्जा हमें कभी नहीं मिला इस घटना परिचय देते हुए लिखा हैं "जोहड़ी के किनारे पर चूहड़ों के मकान थे जिनके पीछे गाव भर की औरतें जवान लकिडयॉ बड़ी - बूढी यहॉ तक कि नई नवेली दुल्हनें भी इसी डब्बोवाली के किनारे खुले में टट्टी - फरणात के लिए बैठ जाती थी।" दलित आदिवासी लोगों के लिए एक रेखा में बंद किया गया था। इसी रेखा को पार करे तो अन्याय अत्याचार का शिकार होना पडता था। सब गरीब लोग ऐसी गंदी जगह में अपना जीवन यापन करते थें।

विद्रोह भरे स्वर में 'जूठन' में वाल्मीकि ने स्पष्ट लिखा है "चारों तरफ गन्दगी भरी होती थी। ऐसी दुर्गन्ध कि मिनट भर में सांस धुट जाए। तंग गलियों मे घुमते सुअर, नंग - धड़ंग बच्चे, कुत्ते, रोजमर्रा, के झगडे - बस, यह था वह वातावरण जिसमें बचपन बीता। इस माहौल में यदि वर्णव्यवस्था को आदर्श - व्यवस्था कहनेवालों को दो - चार दिन रहना पड़ तो उनकी राय बदल जाएगी।"

जूठन में वाल्मीकि ने रहन सहन के संदर्भ में उच्चवर्ग की मानसिकता का अंकन किया है। एक संदर्भ में लिखा हैं - साफ सुधरे कपउे पहनकर कक्षा में जाओं तो साथ के लडके कहते, "अबे चूहडे का, नए कपडे पहनकर आया हैं।" मैले - पुराने कपडे पहनकर स्कूल जाओं तो कहते "अबे चूहडें के दूर हट, बदबू आ रही है।" लेखक का मानना है कि दोनें ही स्थितियों में अपमानित होना पडता था।

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असगर वज़ाहत के कहानियों में चित्रित मुस्लिम विमर्श

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आज विश्व धरातल पर मानव अधिकारों की चर्चा ने आंदोलन का रूप धारण कर लिया है। देश का स्वाधीन होना, शिक्षा का प्रचार एवं प्रसार होना, वैज्ञानिक तथा औद्योगिक क्षेत्र में क्रांतिकारी परिवर्तन होना, यातायात के साधन बढ़ना आदि समकालीन समाज की ही देन है। इसे ही साहित्य के संदर्भ में 'विमर्श' की संकल्पना आधुनिक काल की देन है।

मुस्लिम विमर्श वास्तव में मुसलमानों को जानने, समझने, परिभाषित करने की प्रक्रिया का नाम है। मुसलमान कौन है? किस देश प्रदेश के हैं ये लोग? उनकी भाषा बोली क्या है? उनका धर्म– मजहब देश के साथ क्या संबंध रखता है?

उनके आहार–विहार, आचार–विचार, तीज–त्यौहार क्या होते है? इनको विश्लेषित करने की जिम्मेदारी को मुस्लिम विमर्श कहते हैं। खुद मुस्लिम लेखक, कलाकार, चिंतक मुसलमानों के बारे में क्या अभिप्राय रखते हैं? गैर– मुस्लिम चिंतक, लेखक मुसलमानों के बारे में क्या बोलते है? मुसलमानों से लिखे हुए साहित्य में मुस्लिम जिंदगी की क्या स्थिति है? गैर मुसलमानों ने मुस्लिम जिंदगी का क्या रूप रखा है? इन सब की जांच–पड़ताल की सोच को मुस्लिम विमर्श कहा जाता है। मुस्लिम आदमी यहाँ रहते हुए भी यहाँ के नहीं हैं क्यों? यह प्रश्न मुस्लिम विमर्श का केंद्र बिंदु है। मुस्लिम को बार–बार क्यूँ साबित करना पड़ता है कि वह इसी मिटटी का है] देश– प्रेमी है। देश द्रोही नहीं है। मुस्लिम विमर्श आदमी के इस संकट से जन्मा है। क्यों की लगातार अशंका की आँखें इनका शिकार कर रही हैं, प्रश्न कर रही हैं, उनको खदेड़ रही हैं, अपनी जमीन से, अपनी संस्कृति से, मुस्लिम विमर्श इस पहचान के संकट की उपज है।

असगर वजाहत एक ख्यातिप्राप्त साहित्यकार रहे है। असगर वजाहत का भारतीय सामाजिक संस्कृति पर अटूट विश्वास है। कहा जा सकता है कि असगर वजाहत ने अपनी रचनाओं में इन्हीं सामाजिक संस्कृति के ताने बाने को दिखने का सफल प्रयास किया है। असगर वजाहत हमेशा से एक अलग प्रकार से सोचते और कार्य करते हैं। असगर वजाहत एक साथ अनेक विधाओं में लिखने वाले सफल रचनाकार है। असगर वजाहत सांप्रदायिकता और उससे जुड़े तत्ववाद पर खुलकर लिखते है। वे अपनी अनेक कहानियों में मुस्लिम सांप्रदायिकता और उससे जुड़े तत्ववाद पर खुलकर लिखते है। वे अपनी अनेक कहानियों में मुस्लिम सांप्रदायिकता और तत्ववाद की गहरी खबर लेते हैं। असगर वजाहत जैसा रचनाकार अच्छी तरह से यह जानता है कि हमारे समाज में अल्पसंख्यांकों की जो दयनीय दशा है उसके लिए सिर्फ दूसरे धर्म संप्रदाय के लोग ही जिम्मेदार नही होते हैं, जो अक्सर अपना राजनैतिक लाभ लुटाने या अपना प्रयोजन सिद्ध करने के लिए इनका भला करने का छल करते हैं।

सदियों के बहते जख़्म' में चित्रित विद्रोह

डॉ सुब्राव नामदेव जाधव
श्री शिवाजी महाविद्यालय, बार्शी
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बहुमुखी प्रतिभा के एक वक्ता साहित्य की सभी विधाओं में साहित्य सृजन करनेवाले कवि दामोदर मोरे एक श्रेष्ठ रचनाकार के रूप में चर्चा में है। कवि दामोदर मोरे मराठी दलित कविता के प्रमुख कवि है। कवि दामोदर मोरे एक शोधकर्ता, श्रेष्ठ समीक्षक, सम्पादक, पटकथा लेखक और लोक साहित्य के रचनाकार के रूप में चर्चा में है। उन्होंने मराठी, हिंदी, अंग्रेजी साहित्य सृजन लिखा है।

नारायण सुर्वे कवि दामोदर मोरे के संदर्भ में लिखते हैं "महाराष्ट्र विविध सांस्कृतिक सामाजिक और परिवर्तनवादी आन्दोलनों को आप सदैव बढ़ कर तिलक करते हैं और अपनी सहभागिता से गौरवान्वित भी करते हैं। "कवि दामोदर मोरे लिखित 'सदियों के बहते जख्म कविता संग्रह बहुत चर्चा में रहा है। अपनी कविताओं में केंद्र में 'इंसान' है। इस संदर्भ में नारायण सुर्वे ने ठीक लिखा है–" विभिन्न वर्गो में बँटी हुई श्रमजीवी जनता, जीवन के संघर्ष में घुट–घुटकर मरनेवाली जनता के पास केवल दुःख ही दुःख है। मनुष्य दिनोदिन आर्थिक गुलामी में फँसता जा रहा है इस दुःख पीड़ा व परतंत्रता के विरूध्द भी इस कविताओं में आवाज उठायी हैं।

कवि ने 'महक' कविता में ठीक लिखा है।

"एक नये सूरज ने बहार के
गांव के बहार का
मेरे घर का
पता बता दिया है "

कवि की संवदेनशीलता कविता को जन्म देती है। विषम परिस्थिति में परितर्वनवादी डॉ. अम्बेडकर के विचारों का वाहक कवि विद्रोह करता है। कवि दलितों के पक्ष में खड़ा हो जाता है। कवि विद्रोही होकर रचनाओं में संयम एवं सामंजस्य का भाव स्पष्ट रूप में दिखता है। 'दर्द' कविता में कवि ने सही लिखा है।

डर की धूप सिर पर लेते हुए
क्या सोच रहें हैं, ये पेड़
दंगल में लोगों से हाथ जोड़ती
ये शाखाएँ क्या प्रार्थना कर रही है?"

कवि दामोदर मोरे की कविता कभी –कभी संकुचित दृष्टिकोण की ओर संकेत करती हैं।

" पड़ा है अकाल
संवेदना का
इस भूमि पर।
सूख गया है
इन्सानियत का झरना
इस भूमि पर।"

कवि दामोदर मोरे ने अपनी कविताओं में दलितों का अंकन करते हुए। बचपन, जवानी, एवं बुढ़ापा आज भी भुखा एवं नंगा है। उनकी 'मेरे' बचपन कविता दलित वर्ग की इस करूणा को व्यक्त करती है –

"मेरा बचपन....
स्कूल जा रहा था
जूता नहीं था पांव में
मेरा बचपन ....
स्कूल जा रहा था
फटे लिबास में ....

मिथिलेश्वर के झुनिया उपन्यास में स्त्री विमर्श

शोध निर्देशक
डॉ. सुभाव नामदेव जाधव
स्नातक तथा स्नातकोत्तर हिंदी विभाग,बार्शी
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शोध छात्र
किशोर श्रीमंत ओहोळ
पी.एच.डी शोधछात्र
श्री.शिवाजी महाविद्यालय,बार्शी जि.सोलापूर
सोलापूर विश्वविद्यालय,सोलापूर

प्रस्तावना :

कथाकार मिथिलेश्वर हिंदी कथा साहित्य में अपना महत्वपुर्ण स्थान रहते है | बहुमुखी प्रतिभा के धनी मिथिलेश्वर ने कहानी, निबंध, संस्मरण, व्यंग्य के साथ-साथ दर्जनों समीक्षात्मक आलेख भी लिखे है | उनकी कई कहानियाँ देशी - विदेशी भाषा में भी अनूदित हुई है | इनकी कहानियाँ प्रायःस्तरी एव प्रसिध्द साहित्यिक पत्रिकाओं में प्रकाशित हुई है | मिथिलेश्वर जी के कहानी तथा उपन्यासो मे स्त्री विमर्श दिखाई देती है | जैसे की तिरिया जन्म, सावित्री दिदी, भोर होने से पहले, वैतरणा भौजी इन कहानियों और झुनिया , युध्दस्थल इस उपन्यासों में भी स्त्री विमर्श तथा स्त्री पर होनेवाले अत्याचार, विडबन, दहेज , और अन्य समस्याओंका वर्णन किया है | लेकिन झुनिया उपन्यास में स्त्री विमर्श दिखाई गया है |

झुनिया : - इस उपन्यास में प्रथम संस्कारण, सरस्वती विहार,दिल्ली से 1980 में प्रकाशित हुआ | 66 पुष्ठों के इस उपन्यास में लेखक की कोई भूमिका नहीं है और इसके साथ तीन कहानियां कर प्रकाशित किया है | इस उपन्यास में मजदूर की बेटिया का यौन शोषण और अत्याचार का शोषण का पर्दा प्रकाश डाला गया है |

इस उपन्यास में शुरुवात गेहूं की की कटनी को लेकर की गई है | मजदूरो के जीने खाने तथा कमाकर वर्षभर संचित करने का मौसम कटनी का है | मजदूर फसल की कटनी रात में भी करते है | झुनिया हरिहर कहार की जवान एकमात्र लड़की है | झुनिया के बचपन में ही उसकी माँ और भाई की मृत्यु हो गई थी | इस लडकी को बीडी पीने के आदत है | टूटी हुई मडई और फुटी हुई हंडिया में कुछ भी छिपाया नहीं जा सकता | गरीबो की हालत भी ऐसी होती है | हरिहर झुनिया को लेकर गाँव के सबसे धनी राणा बहादुर सिंह के खेत में फसल की कटनी करने जाते है | कटनी समय में ही अपने बेटे की मृत्यु हुई थी | सोलह बोझे फसल काटने पर एक बोझा फसल मिलता है | बहादुरसिंह गाँव के सबसे धनी गृहस्थ है | उनके पास एक सो बावन बीघा खेत है | और वह झुनिया से शादी करना चाहता है | राणा बहादुरसिंह को दोन संतान है | उनका बेटा निखिल एम.ए. की पढाई खत्म करके अब खेती संभालने का काम करता है | उनकी बेटी विमली बी.ए. पास करके अब गाँव में रहने आयी है | निखील पहले ही दिन से झुनिया को कटनी करते समय घूर घूर देखता है | इस दृश्य से मजदूर सोमारु को अपना प्रणय भविष्य अंधकारमय लगता है | राणाबहादुर का शत्रु छुटकर आया है यह खबर पूरे गाँव में फैलती है | हरनाम सबसे पहले हम उग्र जोगिंदर से मिला है | जोगिंदर गाँव में राजनिती चलाने काम करता है | वह अब हरनाम के प्रति सहानुभूति प्रकट करता है | दूसरी और जोगिंदर राणा बहादुर के घर जाकर हरनाम को दुबारा जेल भेजने का आश्वासन देता है | वह विमली को अलग दृष्टि से देखता है | जोगिंदर हरिहर के घर में भी जाता है और झुनिया से जोर जबरदस्ती करने का प्रयास करता है | झुनिया का राणा बहादुर, निखील, जोगिंदर सभी यौन शोषण करते है | लाचार झुनिया उनका प्रतिकार भी नहीं कर पाती | इधर सोमारु का एक तरफा प्यार बढ़ता ही जा रहा है | झुनिया भी सोमारु के प्रणय भविष्य से चिंतित है और वह सोचती है जब तक मेरी जवानी है तब तक निखिल, हरनाम, जोगिंदर का शिकार होती रहेगी | क्या सोमारु उसका प्रतिकार कर सकता है |

हरनाम जेल से छुटने से राणा बहादुर की चिंता का विषय बनता है | हरनाम जेल से छुटने के दूसरे दिन राणा बहादूर के खलिहान में चोरी होती है | इधर जोगिंदर गाँव में राजनिती का प्रचार कर रहा है | निखिल हरनाम को खेत बारी का मॅनेजर बना लेता है | हरनाम भी विमली को कामुक दृष्टि की आशा से देखकर बहादूर सिंह का पालतू कुत्ता बन जाता है | लोगो के अनुसार यह सब विमली के कारण संभव हुआ है | इधर निखिल का मित्र प्रकाश भी विमली को बुरी नजर से देखने लगता है | इधर लेखक यह सूचिम करना चाहता है कि अमीर लोंग गरीबों की लडकियों की लाचारी का फायदा उठाकर उनका यौन शोषण करते है और अमीरों की लडकिया भी शिक्षित होकर सही सांस्कृतिक आधार न होने कारण चरित्रहीन हो जाती है |

झुनिया की नजरों में सोमारु बिलकुल नहीं बदला | सोमारु अब किसी से डरता नहीं, मेहनत मजदूरी करके कमाता है | किसी के सामने हाथ फैलने तथा गिडगिडाना बात उसे पसंद नही आती | वह निखील, जोगिंदर और हरनाम को अपना दुश्मन मानता है और उनसे घृणा करता है | वह इन तीनों को सबक सिखाना चाहता है इसके लिए परंतु अपने घृणित शरीर को सौप नही पाती | सोमारु झुनिया को दोषी नहीं मानता इस पर झुनिया सोचती है "यह आनते हुऐ कि झुनिया का चेहर दागों से भरा है , वह बराबर झुनिया को बेदाग की समझता है | काश, इस सोमारु के लिए झुनिया ने कुछ किया होता | झुनिया सोमारु की याद में डूब जाती है |"हरिहर बहुत बूढा हो गया है | झुनिया की शादी की चिंता उसे खायी जा रही है | वह निखिल व्दारा सोमारु को पीटने और अपमानित करने की जानकारी झुनिया को देता है | सोमारु को लेकर झुनिया भी चिंतित है | झुनिया सोमारु को मिलने उसके झोपडें की और जाती है |

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स्वातंत्र्योत्तर हिन्दी कहानियों में चित्रित नारी समस्या

(चित्रा मुदगल, मालती जोशी, कमलेश्वर के विशेष संदर्भ में)

डॉ. सुब्राव नामदेव जाधव
हिन्दी विभाग,
श्री शिवाजी महाविद्यालय, बार्शी

प्रस्तुत आलेख में उपयुक्त जिन कहानी लेखक लेखिकाओं का विशेष संदर्भ दिया जा रहा है उनकी कमशः वाइफ स्वैपी. ' मुआवजा , बकुल फिर आना 'दुसरी दुनिया, तलाश कहानियों का अध्ययन किया जाएगा।

नारी मानव – सृष्टि की अनुपम देन है। स्त्री मानव जीवन के लिए पहेली रही है। सुरु से ही स्त्री पुरुष के लिए आकर्षक केंद्र बिन्दु रही है। यह सब होते हुए भी कभी स्त्री को श्रेष्ठ नारी रूप मे पुकारा तो कभी उसे सब पापो की मुल माना गया है।

नारी रूपो की चर्चा भिन्न–भिन्न क्षेत्र में होती रही। समाज व्यवस्था धार्मिक–आस्था, राजनीतिक क्षेत्र तथा एवं जीवन के भिन्न–भिन्न क्षेत्रो में स्त्री अपने भिन्न – भिन्न स्वरूपों मे महत्वपूर्ण भूमिका निभाती आई है।

अनादिकाल से वर्तमान तक नारी कभी आदर पात्र रही है, तो कभी अनादर की। कहा जा सकता है, मानव– जीवन में स्त्री–पुरुष का अन्योन्यश्रित सम्बन्ध है। प्रत्यक्ष अथवा अप्रत्यक्ष किसी भी रूप मे बिना और पुरष–स्त्री के बिना अधूरा हैं। दोनों की समानताको स्पष्ट करते हुए महात्मा गांधी जी भी कहते हैं। सैध्दन्तिक रूप से नर–नारी दोनों एक हैं, दोनों में समान आत्मा निवास करती है, दोनों में समान अनुभूति विद्यमान होती हैं, दोंनो के जीवन की समान समस्या होती है, अतः समाज के दोनों ही दो शरीर एक प्राण के रूप में आवश्यक अंग है।"

भारतीय संस्कृति ने नारी का गुण गौरव मात्र कागजों तक ही सीमित रखा है। परंतु वास्तव में उस पर अक्सर अन्याय ही होता आ रहा हैं। चाहे व उच्च वर्ग की हो, या मध्यम वर्ग की हो, या पिछडी जाति की ही क्यों न हो। नारी को भारतीय मानसिकता ने कभी भी न्याय नही दिया हैं। अन्यथा उस पर अन्याय ही किया है। आज भी स्वातंत्र्योत्तर भारतीया समाज में नारी अपने आपको असुरक्षित ही पाती है। उसे केवल भोग की वस्तु माना जाता हैं। स्वातंत्र्योत्तर पूर्व भारत में तो नारी की स्थिति बहुत ही भयावह थी । स्त्री और पुरषों दोनों एक रथ के पहिऐ हैं। कहना होगा कि दोनों एक दुसरे के बीना अधूरे हैं। पंरतु आम तौर पर स्त्री के विकास पर ही पुरूषो की उन्नति निर्भर हैं। लाला लजपत राय नें भी इससे पूरक बात कही है। उनका कथन द्रष्टव्य हैं, "स्त्रियों का प्रश्न पुरषों का प्रश्न है। क्योंकी दोंनो का एक दूसरे पर प्रभाव पडता है, चाहे भूतकाल हो चाहे भविष्य पुरूषों की उन्नती बहुत कछ स्त्रियों की उन्नती पर निर्भर हैं।"लाला लजपतराय के विचारों पर गौर से विचार करने पर मुझे ऐसा लगता है –क्या उनके विचारों पर अनुकरण करने में हमारे देश कें राजनेता आज भी सफल रहे है? भिन्न– भिन्न प्रदेशों में आज भी नारी अन्याय, अत्याचार, बलात्कार आदि की शिकार बनी हुई हैं। नौकरी पेशा स्त्री की स्थिति भी इतनी अच्छी नही हैं या किसी भी पद पर काम करनेवाली नारी स्वतंत्र रूप में काम नहीं कर सकती। आजादी के बाद नारी एक पंछी की तरह स्वयं को बंदिस्त महसूस कर रही हैं।

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Research articles

Magnetic interactions and electrical properties of Tb^{3+} substituted NiCuZn ferrites

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Research Article

Cp_2ZrCl_2: AN EFFICIENT CATALYST FOR MULTICOMPONENT SYNTHESIS OF CAROTENOID DEHYDROSQUALENE SYNTHASE INHIBITING PYRANO[2,3-d]PYRIMIDINEDIONES

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ABSTRACT

Objectives: The present protocol deals with zirconocene dichloride (Cp_2ZrCl_2) catalyzed synthesis of pyrano[2,3-d]pyrimidinediones through one-pot multicomponent reactions of aromatic aldehydes with malononitrile and barbituric acid at ambient temperature. All the synthesized compounds were characterized and evaluated for antibacterial, antifungal, and antioxidant activities. Furthermore, a molecular docking was carried out to reveal the atomic insights between synthesized compounds and carotenoid dehydrosqualene synthase (PDB ID: 3ACX).

Methods: All the synthesized compounds were evaluated for their *in vitro* antimicrobial activity by diffusion method. Antioxidant activities such as 1,1-diphenyl-2-picrylhydrazyl and radical scavenging activity. A mixture of barbituric acid 1 (1 mmol), malononitrile 2 (1 mmol), benzaldehyde 3a (1 mmol), ethanol (5 mL), and Cp_2ZrCl_2 5 mol %) was stirred at ambient temperature for specified time. After completion of reaction as indicated by thin-layer chromatography, the obtained crude product was filtered and purified by column chromatography on silica gel (Merck, 60–120 mesh) using ethyl acetate:pet. ether to afford pure product which was then characterized by spectroscopic methods such by FTIR, nuclear magnetic resonance (^{1}H NMR), ^{13}C NMR, and mass spectroscopy.

Results: All the synthesized pyrano[2,3-d]pyrimidinediones were characterized by spectroscopic analysis. The results revealed that pyrano[2,3-d] pyrimidinediones (4 a-k) displayed the zone of inhibition in the range of 3–13 mm. The most active compound 4b displayed largest zone of inhibition of 13 mm for *Escherichia coli* (NCIM-2832) and 9 mm for *Bacillus subtilis* (NCIM-2635). The antifungal and antioxidant activity of all synthesized pyrano[2,3-d]pyrimidinediones (4a-k) showed moderate to good activity. Molecular docking studies suggest that pyrano[2,3-d]pyrimidinediones might inhibit the carotenoid dehydrosqualene synthase activity.

Conclusion: All the synthesized pyrano[2,3-d]pyrimidinediones display moderate to good antibacterial, antifungal, and antioxidant activity. This molecular docking studies supported that pyrano[2,3-d]pyrimidinediones might inhibit the carotenoid dehydrosqualene synthase (PDB ID: 3ACX).

Keywords: Zirconocene dichloride, Pyrano[2,3-d]pyrimidinediones, Antimicrobial, Antioxidant, Carotenoid dehydrosqualene synthase, Molecular docking.

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INTRODUCTION

Zirconocene represents an important class of organometallic compounds in which zirconium is sandwiched between two cyclopentadienyl rings. Due to high reactivity and feeble acidity, zirconocenes have attracted substantial applications in the area of catalysis [1]. Initially, the zirconocene catalyst was limited to the olefin polymerization. However, recent reports concerning to successful applications of zirconocene in synthetic chemistry have been demonstrated their versatility in organic synthesis which has spurred a resurgence of interest in this class of compounds [2]. Zirconocene dichloride (Cp_2ZrCl_2) is an air and moisture stable and non-hazardous, d^0 zirconocene that has been subject of immense interest in catalytic technology due to its Lewis acidic character. It is one of the most efficient and widely employed catalysts in Ziegler–Natta polymerization [3]. Organometallic Lewis acids play an important role in green chemistry and sustainable development [4]. Recently, Cp_2ZrCl_2 has been explored for the synthesis of carbonyl group transformation reactions [5], bis(indole)methanes [6], intramolecular coupling of alkyne, EtMgBr (ethylene or CO) [7], quinozolin-4(3H)-ones [8], 1-amidoalkyl-2-naphthols [9], and benzimidazoles [10]. In addition, Cp_2ZrCl_2 has also been employed for acetylation of phenols/alcohols/amines [11], coupling of terminal alkynes, and intramolecular coupling of amines and alkynes. Significant application of zirconium in organic synthesis mainly includes $Cp_2Zr(II)$ species, the so-called zirconocene [12] and Reformatsky and Barbier reactions [13].

Pyrano[2,3-d]pyrimidinediones are heterocyclic scaffolds with multifarious biological applications. They are typical annelated uracils used in the treatment of B16 melanoma and P388 leukemia [14]. In addition, they possess antibronchitic [15], cardiotonic [16], antifungals [17], antimalarial [18], antihypertensive [19], analgesics [20], and antiviral [21]. Moreover, many of its derivatives are used in natural products, carbohydrates, alkaloids, polyether antibiotics, pheromones, antihypertensives, cardiotonic, bronchodilator, antibronchitic and antitumor activity, anti-inflammatory activity, antiallergic, and antibronchitic [22-25]. Due to intriguing structure and diverse biological properties, considerable efforts have been devoted for the development of efficient methods for the synthesis of pyrano[2,3-d]pyrimidinediones [26]. Among several approaches developed for this purpose, one-pot multicomponent reaction of aromatic aldehydes with active methylene compounds and barbituric acid represents the most efficient and powerful process for synthesis of pyrano[2,3-d]pyrimidinediones [27]. Several techniques such as ultrasound, microwave irradiation, as well as ionic liquids have been reported to carry out this reaction [28,29]. However, despite impressive progress, there is a still scope to develop new protocol for synthesis

PEG Mediated Synthesis, Characterization And Cytotoxicity Evaluation of Novel Imidazo[1,2-a] Pyridines Chalcones

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Abstract: A series of condensed Novel Imidazo [1,2-a] Pyridine Chalcones (5a-f) have been synthesized by Claisen–Schmidt condensation reaction using various acetyl heterocyclic ketones and 3-formyl-2-phenyl Imidazo [1,2-a] pyridine in PEG-400 as green solvent. Imidazo[1,2-A]-Pyridine Chalcones are associated with immense biological activities like anticancer, antitumour, antituberculosis, antianflammatory, antioxidant, analgesics. Initially we have synthesized 3-formyl-2-phenyl imidazo[1,2-a]pyridine by aerobic oxidative coupling reaction using 2-aminopyridines and cinnamaldehydes in presence of Copper bromide as catalyst, directly led to the formation of appropriate Imidazo [1,2-a] pyridine carbaldehyde. The structures of the compounds were characterized by IR, ^{1}H NMR and screened for their cytotoxicity evaluation. The cytotoxity was premeditated by the brine-shrimp lethality assay methods, utilizing brine shrimp (Artemia salina LEACH). Brine shrimp lethality is a rapid general bioassay for identifying toxic dose of a bioactive compound. Bioavailabilities of chalcones were firmly recommended by in vitro cytotoxicity study and confirmed to be nontoxic. Almost all the synthesized Chalcones specially Chalcone 5c and 5f shows highest Cytotoxicity activity.

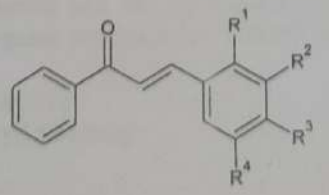
Index Terms: **3-formyl-2-phenyl- Imidazo [1,2-a] pyridine, Acetyl heterocyclic ketones, PEG-400, Imidazo [1,2-A] pyridines Chalcones, Brine shrimp lethality and Cytotoxicity activity.**

I. INTRODUCTION

Heterocyclic compounds containing nitrogen are known to possess a diverse range of pharmacological activities.[1-2] Imidazo [1,2-a] pyridine is one of the medicinally important fused heterocyclic moiety are forthcoming interesting objects for the synthesis of Imidazo [1,2-a] Pyridine derivatives and has long been therapeutically used to cure various diseases as an important drugs. 3-formyl imidazo[1,2-a]pyridine as one of the key intermediates in making anxiolytic drugs zolpidem and alpidem.[3] There are several reports on the synthesis of imidazo[1,2-a]pyridine. Earlier formation of Imidazo [1,2-a] pyridines is carried out in two steps. In first step reaction between 2-aminopyridine and phenacyl bromide and in second step formylation using using DMF/$POCl_3$ by Vilsmeier–Haack formylation method.[4-5] But in the present investigation we have synthesized 3-formyl imidazo[1,2-a] pyridinesin one step by aerobic oxidative coupling of 2-aminopyridines with cinnamaldehydes in presence of CuBr catalyst[6].

Chalcones containing the Imidazo [1,2-A] Pyridines moieties plays an important role as powerful pharamacophore units. Synthesized new series of Imidazo[1,2-A]-Pyridine chalcone system possess potent biological activities that could be further developed as important drug in medicinal chemistry. Imidazo [1,2-a] Pyridine compounds have broad scope to synthesize large number of new chemotherapeutic agent and these are used in remedying new compounds which useful in scientific medicines as drugs. Intensively a great idea has been developed behind the synthesis and biological activities of the condensed Imidazo [1,2-a] pyridines have been reported. This framework has been used as antifungal, antibacterial, herbicides, anti-inflammatory, antimicrobial, antitumor and anticancer[7-8].

In the structure of chalcone there are two aromatic rings are in unsaturation coupled together by a three-carbon α, β-unsaturated carbonyl system (Structure- 1). Basically chalcones are belonging from the subclass of flavonoid family introduced by Kostanecki and Tabor. They contain two aromatic rings with an unsaturated chain in which two aromatic rings are joined by a three-carbon α, β-unsaturated carbonyl systems as shown in following Structure Structurally, being double bond in chalcone results in *cis* and trans isomeric forms of which the *trans* form is thermodynamically stable.



Structure- 1

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SYNTHESIS, CHARACTERIZATION AND BIOLOGICAL EVALUATION OF NOVEL IMIDAZO THIAZOLE CHALCONES AS ANTIOXIDANT AGENT

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Keywords:

Antioxidant activity, PEG-400, Imidazothiazole chalcones, Imidazothiazoles

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ABSTRACT: A series of condensed Imidazo [2, 1-*b*] [1,3] thiazole Chalcones have been synthesized by Claisen–Schmidt condensation reaction. Imidazo thiazole Chalcones are associated with immense biological activities. Novel Imidazo thiazole-based chalcones were synthesized using Imidazo thiazole-3-carboxaldehydes and various acetyl ketones in PEG-400. The structures of the compounds were characterized by IR, ^{1}H NMR and screened for their *in-vitro* antioxidant (DPPH and SOD) activity. DPPH free radical scavenging activity was given by the compounds 7a-j at with (0.5 mmol/L in methanol). The compounds having substituent hydroxyl, fluoro, methoxy, ethoxy, and fluoro as well as benzimidazole and a ferrocenyl moiety in chalcone structure (7a-j) shows enhancement in antioxidant activity. Particularly in compounds like 7e, 7f, 7g, and 7h show the moderate percentage and 7c show the strongest percentage of inhibition mainly at (C=1mM). Almost all the compounds indicate moderate to good antioxidant activity compared to that of standard ascorbic acid percentage antioxidant activity (1 mm) by DPPH and SOD as 44.18 and 74.07 respectively. The resultant absorbance was recorded at 517 nm after 30 min incubation at 37 °C. It was also found to be a potent scavenger of SOD, and this property may be responsible for the good anti-inflammatory activity of corresponding Imidazo-Thiazole Chalcones. Almost all the synthesized novel Imidazothiazole chalcones show potent antioxidant activity.

INTRODUCTION: Nitrogen and sulfur-containing heterocyclic are an important class of heterocyclic compounds useful in medicinal chemistry [1-3]. Most of the five-membered nitrogen-containing heterocyclic are biologically active [4-5]. In the history of modern drug discovery, fused heterocyclic with Imidazothiazole moiety are interesting forthcoming objects.

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Imidazothiazole derivatives have long been therapeutically used to cure various diseases. In recent years, the imidazothiazole and chalcone moieties play an important role as powerful pharmacophore units. Imidazo [2, 1-b] thiazoles are well-known heterocyclic compound, and a new

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Design, Synthesis, Characterization, and Biological Evaluation of Certain Novel Imidazo Thiazole Pyrazoline Derivatives as Anti-Inflammatory Agent

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ABSTRACT:

The pyrazoline ring has many structural feature shows potent anti-inflammatory activity. Now a days an additional focus on the chemical and biological behavior of novel pyrazoline derivatives. It has been observed that, Pyrazolines and its fused heterocyclic derivatives with anti-inflammatory activity generates evolution of prominent class of novel drug when pyrazoline nucleus linked with different substituents like alkyl, aromatic, heterocyclic rings and many other moieties at different positions on the ring shows remarkable more effective anti-inflammatory activity. In this view, it was proposed to synthesize some novel pyrazolines deriatives from Imidazo-thiazole chalcones has been prepared by the condensation of Imidazo-thiazole chalcones with hydrazine hydrate and phenyl hydrazine. A new series of different substituted Imidazo Thiazole pyrazoline derivatives (8a–f) & (9a-f) were synthesized in good to excellent yield from the corresponding Imidazo Thiazole chalcones. (7a–f), by using polyethylene glycol-400 (PEG-400) as an alternative green reaction medium. The structures of the compounds were characterized by IR, ^{1}H NMR.The newly synthesized compounds were characterized and screened for their in vivo anti-inflammatory. Almost all the pyrazoline derivatives shows potent anti-inflammatory activities as compared to Standard Diclofenac sodium (1mM) drug. Diclofenac sodium at the (1mM) was used as reference drug and treated similarly for determination of absorbance. % of inhibition of anti-inflammatory activity was determined by protein denaturation method.

KEYWORDS: Pyrazolines, Pyrazoline derivatives, PEG-400, Imidazo-thiazole chalcones, Antiinflammatory activity.

INTRODUCTION:

Basically Chalcones are the α, β-unsaturated carbonyls compounds utilized as key intermediates for the preparation of large number of heterocyclic compounds such as Pyrazolines, Pyrimidines, Semicarbazones, Thiosemicarbazones Curcumine analogues Benzodithezepins, thiazine, oxazines, isoxazoles as starting matateriał.[1] Overall out of these, pyrazoline sorted as nitrogen-containing heterocycles, wellknown for innovative work in the field of medicinal chemistry.[2] Concerning these outcome issues of pyrazolines got to be a certain center about in the field of various medicines. Therefore as a result of this, an extensive advantage has given to the synthesis of such pyrazoline derivatives , utilized in the distinctive manufacturing processes of various pharmaceuticals drugs.[3-4]

Altogether heterocyclic compounds assume a basic part of biological activities of living things. A large number naturally occurring compounds such as vitamins, hormones, nucleic acids, alkaloids, dyes, drugs (natural and synthetic) have heterocyclic ring moieties over their structural core[5]. Heterocyclic compounds are very much useful in making of new potent pharmacologically active compounds.[6-7] Pyrazoline is one of the such incredable heterocyclic compound possessing two nitrogen atoms adjacent to each other and remaining three carbon atoms are present in a five membered cyclic ring. Which is having structural feature of many natural and synthetic compounds with diversified pharmacological efficacy. These pyrazoline ring having universal of huge numbers structural characteristic and engineer for differentiated pharmacological viability. Its action gets improved with variation in diverse positions on the ring indicates large number of pharmacological exercises. Therefore, the synthesis and selective functionalization of pyrazoles have been the focus of active research area over the years. and hence shows the activities such as anti depressants,[8] anti-inflammatory, [9-10] antibacterial,[11-12] anticancer,[13] antimicrobial,[14] antioxidant,[15] anti-convulsant,[16] antimalarial,[17] antihistamine[18] and many more. Hence tremendous research is currently underway to synthesize fruitful pyrazoline derivatives in the field of medicinal chemistry.

The first pyrazoline derivative used in the treatment of pain and inflammation is antipyrine i.e. 2,3-dimethyl-1-phenyl-3-pyrazolin-5-one. Many drugs are available commercially in pyrazoline nucleus are potent COX- 2 inhibitor. Some examples of pyrazoline derivatives as NSAIDs are muzolimine and ramifenazone. Phenylbutazone acts as a non steroidal anti-inflammatory drug. The following review furnishes the advances made in the synthetic procedures and the anti-inflammatory activity of pyrazolines derivatives.

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दलित कवितेतील स्त्री रुप आणि स्वरुप

प्रा. डॉ. बिरा पारसे

दलित साहित्य व संकल्पनेविषयी आजपर्यंत खूप लिहिले गेले. त्यावर अनेक समीक्षाग्रंथही आले. अनेक सभा संमेलनातूनही या साहित्याविषयी पोटतिडकीने बोलले गेले. विविध विद्यापीठांच्या अभ्यासक्रमातूनही हा नवा साहित्यप्रवाह म्हणून शिकविला जातोय. एवढे असूनही या साहित्यप्रवाहाकडे पाहण्याचा दृष्टिकोन फारसा बदलला आहे असे दिसत नाही. या साहित्याने सामाजिक बांधिलकीचे महत्त्व ओळखून साहित्य हे जन-जागृतीचे साधन आहे. या प्रवाहाने ध्यानात घेऊन लेखन केलेले दिसते याचे कारण दलित साहित्य आपल्या प्रेरणा प्रवृत्तीने आणि जाणिवेने नवे आहे. ते एका दुर्लक्षित समाज जीवनाचे नवे आविष्करण आहे. त्यात समाज जीवनाची अस्मिता, आत्मभान, आत्मशोध आहे.

१९७०-१९८० या दशकात दलित चळवळीने चेतना जागृतीचे मोठे कार्य केले. दलित साहित्याने चळवळीला नवी उर्जा प्राप्त करुन दिली आणि तरुण पिढीत जोमदार सळसळते चैतन्य निर्माण झाले. वास्तव स्थितीच्या कोंडवाड्यापासून मुक्त करण्याच्या प्रचंड परिश्रमातून दलित जीवनाला दिशा मिळाली. अक्षरं जीवनाला परिवर्तनाच्या प्रकाशात घेऊन जातात हे भान दलित साहित्यामुळे दलित चळवळीलाही प्राप्त झाले, या प्रेरणा दलित जीवनासाठी आणि चळवळीसाठी महत्त्वाच्या ठरल्या. अक्षरांचा अर्थ दलित वस्त्यातून झोपडी-झोपडपट्टीपर्यंत पोहचला आणि परिवर्तनाचे नवयेयुग सुरु झाले आंबेडकरी प्रेरणा घेऊन आपले जीवनानुभव अक्षरबध्द झाले. वाङ्मयाकडे पाहण्याची दृष्टी बदलली इथल्या प्रथा परंपरा काहीच्या सुरक्षित जगण्यासाठी आल्यामुळे आहेत. हे भान आल्यामुळे सर्वीना नकार, विद्रोह, जीवनातील ठसठसणारी वेदना आणि आपल्या अस्तित्वाचा शोध घेणारे साहित्य म्हणून दलित साहित्य हे मराठी साहित्याचे क्षेत्र व्यापक करीत साकार झाले आहे.

आजपर्यंतच्या साहित्याने समाजाने ज्याला दुय्यम स्थान दिले होते. नियतिच्या हातातील बाहुले बनविले होते. याच समाजातील लेखक कवींना आपल्या अस्तित्वाची जाणीव झाल्यावर आपल्या अनुभवांना शब्दरुप दिले व त्यातून नवे आशय विषय मांडले. समस्या मांडल्या गेल्या. मग त्यांची व्यथा ही कथा झाली, वेदना ही कवितेचा विषय झाली तर अनुभव हा आत्मकथनांचा विषय बनला. या सर्व वाङ्मय प्रकारातून नवे अनुभवविश्व. नवे संवेदनाविश्व निर्माण झाले. हे व्यापक क्षेत्र लक्षात घेता दलित कवितेने मराठी कवितेला आवाहन केले आणि कविता ही मानवी जीवनाच्या भावानुभूतीचा अविष्कार असते हे ठणकावून सांगितले. तीव्र भावना उत्कट जाणिवा या नेहमीच काव्यभाषेतून प्रथम व्यक्त होतात. एकूणच मराठी कविता संत, पंत आणि तंत साहित्यात वेगवेगळ्या रुपाने अविष्कृत झाली. कधी तिचा अभंग झाला, तर कधी ती लावणी झाली तर, कधी श्लोक रुपाने प्रकट झाली. कालांतराने तिचे केंद्र बदलले तिने अध्यात्म हे केंद्र सोडले आणि ती व्यक्तिकेंद्र बनली. केशवसुतांनी व्यक्तिकेंद्राचा अनुभव आपल्या कवितेतून व्यक्त केला मग कविता व्यक्तिजीवनाच्या भावानुभूतीचा अविष्कार करुलागली. तरी हा भावानुवाद विशिष्टंचाच होता आणि समीक्षेनेही या अनुभवाची भलावण करायची तीच केली. कारण सर्वदूर पसरलेल्या व्यापक अशा जीवनाला डॉ. आंबेडकर यांच्या विचारचा स्पर्श होताच कवितेने व्यक्तिकेंद्र बदलले आणि ऊर्जाकेंद्रही बदलले. ती सर्वदूर पसरलेल्या व्यक्तीची अनुभूती असली तरी समाजाचीही अनुभूती झाली. मग दलित कविता या अनुभूतीतून जन्माला आली. म्हणून सर्वच कविता ही आत्माविष्कार असली तरी दलित कविता ही अस्त्विविष्कार आहे हे ध्यानात घेऊन दलित कवींनी तळागाळातील संस्कृतीचे आक्रंदन नायकपदी प्रथम आणले आणि मराठी कवितेला युगप्रवर्तक वळण दिले व खरी कविता माणसांची असते ही कोंडी फोडली. ती माणूस आणि पशूमदला फरक

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Microbial Decolourization of Textile Dyes and Biodegradation of Textile Industrial Effluent from Solapur city, (MS), India

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ABSTRACT

The textile industry generates a high volume of waste water having strong colour. The disposal of these wastes into receiving water causes damage to the environment. Many are carcinogenic and allergic to man. Several physicochemical methods have been used in the treatment of textile effluents to achieve decolourization. However, application of these traditional waste water treatments require enormous cost and continuous input of chemicals which becomes uneconomical and can also cause further environmental damage. Hence, economical and ecofriendly techniques using microorganisms can be applied for textile waste water treatment. Wide range of microorganisms including fungi, algae, bacteria and Actinomycetes that are capable of degrading textile dyes have been reported. Bio treatment using microbes offers easy, cheaper and effective alternative for colourremoval fromtextile industry effluent. Dyes are removed by microorganisms through biosorption, biodegradation, bioaccumulation and enzymatic mineralization.

Keeping in view of the above background, the present study was focused on the screening and characterization of potent indigenous bacterial isolates from textile effluents and utilization of these isolates as monoculture and consortium for decolourization and degradation of some commercially available textile reactive dyes as well as dye mixture. In the present study selected bacterial isolates and developed consortium were tested for their ability to decolorize t and degrade two reactive dyes Novacron Brilliant Blue FN-R and Bezema Red S2-B. Decolorization of Novacron Brilliant Blue FN-R by bacterial isolates and consortium were recorded. In this case, isolate *Pseudomonas Sp* N1 (90%), *Pseudomonas Sp* N2 (83%) and also consortium (80%) were represented as the top decolorizer of the experimental dye followed by isolate *Bacillus Sp* B1 (67%), *Bacillus Sp* B2 (43%) after 6 days of incubation. Decolourization of Bezema Red S2-B by selected bacterial isolates and consortium were recorded. In this case, isolate *Bacillus Sp* B1 (85%), *Bacillus Sp* B2 (90%) and also consortium (80%) were represented as the top decolorizer of the experimental dye followed by isolate *Pseudomonas Sp* N1 (68%), *Pseudomonas Sp* N2 (44%) after 6 days of incubation.

KEY WORDS: Textile Industry, effluent, dyes, microbial decolourization, degradation, *Pseudomonas Sp, Bacillus Sp.*

INTRODUCTION:

Globally textile industries, being one of the largest industries, are important in economic and social terms, by providing countries the opportunity for sustained economic development. Indian textile industry is amongst the world's largest producers of textiles and garments. Synthetic dyes are widely used in textile industries for textile dyeing and the textile industries are one of the high water consuming sectors releasing large quantity of wastewaters. Water pollution from textile production is intense in nations with large textile industries, such as India. Textile industry is one of the most important

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Phosphate Solubilising Bacteria (PSBs): Sustainable Approach For Managing Phosphorus Deficiency in Agricultural Soils in Barshi Region (MS), India

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ABSTRACT

Phosphorus is the second most important macronutrient required by the plants, next to nitrogen. Yet, the availability of soluble forms of P for plants in the soils is limited because of its fixation as insoluble phosphates of iron, aluminum, and calcium in the soil .Phosphorous is an essential for growth and productivity of plants. It plays an important role in plants in many physiological activities. A greater part of soil phosphorus, approximately 95 to 99%, is present in the form of insoluble phosphates and hence cannot be utilized by plants. Organically bound phosphorous enters in soil during the decay of natural vegetation, dead animals and from animal excretions. Great proportion of phosphorous in chemical fertilizer becomes unavailable to the plants after its application in the soil. Plant growth-promoting bacteria (PGPB) are with soil habitat and rhizospheric bacteria that can benefit plant growth by different mechanisms, and P-solubilisation ability of the microorganisms is considered to be one of the most important traits associated with plant P nutrition. These bacteria have the ability to convert insoluble P into an available form. Aim of our present study is to isolate the PSB from crop fields and to study their morphological characteristics. In the present study, the collected soil samples were plated in Pikovskaya's (PKV) agar plate for PSB. The seven PSB isolates were found to be potent phosphate solubilizer out of 20 isolates, showing clear halo zone around its colony. The potent PSB isolates showed more than 13.00 mm phosphate solubilizing halo zone around its colony. Seven of the isolates that created clearings on the PVK agar plates were characterized in more detail. All seven isolates were found to be from genera Pseudomonas and Bacillus. The identified species from Pseudomonas genera were *Pseudomonas aeruginosa and Pseudomonas putida while from Bacillus genera were Bacillus cereus and Bacillus subtilis.* These PSB isolates may possess the potential to be applied in improving soil recovery and crop production.

Key words: **Phosphate solubilising bacteria, isolation, rhizosphere,Pikovskaya's (PKV) medium, identification,** ***Pseudomonas*****, Bacillus.**

INTRODUCTION

Phosphorous is an essential for growth and productivity of plants. It plays an important role in plants in many physiological activities such as cell division, photosynthesis, and development of good root system and utilization of carbohydrate. Phosphorous deficiency results in the leaves turning brown accompanied by small leaves, weak stem and slow development. In ancient times the use of animal manures to provide phosphorous for plant growth was common agricultural practice. Organically bound phosphorous enters in soil during the decay of natural vegetation, dead animals and from animal excretions. (E. B. Santana, *et al.*, 2016)

A greater part of soil phosphorus, approximately 95 to 99%, is present in the form of insoluble phosphates and hence cannot be utilized by plants. Great proportion of phosphorous in chemical fertilizer becomes unavailable to the plants after its application in the soil. This is due to the formation of strong bonds between phosphorous with calcium and

STUDY OF POPULATION DYNAMICS OF TAPEWORMS IN *GALLUSGALLUSDOMESTICUS* FROM SOLAPUR REGION

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ABSTRACT: *The present investigation deals with the Population Dynamic of tapeworms in Gallusgallusdomesticus from solapur region during October 2013 to September 2014. High infection of Raillietina parasite were occurred in summer season followed by winter season & low in rainy season. This type of results indicates that environment factors & feeding habitats are influencing that parasitic infection either directly or indirectly. This report summarizes the percentages of incidence, intensity, density and index of infection. The present study shows that the seasonal infection of parasites in Gallusgallusdomisticus.*

Keywords: *Gallus gallus domesticus, Population Dynamic, Tapeworm, Solapur.*

I. Introduction

Study of parasites and their relationship to the hosts requires a multidimensional approach in order to understand the nature of parasite and the pathological effects on the hosts. Such studies includes phylogenetic relationship, morphological aspects, ecological aspects, physiology and biochemistry of the parasites and their relationship with their host.

Parasite can have wide range & impact on the ecology of their hosts, in the form of health, (Atme and Owen,1967)behavior (Moore 1984), sexual selection (Howard and Micgella 1990) and regulation of the host population. Chicken is an important source of human food as well as source of economic income. These edible *Gallus gallus domesticus* are infected by number of cestode parasites which cause deteroration in their health, hence their market & nutritive value is decreased.Economic losses are caused by gastrointestinal parasites in a variety of ways.They cause looses through lowered fertility, reduced work capacity, a reduction of food intake & lower weight , increased treatment cost & mortality in heavily parasitized animals.

The present investigation included application of statistical method to understand the distribution of cestode parasites in different season i.e. rainy, winter & summer during the period Oct. 2013 to Sept. 2014.

II. MATERIALS AND METHODS

The intestine of *Gallus gallus domesticus* were collected from chicken market from various places of Solapur district such as Barshi,Vairag,Vadala,Nannaj,Shelgaon during period Oct. 2013 to Sept. 2014 in different seasons.

The intestine of *Gallus gallus domesticus* were dissected longitudinally. Parasite were collected and kept in normal saline (0.9%) solution. Then cestodes were flattened and preserved in hot 4% formalin. These cestodes stained by Harries haematoxyline, washed in distilled water, dehydrated in ascending grades of alcohol, cleared in xylene, mounted in D.P.X. Slides were observed under microscope drawings are made with the aid of camera Lucida. The identification was made with the help of "systema Helminthium vol.II, cestode of Vertebrates (Helminths of vertebrates by Yamaguti 1961).

Population dynamics of Cestode Parasites were determined by following formula:

1) Incidence of infection $= \frac{\text{Infected host}}{\text{Total hosts examined}} \times 100$

2) Intensity of infection $= \frac{\text{No.of parasites collected in a sample}}{\text{No .of infected hosts .}}$

3) Density of infection $= \frac{\text{No .of parasite collected in a sample}}{\text{Total host examined .}}$

4) Index G infection $= \frac{\text{No.host infected X No.Parasite collected}}{(\text{Total hosts examined})^2}$

11. Study on Bioelectricity Generation using Plant Microbial Fuel Cell & Bacterial Fuel Cell with Pure Culture

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Abstract

Plant microbial fuel cell and microbial fuel cell are a new technology in renewable energy that generate bioelectricity by converting organic matter and biomass with the help of bacteria in anaerobic or micro aerophilic condition .plant microbial fuel cells have receive significant attention. A laboratory setup of prototype PMFC was arranged with 11 buckets with marshy soil of the paddy field plant in each bucket. In PMFCs the bioelectricity generation with the help of Multimeter in mV and the temp. And pH was also measured. The bioelectricity generation reading measured every day up to 66 days. The surface adhered soil on the electrode was used for isolation and characterization of bioelectricity generating bacteria which could be further used for electricity generation. Five isolates (D1, D2, D3, D4 & D5) were selected for electricity production. These isolates were identified by morphological and biochemical studies. The identified isolates were Pseudomonas spp-1, Pseudomonas spp-2, Pseudomonas spp-3, Klebsiella spp. & Pseudomonas spp-4. These five culture were separately grow on two different media i.e. nutrient medium and Succinate medium and their electricity producing potential were studied in MFC. Pseudomonas spp-4 showed maximum electricity generation in nutrient medium.

Keywords: MFC, bioelectricity production, plant MFC.

1. Plant MFC with Paddy Plant

A **microbial fuel cell (MFC)**, or biological fuel cell, is a bio-electrochemical system that drives an electric current by using bacteria and mimicking bacterial interactions found in nature. A **microbial fuel cell** is a device that can use microbes to generate electricity. An MFC has two electrodes and an area that separates the electrodes (called a membrane). For an MFC to

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Room Temperature Ionic Liquids from Purine and Pyrimidine Nucleobases

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Purine and pyrimidine nucleobases are of central attraction in biological and chemical sciences as these bases or their derivative are primary components in genetic materials. The solubility of these components is the main concern and puts certain limitations on their use in laboratory synthesis of medicinally important molecules. In this work, efficient conversions of purine and pyrimidine nucleobases (namely uracil, thymine, adenine, guanine, xanthine and hypoxanthine) into corresponding completely water soluble salts are reported. All the reported salts are room temperature ionic liquids except xanthine salts which have melting points higher than 100 °C and hence cannot be called as ionic liquids. Synthesized room temperature ionic liquids from nucleobases were well characterized using spectral and thermal analysis. Experimental data of some physicochemical properties such as density, conductivity, glass transition temperature, melting temperature as well as decomposition temperature reported which shows that the reported ionic liquids are stable upto 200 °C.

Introduction

Ionic liquids are now occupying as an integral materials in every field of science and technology from reaction medium for organic transformations,[1] phase transfer catalysts for extraction processes,[2–3] in fuel cells,[4] supercapacitors,[5] batteries,[6] solar cells,[7] etc. to their use in health sciences such as in protein chemistry as reagents for solubilization and stabilization of proteins and enzymes,[8–10] in medicinal chemistry for drug dissolution,[11,12] stabilization,[13] drug formulations[14] as well as in drug delivery systems.[15] All these are possible due to availability of large window for design and development of ionic liquids for their specific use and are mainly based on the tunability of many properties such as polarity, hydrophobicity, H-bonding abilities, etc. of either the cation or the anion or both ions constituting the ionic liquids.[16] Due to huge application potential of ionic liquids, many researchers have tried to develop variety of application based specific ionic liquids but main hurdle was the biodegradability and toxicity issues[17,18] of ionic liquids. Hence in recent years, main focus of researchers is towards the synthesis of ionic liquids constituting the ions (either the cation or the anion or both the ions) of biological origin i.e. either from natural bioresources or from metabolites of some bioprocesses. Synthesis of ionic liquids from natural amino acids by Fukumoto et al,[19] stimulated the interest towards design and synthesis of bio-ionic liquids.[20–25] Fukaya et al[22] reported room temperature ionic liquids from biomaterials in which choline based carboxylate ionic liquids were synthesized and found that these ionic liquids have higher polarities, greater H-bonding abilities compared to conventional ionic liquids. Recently, lots of work has been reported on polar protic ionic liquids (PILs) which are either bio-ionic liquids or are biocompatible.[24–30] It has been shown that the PILs exhibit more interesting properties due to H-bonding abilities of cations or anions and hence may have more potential applications in drug formulations.[31] Physicochemical studies of PILs and other ionic liquids such as amino acid ionic liquids indicated that the cooperative H-bonding is the main factor responsible for their observed high hydration numbers than those expected from the H-bond donor acceptor sites available.[32–34]

The solubility and stability of many drug molecules is the major problem in pharma industry and hence nearly half of the drugs in the market are sold in their salt forms which have many advantages over its original acidic or basic form.[35] Hence biocompatible or bio-Ionic liquids can play a crucial role in this regards and use of which not only increase the solubility, stability and bioabsorbtivity but will also reduce the side effects resulted due to use of other traditional chemicals in drug neutralization.[36]

Purine and pyrimidine bases are the building blocks for nucleic acids and are primary source of nucleotide and nucleoside synthesis. They have very low solubility in water and in nonaqueous media.[37,38] However, it has been reported that the solubility of purine and pyrimidine bases can be increased when treated with sodium or potassium hydroxides which forms sodium or potassium salts of purines and pyrimidines.[39–40] This means that purine and pyrimidine bases possesses an acidic protons which can be removed with strong bases as seen from the pKa data[37–41] for these building blocks. This further stimulated us to think on transforming these purine and pyrimidine bases into ionic liquids through neutralization with strong organic bases so that the solubility of these nucleobases can be increased many fold not only in

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ARTICLE

A new experimental approach for liquid-liquid extractive spectrophotometric determination of chromium(VI) in tannery wastewater and alloy samples

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ABSTRACT

In this research work, a new approach is developed for the extractive determination of chromium. The principle of this approach is based on the complexation reaction between 4-(4′-chlorobenzylideneimino) -3-methyl-5-mercapto-1,2,4-triazole (CBIMMT) in dichloromethane as a complexing reagent and chromium(III) in presence of potassium iodide to form a yellow coloured complex at room temperature. The 1:2:2 [Cr(III)-CBIMMT-iodi

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Alloy samples; CBIMMT; chromium(VI); water

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Selective and sensitive liquid-liquid extraction and spectrophotometric determination of tellurium(IV) using sulfur containing reagent

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ABSTRACT

A simple strategy is developed for the extractive spectrophotometric determination of tellurium(IV) by using sulfur containing reagent, 4-(4'-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole (CBIMMT). The [tellurium(IV)-CBIMMT] complex quantitatively extracted in dichloromethane from 3 mol L^{-1} of hydrobromic acid medium. The 1:2 [tellurium (IV)-CBIMMT] orange coloured complex has λ_{max} 423 and 494 nm and stable for more than 48 h. The extracted complex have molar absorptivity 0.6686×10^4 L mol^{-1} cm^{-1} and 0.4274×10^4 L $mol^{-1}cm^{-1}$ while Sandell's sensitivity is 0.01908 μg cm^{-2} and 0.03115 μg cm^{-2} at 423 nm and 494 nm is respectively. The system adheres to Beer's law upto 20 μg mL^{-1} at both wavelengths; however Ringbom's plot suggests optimum concentration range is 7.0–12.5 μg mL^{-1} and 8.0–14.5 μg mL^{-1} at 423 and 494 nm respectively. The limit of detection of the method is 0.15 μg mL^{-1}. The method has been applied for analysis of environmental and real samples.

Specifications Table

Subject area	Separation and analytical chemistry, spectroscopy.
Compounds	Schiff base 4-(4'-chlorobenzylideneimino)-3-methyl-5-mercapto-1, 2, 4-triazole [CBIMMT].
Data category	Solvent extraction, synthesis, spectral data, environmental samples.
Data acquisition format	^{1}H NMR and IR for characterization, UV-visible spectrophotometer and atomic absorption spectrophotometer for data analysis.
Data type	Separated and analyzed.
Procedure	Synthesis, liquid-liquid extraction, separation, determination and application.
Data accessibility	Data is with this article.

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Research Article

POTENTIAL APPLICATIONS OF MEDICINAL PLANTS AGAINST MULTI DRUG RESISTANT KLEBSIELLA AND PSEUDOMONAS SPECIES

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Antibacterial activity, medicinal plants, phytochemical analysis, multi drug resistant.

ABSTRACT

Multi Drug Resistant life forms are impervious to at least one helpful classes of antimicrobial specialist. The multi tranquilize safe life forms are spread starting with one individual then onto the next individual. Home developed medication have been fundamental wellspring of thing to make countries in treating essential overpowering disease and beat the issue of check and responses of at present open antimicrobial experts. Antimicrobial masters are fundamentally essential in diminishing the overall load on overwhelming diseases. *Adhatodavasica* additionally utilized for treatment against virus hack, asthma these plant leaves are likewise utilized as calming activity against skin issue. Diverse sort of *Klebsiella* species are disengaged from pee test on MacConkeys agar medium Which is named as K1 to K10 these confines related to the assistance of VITEK-2 conservative and 16srRNA sequencing these succession submitted to ENA, their increase no. discharged and furthermore checked their medication safe limit on VITEK - 2 compact.The results of antibacterial activity of Aquatic extracts and Ethanolic extracts of all the sixteen plants when tested individually for their antibacterial activity against the 20 species of *Klebsiella* and *Pseudomonas* isolated bacterial species, which are known to cause infection in humans and are multi drug resistant species. The antibacterial activity was done by using Agar well diffusion assay.

INTRODUCTION

Medicinal plants are plants containing inherent active ingredients used to cure disease or relieve pain Medicinal plants produce bioactive compounds used mainly for medicinal purposes. These compounds either act on different systems of animals including man, and/or act through interfering in the metabolism of microbes infecting them. The microbes may be pathogenic or symbiotic. In either way the bioactive compounds from medicinal plants play a determining role in regulating host-microbe interaction in favor of the host. So the identification of bioactive compound in plants, their isolation, purification and characterization of active ingredients in crude extracts by various analytical methods are important. Therapeutic plants are real piece of new pharmaceuticals and medicinal services items. Because of the accessibility of therapeutic plants all through the world, home grown medications are being utilized by 75-80% of total populace, particularly in creating nations. As revealed by World Health Organization (WHO), conventional restorative plants are the best stores to create more up to date pharmaceuticals. Therapeutic plants are sustainable sources thusly ranchers get urged to incorporate them in conventional horticulture. India has very assorted vegetation and natural plants which are rich wellspring of bioactive mixes. To guarantee the business therapeutic capability of plants portrayed in Ayurveda, the antimicrobial potential should be assessed against show day pathogens as per new parameters to guarantee there viability and dependability. In the present examination, ten plants were shortlisted based on writing study and there separates were assessed for antimicrobial potential against six bacterial strains. Least inhibitory fixation (MIC) of plant removes was resolved utilizing microbroth weakening test.

In tribal-India, the clandestine knowledge of 'medicinal plants and their uses' is transmitted down the generations, which sometimes, becomes a risky affair due to the advent of the modernism itself that affects the attention for knowledge on plants and their identifications by young adults in forest floor. It has been estimated that in the Indian subcontinent, about 45 000 species of wild plants are present

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Studies on Biosurfactant Producing Bacteria from Oil Contaminated Soil

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ABSTRACT

Some bacteria are able to produce biosurfactant compounds. The biosurfactants are surface-active compounds which are necessary in hydrocarbon degradation. These surface-active compounds are the complex group of molecules that are produced by microorganisms which are extracellularly secreted in growth medium or stick to specific cell covering. This study is aimed for Isolation and screening of bacteria fromthe oil contaminated soil samples having biosurfactant producing ability was studied. The biosurfactant production capacity of the bacteria isolated from the soil samples was studied by using drop crumble check, hemolytic assay, methylene blue agar plate emulsification index approach. The most prominent isolate was then identified as *Pseudomonas sp.* primarily on the basis of morphological and biochemical characteristics.

Keywords: Biosurfactant, *Pseudomonas sp.*, hemolytic assay, drop collapse test, methylene blue.

1. INTRRODUCTION

The pollution due to oil and its remediation technologies has turned out to be a worldwide phenomenon of growing significance. Most of the hydrocarbons are insoluble in water and their degradation using microorganisms have a crucial function in combating the environmental pollution. Hydrocarbon degrading microorganisms produce biosurfactants of various molecular size and chemical nature that are surface activemoleculesthat increases the surface tension of water-insoluble hydrophobic substrates and thus improving their bioavailability and the rate of bioremediation (Pekdemir *et al.*, 1999). Almost all surfactants presently produced are chemically derived from petroleum. These synthetic surfactants are generally poisonous themselves and are infrequently degraded by using microorganisms. They are, therefore, anefficient source of pollutants and damage to the surroundings. These risks related to synthetic emulsifiers have, in latest years, drawn tons attention to the microbial production of surfactants or biosurfactants (Urum and Pekdemir, 2004). Biosurfactants derived from residing organisms, mainly microorganisms have attracted a whole lot interest because of tremendous characteristics consisting of better biodegradability, structural diversity, better environmental compatibility, low toxicity, decrease_CMC and higher substrate selectivity. These residences have led to several biosurfactant programs inside the pharmaceutical industries, food and cosmetic (Xiao-Xia *et al.*, 2003; Thanomsub *et al.*, 2004).

The widely isolated biosurfactants are lipopeptides and glycolipids. They consist of rhamnolipids produced by using *Pseudomonasaeruginosa* (Nitschke *et al.*, 2005), sophorolipids from *Candida sp.* (Daverey *et al.*, 2008), in addition to *Bacillus subtilis* strains produce surfactin and iturin (Ahimou *et al.*, 2000). Therefore, on the basis of chemical composition, the microorganisms produce various types of biosurfactants viz.

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Original Article

Extended and Pan-drug resistance in *Klebsiella pneumoniae* due to Carbapenemase and Extended Spectrum β-lactamase enzymes

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Abstract

Purpose: Emergence of resistance to multiple antimicrobial agents in pathogenic bacteria has become a significant public health threat as there are fewer or even sometimes no effective antimicrobial agents available for infections caused by these bacterial pathogens. Infections caused by carbapenem resistant *Klebsiella pneumoniae* (CRKP) and Extended Spectrum β-lactamase (ESBL) strains are difficult to treat and associated with high rates of treatment failure and mortality. Objective of the present investigation is to study molecular characterization of *K. pneumoniae* resistant due to ESBL and carbapenemase enzymes and other mechanism of antibiotic resistant.

Methods: Three hundred and eleven *K. pneumoniae* isolates were isolated and identified from clinical samples from hospitals in Barshi-Solapur, Maharashtra, India. Antibiotic susceptibility was determined manually as well as by Vitek-2 machine. The enzymatic β-lactam resistance mechanism was confirmed through specific β-lactamase gene PCR genotype determination.

Results: ESBL resistance was observed in 310 (88.57%) isolates and carbapenemase in 181 (51.71%) isolates were the main mechanism of antibiotic resistance. We found 29 (8.28%) isolates *K. pneumoniae* pan-drug resistant meaning resistant to all antibiotics and 52 (14.85%) isolates susceptible to colistin only. We found extreme drug resistance in 135 (38.57%) of the *K. pneumoniae* isolates. Majority of *K. pneumoniae* isolated were resistant to all antimicrobial agents detailing prevalence of high antibiotic resistance.

Conclusion: Carbapenemase and extended Spectrum β-lactamase enzymes are responsible for extended and pan-drug resistance in *K. pneumoniae* isolated from clinical samples. PCR assay for genes in the isolates were detected and responsible for the drug resistance.

Keywords: *Klebsiella pneumoniae*, Vitek-2, Drug resistance, ESBL, Carbapenemase.

Introduction

Klebsiella pneumoniae is a common opportunistic and nosocomial organism capable of causing serious infection. Bacterial resistance to antibiotics has become a major public health issue worldwide. The reality of threat of antibiotic resistance was

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Enhanced NO_2 sensing aptness of ZnO nanowire/CuO nanoparticle heterostructure-based gas sensors

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NO_2 sensor

ABSTRACT

Designing heterostructure materials for better gas sensing performance is a key for obtaining low-temperature gas sensor device technologies. Herein, CuO nanoparticle-ZnO nanowire heterostructure-based gas sensors have been fabricated by thermal evaporation followed by annealing in argon and air atmospheres and named respectively as NWG and NWA sensors. X-ray diffraction demonstrates the monoclinic structure of CuO and hexagonal wurtzite structure of ZnO and, thus, the formation of heterostructure. Morphological analysis confirms the ZnO nanowires (NWs) were well-linked to CuO nanoparticles (NPs). At an optimized temperature of 150 °C, the heterostructure sensor exhibits a maximum response (NWG, 175%) to NO_2 over other oxidizing/reducing target gases on the exposure of 100 ppm concentration. This heterostructure sensor, noteworthy, responds to an extremely low exposure of NO_2 gas (1 ppm). The interactions of oxidizing NO_2 gas with ZnO/CuO heterostructure sensors has effectively been scrutinized using impedance spectroscopy analysis.

1. Introduction

Worldwide environmental pollution has become a serious problem, due to increasing automobile density and industrialization activities, where damaging as well as poisonous gases like carbon monoxide, hydrocarbons, and nitrogen oxides are produced on large scale [1–3]. Nitrogen dioxide (NO_2) gas is a regular contaminant in air, generally, formed through the combustion in industrial factories, power plants, and automotive engines. According to health and safety guidelines, humans should not be in contact to 3 ppm exposure of NO_2 gas for more than 8 h daily, as NO_2 leads to deterioration and olfactory paralysis [4–6]. Therefore, it is essential to develop cost-effective, selective, sensitive and reliable gas sensors for the detection of minute concentrations of toxic NO_2. Such sensors can be employed to monitoring environmental issues. Metal oxide semiconductors (MOS) such as copper oxide (CuO), tin dioxide (SnO_2), iron oxide (Fe_2O_3), tungsten oxide (WO_3), nickel oxide (NiO), indium oxide (In_2O_3), zinc oxide (ZnO), and chromium oxide (Cr_2O_3), have widely addressed as sensor materials for NO_2 gas sensing application due to their high sensitivity, reproducibility, and stability in phrase of gas response [7–13]. However, MOS commonly have their weakness in terms of poor selectivity, which renders them unsuitable for sensors being accurately able to recognize the gas molecules. As such selectivity and drawbacks of chemiresistive type MOS sensors can be enhanced by utilizing combinations of metal oxide semiconductors. Several schemes like surface modification, doping and heterostructures including SnO_2 NWs-Cr_2O_3 NPs [13], SnO_2-ZnO nanofibers [14], 20% WO_3-SnO_2 [15], 40 wt% In_2O_3–SnO_2 @ 10 wt% Al_2O_3 [16], TeO_2-SnO_2 *p-n* hetero-interface [1], SnO_2-ZnO [17], and TeO_2-CuO heterostructure [18], have proposed to enhance NO_2 gas sensing performance of individual MOS. Apart from these semiconductors *n*-type ZnO and *p*-type CuO are highly concerned in sensing claim due to their easy synthesis methods, earth abundance, tailorable electrochemical properties, eco-friendly signature, and cost-effectiveness. Because of high value in surface to volume ratio, 1D nanostructured ZnO gas sensors have been trusted as resistive-type based gas sensor [19]. Therefore, various methods including, template-induced synthesis [20,21], reverse micelle [22], high-temperature physical evaporation [23], solution phase method [24], calcinations of zinc acetate [25], hydrothermal method [26–28], and bio-mineralization method [29] were employed for the synthesis of 1D ZnO such as nanorods and nanowires. Apart from the abovementioned preparation methods, growth of 1D ZnO using thermal evaporation (TE) is free from the any catalyst and numerous advantages. In recent times, combining *n*-type to *p*-type semiconductor has greatly engrossed due to its

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Impact of Sugar Industry on Regional Development in Lower Bhima Basin Special Reference to Pandharpur Tahsil

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Abstract:

Sugar industry is second largest agro-based industry. It is also helpful to solve the problem of unemployment. The Sugarcane based industries will help to absorb some of the unemployment and consequent rural-urban migration for seeking job. (The Sugar industry has enhanced agricultural productivity by providing various inputs like fertilizer, machinery techniques knows how financial assistance etc.) Finally Sugar industry is located within the Cane growing areas. Considering Sugarcane products and sugar industries sugarcane cultivation is helpful for trades and transports.

Sugar industry is one of the basic industries which is provided raw material to Paper industry, Winery industry, Ethanol production etc. These industries further helped to solve the problem of unemployment. 30000

Established of Co-operative sugar factory in a region has acted as a growth center for the development of region. Such development content like as Construction of roads, establishment nationalize and Co-operative banks, Co-operative marketing societies, educational institutions, medical centers etc. have brought all round development of the people of the region. It creates employment opportunities in the region and stop migration of youth from rural to urban area.

The Sugar industry is the one of the important industries for the sustainable development life of rural people in Pandharpur tahsil In Pandharpur Tahsil there are 4 sugar factories situated out of which 2 Co-operative basis and 2 in private sector. The Pandharpur Tahsil has occupied 9.91 % of total land of Solapur district out of them more than 6.05% land which covered by black cotton Soil.

The Sugarcane and Sugar industry growth has brought some good effect on the general economy, educational, Social, Cultural, and agricultural of the region as well as it has created some socio economic impact and regional development

Keyword: Sugar Industry, Irrigational Facility, Regional Development.

Introduction:

The Pandharpur tahsil is one of the most important tahsil of Solapur district. It lies entirely in the Bhima basin upto the border of Mangalwedha, Mohol, Sangola, Madha and Malshiras tahsil. The Pandharpur tahsil is located central part of Solapur district. Its geographical location of Pandharpur tahsil on the map is between 17^0 30' North to 17^0 55'latitude and 75^0 05'East to 75^0 34' longitudes. It covers an area of 1303 s.q. km. The minimum annual average rainfall in the tahsil is 650 m.m. and soil of this tahsil is various type but in Bhima river basin mostly fertile soil.

The Bhima River flows in the middle part of the study region. Bhima and Nira main canal provide more water facilities to this study region. Due to fertile soil, irrigation facilities, dry tropical type of climate, annual average rainfall 650 m.m. so sugarcane & other cash crop production is the very better in the study region

In Pandharpur tahsil irrigation facilities spreads through the all over region by Central part Bhima River, Ujjani Canals, Wells and other sources of irrigation. Its affects in sugarcane cultivation in last decades as well as to developed the sugar industries in tahsil. Pandharpur tahsil is the second in Solapur district for the Canal and lift irrigation facilities developed. Therefore the two sugar factories have established in very past year in 1985 to 1995 and then other two sugar factories established in 2011 to 2012. Now in Pandharpur tahsil up to 4 sugar factories at which 2 are in Co-operative sector and other two (2) are in private sector. Their locations were four different parts of tahsil

Zone wise output of sugarcane per hector is calculated in Western zone of tahsil average yield per hector is 85.5 M.T. tones and Central zone average yield per hector is 90.6 M.T. and Eastern zone average yield per hector is 82.2 M.T., because expenditure on inputs are less in eastern zone.

The soil of this tahsil is various and fertile land is at Bhima basin. The Ujjani dam is very close to Pandharpur tahsil and through this dam and Sub-Canals there are 34454 Hectors total area is under irrigated in district out of which averagely 6500 to 7000 hectors. Thus sugarcane area under irrigated increased and its benefits to 73 Villages in Pandharpur tahsil. Thus these irrigation facilities get the several developments in various fields of this tahsil.

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DIVERSITY OF AM FUNGI IN EUPHORBIACEAE PLANTS

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ABSTRACT

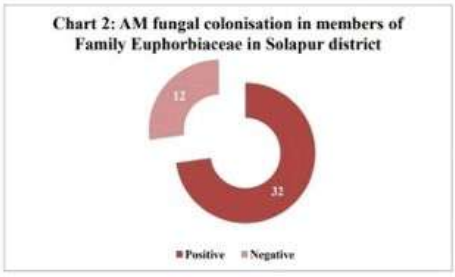
The present investigation was mainly concerned with the seasonal survey done during 2015-16 & 2016-17 for "Studies on diversity of arbuscular mycorrhizal fungi in some plants of the family Euphorbiaceae in Solapur District (MS)". The sites selected were falling under eleven talukas of Solapur district of Maharashtra. The sites selected for the study purpose were, viz. Kurnur of Akkalkot, Pangri of Barshi, Pande of Karmala, Laul of Madha, Pisewadi of Malshiras, Mangalwedha, Penur of Mohol, Bibidarphal of North Solapur, Khardi of Pandharpur, Anakdhal of Sangola and Boramani of South Solapur.

Survey of plants belonging to family Euphorbiaceae was done and 18 genera and 44 species were reported at these sites. In the Flora of Solapur district' 19 genera and 62 species were reported (Gaikwad and Garad, 2015). In 2015-16, frequent visits were arranged to survey the plant species of the family Euphorbiaceae during their flowering seasons. Plant specimens were collected in triplicates; herbaria were prepared and identification of the collected plants was done using 'Flora of the Presidency of Bombay' (Cooke, 1901-1908), 'Flora of Osmanabad District' (Naik, 1979), 'Flora of Ahmednagar District' (Pradhan and Singh, 1999) and 'Flora of Solapur District' (Gaikwad and Garad, 2015). Ambiguity in identification of plants was cleared with consultation of taxonomists.

KEYWORDS: *Survey of plants, identification of plants, family Euphorbiaceae, spreading root system.*

INTRODUCTION

The roots of 44 plant species of family Euphorbiaceae were screened for AM fungal colonization during three seasons' namely rainy, winter and summer from eleven selected sites of Solapur district. Out of these, 32 plant species were positive for AM colonization viz. Acalypha ciliata Forssk., Acalypha hispida Burm., Acalyphaindica L., Acalypha wilkesiana Muell., Bridelia retusa (L.) Juss., Chrozophora plicata (Vahl) Juss. ex Spreng., Chrozophora rottleri (Geisel.) Juss., Croton bonplandianus Baill., Emblica officinalis Gaertn, Euphorbia antiquorum L.,



Euphorbia caducifolia Haines., Euphorbia dracunculoides Lam., Euphorbia granulata Forssk., Euphorbia heterophylla L., Euphorbia hirta L., Euphorbia neriifolia L., Euphorbia prostrata Ait., Euphorbia pulcherrima Willd. ex Klotzsch., Euphorbia rothiana Spreng., Euphorbia thymifolia L., Euphorbia tirucalli L., Flueggea

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`सुरेश भट` यांच्या कवितेतील सामाजिकता

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प्रस्तावना :-

सुरेश भट यांनी नवकवितेच्या जमान्यात नुसत्या निरनिराळ्या रंगाचेच नव्हे, तर निराळ्या अंतरंगाचे दर्शन घडविले आहे. स्वातंत्र्यानंतर सामाजिक परिस्थितीमध्ये कोणतेही विशेष परिवर्तन घडलेले दिसत नाही. स्वातंत्र्याच्या नावावर ठराविक लोक स्वतंत्र झाले, त्यांना मात्र संपुर्ण देश चालविण्याची संधी मिळाली. देशातील लोकशाहीमध्ये साम्राज्यवादाची बीजे रोवली गेली आणि समाज उच्च, मध्यम आणि गरीब वर्गामध्ये विभागला गेला. त्यामुळे विषमता निर्माण होऊन आर्थिक स्तर निर्माण झाले. त्यामुळे सर्वसामान्य जनता आणि सर्वसामान्य जनता यांची जगण्यातील धडपड सुरेश भटांच्या कवितांचा विषय बनताना दिसते.

सुरेश भट यांची कविता आणि सामाजिकता :-

सुरेश भट यांनी त्यांच्या रूपगंधा`, `रंग माझा वेगळा`, `झंझावात`, `एल्गार` या कवितासंग्रहांमधून सामाजिक जाणिवांचे यथार्थ चित्रण केलेले आहे. कविंना सर्वसामान्य जनतेची दुःखे आणि निराशावाद अस्वस्थ करतो. त्यामुळे ते सामान्य माणसाला चेतवताना म्हणतात,

``माणसांच्या मध्यरात्री,
हिंडणारा सूर्य मी,
माझियासाठी न माझा,
पेटण्याचा सोहळा... ``

सुरेश भटांची सामाजिक कविता सर्वसामान्य दरिद्री माणसांपासून ते मध्यमवर्गिय, उच्च श्रीमंत वर्ग तसेच स्वार्थी

21. Water Resource Management of Western Part of Maharashtra, India

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Research Scholar.

Abstract

The geographically distribution of the location of water on Earth that is 97% of water were found in seas which is non usable because this water is salty and only 3% fresh water is available out of total water reservoirs and most of it is in icecaps glaciers (69%) and groundwater (30%), while all lakes, rivers and swamps combined only account for a small fraction (0.3%) of the Earth's total freshwater reserves. Water resource management is the most important factor in our earth surface for lives. The natural resources as like rivers, ponds, lakes, etc. it was gives us a fresh natural water resources that is useful for us. Therefore the uses of water were included agricultural, industrial, household, recreational and environmental activities as well as human require maximum fresh water in daily life. The fresh water demand will increase unless there are corresponding increases in water conservation and recycling of this vital recourse. Therefore that is water stress will be increased for human water requires as well as sustainable development of that region where there is not enough water availability or not clean water resource management. That is water for all uses whether agriculture, industrial or domestic. The western part of Maharashtra included districts Kolhapur, Solapur, Pune, Sangali, Satara having huge water uses in agriculture, industrial sectors and household etc. The Krishna River originating in the Western Ghats of Maharashtra at north Mahabaleshwar at an elevation of about 1,337m (4,386ft) River basin extends over an area in Maharashtra 69425 km^2 Also an average annual Surface water potential of 78.1 km^3 has been assessed in this basin and 58 km^3 is utilizable water. Krishna was four rivers join which were Venna, Urmodi, Tarli and Koyna River. And main tributary is Bhima of Krishna River in Maharashtra. Which is flows through this western region. Thus the water resource management is essential factor for various purposes. So this paper is focused on water resource management of western part of Maharashtra.

Key Word: Water Resource Available, Water Resource reservoirs, Uses of water, River water, Water resource management,

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आण्णाभाऊ साठे यांचा महिलांकडे पहाण्याचा दृष्टीकोन

प्रा.डॉ. दैवशाला चत्रभुज रसाळ
सहाय्यक प्राध्यापक अर्थशास्त्र विभाग, कर्मवीर मामासाहेब जगदाळे, महाविदयालय वाशी

प्रस्तावना :-

आज विविध क्षेत्रात स्त्रिया पुरूषांच्या बरोबरीने किंबहूना एक पाऊल पुढे होवून आपली जबाबदारी पार पाडताना दिसतात. मात्र एवढी प्रगती करूनही महिलांवर होणा-या अत्याचाराचे प्रमाण कमी झालेले नाही. महिलांवरील अत्याचाराविरोधात थोर समाजसुधारक आण्णाभाऊ साठे यांनी महिलांना लढण्याचे बळ दिलेले आहे. 01 ऑगस्ट 2019 पासून आण्णाभाऊ साठे यांच्या जन्मशताब्दी वर्षाला सुरूवात झालेली आहे. आण्णाभाऊ साठे हे थोर समाजसुधारक तर होतेच, पण ते थोर लेखक साहित्यीकही होते. अशा थोर आण्णाभाऊंचा जन्म मांग जातीत 01 ऑगस्ट 1920 रोजी वाटेगाव जिल्हा सांगली येथे झाला. तर 18 जुलै 1969 रोजी मुंबईच्या चिराग नगरीच्या झोपडपट्टीत अत्यंत हलाखीच्या अवस्थेत त्यांचा मृत्यु झाला. फक्त दिड दिवस शाळेत गेलेल्या आण्णाभाऊ साठे यांनी 37 कादंब-या 29 कथासंग्रह, 14 लोकनाटये11, पोवाडे3, नाटके, शेकडो गाणी, लावण्या, छकडी, अशी विपुल साहित्य संपदा निर्माण केली. ही आश्चर्यकारक वाव होय.

आण्णाभाऊ यांच्या कादंब-या या प्रामुख्याने समाजातील शोषीत, वंचित, दलित व तळागाळातील सर्व सामान्य लोकांच्या प्रश्नांभोवती लिहीलेल्या आढळतात. आण्णाभाऊंच्या कालखंडात दलितांपेक्षाही स्त्रीयांना खालची वागणुक दिली जात होती. त्यामुळे त्यांच्या बहुतांश कादंब-या या स्त्री प्रधान किंवा नायिका प्रधान असलेल्या दिसून येतात. आण्णाभाऊंच्या कादंबरीतील स्त्री ही शोषीत, वंचित, अबला, पिडीत अशी असली तरी शेवटी ती खंबीरपणे पेटून उठणारी कणखर स्त्री रेखाटलेली आहे. त्या काळातील समाजातील स्त्रियांवर प्रामुख्याने दलित, वंचित, समाजातील स्त्रियांवर होणा-या अत्याचाराला त्यांनी आपल्या कादंबरीच्या माध्यमातून वाचा फोडली. त्यामुळे त्यांच्या एकुण कादंब-यापैकी 15 कादंब-या या स्त्री प्रधान असलेल्या दिसून येतात.

उद्दिष्टे :-

प्रस्तुत शोधनिबंधाची उद्दिष्टे पुढीलप्रमाणे आहेत.

1) आण्णाभाऊंच्या जिवनचरित्रांचा अभ्यास करणे.

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Literacy Scenario in Maharashtra : A Geographical Analysis

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Research Paper - Geography

ABSTRACT

Census of India considers literacy is the ability to read and write with understanding in any language. Literacy and education is an important indicator of human development and reflects the basic character of population in an area. Therefore, this paper deals with spatio-temporal variations in literacy of the study region. It also deals with gender gap in literacy.

Introduction :

The level of development of any area may be gauged through socio-economic characteristics of the people. The level of education and literacy is such indicator, gives the best exposition of human and regional development because of its dual function as cause and effect of modernization. Literacy is essential for eradicating poverty and mental isolation for cultivation peaceful and friendly international relations and for permitting the free play of demographic process Chandana and Sidhu 1980, P-98 . Literacy alters perceptions, attitudes and behaviour. It generates awareness and builds personality in such a way as to promote development and welfare of nation and its people. Sengupta and Guha,2000.The status of women in any society is supposed to be the true index of its social development. Phadke, 1989.Women's education is instrumental in reducing fertility, infant and child mortality rates in improving the nutritional status of children and healthcare practices and in improving childrens school enrollment . Sengupta and Guha, 2002.

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Major Environmental Problems Causing Threat to Agro-development

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Research Paper - Geography

Abstract:

A country's environmental problems vary with its stage of development, structure of its economy, production technologies in use and its environmental policies. While some problems may be associated with the lack of economic development (e.g. inadequate sanitation and clean drinking water), others are exacerbated by the growth of economic activity (e.g. air and water pollution). Poverty presents special problems for a densely populated country with limited resources.

Most of the land area in the country shows evidence of degradation, thus affecting the productive resource base of the economy. Out of the total geographical areas of 329 million hectares, 175 million hectares are considered degraded (Table 11.1). 10.

Erosion by water and wind is the most significant contributor to soil erosion with other factors like water logging, salivation etc. adding to the in situ degradation. While soil erosion by rain and river in hill areas causes landslides and floods, deforestation, overgrazing, traditional agricultural practices, mining and incorrect sitting of development projects in forest areas have resulted in opening up of these areas to heavy soil erosion. In the arid west, wind erosion causes expansion of desert, dust storms, whirlwinds and

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CULTURAL ENCOUNTER IN JHUMPA LAHIRI'S *THE NAMESAKE*

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ABSTRACT

Diaspora is defined as a scattered population with a common origin in a smaller geographic territory. It is a much examined subject which alludes to the resettlement and settlement of individuals abroad. Indian Diaspora basically mirrors the East and the West experience in the fields like social, religious, phonetic, conventional, cultural, etc. The diasporic journalists show shared reasonableness created by a mind boggling system of social structure, verifiable connections, otherworldly affinities and social affiliations. The diasporic writing in this manner uncovers the inward clashes of the workers abroad. Through the reasonable characters, the creators of diasporic writing show their very own agonies and punishments; expectations and nerves; sentimentality and longings of life. This paper is an endeavor to catch the diasporic reasonableness and feasible reasons for the East-West experience in Jhumpa Lahiri's *The Namesake*.

KEYWORDS

Catchphrases: experience, worker, atmosphere, destabilization, schizophrenia

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Recent Trends in Business Communication

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Introduction:

Communication is one of the most important part of human life as well as mean of business expansion. In the business sector various communication methods are used to promote a product or services, or organization; it is also used to deliver information and receive information from others. It is also a means of relaying between a supply chain, for example the consumer and manufacturer. The term communication comes from Latin word *communis* which mean common. According to the encyclopaedia business communication is known simply as "communications". It encompasses a variety of topics, including marketing, branding, customer relations, consumer behaviour, advertising, public relations, corporate communication, community engagement, research & measurement, reputation management, interpersonal communication, employee engagement, online communication, and event management etc. Communication is neither transmission of message nor message itself. It is the mutual exchange of understanding, originating with the receiver. Communication needs to be effective in business. There are various definitions of communication out of that some definitions are as follows:

- **American Management Association defines:**

"Communication is any behaviour that results in an exchange of meaning."

- **Peter Little defines communication as:**

"Communication is the process by which information is transmitted between individuals and/or organizations so that an understanding response result."

- **Newman and Summer Jr. state that:**

"Communication is an exchange of facts, ideas, opinions or emotions by two or more persons."

- **Keith Davis, state that:**

"The process of passing the information and understanding from one person to another. It is essentially a bridge of meaning between the people. By using the bridge a person can safely across the river of misunderstanding."

Business Communication is goal oriented. The rules, regulations and policies of a company have to be communicated to people within and outside the organization. Business Communication is regulated by certain rules and norms. In early times, business communication was limited to paper-work, telephone calls etc. But now with advent of technology, we have cell phones, video conferencing, emails, and satellite communication to support business communication. Effective business communication helps in building goodwill of an organization.

Keywords: trends, business communication, communication, technology, ICT, etc.

Recent Trends In Business Communication:

There are new trends used nowadays in Business communication. In order to develop business different techniques and ways are followed.

Recent Methods of Business Communication:

There are several methods of business communication, including:

- Web-based communication - for better and improved communication, anytime anywhere
- Reports - important in documenting the activities of any department;
- Presentations - very popular method of communication in all types of organizations,
- usually involving audiovisual material, like copies of reports, or material prepared in
- Microsoft PowerPoint or Adobe Flash;
- Telephoned meetings, which allow for long distance speech;
- Forum boards- which allow people to instantly post information at a centralized
- location; and
- Face-to-face meetings, which are personal and should be succeeded by a written follow-up.

Some other recent/advanced trends in Business communication:

(a) Electronic devices (Mobiles, Pagers, and Fax Machines etc.):

Mobiles offer unique opportunities for delivering information in many disciplines and contexts, including business environment. These devices connect to a wireless network through satellite transmissions. Most of the mobile phones provide voice based communications, Short Message Services(SMS), Multimedia Message Services (MMS), and the latest phones provide value added internet services like web browsing,email, face book, twitter, etc.,

Role of Internal Quality Assurance Cell (IQAC)

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Education system is the backbone of every nation so development of quality education is y important for the development of nation. Educational accreditation is utmost necessary for ality assurance of the education system. In educational accreditation educational programmes are luated and verified by an external body. It gives grades to the accredited institutions which meets e standards of quality education.

In most of the developed European countries educational accreditation process is carried out e independent government or government organizations. in united states educational institutions creditation is done by the independent government or by private non-profit organizations. In ited States educational accreditation process is emerged in the late 19th century. United States gher learning institutions perceived the need of accreditation for the improvement of education itutions.

In India educational accreditation process is carried out by the ministry of Human Resource partment. The university grant commission is established by the act of parliament in 26th cember 1953for maintaining the standard of teaching and research in universities. UGC comes der the ministry of human resource development. National policy on education (NPE1986) and ogramme of Action (PoA1992) had advocated the establishment of national Assessment and creditation council (NAAC). Accordingly UGC has established national Assessment and creditation council as an autonomous body in 1994 to assess the quality of higher learning ucational institutions in India with its head office at Bangalore Karnataka.

NAAC assesses the performance of higher educational institutions through introspection SR) and a process of NAAC's Peer Team's visit (PTV). National Assessment and Accreditation ncil's (NAAC) accreditation helps the institution to know its drawbacks and deficiencies. It helps institution to start new innovative and modern teaching methods in the institution. It gives new se and direction to the higher learning institutions. MHRD has made it compulsory to higher rning institutions to go through assessment of NAAC. Its assessment is mandatory to get financial istance from UGC and other Funding Agencies. All UGC recognized educational institutions as ll as universities must go through NAAC assessment. The mandate of NAAC itself suggests that ality assurance is the soul of higher learning educational institutions. NAAC accreditations enable iversities and higher learning educational institutions to receive the grants from UGC and other nding agencies.

NAAC proposes to establish Internal Quality Assurance Cell (IQAC) for NAAC accredited stitution to maintain the quality of education in institutions. Internal Quality Assurance Cell (AC) must develop a system to improve overall performance of the institution. After the NAAC creditation institution should work according to the recommendations of Internal Quality surance Cell (IQAC).

nctions Internal Quality Assurance Cell (IQAC):

1] To help institution in record keeping of the Institution
2] To ensure the quality of Higher Education which its prime aim
3] To develop a system to improve academic and administrative performance of the

Magic Realism in Writings of Eminent Latin American Female Writers

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Abstract

The magic realist authors present the reader with the supernatural and extraordinary set against the backdrop of the real world. Magic realism became prominent in Latin America in the mid-20th century when the continent flourished both economically and culturally. In this research paper an attempt is being made to examine magic realism in the novels of two eminent Latin American female writers. The writing of Isabel Allende and Laura Esquivel employ magic realism to depict the story of their Novels "House of Spirits" and "Like Water for Chocolate", respectively.

"The House of the Spirits" of Isabel Allende is a prime example of Latin American magical realism. The stories of South American women and their fight against the status quo, has been depicted using good old Magic Realist techniques like the incorporation of the supernatural and the fantastic into an otherwise familiar reality. The sentences, 'Ferula's ghost walks into the room', 'Clara's habit of moving the furniture with her mind', 'the Mora sisters' 'psychic prophecies' and 'Old Pedro Garcia's talking cure for ridding Tres Marias of the plague of ants' are the examples of magical realism in the novel.

In "Like Water for Chocolate", Laura Esquivel has shown rigid Mexican family traditions that younger daughter of any Mexican family needs to be remain unmarried and she should take care of her mother till her last breath. Younger daughter doesn't have right to marry or love someone. This authoritarian attitude of matriarchal society has spoiled and shattered the emotions of a young, skilled and beautiful girl Tita. The writer has presentedincorporation of Cookery, love, repressed emotions and exaggeration of Tita's sentiments through magic realism.

KEYWORDS: Latin America Boom, Magic Realism, Family Sagas, "House of Spirits", "Like Water for Chocolate".

INTRODUCTION

Magical Realism brings a spark of life to the imagination, which in turn excites the mind of the reader. Magical Realism is a fusion of dream and reality, a consolidation of realism and fantasy, and a form of expression that is reality based with several fantastic elements that are regarded as normal by both the readers and the characters. Magical Realism is also known for showing a different viewpoint on life and the way in which people think or act. It is the odd ball among the in crowd. Magical Realism does not use dream motifs, nor does it create false words. Magical Realism is not magic literature, as the name would seem to imply.

Anyone cannot talk about Magic Realism without talking about the Latin American Boom. That is the explosion of Latin American literature that took place primarily in

Mental Health Among Professional and Non-Professional Women: A Clinical Study

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Abstract :

The objective of the study was to study the mental health of professional and non-professional women, another objective was to compare and analyzed the mental health of professional and non-professional women. The study was fifty women were selected from Barshi City. The age range of participants was between 30 to 35 years. Simple random sampling method for used for data collection. The findings were no significant difference in mental health of professional and non-professional women. Professional and non-professional women are similar.

Keywords- Mental Health, professional, non-professional women.

Introduction

How do people become mentally deranged, what are the psychological processes involved, how can they be cured, and is the number of such people increasing\ While these are partly problems of medical psychiatry, social psychology has contributed both to the study of the environmental causes of mental ill-health and in the development of social methods of therapy. While some conditions, such as the organic psychoses, have a definite chemical basis and can rightly be regarded as 'diseases', the neuroses and to some extent the main psychoses are reactions to stress by those who have been unwittingly encouraged to use faulty techniques of adjustment in childhood. The may also have inherited a low tolerance for frustration or a tendency to react to stress in certain ways.

Is the state of mental health getting worse under the supposedly increasing stresses of modern life? Doubtless more people with disorders are discovered or seek treatment, as a result of increased facilities and knowledge of the subject.

Mental health includes our emotional, psychological, and social well-being. It is the "psychological state of someone who is functioning at a satisfactory level of emotional and behavioral adjustment According to World Health Organization (WHO) mental health includes "subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and self-actualization of one's intellectual and emotional potential, among others." affects how we think, feel, and act. It also helps determine how we handle stress, relate to others and make choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood Coping with normal stresses of life, productive work and contribution to their community. However, cultural differences, subjective assessments, and competing professional theories all affect how "mental health"

These days, women are working in public or private sectors. In order to provide the basic needs of a family, women prefer to do jobs. Besides the work at office or workplace, women handle the responsibilities of the family. The government policies are also useful in the contribution of women in different services. Women are paid equal wages as compared to men

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Spatio-Temporal Pattern of Sex Ratio in Maharashtra

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Abstract:

Geography of population was concerned with demonstrating how spatial variations in distribution, composition, migration and growth are related to the spatial variation in the nature of places. Sex ratio is an important aspect of geography. In India, the sex ratio is expressed in terms of number of females per thousand males. The sex ratio is a function of three basic factors, i.e. sex ratio at birth, differentials in mortality between sexes at different stages of life and sex selective migration. Sex ratio is an important demographic indicator reflecting the socio-economic structure of any society. The balance between the two sexes affects the social and economic relationship within a community. The ratio of male and female of the study region play very important role of economic development therefore an attempt is made here to analyse the spatio-temporal pattern of sex ratio in Maharashtra state. The paper is based on the Secondary Sources. To analyse spatio-temporal pattern of sex ratio the district of Maharashtra are grouped into four categories on the basis Mean and Standard deviation. The study reveals that the very high sex ratio in Ratnagiri, Sindhudurg district is mainly due to the male selective emigration because of adverse geographical factors i.e. rugged topography, heavy rainfall, more area under dense forest, inferior soil leads to lower development of human activities and problem of unemployment.

Key wards: pattern, Sex ratio, Mean, Standard deviation.

Introduction:

Traditionally, Geography has been concerned with man-environment relationship. Population Geography is one of the modern branches of Geography. Although, geographers have long been interested in population, as part of their general enquiries into regional studies with a focus on spatial distribution.' According to John I. Clarke (1965), geography of population was concerned with demonstrating how spatial variations in distribution, composition, migration and growth are related to the spatial variation in the nature of places. Sex ratio is an important aspect of geography. Sex ratio is the just ratio of male and female in total population. The concept of sex ratio is not in uniform all over the world and calculated differently in different countries the sex ratio is expressed in terms of number of males per hundred females, in U.S.A. the sex ratio is expressed in terms of number of females per hundred males in New Zealand. In India, however, the sex ratio is expressed in terms of number of females per thousand males (Roy, 2015). The sex ratio is a function of three basic factors, i.e. sex ratio at birth, differentials in mortality between sexes at different stages of life and sex selective migration (Clarke, 1960). The migration rate and occupational structure exerts influence on sex ratio, in its own turn, sex ratio has a profound effect on other demographic element like growth of population, marriage rates, occupational structure, etc. (Shyrock, 1976).Many socio-economic relationships intimately related to the balance between the number of males and females (Trewartha, 1969). In view of the partly contrasting and partly complementary roles of the two sexes in the economy and society. Sex ratio is an important demographic indicator reflecting the socio-economic structure of any society. It is one of the best indicators of status of women in the society. Sex ratio is an index of the socio-economic conditions prevailing in an area and is a useful tool for regional analysis (Faranklin, 1956). Sex ratio of human population is one of the basic demographic characteristic, which is extremely vital for any Meaningful demographic analysis. It is an index of existing socio-economic conditions of a female in any region.The knowledge of sex ratio is essential for understanding the employment and consumption patterns and social needs of a community (Trewartha, 1953). The separate data for male and female are important for various types of planning and for the analysis of other demographic characteristics, such as natality, mortality, migration, marital status and economic etc. The balance between the two sexes affects the social and economic relationship within a community (Nandihalli and Hurakadli, 2014).The proportions of men and women in total of a society have essential bearings in as far as it affects the labour provides through marriage and fecundity. The ratio of male and female of the study region play very important role of economic development therefore an attempt is made here to analyse the spatio-temporal pattern of sex ratio in Maharashtra state.

The Study Area:

The Maharashtra lies in Southern part of India, which is a one of the advance States in the country. Absolute location of State is 17^0 45' to 21^0 6' North Latitude and 72^0 16' to 72^0 36' East longitudes.

The adjoining States are Gujarat and Madhya Pradesh to it's North, Chhattishgarh to it's East, Andra Pradesh , Karnataka and Goa to it's south, Arebian sea to it's Weast. The State is divided into 35 districts for administrative purpose. The geographical area of State is 307762 square Kilo meters, and it ranks fifth in area

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Yoga for Harmony and Peace of Students

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Abstract

Yoga for Harmony and Peace is the slogan of first ever International Yoga Day which has been celebrated in huge scale across India and other parts of the world. Therefore yoga should not be taken just as to stretch a body; actually it should be taken as a habit to live healthy and cheerful stress free lifestyle. Yoga is a powerful natural state that can inspire you in many ways and also yoga-inspired exercises to promote lifetime wellness. Yoga is above all the regular physical exercises as it paves the way for disciplinary lifestyle amidst the students. It serves both the physical and the psychological aspects of a person. Yoga could help students with their all-round growth. Emotional, physical, intellectual and social are the various dimensions of personality develop ment. The various breathing techniques in yoga can help students control their thoughts and emotions, attain harmony and manage their social life well. Yoga is more than just breathing techniques and correct postures; it is a way of leading a healthy life. Make meditation a daily routine to overcome stress. Yoga is a continuous process. So keep practicing! The deeper you go into your yoga practice, the more profound will be its benefits.

Introduction

Yoga for Harmony and Peace is the slogan of first ever International Yoga Day which has been celebrated in huge scale across India and other parts of the world. Now June 21 will be marked as International Yoga Day which was actually driven by Indian Prime Minister Narendra Modi, being himself a regular yoga practitioner. Practicing yoga and meditation is believed to bring positive changes in our lives by making our body fit and mind refreshed full of positive energy.

KeyWords:

Yoga- According to a Hindu spiritual and ascetic discipline, a part of which, including breath control, simple meditation, and the adoption of specific bodily postures, is widely practiced for health and relaxation.

Harmony- The combination of simultaneously sounded musical notes to produce a pleasing effect.

Peace- Freedom from disturbance; tranquility.

Technique of Practice

Yoga postures –the primary series of Ashtanga

yoga- variations for all abilities will be offered

Techniques – cleansing, kinetics, Vinyasa system

Energetic – Energy locks (bhandhas), breath awareness, Sanskrit & chanting

Philosophy – yoga philosophy, yoga sutras, mindfulness and meditation

Benefits of Yoga

The first is that it improves your health.
A violence-free society
Disease-free body
Confusion-free mind
Inhibition-free intellect
Stress-free and Tension-free life

Conclusion

The term PEACE has a very profound and deeper meaning. It presupposes the feeling of contentment, self-satisfaction, a feeling of wellbeing, harmony, respect for each other, oneness and above all, a feeling of *vasudhaiva kutumbakam* i.e. the whole world is one family, and as against this, a feeling of discontentment, dissatisfaction, unrest, disharmony, no respect

for each other, selfishness wherein man becomes the Centre and the whole world becomes his circumference. Thus PEACE is a state of mind where contentment is felt in every sphere of existence. PEACE is not an outward phenomenon, which can be acquired through accumulation of material wealth. It can be observed in man who has given up his meanness, greed and lust etc. where only the contentment is reflected.

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Need of Exercise and Physical Activity for College Students

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Introduction:

The human body evolved to be physically active. In other words, our bodies require physical activity to remain healthy. Throughout history, survival of the human species depended on hunting or gathering our food supplies, pursuits that demanded prolonged and often strenuous physical activity. The advent of mechanization and modern technology in the last few decades have resulted in the human race becoming less physically active than ever before – and we are paying for it with our health. Though the physical education classes during school days are trying to implement and establish positive lifestyle behaviors and improving fitness in children and adolescents however, the transition from childhood to adolescence is associated with decreased levels of physical activity and an increased prevalence of a sedentary lifestyle (Centers for disease control & prevention 2003; Nelson et al., 2006). Most adolescents fail to meet the recommended minimal levels of physical activity (Rosamond et al., 2007) necessary for optimizing physical development and body composition (Anderson et al., 1998), which is a major public health concern (Crespo & Arbesman 2003; Goran, Reynolds & Lindquist 1999). Most of the college students are only exposed to physical exercises during school-based physical education classes and majority of them do not participate in any organized physical exercise activities during non-school hours (Coleman, Heath & Alcala,

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Room temperature ammonia gas sensing properties of polyaniline nanofibers

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Abstract
Polyaniline nanofibers (PAni NFs) were synthesized using in-situ chemical oxidative polymerization process, through varying ratios of monomer aniline (AN) and oxidant ammonium persulfate (APS), and utilized for ammonia (NH_3) detection. Structure, morphology, and surface composition of as-synthesized PAni NFs was examined through X-ray diffraction, Raman spectroscopy, X-ray photoelectron spectroscopy, field-emission scanning, and transmission electron microscopy. Formation of porous interconnected network of PAni NFs of the diameter of 60–70 nm was confirmed through surface morphological analysis. Effect of varying AN/APS ratios on the gas sensing activities of PAni NFs sensors was studied towards various reducing and oxidizing gases thoroughly and discussed. The PAni NFs sensor developed using equal AN/APS ratio demonstrates excellent selectivity towards NH_3 (62% response to 100 ppm) and capable to detect 1 ppm concentration of NH_3 at room temperature. The interaction mechanism of the PAni NFs sensor with oxidizing and reducing gases was studied using impedance spectroscopy and discussed.

1 Introduction

In recent years, a high application potential of conducting polymers (CPs) in the field of biological and chemical sensors is the main reason of their intensive investigation and development [1–10]. In general, CPs are electrically insulators in its pure state but their intrinsic conductivity changes by oxidizing/reducing their conjugated backbones. Various CPs such as polypyrrole (PPy), polyaniline (PAni), and polythiophene (PTh) are mostly attracted in the field of chemical sensors, electronic devices, and actuators due to their excellent electrical and mechanical properties [1–7]. PAni is considered as one of the most vital CPs because of its broad application areas such as sensors [8, 9], supercapacitors [10], batteries [11], conductive coatings [12], field-effect transistors [13], electromagnetic shielding [14], artificial muscles [15], and photovoltaic cells [16]. PAni has attracted much attention due to its good electrical conductivity, easy synthesis, environmental stability, low cost, and light-weight along with flexibility [17, 18]. In addition, electrical conductivity of PAni could be modified by the addition of inorganic fillers, making them a suitable candidate in perspective applications [19].

Toxic gases, such as ammonia (NH_3), nitrogen dioxide (NO_2), carbon monoxide (CO), and sulphur dioxide (SO_2), released from natural and industrial processes can cause long term and instant human health problems [1, 9]. NH_3 gas evolved from agricultural industries during urea manufacturing can cause serious problems to human beings, such as skin and eye irritation, respiratory distress, and coughing. Therefore, it is necessary to develop low cost sensor devices for the early recognition of NH_3. The most frequently implemented method for the fabrication of PAni is based on chemical polymerization of aniline (AN) in a strong acidic solution and initiated by adding an oxidant. Sengupta et al. synthesized PAni by oxidative polymerization method and used it for NH_3 detection. Wherein, the developed PAni sensor exhibit 480 s response time and 420 s recovery time upon exposure to 100 ppm NH_3 [20]. Matsuguchi et al. prepared PAni-insulating blend films and investigated the effect of NH_3 gas on the electrical conductivity of the films at room

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Facile synthesis of highly porous CuO nanoplates (NPs) for ultrasensitive and highly selective nitrogen dioxide/nitrite sensing†

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Copper oxide (CuO) nanoplates (NPs of ~100 nm width) were successfully synthesized *via* a chemical method (emulsion method). Superior catalytic activities towards both chemical and electrochemical sensing of nitrite were achieved.

In recent years, the living standards of humans have grown immensely due to the industrial revolution. However, excessive industrialization has also caused a negative impact on human health due to the environmental degradation caused by the release of toxic gases. Air pollution is becoming more and more serious due to the increase in the concentration of toxic gases like sulphur dioxide (SO_2), carbon monoxide (CO), ammonia (NH_3), carbon dioxide (CO_2), nitrogen dioxide (NO_2), and hydrocarbons $(CH)_x$,[1,2] which directly impact human health. Among these toxic gases, NO_2 is a common air pollutant that causes respiratory diseases such as emphysema and bronchitis and can aggravate existing heart diseases. $(NO)_x$ is a family of poisonous and highly reactive gases emitted by various non-road vehicles, automobiles, trucks (*e.g.*, boats, construction, and other equipments) as well as industrial sources such as power plants, industrial boilers, cement kilns, turbines and fertilizer industries. NO_x is a strong oxidizing agent and plays a major role in the characteristic reactions with volatile organic compounds (VOC). In addition, NO_2 gas is a potential source for nitrous and nitric acid that are responsible for acid rains, which result in the destruction of the ozone layer in the troposphere.[3] Consequently, to detect the highly toxic NO_2 gas, there is a need to develop low cost, highly sensitive, reliable and reproducible gas sensor systems.

Many transition metal oxides (WO_3, TiO_2, CuO, ZnO, MoO_3 and many more) have been broadly used in the field of environmental monitoring, military technologies, safety engineering, and others.[4–6] Among the various transition metal oxides, CuO has been widely studied because of its size-tunable surface features that can be utilized as gas sensors having long term stability with selectivity at comparatively low temperatures. Moreover, CuO being a wide band gap p-type semiconductor metal oxide exhibits excellent sensitivity towards gas sensing. The typical p-type semiconducting metal oxides, such as nickel oxide (NiO), possess distinct characteristics.[9] Nitrite ions (NO_2^-) are hazardous, which widely exist in nature, food, physiological and manufacturing systems.[10] Under the weakly acidic conditions in the stomach, nitrite is simply transformed into carcinogenic *N*-nitrosamines when it combines with tertiary amines present in food; this becomes the most vital reason for causing gastric cancer.[11] It induces disintegration when dissolved in water and can act as an environmentally harmful genus for the degradation of some important fertilizers in soil. Moreover, nitrite is often used as an additive in food products because it can protect against harmful microorganisms that cause food poisoning. Therefore, it is essential to detect and examine the allowed concentration levels of nitrite ions in both physiological and environmental systems.[12] In current years, many precise analytical techniques, such as gas chromatography,[13] spectrophotometry,[14] chemiluminescence,[15] capillary electrophoresis,[16] high performance liquid chromatography[17] and electrochemical methods,[18] have been developed and utilized to investigate the nitrite ion concentration, which is crucial for environmental and human health.

Among the various noble metal and metal oxide NPs, CuO NPs have gained widespread attention for various applications because of their low cost, high catalytic, optical, antimicrobial and electrical conductivity properties.[19] Highly stable CuO NPs were synthesized in a facile manner through self-oxidation of the surface using a chemical emulsion method and subsequent calcination at 400 °C (Scheme 1). The resulting NPs were utilized further for environmental monitoring of NO_2 by chemical and electrochemical approaches. The detailed synthesis procedure and other supporting experimental details are presented in ESI (ESI-I†) and are shown schematically in Scheme S1.†

Accordingly, the surface morphology of the chemically synthesised CuO NPs was examined by FESEM. As can be seen in Fig. 1(a) and (b), a large yield of homogenously dispersed NPs

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Impact of electrolyte concentration on the supercapacitive properties of spray pyrolyzed CdO thin film electrode

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ABSTRACT

In present work, a facile spray pyrolysis technique has been applied for the synthesis of cadmium oxide (CdO) thin films at 673 K using aqueous cadmium acetate solution and reported. Primarily, as-synthesized CdO thin films are characterized for their structure and surface morphology corroborations and afterward used for energy storage applications. X-ray diffraction and X-ray photoelectron spectroscopy analysis supports to the formation of cubic crystalline phase of CdO. A homogeneous network of elongated rod-type surface morphology of CdO films was confirmed through scanning electron microscopy analysis. In addition, hydrophilic character of CdO thin film was corroborated through contact angle measurement. Electrochemical properties of as-synthesized CdO thin film electrode was studied in various aqueous electrolytes by means of cyclic voltammetry, charge-discharge, and impedance spectroscopy techniques and discussed. Electrochemical studies of CdO thin film electrode demonstrates a maximum specific capacitance of 344 F/g at 5 mV/s scan rate in 2 M KOH electrolyte.

1. Introduction

In recent years, researchers are engaged to expand eco-friendly technologies to store the existing energy along with high energy density and high power performance devices due to increasing requirements of energy in various fields [1,2]. Investigation on electrochemical supercapacitor devices is a key technology in budding energy policy to provide a high power and energy storage potential. Such devices find application in power sources such as hybrid electric vehicles and mobile electronic campaign. In supercapacitors, charge separation occurs at the interface of electrode and electrolyte, wherein charges stored are of two types. One is redox supercapacitor, wherein faradic reaction occurs at the electrode surface termed as pseudocapacitance. Another is electrical double layer capacitor, wherein charge separation is established within the electrode materials beside with the interface of electrode and electrolyte. Supercapacitors are the only devices that promised to couple the advantages of both the high energy and power density than typical capacitors and rechargeable batteries, respectively, along with extensive cycle life [1,2]. A cadmium oxide (CdO) has already been used in various applications such as in sensors, phototransistors, and as photo-detectors [1–3]. CdO is one of the common *n-type* transparent conducting oxide materials with narrow band gap of ~2.4 eV and reveals high mobility value when low free carrier absorbance desired [3–6].

To date, various attempts has been made for the synthesis of CdO films through various methods such as dc magnetron reactive sputtering, metal organic chemical vapour deposition, vacuum evaporation, electrochemical deposition, pulsed laser deposition, electron beam evaporation, sol-gel, RF magnetron sputtering, thermal evaporation, chemical bath deposition, and spray pyrolysis [3–9]. Among these deposition techniques, spray pyrolysis is a continuous process that easily categorizes the deposition parameters such as solution concentration, time, ambient pressure, temperature, and flow rate to attain dense/crack-less films [9–11]. In addition, it has the ability to deposit different oxide and chalcogenide films on variety of conducting and non-conducting substrates. So far, the inexpensive synthesis methods for CdO films with definite surface morphologies are limited. Furthermore, very limited reports are available in literature wherein spray pyrolysis mediated CdO structures were utilized as electrode materials for energy storage applications. Thus, the synthesis of CdO thin films by cost-effective spray pyrolysis method and exploit them as the electrode material in energy storage application is appears to be relatively fascinating and motivating one.

Herein, crystalline CdO thin films were deposited on conducting

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Hybrid polyaniline-WO_3 flexible sensor: A room temperature competence towards NH_3 gas

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ABSTRACT

In present study, a flexible, room temperature operable, and selective ammonia (NH_3) sensor based on polyaniline and tungsten oxide (PAni-WO_3) hybrid nanocomposite was successfully developed on polyethylene terephthalate (PET) substrate by *in-situ* chemical oxidative polymerization process and reported. Structural elucidation, surface morphology, and materials composition of flexible PAni-WO_3 hybrid nanocomposites was analyzed systematically through X-ray diffraction, field emission scanning electron microscopy, transmission electron microscopy, and X-ray photoelectron spectroscopy, respectively. Gas sensing properties of flexible PAni-WO_3 hybrid sensors was studied thoroughly and compared with pristine PAni and WO_3 sensors. It was observed that the flexible sensor with 50 wt% WO_3 content showed an excellent selectivity towards NH_3 gas at room temperature along with 121% response towards 100 ppm. As-fabricated PAni-WO_3 hybrid flexible sensors are capable to detect 1 ppm concentration of NH_3 (Response = 9%) along with excellent stability and response reproducibility. Impedance spectroscopy was employed to quantify the gas sensing behavior of flexible PAni-WO_3 sensor in presence of target gases and fresh air and resulting plots are simulated by equivalent circuits. Based on impedance results, the gas sensing mechanism of flexible PAni-WO_3 nanocomposites in presence of NH_3 atmosphere is described.

1. Introduction

In recent years, environmental pollution has seriously increased due to toxic gases, such as ammonia (NH_3), nitrogen dioxide (NO_2), carbon monoxide (CO), and sulphur dioxide (SO_2), leading to environmental imbalance [1–5]. In order to monitor these gases, large efforts have been done to fabricate variety of sensors useful in different fields such as agriculture, food, medicine, and industries. Among various gases, NH_3 is one of the major toxic pollutant in air which causes adverse effects to human being and environment as well. Therefore, it is essential to detect toxic NH_3 gas and ideally, a room temperature operated low cost, reliable, highly sensitive gas sensor system should be developed. Till today, many organic and inorganic materials have been explored as sensing materials. In recent years, conducting polymers has attracted significant attention in the field of chemical sensors [1–7]. Among the different conducting polymers; polyaniline (PAni), polythiophene, and polypyrrole have attracted much attention as efficient materials in the field of gas sensors because of their low cost, easy synthesis, room temperature operation, and low power consumption [8–10]. However, conducting polymer based gas sensors suffer from the major disadvantage of poor stability, selectivity, and long response time [8–12]. Among various conducting polymers, PAni has been most investigated due to its broad range of applications [13–21]. On the other hand, gas sensors based on metal oxides like titanium dioxide (TiO_2), tungsten oxide (WO_3), zinc oxide (ZnO), iron oxide (Fe_2O_3), tin oxide (SnO_2), nickel oxide (NiO), and copper oxide (CuO) have been widely studied due to high sensitivity, fast response/recovery time, and long term stability [22–25]. WO_3 is well-known as an n-type semiconducting sensing material with a wide band-gap and has sensing response to various toxic gases [26–28]. The major drawback of metal oxide gas sensors are their high operating temperature and lack of selectivity towards target gases [25]. Hybrid nanocomposites of metal oxides and conducting polymers are the best alternative to overcome these difficulties, which enhances the gas sensing properties of the individual counterparts [29–35]. In recent years, PAni based hybrid nanocomposites have been successfully developed by several research groups for

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Processing temperature dependent chemiresistive performance of spin-coated cerium oxide films

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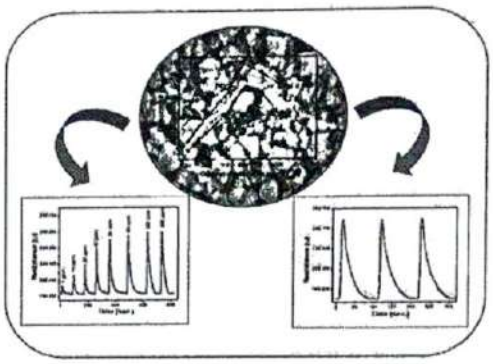
HIGHLIGHTS

- Spin coating method was employed for the fabrication of CeO_2 films.
- CeO_2 films exhibit cubic crystal structure.
- CeO_2 sensor exhibits maximum response of 45%–100 ppm NO_2 at 200 °C.
- Interaction between CeO_2 and NO_2 was investigated by impendence spectroscopy.

GRAPHICAL ABSTRACT



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ABSTRACT

An influence of processing temperature on structural, morphological, and chemiresistive properties of cerium oxide (CeO_2) films, deposited on glass substrate by a spin-coating method and composed of nanocrystallites (NCs), has been systematically investigated and reported. As-deposited CeO_2 films demonstrate the cubic polycrystalline crystal structure and mixed-agglomerated type of surface morphology with several crevices, elevating easy and deep percolation to gas molecules for enhanced adsorption-desorption process. Chemiresistive gas sensing performance of CeO_2 films studied to various target gases and operating temperatures; demonstrates excellent selectivity, rapid response/recovery time signatures, and consistent operation repeatability to nitrogen dioxide (NO_2) gas @200 °C, over other target gases, along with superior response repeatability. The response signature of sensor increases from 6% to 45% when NO_2 gas ppm level is increased from 5 to 100. Chemiresistive change in the CeO_2 film sensor in presence of NO_2 gas has been studied thoroughly and explored using band model and impedance spectroscopy analysis.

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यशवंतराव चव्हाण राजकीय नेतृत्त्व व नेतृत्त्वासंबंधीचा दृष्टिकोन

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प्रस्तावना:

यशवंतराव चव्हाण हे प्रतिकूल संघर्षमय जीवनातून स्वबळावर उदयास आलेले केवळ कर्तबगार व चिंतनशील व्यक्तित्व नव्हे, परिपूर्ण असे ग्रामीण नेतृत्वही होते. त्यांनी महाराष्ट्राच्या शेती, सहकार आणि ग्रामीण विकासाला नवी दिशा देवून महाराष्ट्रातील नवशिक्षित ग्रामीण बहुजन समाजातील तरुण नेतृत्वाची मोठी फळी निर्माण केली.

यशवंतरावांच्या राजकीय जीवनाचा आरंभ सातारा जिल्हापासून झाला. त्यावेळी जिल्हयाच्या आणि मुंबई प्रांताच्या राजकारणा उच्चभ्रू, शहरी मध्यमवर्गीय, उच्च नेतृत्वाची परंपरा टिकून होती. त्यामध्ये प्रामुख्याने वकिल, डॉक्टर, उद्योगपती यांचा समावेश होता. तो त्यांचे काम, धंदा यातून मिळालेले वेळेत राजकारण करीत होता. या नेतृत्वाची बैठक जन्मनिष्ठ श्रेष्ठत्त्वावर आधारित किंवा त्या श्रेष्ठत्वाच मिळालेल्या शिक्षण- नोकऱ्या वगैरे संधीमधून उपलब्ध झालेली होती. स्वाभाविकच त्या नेतृत्वाचे चिंतनविश्व मर्यादित होते आणि दृष्टी कक्षा आपल्या सीमित वर्तुळाबाहेर जाणारी नव्हती. एकंदरीत त्यांचा दृष्टिकोन ' जैसे थे ' वादी होता. महाराष्ट्राच्या संदर्भात ती परंपरा खंडि करणाऱ्या पहिल्या पिढीचे पुढारीपण यशवंतरावांनी केले.[1]

यशवंतरावांच्या नेतृत्वाच्या गुणांच्या विकासाची पायाभरणी त्यांच्या शालेय जीवनापासून झाली. कराडच्या टिळक हायस्कूलमध्य शिकत असताना एकदा शेणोलीकर गुरुजींनी विद्यार्थ्यांना तुम्ही कोण होणार हे कागदावर लिहून देण्यास सांगितले होते. त्यावेळ यशवंतरावांनी सांगितले, ' मी यशवंतराव चव्हाण होणार'[2] या त्यांच्या उत्तरासरून यशवंतरावांच्या ठिकाणी असणारे वेगळेपण आणि त्यांच प्रचंड आत्मविश्वास प्रकट होतो. यशवंतरावांच्या त्या प्रतिक्रियेबाबत गरुजींनी विचारले, 'अरे , तू तर चांगलाच अहंकारी दिसतोस. तू सार्वजनिक कामांत रस घेतोस, हे चांगले आहे. पण त्यामुळे तू निदान देशातील मोठया माणसांचा आदर्श तरी डोळयासमोर ठेवला पाहिजे. त्यावर यशवंतरावांनी दिलेले उत्तर समर्पक असे होते- ' तुमचे खरे आहे; पण मला वाटले, ते मी लिहिले, झाले !'[3] भावी राजकीय पुढारपणासाठी लागणारा हा बाणेदारपणा त्यांच्या अंगभूत गुणाचा अविभाज्य भाग होता.

यशवंतरांच्या व्यक्तिमत्वाचा आणखी एक पैलू महत्वाचा होता. तो म्हणजे त्यांचा स्वभाव. यशवंतरावांचे व्यक्तिमत्व सौजन्यशील भारदस्त होते. त्यांच्या सहवासात येणाऱ्यास ते आकर्षून घेणारे होते. यशवंतराव हे शांत मीतभाषी असले तरी कोणत्याही प्रसंगी भावनेच्या आहारी जात नव्हते. शिवाय योग्य वेळेस योग्य मत मांडणे आणि तेही कुणाचाही मुलाहिजा न बाळगता, हे त्यांचे स्वभाव वैशिष्टे होते. यशवंतरावाच्या नेतृत्व विकासात आणि त्यांच्या वैचारिक जडणघडणीत त्यांच्या वाचणाचा सिंहाचा वाटा आहे. यशवंतरावांना लहाण पणापासून वाचनाची आवड होती. त्यामुळे त्यांचा वैचारिक व्यासंग वाढला. कराड येथे शिक्षणासाठी आल्यावर त्यांना वाचणाची संधी मिळाली आणि आवडही जडली. वाचनात माणसे घडतात यावर त्यांचा दृढ विश्वास होता. ग्रंथसंमृध्दी वाचन यामुळे म. फुलेंनी महाराष्ट्राला सत्यशोधकी विचार दिला. यशवंतरावांच्या बाबतीतही त्यांचे वाचन ही त्यांच्या वैचारिक प्रगल्भतेची, प्रभावी वक्तृत्व व निर्भिड व्यक्तिमत्वाची खरी ताकद ठरली. यशवंतराव त्यांच्या वाचनाच्या आवडीबाबत असे स्पष्ट करतात की, " प्रथमतः मला अवघड वाटणाऱ्या आणि माझ्या काहीशा आवाक्याचा बाहेर असणाऱ्या पुस्तकांच्या वाचणाला मी हात घातला. इंग्रजी शब्दकोशाचा वारंवार उपयोग करुन आणि अवतीभोवती मित्रमंडळीशी चर्चा करुन मी बरट्रँड रसेल याचे ' रोडस टू फ्रिडम ' हे पुस्तक वाचले. जवळजवळ एक महिनाभर मी हे पुस्तक वाचन होतो. या पुस्तकाच्या वाचनामुळे विचारांची दिशा किती व्यापक आहेत, याचा अंदाज आला. आणि स्वातंत्र्याचा हा प्रश्न केवळ हिंदुस्थानपुरता मर्यादित नसून सर्व मानवजातीमध्येच या प्रकारच्या विचाराने खळबळ माजविली आहे, याचाही कल्पना आली. शास्त्रीय दृष्टिने विचार कसा करावा, याचा पहिला अनुभव मला रसेलच्या या पुस्तकाच्या वाचनातून आल्यासारखा झाला. आणि त्याप्रमाणे गांधीजींच्या जीवनावर आलेली पुस्तके मी पाहू लागलो.[4]

यशवंतरावांनी त्यांच्या शालेय जीवनापासून लावून घेतलेल्या वाचनाच्या सवयीमुळे त्यांच्या व्यासंग वाढला. त्यामुळे वक्तृत्वासाठी लागणाऱ्या वैचारिक चिंतनशिलतेचा त्यांचा पाया भक्कम झाला. महाराष्ट्रातील उत्तम वक्तृत्व संपादन केलेला विवेकशील विचारवंत म्हणून यशवंतरावांचा उल्लेख अनेकांनी केला आहे. यशवंतरावांची विविध विषयांवरील भाषणे वाचताना वक्ता म्हणून त्यांची एक वेगळी आपणास होते. त्यांच्या वक्तृत्वात असणाऱ्या सामर्थ्यांमुळे त्यांच्या भाषणांना प्रचंड गर्दी जमत असे. प्रदिर्घ व्यासंग, संदर्भ संपन्नता, गंभीर चिंतनशीलता, निखळ प्रांजळपणा, प्रसंगानुरुप व औचित्यापुर्ण संवाद या विविधतेमुळे त्यांची भाषणे गाजलेली आहेत. त्यांनी वक्तृत्वाचा अपुर्ण गुण लहानपणापासूनच जोपासला होता. कराडच्या टिळक हायस्कूलमध्ये शिक्षण घेत असल्यापासून निबंध स्पर्धा आणि वक्तृत्व स्पर्धेत भाग घेण्याची आवड त्यांना होती. १९३१ मध्ये पुण्यातील नूतन मराठी विद्यालयाने आयोजित केलेल्या वक्तृत्व स्पर्धेची आठवण सांगताना ते लिहितात; " विद्यार्थ्याला तेथे आयत्या वेळी विषय देवून दहा मिनिटे बोलायला सांगत. ' ग्रामसुधारणा' हा विषय देऊन मला बोलयला सांगण्यात आले. माझे भाषण ऐकून परीक्षक खूश झालेले दिसले. त्यांनी मला आणखी दहा मिनिटे वेळ वाढवून दिला. भाषण

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CHLAMYDOSPORE DENSITY WITH RESPECT TO PHYSIO-CHEMICAL PARAMETERS OF SOIL

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ABSTRACT

Solapur district is found to be rich and diverse in flora which has not been studied yet with respect to arbuscular mycorrhizal fungal association. Such diverse vegetation is well supported by AM fungal associations. It plays an important role along with a spectrum of microflora. The present research work was undertaken with a view to understand more about the diversity of arbuscular mycorrhizal fungi in family Euphorbiaceae in the Solapur district.

KEYWORDS: *physicochemical parameters of soil, flora and fauna, management systems.*

INTRODUCTION

To study chlamydospore density during present investigation with respect to physicochemical parameters of soil. 'Random Effects model' of panel data linear regression analysis using 'R' statistical software ("plm" package)- was used. Panel data frame was formulated with cross-section data (individual data entries of each site) and time-series data (seasonal variation during rainy, winter and summer). During panel data analysis, 'pooled OLS', 'between', 'first difference', 'within', 'random effects' models were checked for their 'goodness of fit' to the present data. Among these, the author found 'random effects model' was better fit for this data with 78.39% variance using 'Hausman test' (Table- 33).

Table no. 33
Panel data linear regression model analysis

```
Random<-plm(Chlamydospores~pH+T+Moisture+Lamda+N+P+K+Carbon+Fe,
data=Pnreg, model="random")
>summary(Random)
Oneway (individual) effect Random Effect Model
   (Swamy-Arora's transformation)

Call:
plm(formula = Chlamydospores ~ pH + T + Moisture + Lamda + N +
    P + K + Carbon + Fe, data = Pnreg, model = "random")

Balanced Panel: n = 11, T = 3, N = 33

Effects:
                 var    std.dev   share
idiosyncratic 1831.72   42.80    0.558
individual    1452.57   38.11    0.442
theta: 0.456

Residuals:
    Min.     1st Qu.    Median     3rd Qu.     Max.
-76.7201   -18.1534   -1.0459    22.8043    75.1330
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14. Geographical Analysis of Disparity in Sex Ratio in Maharashtra

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Abstract

Sex ratio is an important factor of demography. It signifies the number of females per thousand males. Disparity in sex ratio means difference in sex ratio from normal sex ratio i.e. 1:1. Balanced sex ratio leads to healthy society. Sex ratio generally influences the form and tempo of life in any country. It affects birth rate, death rate, marital status, labor supply and employment. Since the balance between two sexes play partly contrasting and partly complementary roles in the economy and society. The proportion of two sexes is fundamental to the geographic analysis of an area because it is not only an important feature of the landscape but it also influences the other demographic elements significantly and as such provides an additional means for analyzing the regional landscape. Disparity in sex ratio is harmful to the society. Therefore an attempt is made here to analyse disparity in sex ratio in Maharashtra. The paper is based on the Secondary Sources. To analyse disparity of sex ratio the district of Maharashtra are grouped into four categories on the basis quartile deviation. The study reveals that the very high negative (less females) disparity in sex ratio in the Mumbai and Thane is a result of high industrial development, higher education facility, transportation development, communication and trade development, which act as pull factors of immigration and leads to male selective immigration..

Keywards: Disparity, Sex ratio, Quartile deviation

Introduction

Population Geography, an important branch of geography, belongs to that borderland of geography which opens on Demography, Sociology and Economics. Garnier (1966) in her book,, 'Geography of Population', points out that Population Geography is concerned with 'describing the demographic factors in their present environmental context, studying also the causes, their

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Research Article

SYNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL THIAZOLE-PYRAZOLE INTEGRATED CHALCONES AS ANTIOXIDANT AND ANTI-INFLAMMATORY AGENTS

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ABSTRACT

Objective: The objective of the present study was to synthesize the thiazole-pyrazole integrated chalcones and their *in vitro* antioxidant and anti- inflammatory evaluation.

Methods: The designed hybrid thiazole-pyrazole integrated chalcones **(3a-j)** were synthesized by Claisen–Schmidt reaction of substituted 1-(4-methyl-2-phenylthiazol-5-yl) ethanone and substituted pyrazole aldehyde in the presence of 10% NaOH in ethanol solvent under reflux condition. The chemical structures of synthesized compounds were confirmed by IR, ^{1}H nuclear magnetic resonance (NMR), ^{13}C NMR, and high- resolution mass spectra.

Results: All the title compounds were screened for their *in vitro* antioxidant and anti-inflammatory activity. The screening data indicated that tested compounds showed potent antioxidant activity with moderate anti-inflammatory potential.

Conclusion: Antioxidant screening data reveal that most of the synthesized compounds possess excellent 1,1-diphenyl-2-picrylhydrazyl and NO radical scavenging activity. Most of the compounds found to possess marked anti-inflammatory potential by effectively inhibiting the heat-induced albumin denaturation.

Keywords: Thiazole, Pyrazole, Chalcone, Antioxidant activity, Anti-inflammatory activity.

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INTRODUCTION

Chalcones are richly present in nature, source of chalcone starting from ferns to higher plants and some of them are polyhydroxylated in the aryl nucleus [1,2]. Many synthetic methods are reported for the synthesis of chalcones such as Claisen–Schmidt reaction [3], Allan–Robinson condensation (synthesis of flavones through chalcones) [4], Suzuki coupling reaction [5], Ganguly's method (synthesis of flavones through chalcones) [6], *Knoevenagel condensation* [7], Mukaiyama-type aldol condensation [8], direct cross-coupling reaction [9], chalcone synthesis using boron trifluoride-etherate [10], sonochemical and microwave irradiation technique [11], and grinding technique [12]. The most widely used method is Claisen–Schmidt condensation of ketones and aldehydes.

The presence of thiazole and pyrazole nucleus in different organic structures leads to potent biological activities such as anticancer [13-14], antimicrobial [15-17], anti-inflammatory, and antioxidant [18], antidiabetic [19], and protein kinase inhibitor [20], literature survey reveals that so many of the natural and synthetic thiazole and pyrazole chalcones possess large number of pharmaceutical activities. Due to the importance and in continuation of our work on synthesis of biologically important molecules [21], here, we designed and synthesized various thiazole-pyrazole integrated chalcones (Scheme 1).

EXPERIMENTAL SECTION

Materials and methods

All commercially available chemicals and reagents were purchased from Aldrich and used without further purification. All the solvents were dried and distilled before use. The melting points were determined in open capillary tube and are uncorrected. The IR spectra of synthesized compounds were recorded on Shimadzu 8400-S Fourier-transform infrared spectrophotometer using potassium bromide. The ^{1}H nuclear magnetic resonance (NMR) was recorded in $CDCl_3$ using Bruker 400 MHz NMR spectrometer and chemical shifts are reported as parts per million (ppm) using tetramethylsilane as an internal standard. Reactions were monitored using thin-layer chromatography (TLC) carried out on precoated aluminum plates. The visualization was achieved under ultraviolet light or staining with I_2. Chromatographic separations were achieved on silica gel columns (Merck, 60–120 mesh) using gradient of hexane/ethyl acetate as eluent.

General procedure for the preparation of thiazole-pyrazole integrated chalcones

Mixture of substituted 1-(4-methyl-2-phenylthiazol-5-yl)ethanone (1 mmol) **(1a-b)** and substituted pyrazole aldehyde (1 mmol) **(2a-e)** was dissolved in 15 ml ethanol. To this reaction, mixture added freshly prepared 1 ml of 10% sodium hydroxide. The reaction mixture was refluxed at 80–90°C. The progress of reaction checked by TLC. After completion of the reaction (1 h), reaction mixture was poured in ice-cold water and stirred for 15 min. The obtained yellow-colored solid was filtered, washed with cold water, and dried. The crude product was recrystallized using ethanol to afford pure titled compound **(3a-j)**.

Spectral data of representative compound

(E)-1-(4-methyl-2-phenylthiazol-5-yl)-3-(1,3-diphenyl-1H-pyrazol-4-yl) prop-2-en-1-one (3a)

Yellow solid; 73%; M.P. 172–174°C; IR (KBr): 2922, 2852, 1742, 1650, 755 cm^{-1}; ^{1}H NMR (400 MHz, $CDCl_3$,): δ=2.823 (s, 3H, Thy-CH_3), 7.152