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Potential arsenic–chromium–lead Co-contamination in the hilly terrain of Arunachal Pradesh, north-eastern India: Genesis and health perspective

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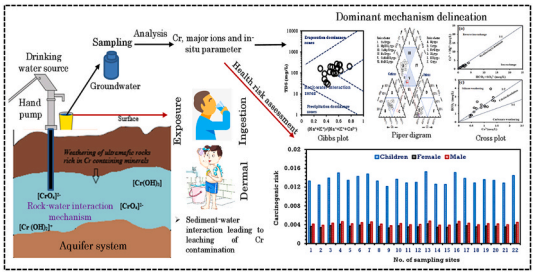
HIGHLIGHTS

- We trace the As–Cr–Pb co-contamination in the pristine aquifers of a hilly terrain.
- Wide range of pH suggests localized human interferences, calcite and silicate weathering.
- Groundwater had high Cr and Fe, however all sediment samples contained As–Cr–Pb.
- Groundwater is under-risk of co-contamination of highly toxic trio of As–Cr–Pb.
- Precautionary investigations are needed to prevent this catastrophic situation to arise.

GRAPHICAL ABSTRACT



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ABSTRACT

In the recent times, multi-metal co-contamination in the groundwater of various parts of the globe has emerged as a challenging environmental health problems. While arsenic (As) has been reported with high fluoride and at times with uranium; and Cr & Pb are also found in aquifers under high anthropogenic impacts. The present work probably for the first time traces the As–Cr–Pb co-contamination in the pristine aquifers of a hilly terrain that are under relatively less stress from the anthropogenic activities. Based on the analyses of twenty-two (n = 22) groundwater (GW) samples and six (n = 6) sediment samples, it was found that Cr being leached from the natural sources as evident from 100% of samples with dissolve Cr exceeding the prescribed drinking water limit. Generic plots suggests rock-water interaction as the major hydrogeological processes with mixed Ca^{2+}-Na^{+}-HCO_3 type water. Wide range of pH suggests localized human interferences, as well as indicative of both calcite and silicate weathering processes. In general water samples were found high only with Cr and Fe, however all sediment samples were found to contain As–Cr–Pb. This implies that the groundwater is under-risk of co-contamination of

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Purification, characterization and application of collagenolytic protease from *Bacillus subtilis* strain MPK

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A new extracellular protease from *Bacillus subtilis* strain MPK with collagenolytic activity was isolated and purified. Fish skin which otherwise would be treated as waste is used as substrate for the production of protease. Using various techniques such as ammonium sulphate precipitation and ion exchange chromatography, protease was purified and characterized subsequently. Protease of approximately 61 kDa molecular weight was purified by 135.7-fold with 18.42% enzyme recovery. The protease showed effective properties like pH and temperature stability over a broad range with optimum pH 7.5 and temperature 60 °C. K_m and V_{max} were found to be 1.92 mg ml^{-1} and 1.02 × 10^{-4} mol L^{-1} min^{-1}, respectively. The protease exhibited stability in various ions, surfactants, inhibitors and organic solvents. Subsequently, the protease was successfully utilized for collagen hydrolysis to generate collagen peptides; thus, the produced protease would be a potential candidate for multifaceted applications in food and pharmaceutical industries due to its significant characteristics and collagenolytic properties.

[**Key words:** *Bacillus subtilis* strain MPK; Prot MPK; Collagenolytic protease; Collagen peptides]

The proteases predominantly hydrolyse peptide bond and are involved in the degradation of several proteins. This group is categorised into different types such as endopeptidases, exopeptidases, metallo, serine, cysteine, aspartic, threonine protease (1). Nowadays, many researchers are interested in the mass production of proteases due to their applications in food, leather, soy processing, detergent, textile, peptide synthesis, cosmetics, biotechnology and pharmaceutical fields (2,3). Plants, animals and fungi are good sources of proteases; however, major and preferred sources are still microorganisms. Due to their ease of isolation, rapid cell growth, minimum requirement of media, simple growth parameters, and extracellular secretion of enzymes, bacteria have received special attention in protease production (4). Hence, various *Bacillus* species such as *B. licheniformis* (5,6), *B. pseudofirmus* (7), *B. cereus* LS2B (8), *B. halotolerance* CT2 (9), *B. subtilis* FBL-1 (10) and *B. mojavensis* SA (11) have been studied for the protease production. Among all proteases, collagenolytic proteases have significant applications in food and pharmaceutical sectors due to their ability to hydrolyse complex collagen structure to its peptides. In addition, they are extensively used in animal tissue culture, collagen recovery process, meat tenderization, leather industries, and medical field.

Several crude and inexpensive sources such as starch, molasses, wheat bran, soybean meal, corn steep liquor, bird feathers, groundnut oil cake, and sugarcane bagasse have previously been used for the production of protease enzymes (1). Interestingly, nutritionally rich fish waste could be an ideal source as a substrate and is being explored for protease production. Many studies have successfully demonstrated the use of fish waste as substrate for the protease production (12–14). This approach is noteworthy as it brings upcycling of fish waste.

The collagenolytic proteases from microbial sources are gaining huge attention in these days because of their lower requirements and higher productivity. They are important in the process of collagenous waste recycling (15). The fungal sources are being explored as source of collagenolytic protease with potential pharmaceutical applications (16); however, bacterial sources are more appealing than the fungal sources due to their faster growth rates. Among the various sources of bacterial collagenolytic proteases, proteases derived from *Clostridium*, *Vibrio*, and *Porphyromonas* (17) have vital role in various biotechnological processes. *Bacillus* is the most investigated non-pathogenic species producing extracellular collagenolytic proteases. Currently, two main types of fermentation process, submerged and solid state, are employed for protease production from *Bacillus* (18), while submerged fermentation is more applicable due to its scalability and lower contamination chances.

In this study, we have fruitfully used *B. subtilis* strain MPK isolated from soil contaminated with fish waste to produce potential collagenolytic protease. Fish skin was used as substrate for protease production. The protease was purified by salt (ammonium sulphate) precipitation, ion exchange chromatography, and sodium dodecyl sulphate-poly acrylamide gel electrophoresis (SDS-PAGE) technique. Further, characterization and stability of purified

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Antimicrobial Activity of Silver Nanoparticles by Green Synthesis from *Ficus benghalensis* and *Ficus religiosa*

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ABSTRACT:
Biologically synthesized silver nanoparticles (SNPs) are being widely used in the field of medicine. Extracellular biosynthesis of silver nanoparticles was carried out by using medicinal plant extracts for the reduction of aqueous silver ions in a short period. The silver nanoparticles were synthesized from Ficus benghalensis leaf extract and leaf extract of Ficus religiosa. The silver nanoparticle formation was confirmed by the colour change of plant extracts (SNPs) and further confirmed with the help of UV-Vis spectroscopy. These silver nanoparticles were tested for antibacterial and antifungal activities using the disc diffusion method. The antimicrobial property of silver nanoparticles was analyzed by measuring the zone of inhibition. The highest inhibition was observed against S. aureus with a diameter of 12 mm for the silver nanoparticles synthesized from Ficus benghalensis leaf extracts. The lowest inhibition was observed for S. cerevisiae, E. faecium, and K. pneumonia, with a diameter of 5 mm for the silver nanoparticles synthesized using Ficus benghalensis and both the mixture of Ficus religiosa and Ficus benghalensis leaf extract respectively. The result indicates that the silver nanoparticles may have important advantages over conventional antibiotics.

Keywords:
Silver nanoparticles, Ficus religiosa, Ficus benghalensis, Antibacterial.

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1. Introduction:

The synthesis of metal nanoparticles is a vast and rapidly growing field because of their potential applications in electronics, chemistry, energy, and the creation of new medical treatments. The size, shape, and distribution of nanoparticles can reveal new or enhanced capabilities.[1-2] Researchers are employing green synthesise different metal nanoparticles in order to meet the increasing need for environmentally safe nanoparticles.

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Novel Kohl-based sensors for room-temperature detection of LPG and NH_3: a comprehensive investigation

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ABSTRACT

In this study, we evaluated the gas-sensing performance of a novel lead sulfide (PbS)-based sensor developed using Kohl, showing high sensitivity to liquefied petroleum gas (LPG) and ammonia (NH_3) under ambient conditions. The Kohl-based sensors were tested across a voltage range of 5–6 V. Structural, morphological, and surface properties were analyzed using X-ray diffraction (XRD), field-emission scanning electron microscopy (FE-SEM), Brunauer–Emmett–Teller (BET) analysis, and energy-dispersive X-ray spectroscopy (EDS). We also delved into the underlying mechanism of the sensor's functionality. The PbS sensors demonstrated a response time of 202 s and a recovery time of 110 s for LPG, and a response time of 180 s, and a recovery time of 115 s for NH_3. In addition, the underlying mechanisms of sensor functionality were investigated.

1 Introduction

Kohl, a customary eyeliner, has been popular as an eye cosmetic in regions like the middle East, far east, and Northern Africa since ancient times. It was applied for cultural reasons, esthetic enhancement, protection from the 'evil eye', and for its perceived medicinal benefits, including better eyesight. Additionally, its use aligns with the recommended practices of the Islamic faith. In modern times, nanoparticles are gaining attention for their potential in gas detection due to their increased surface-to-volume ratio compared to bulk materials. Common materials used in such applications can detect gases like liquefied petroleum gas (LPG) and ammonia (NH_3). Both of these gases, notable for their strong odor, are hazardous. LPG, a combustible blend of hydrocarbon gases, is commonly used for heating and as vehicle fuel. Different types of

Suprimkumar D. Dhas and Manesh A. Yewale have equal contribution.

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Polytricks of Language : A Study of Amitav Ghosh's Novels Sea of Poppies and River of Smoke

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Amitav Ghosh experiments with the languages-pidgin, creole, Cantonese, Bhojpuri etc.mix together Focusing on the ibis trilogy he deals about the indentured labour, and the opium trade and opium war and its historical back-ground in the novels. Ghosh in his The Ibis Trilogy, a historical fiction, deals about different motifs like colonial power, the blot of caste system, sati practice, untouchability, capitalism, migration, etc. The select novels study the languages used in the nineteenth century in Bihar and other parts. The novels deal about different varieties of Pidgin languages spoken by the sailors of different races in the different parts. Pramod Nayar studies the postcolonial literary and cultural aspects and the role of language in the process of colonialism. In his study of post-colonialism's language includes hybridization of both languages. He studies the languages of natives and Europeans, the politics of language, literature and translation. (Nayar, 246-247)Ghosh has successfully used language to reincarnate the social, cultural and political milieu of early colonial period. His writing reflects the recent concern of anthropologists with the porosity of cultural boundaries. (Dixon, 10)

Ghosh studies the lascars including the indigenous sailors from the Indian Ocean area. The group of lascars include Arabs, Chinese, east Africans, Filipinos, Malays and south Asians. This group had different functions. It gave the world the Lascari language which was the language of sailors on the ship. The Lascari had drawn from the various languages on board. The following are the examples of it from the novel River of Smoke.The new-found lascar friend said Neel to run and get away. He further told him to look over there: it was a mob...of Chinese... coming that way. (River of Smoke p.125) Some people were throwing stones. One of them struck Neel on his shoulder. In Sea of Poppies, the novelist has given the description of the cultural identity. The women in the village sang a song on the occasion of the wedding ceremony of Deepti. Ghosh mentions the words such as Sakiya, saiyã, písé, masala, bará, mítha, lagé. (Sea of Poppies, p.32)

AN EFFORT OF TRANSFORMING THE SOCIETY: A SUTDY OF U. R. ANANTHMURTY'S NOVEL *BHARATHIPURA*

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Abstract:

This article aims at bringing out the efforts of transforming native inhumane practices, made by U.R.Anantmurthy through his Pan-Indian novel *Bharathipura*. In Indian society there was full of discrimination based on gender, religion, tribe, language, caste and class. The major discrimination was seen based on caste and profession which still can be seen in our rigid society. This paper brings out how Jagannatha, the hero of the novel strives hard to transform the rigid society by liberating the poor class, who stands as a symbol of modernity.

Keywords: Tradition, Modernity, Caste, Discrimination, Untouchability, Transformation,

"My works are a journey from the profane to the sacred.... From quotidian to the abstract".

-U. R. Ananthamurthy

U. R. Ananthamurthy is one of the most significant writers of post-independent India. Writers of post-coloniai india have produced many works which resisted internal colonization that is oppression of marginalized by upper caste people in society. Dalits were literally treated as untouchables/third class citizens in the name of the tradition. *Bharathipura* is one of the works among them which resisted and put its efforts to change the society by bringing equality..

Bharathipura is a significant Gandhian novel produced by U. R. Ananthamurthy in Kannada literature. It has been translated into English by Susheela Punitha in 1976. It is about the practice of untouchability in our traditional society that is evolving into modernity through new economic faces brought in by a certain class of people. The story revolves around the life of an enlightened modern Indian Jagannatha. Violent and unexpected events follow Jagannatha's attempts to revolutionize everyone and everything by linking his own transformation to the changes he wishes to bring. The main theme of the novel is modernization of traditional society by devaluing evil practices and building new values of inclusion.

Jagannatha, the socialist hero of the novel hails from a place called Malenadu, belongs to landlord family, studied in London on realizing the reality of his hometown, realizing the oppression of Dalits in India returns with a strong desire to eradicate the evil caste system of society and to build a new social order.

Indian society is full of evil practices such as caste system, untouchability, discrimination based on gender and so on. Upper caste people treated lower caste literally as slaves. The society was full of rigid practices. Brahmins only had access to education and they were having power structure of the society. Holeyaru (Holeya-One who cleans excrement) were deprived of education and kept outside of the mainstream confining them only for cleaning excrement and

Original Article

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In silico prediction of B-cell and T-cell epitope of Ves g 5 and Vesp m 5 allergens

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Abstract:

BACKGROUND: Hymenoptera venom allergy is one of the leading insect allergies in which allergens that promote IgE-mediated immune responses cause mild-to-severe reactions. *Vespula germanica* has a high spread rate and invades many regions of the world, while *Vespa mandarinia* has caused many fatalities in Asian countries including India. Ves g 5 and Vesp m 5 are important allergens of *V. germanica* and *V. mandarinia*, respectively, which cause allergenic reactions.

AIM: This study aimed to predict the B- and T-cell epitopes of allergens Ves g 5 and Vesp m 5 using computational tools.

MATERIALS AND METHODS: ProtParam, Jalview, and Swiss-Model analyzed the physiochemical, allergen sequence and 3D model. BepiPred-2.0, ABCPred, and ElliPro predicted B-cell epitopes, while Immune Epitope Database major histocompatibility complex-II binding prediction tool and CD4+ T-cell immunogenicity prediction tool were used to predict and confirm immunogenic T-cell epitopes

RESULTS: Nine linear and four discontinuous B-cell epitopes were predicted for the Ves g 5 allergen and ten linear and five discontinuous B-cell epitopes were predicted for the Vesp m 5 allergen. Four and three T-cell epitopes were predicted for the allergens Ves g 5 and Vesp m 5, showing efficient binding and immunogenicity, respectively.

CONCLUSION: Venom immunotherapy used as a treatment for HVA shows few fatal reactions and side effects, hence epitope-based vaccines or therapies are necessary. These results can be further used in the process of better immunotherapy and peptide-based vaccine design as well as to understand the etiology of Ves g 5 and Vesp m 5 allergens.

Keywords:

Allergen, antigen 5, epitope prediction, *in silico*, *Vespa mandarinia*, *Vespula germanica*

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Introduction

Allergic diseases are hypersensitivity reactions mediated by immunoglobulin E (IgE).[1] Exposure to allergens promotes an IgE-mediated immune response. Genetic and environmental problems increase the risk of developing allergic diseases.[2] Specific IgE antibodies react with the allergens to trigger allergic reactions. In Germany, allergic sensitization has been detected in approximately 50% of the population.[3] An insect venom allergy leads to pain, itching, dizziness, rapid pulse, swelling of the airways and throat, severe asthma, and anaphylaxis.[4]

Hymenoptera venom allergy (HVA) causes rarely fatalities with mild-to-severe systemic reactions (SSRs) which leads to multi-organ failure.[5,6] Patients experiencing a large local reaction have a 5%–10% risk of developing SSR to a sting in future.[7] Hymenoptera stings are so common that 56.6%–94.5% of the general population has been stung at least once in their lifetime and has caused about 20% of deaths worldwide.[5,8] Among

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महात्मा फुले यांचा समतावादी विचार

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महात्मा फुलेंनी समतेसाठी मांडलेला समग्रक्रांतीचा विचार हे १९व्या शतकातील समाजप्रबोधन चळवळीतील खास वैशिष्ट्ये मानावे लागेल. धर्म, शिक्षण, स्त्रीदास्य, अस्पृश्यता, शेतीप्रश्न आणि इतिहास व संस्कृती या क्षेत्रातून ब्राह्मणी वर्चस्व नाकारून क्रांतिकारी परिवर्तन झाले पाहिजे, या सूत्रावर समतावादी वैचारिक प्रवाह निर्माण करण्याचा प्रयत्न महात्मा फुलेंनी केला. महात्मा फुल्यांनी 'जातीव्यवस्था', 'वर्णव्यवस्था' आणि 'पुरुष प्रधान संस्कृती' यावर कठोर हल्ला चढवून सामाजिक समता निर्माण होण्यासाठी 'धर्मातील कर्मकांड', 'ब्राह्मणवाद', 'पोथीनिष्ठता' यावर कडाडून हल्ला केला. या देशातील सर्वांगीण विषमतेचे मूळ धर्म आहे. हिंदू धर्माने अगदी जाणीवपूर्वक बहुजन समाजावर धार्मिक व मानसिक गुलामगिरी लादून, सामाजिक समतेचा प्रवाह रोखून धरला आहे. तेव्हा या ब्राह्मणी धर्माची कठोर चिकित्सा केल्याशिवाय समतेवर आधारित समाजाची निर्मिती होऊ शकत नाही, असे परखड प्रतिपादन त्यांनी केले. महात्मा फुलेंच्या समतावादी विचारांचे वैशिष्ट्ये म्हणजे त्यांनी विषमतेचे, शोषणाचे मूळ सांगितले व त्याला पर्यायही दिला. सार्वजनिक सत्य धर्माची स्थापना करून पर्यायाने वर्ण, जाती-धर्माला नकार देऊन समतेवर आधारित धर्माची संकल्पना त्यांनी मांडली.

आपला समतावादी दृष्टीकोन मानवातावादी तत्त्वज्ञानावर उभा करण्यासाठी महात्मा फुल्यांनी 'अस्पृश्यता निवारण', 'स्त्री-स्वातंत्र्य व स्त्री शिक्षण' आणि 'जातीव्यवस्थेचे उच्चाटन' या त्रिसूत्रीवर अधारित विचार व कृती कार्यक्रम दिला. स्त्रियांचे शोषण करणाऱ्या संस्थांच्या विरोधात प्रचंड आवाज उठवला. कर्मवाद, शब्दप्रामाण्यवाद, अवतारवादाचा पगडा स्त्रियांवर पडण्यासाठी धर्मग्रंथ पुराणे व त्यातून अनेक भाकडकथा रचण्यात आल्या. त्यातून निर्माण झालेल्या अंधश्रद्धाळू वृत्तीमुळे स्त्री आणि बहुजन समाजात विज्ञाननिष्ठा निर्माण झाली नाही. हा छेद देण्यासाठी समाजाच्या सर्वच अंगाने स्त्री-पुरुष समता यावी म्हणून पहिल्या प्रथम महात्मा फुल्यांनी कृति-कार्यक्रम हाती घेतला. 'पुरुषांनी स्त्रियांवर लादलेली गुलामगिरी नष्ट करणे' हे त्यांच्या समताविषयक विचारांचे प्रमुख मूल्य होते. वास्तविक पाहता स्त्रियांचे सामाजिक स्थान, त्यांचा दर्जा व प्रतिष्ठा व तिला मिळणारे स्वातंत्र्य हे सामाजिक परिवर्तनाचे व प्रगतीचे निकष असले पाहिजे. हे गृहितकृत्य स्वीकारून महात्मा फुले यांनी हिंदू धर्मग्रंथांनी निर्माण केलेली पुरुषप्रधान संस्कृती व जातीव्यवस्था स्त्रियांचे शोषण कसे करते, याची परखड चिकित्सा केली व पुरुषप्रधान कुटुंबांची पुर्नरचना करण्याचा आग्रह धरला. धार्मिक जातीव्यवस्थेचे अधिष्ठान असलेला हिंदू धर्म स्त्रियांचे कसे मानसिक शोषण करतो, यावर हल्ला चढवला. सामाजिक न्यायावर अधारित स्त्री-स्वातंत्र्याचा प्रबळ पुरस्कार करताना महात्मा फुल्यांनी काही क्रांतिकारी उपक्रम राबवले. उदा. अस्पृश्यांच्या मुलींसाठी शाळा सुरू केली, केशवपन, बालविवाह या अनिष्ठ प्रथांना कडाडून विरोध केला. एवढेच नाही तर विधवांना आपले जीवन सुखरूपपणे जगता यावे, यासाठी आपल्या घरात प्रसुतीगृह सुरू केले.

महात्मा फुलेंच्या समतावादी दृष्टीकोनाचे विश्लेषण करताना आणखी एक मुद्दा समोर येतो, तो असा की, शिक्षणापासून वंचित असलेल्या बहुजनांना शिक्षण देण्याची योजना हा आहे. १८८२ मध्ये ब्रिटिशांनी नियुक्त केलेल्या हंटर कमिशन समोर साक्ष देताना फुल्यांनी प्रचलित असलेल्या झिरपण्याच्या सिद्धान्तांना विरोध करून 'शिक्षणाच्या बहुजनीकरणाचा आग्रह धरला'. महात्मा फुले म्हणतात, या ब्राह्मणी समाजव्यवस्थेने अगदी जाणीवपूर्वक शूद्र-अतिशूद्रांना ज्ञानबंदी केली आहे आणि बहुजनांच्या या अज्ञानातून प्रचंड स्वरूपाची सामाजिक विषमता निर्माण झालेली आहे. तेव्हा सर्व बहुजन समाजाला शहाणे करून सोडल्याशिवाय ही विषमता कमी होणार नाही.

शिक्षणाबरोबरच शेतकरी व शेती प्रश्न यांची सांगड देखील फुल्यांनी सामाजिक समतेशी घातली. ब्राह्मणी धर्माने ज्याप्रमाणे वर्ण व्यवस्थेच्या आडून स्त्री व शूद्र यांच्यावर मानसिक गुलामगिरी लादली. त्याप्रमाणे ब्रिटिशांचे चुकीचे धोरण, ब्राह्मणी कावा व सावकारी पाश यामुळे शेतकरी वर्ग टोकाचा रसातळाला गेला

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साने गुरुजींच्या कोमल, हळव्या भावनांचे उदात्तीकरण 'श्यामची आई' या पुस्तकातून होताना दिसते. अतिशय साधी, भोळी, फुलांप्रमाणे कोमल अशा आईचे चित्रण साने गुरुजींनी या पुस्तकातून केले आहे. साने गुरुजींचे संपूर्ण आयुष्य त्यांच्या आईच्या संस्कारांनी व्यापलेले होते. कोमल, हळव्या, स्वतःपेक्षा इतरांची जास्त काळजी घेणाऱ्या, अश्रुंनी आतले मन स्वच्छ करणाऱ्या 'श्यामची' जडणघडण संपूर्ण पुस्तकातून अधोरेखित होताना दिसते. मातृप्रेमाची अपार करुणा, भक्ती, श्रद्धा यांचा अभूतपूर्व संगम 'श्यामची आई' पुस्तकामध्ये झालेला दिसून येतो.

नाशिकच्या तुरुंगात असताना दिवसभर काबाडकष्ट करून, एकूण पाच रात्रींमध्ये साने गुरुजींनी 'श्यामची आई' या पुस्तकाचे लेखन केले. मायलेकरांच्या नात्यावरती ज्यांचा विश्वास आहे. आईविषयी श्रद्धा, प्रेम, आपुलकी आहे. त्या सर्वांना 'श्यामची आई' या कथात्मक पुस्तकाच्या माध्यमातून तो विश्वास अधिक दृढ करता यावा या एकमेव उद्देशाने साने गुरुजींनी हे पुस्तक लिहिले असावे असे वाटते.

'मातृप्रेमाचा महिमा' हे 'श्यामची आई' या पुस्तकाचे मध्यसूत्र आहे. या पुस्तकातून साने गुरुजींनी आईच्या मोठेपणाचे असंख्य दाखले वाचकांसमोर ठेवलेले आहेत. प्रत्येक प्रसंगातून लहानसा शाम कसा घडत गेला, त्याचा वाईटपणा गळून पडतानाच, चांगुलपणा कसा वाढत गेला हे साऱ्या पुस्तकभर पहावयास मिळते. साने गुरुजींच्या लेखी आई हे प्रतीदैवतच होते. याचा प्रत्यय या पुस्तकातील कित्येक प्रसंगातून येतो. आईने श्यामवर वेळोवेळी केलेल्या चांगल्या संस्कारांमुळेच संपूर्ण आयुष्यात साने गुरुजी आपल्या मनाचा निर्मळपणा राखू शकले. या संस्कारांचा अनमोल ठेवा जपतच साने गुरुजींनी आपल्या जीवनाचा प्रवास शुद्धतेने केलेला दिसून येतो. या संस्कारांनीच साने गुरुजी अवघ्या महाराष्ट्राला परिचित झाले.

भारतीय वा पाश्चात्त्य साहित्यपरंपरेत 'आईची' महती सांगणारे अनेक ग्रंथ निर्माण झाले. परंतु 'श्यामची आई' या पुस्तकाची उंची आजपर्यंत एकही पुस्तक गाठू शकले नाही हे निश्चित होय. या पुस्तकाच्या वेगळेपणाने प्रभावित होऊन भालचंद्र नेमाडे म्हणतात, "कृत्रिम कथानकांच्या आणि जुनाट संरचानांच्या त्या काळात साने गुरुजींनी एक जिवंत असा 'श्यामची आई' सारखा खणखणीत आणि वास्तव प्रवाह आणला."[१] साचेबद्ध, कृत्रिम कथानकांच्या भाऊगर्दीत 'श्यामची आई'ने वास्तव जीवनातील अनोख्या अनुभवांच्या चित्रणाने स्वतःचा वेगळा मानदंड प्रस्थापित केला. यातील प्रत्येक प्रसंगाने वाचकाला अंतर्बाह्य हेलावून टाकले, अस्वस्थ केले. मातृप्रेमाविषयीची एक वेगळी अनुभूती वाचकांनी 'श्यामची आई'मधून अनुभवली. हे पुस्तक वाचत असताना वाचक मातृप्रेमाच्या अनुभूतीने, आठवणीने भाऊक झाला नाही असा प्रसंगच विरळा. याचा अर्थ हे पुस्तक रडायला शिकवते असे नाही, तर मोहाविरुद्ध, असत्याविरुद्ध, अन्यायाविरुद्ध लढायला शिकवते. माणसाला त्याच्या अंतरंगात डोकावून पाहायला उद्युक्त करते. आपल्या आईप्रमाणेच, आपली मातृभूमी, आपल्या भोवतालच्या निसर्गावर हे पुस्तक मनापासून प्रेम करायला शिकवते.

साने गुरुजींमध्ये प्रेममय, त्यागमय, सेवामय विचारांची रुजवात त्यांच्या आईने कशी केली हे 'श्यामची आई' या पुस्तकाच्या पानापानांतून डोकावताना दिसते. त्यांच्या आयुष्याचा पायाच जणू या पुस्तकांतील कित्येक प्रसंगांच्या माध्यमातून घातला गेला आहे. माणूसपणाची, व्यापकपणाची, निःस्वार्थीपणाची जाण जर साने गुरुजींमध्ये कशामुळे रुजली गेलेली असेल तर ती त्यांच्या आईच्या अभिजात संस्कारांमुळे, शिकवणीमुळे होय. दुसऱ्यांच्या चेहऱ्यावरती समाधान पेरण्यासाठी स्वतःच्या अंतरंगात निःस्वार्थीपणा रुजवावा लागतो हे 'श्यामची आई' वाचताना प्रत्येक वाचकाला अनुभवयास मिळते. हे पुस्तक जितके वेगवेगळ्या वयोगटातील मुलांनी वाचावयास हवे, तितकेच या महाराष्ट्रातील तमाम मतांनी देखील वाचावयास हवे. साने गुरुजींचे विचार ज्या माऊलीच्या उपजाऊ विचारांवरती पोसले गेले, रुजले गेले त्या आईची भूमिका जरी आजच्या तमाम मातांमध्ये रुजली तरी इथल्या मातीतून अनेक साने गुरुजी जन्माला येतील. "श्यामची आई हे पुस्तक साने गुरुजींच्या वाङ्मयीन कारकिर्दीतील मातृसंस्कार व मातृसंस्कारित होत जाणारा समाजशील पुत्र यांच्या प्रभावकाळाचे निदर्शक ठरते. "[२] असे रा. ग.

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महाराष्ट्र ही संतांची भूमी आहे. मध्ययुगीन कालखंडात मराठी समाजाची अस्मिता आणि अस्तित्व जिवंत ठेवण्यासाठी संतांनी महत्त्वाची भूमिका पार पाडली. आज शतकांचा कालावधी उलटून गेला तरी संतांचे विचार मानवी समाजाच्या उन्नतीसाठी तितकेच महत्त्वाचे अरातेले दिसून येतात. उलट आजच्या मूल्यहीन समाजाच्या उद्धारासाठी संतांच्या विचारांची प्रासंगिकता अत्यावश्यक ठरते. सध्या जागतिक स्तरावर युद्धजन्य घटनांमुळे अशांतता मोठ्या प्रमाणात वाढत चाललेली दिसून येते. मध्ययुगीन कालखंडात परकीय राजवटींच्या अतिक्रमणामुळे आजच्याच सारखी अशांतता मोठ्या प्रमाणात वाढलेली होती. तत्कालीन परिस्थितीत महाराष्ट्रातील लोकांना संतांच्या विचारांनी तारलेले होते. आजच्या बदलत्या अराजकतेला तोंड देण्यासाठी संतांच्या विचारांतील शांतता, प्रेम, सामंजस्य, साहचर्य समाजाला आवश्यक आहे असे वाटते. प्रस्तुत शोधनिबंधातून जागतिक शांतता व प्रगतीसाठी संतांच्या विचारांचे योगदान अभ्यासले जाणार आहे.

संत ज्ञानेश्वरांचा ज्ञानेश्वरी हा ग्रंथ तत्त्वज्ञान आणि काव्य यांचा मनोज्ञ संगम आहे. यामध्ये त्यांनी तत्वज्ञानाचे रहस्य मधुर काव्यरचनेतून उलगडून दाखवले आहे. ज्ञानेश्वरांनी भगवद्गीतेतील तत्त्वज्ञान अनेक उपमा, दृष्टांत यांचा उपयोग करून सुलभ मराठी भाषेत आणले. हे तत्त्वज्ञान जनसामान्यांपर्यंत पोचवण्याचे असामान्य कार्य ज्ञानेश्वरांनी केले. सकल मानवजातीच्या उद्धारासाठी, आनंदमय जीवनासाठी ज्ञानेश्वरांनी पसायदान मागितले. ज्ञानेश्वरांचे हे पसायदान व्यक्तिगत हितासाठी नसून, अखिल सजीवसृष्टीच्या कल्याणासाठी, शांततेसाठी, प्रगतीसाठी आहे. जे जे जगी जगते तया माझे म्हणा करुणा करा अशी ती विश्वव्यापी प्रार्थना आहे. ज्यावेळी कोणताही यज्ञ सिध्दीस जातो. त्यावेळी वैदिक संस्कृती प्रमाणे पसायदान म्हणजे कृपाप्रसाद मागण्यात येतो. ज्ञानेश्वरांनी ज्ञानेश्वरी हा वाङ्मयरुपी यज्ञ सिध्दीला नेल्यानंतर पसायदान मागितले. संत ज्ञानेश्वरांनी मागितलेलें पसायदान म्हणजे संत वाङ्मयातील झगझगीत कौस्तुभ मणी आहे.

आतां विश्वात्मके देवे । येणें वाग्यज्ञे तोषावें ।
तोषुनि मज द्यावें । पसायदान हें ।।

ज्ञानेश्वरांनी ज्या विश्वात्मक देवाकडे प्रसाद मागितला आहे तो देव कोणता ? या प्रश्नाचे उत्तर ज्ञानेश्वरीच्या १५ व्या अध्ययात दिले आहे. आतां विश्वात्मकु हा माझा स्वामी निवृतिराजा आत्मज्ञानाने परिपूर्ण असलेला अतिशय विद्वान महापुरुष निवृत्तिनाथ हे ज्ञानेश्वरांचे सद्गुरु आहेत. तोच विश्वात्मकु देवु आहे असे ज्ञानदेव म्हणातात. त्यांनी या यज्ञाने संतुष्ट होऊन आपणास पसायदान द्यावे ही ज्ञानेश्वरांची पहिली प्रार्थना. निष्कामता, दृढ आत्मबुध्दी, शुध्दज्ञान, समाधान, कामनारहित वृत्ती, सारासार विचार, निर्मळ आचार ही दासबोधात वर्णिलेली सद्गुरीची मुख्य लक्षणें ज्याच्या ठिकाणी सर्वार्थाने वसत आहेत अशा निवृत्तीनाथ यांच्याकडे संत ज्ञानेश्वर पसायदानात दुसरी मागणी करीत आहेत.

जे खळांची व्यंकटी सांडो तया सत्कर्मी रती वाढो
भूतां परस्परें पडो । मैत्र जीवाचे ।।

या ओवीमध्ये तीन गोष्टी मागितल्या आहेत. खळ म्हणजे दुष्ट. व्यंकटी म्हणजे कुटिलपणा. जेवढे वाईट आचरण आहे, वाकडेपणा आहे त्याला व्यंकटी म्हणायचे. खळांच्या म्हणजे दुष्टांच्या अंतःकरणामधील कुटिलपणा जावो ही पहिली मागणी आहे. कुटिलपणा गेल्यानंतर तया सत्कर्मी रती वाढावी, सत्कर्मे त्यांच्या हातून घडावीत आणि त्यामध्ये त्यांना गोडी निर्माण व्हावी असे दुसरे मागणे मागितले आहे. अवघ्या प्राणिमात्रांची परस्परांशी मैत्री व्हावी आणि त्यामुळे अवघ्या प्राणिमात्रांचे कल्याण व्हावे अशा तीन गोष्टी या ओवीमध्ये संत ज्ञानेश्वरांनी मागितल्या आहेत. संत ज्ञानेश्वर हे कारक पुरुष आहेत, अवतारी पुरुष नाहीत. संस्कृतमधील कारक या शब्दाचा अर्थ आहे तप, अत्यंत सात्विक तप करणारा महापुरुष म्हणजे कारकपुरुष तपाने माणूस शुध्द, सात्विक होत जातो. सद्गुरु निवृत्ति नाथांच्या आदेशा प्रमाणे अज्ञानी लोकांना ज्ञानमार्गाकडे नेण्यासाठी, जनसामान्यांना भक्तिमार्गाची शिकवण देण्यासाठी, धर्माची प्रतिष्ठापना करण्यासाठी ज्ञानेश्वरी लिहीली आहे. मध्ययुगीन

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A Study of Khadi's Historical Development

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Abstract

The pre-independence symbolism of khadi was closely linked to self-sufficiency and home rule, or Swaraj and Swadeshi. This essay explores the history of Khadi, starting with its ancient ancestors who produced coarse hand-spun cloth in India during the Vedic and Mughal eras and continuing through the British colonial and post-independence periods. It looks at the different connections between Khadi and Mahatma Gandhi's freedom fight, as well as the reasons behind its collapse in the years following independence and its current resurgence. An in-depth analysis of the literature and an interview with textile specialist Sabita Radhakrishna were done for this aim. The benefits of utilizing khadi will be discussed in this essay, along with the different challenges the khadi industry encountered in raising awareness and increasing sales of the fabric and ready-made khadi clothing. It also looks at how khadi changed over time from being a 'Freedom Fabric' to a 'Fashionable Fabric,' why modern designers are incorporating it into their newest collections, and offers suggestions for raising awareness of khadi as the solution to sustainable fashion.

Keywords: swaraj, swadeshi, khadi, hand spun, hand woven, sustainable fashion.

Introduction

As the digital era advances, national identities are quickly being replaced by global ones in a world where social perspectives, education, food, fashion, and lifestyle are all rapidly diminishing. The traditional Indian outfit of a khadi kurta-pyjamas and a saree is no longer relevant. Thus, in a nation that was once united by Mohandas Karamchand Gandhi, or Gandhiji as he was fondly called by the millions of Indians who looked up to him as the "Father of the Nation," how can a national identity shown in clothing? "*Like Swaraj, Khadi is our birth right, and it is our lifelong duty to use that only. Anyone who does not fulfil that duty is totally ignorant of what swaraj is.* `` ("Importance of Khadi | Gandhiji on KHADI | Swadeshi - Khadi," n.d.). The well-known statement by Gandhi is really self-explanatory. He compared having home rule, or swaraj, and being free to the spinning and dawning of the khadi garment. Spinning and wearing khadi was made into an Indian duty because it was believed that

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प्रास्ताविक :

मानवाला अनुभवांचा ठेवा प्रदान करणारी विद्याशाखा म्हणून इतिहास या विषयाला ओळखले जाते. कोणताही मनुष्य अथवा मनुष्याचा समुह इतिहासाशिवाय प्रगती करूच शकत नाही. त्यामुळे प्रत्येकाला इतिहासाचा अभ्यास करावा लागतो. आदिमानवापासून ते आजच्या प्रगत मानवापर्यंतचा विकास म्हणजे मानवाच्या प्रगतीचा इतिहास होय. मानवी संस्कृतीच्या वाटचालीमध्ये इतिहासाची भूमिका अतिशय महत्वाची असल्याने इतिहासाचा सखोल अभ्यास करणे अगत्याचे ठरते. 20 व्या शतकात इतिहासाकडे एक सामाजिक शास्त्र म्हणून पाहीले जाऊ लागले व समाजाच्या निरनिराळ्या व्यवहाराचा अभ्यास करणारी शास्त्रे निर्माण झाली जे की सामाजिक शास्त्रे या नावाने मान्य झाली. आधुनिक कालखंडात इतिहासाच्या अभ्याससाठी धर्म, नितीशास्त्र, राज्यशास्त्र, अर्थशास्त्र, समाजशास्त्र, भूगोल, पर्यावरण, मनशस्त्र, तत्वज्ञान भूगर्भशास्त्र, भौतिकशास्त्र, साहित्य, विज्ञान, इ. सामाजिक,शास्त्राचा अभ्यास, आवश्यक मानला जाऊ लागला .

इसवीसनाच्या २० व्या शतकात युरोपमध्ये नवकल्पनांचा उगम होऊन व्यावसायिक इतिहासकरांचा प्रभाव पर्यावरणीय इतिहास लेखनावर प्रभावशालीपणे पडलेल्या निदर्शनास येते. इटालियन इतिहासकानी मायक्रो हिस्टरी (Micro History) इतिहास लेखकाची सुरवात केली. त्याचप्रंमाणे ब्रिटनने मानववंशशास्त्रीय सामाजिक इतिहासलेखन विकसित केले आहे. फ्रेंच इतिहासकानी Annals दृष्टिकोन शोधून काढला यात हेनरी बरल्युसियन , फेवव्हेर व फर्डीलँड ब्रॉडल हे त्याचे प्रमुख सूत्रधार होत. या शाखेचे इतिकासकार हे बुद्धिवंत गटात मोडणारे, व्यासंगी व शास्त्रीय दृष्टिकोनाचे होते. मुख्य म्हणजे कोणत्याही सैद्धांतिक भूमिकेला बांधील नसल्यामुळे त्यांनी इतिहासलेखकाला नवा आशय व नवी पद्धत यांची देणगी दिली.या Annals विचारपरंपरेवर प्रत्यक्ष ज्ञानावादी विचारांचा प्रभाव होताइतिहासाचे एकांगीपण या परंपरेला . मान्य नव्हते. इतिहासाची पारंपरिक चौकत नष्ट झाली पाहिजे असा आग्रह आलंस गटाने धरला होता. म्हणूनच इतिहासलेखन हे 'समग्र' असावे हा विचार मुळेच annals रुजला असे प्रतिपादन केले तर वावगे ठरणार नाही. व्यक्तीच्या सभोलतालच्या परिस्थितील अनेक घटक घटनेला अथवा कृतीला जवावदार असतात म्हणून कोणत्याही शुल्लक किंवा मोठ्या घटनेतील माणसाची कृती एवढाच अभ्यासविषय न मानता त्या सभोवतालच्या परिस्थितीचे विश्लेषण केल्यास घटनांचा योग्य अर्थ लावता येतो. व्यक्ती कधीही स्वायत्त नसते तर सभोतालचे विविध घटक तिच्या कृती नियंत्रित करीत असतात. म्हणून मानवाच्या हालचाली या भूप्रदेशानुसार होत असतात. म्हणून भूगोल, हवामान व पर्यावरण यांचा विचार इतिहासलेखन करताना प्राधान्यानेकेले पाहिजे. इम्पन्युअल लाधुरी ने याची व्याप्ती वाढवत 'History from down below' चे समर्थन करून त्याच्या लेखकात फ्रांसमधील एका खेड्यातील समाज जीवनाचे चित्र रेखाटले. एख्याद्या गावातील कृषिजीवन, लोकजीवन, धर्म, निसर्ग, कुंटुंब, जन्म मृत्यूच्या नोंदी इ. वारकावेही त्यांची दिलेले आहेत. म्हणजेच इतिहासात घटना व व्यक्ती यांनाच महत्व न देता घटना व व्यक्ती घडण्यामध्ये सभोवतालची परिस्थिती कारणीभूत असते. या परिस्थितीचाही विचार इतिहासलेखनात प्रकर्षाने व्हावा असा महत्वपूर्ण विचार या annals परंपरेने मांडलेला आहे. विसाव्या शतकात माध्यानंतरर या लेखन परंपरेचा प्रसार अधिक प्रमाणात झाला व यातुनच पर्यावरणाचा इतिहास लेखनाकडे लक्ष वेढलेले दिसून येतेने US याची सुरुवात हि . म्हणून प्रस्तुत शोध निवंधात.केलेली आपणास दिसून येते सर्वसाधारणपणे पर्यावरणीय उत्क्रांती आणि विलक्षणता अधोरेखित करण्यात येईल .

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SHORT COMMUNICATION

Study of Physicochemical Parameters in Khadakwasla Dam

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ABSTRACT

Most urban cities polluted, depleted, destroyed the water resources like river, lake, dam, pond and tank. This is due to rapid increase in population, urbanization and industrialization. Pune city is one of them. With the rapid increase in the population of the city and the increasing demands and to fulfil the needs of humans, industrial consumption, over use of fertilizers, the available water resources of the city are getting depleted and the water quality has deteriorated. The Khadakwasla Dam is a main source of water ofPune city. Present investigation was undertaken to study the level of pollution in Khadakwasla Dam Pune from 5 different sampling stations and estimated Physio-chemical parameters like pH, BOD, Turbidity, DO, Temperature from Jan 2022 to Dec 2022.And the result indicates the higher level of pollution which affects the fishes, planktons and other aquatic diversity.

Keywords: -*pH, BOD, Turbidity, DO, Temperature, Khadakwasla Dam.*

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INTRODUCTION

Water is the most essential abiotic component of the world which is necessary for survival of living organisms and also many non-living things requires water. It is known that water bodies have played a crucial role in growth and development of human society. Most of the fresh water bodies on the earth get polluted due to human intervention so it's very important to study the quality of the water changing day by day [11]. Many Physicochemical parameters of the water changes as per the different seasons which impact on the diversity of aquatic organisms like phytoplankton, zooplanktons, fishes and other aquatic life [7, 4]. Increasing urbanization and industrialization simultaneously, during the past few decades are depleting the water ecosystem goods and services irreparably in Pune City, as indicated by high LPI (Living Planet Index) [12,13].

There are many researchers worked on Physicochemical changes of various water bodies like Kumar [16], Walia, Ruttner [10], Dr. R.R. Jadhav [02]. D.G. Kanase *et al* [8] studied the physicochemical characteristics of major River of Pune city in 2005. They studied and analysed the Pawana &Mula and Mutha River. Chandanshive Navnath Eknath et al [01] also did the analysis on Mula Mutha River in 2013. Their paper describes the impact of pollution level on aquatic life. Gantaloo Uma Sukaiya [15], Ms.Ashwinietal [3]. A.B. More, C.S. Chavan et al [09] carried out the analysis of MulaMutha River in 2014 different pollutant like solid waste, chemical waste, organic &inorganic waste pollute the different stations and found some stations are highly polluted. Pali Sahu *et al* [05] studied "Physicochemical Analysis of MulaMutha River Pune" Mula-Mutha River in Pune (India). Patil. P.N *et al* [06] studied "Physico-chemical parameters for testing of water".

The present study was undertaken in Khadakwasla Dam for a year 2022 (January to December) to know the level of pollution by studying different five parameters like pH, BOD, Turbidity, DO, Temperature. Result shows that according to seasonal change, the water quality, pollution level fluctuates. Some parameters directly, some are indirectly affecting the aquatic life. To study the physicochemical parameters of Khadakwasla Dam and to analyse the pollution level according to the season.

Study of Zooplankton Abundance and Diversity in Khadakwasla Dam at Pune, Maharashtra

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Abstract:

Zooplanktons are one of the most important animal diversities of the water reservoir. Most of the them are microscopic in nature and some marine zooplanktons are macroscopic in nature. Zooplanktons play a vital role in the food chain. These are rich source of nutrients to fishes. Also act as a Bio-indicator of pollution in the water bodies. The present study was carried out on the seasonal abundance and diversity of Zooplanktons in Khadakwasla dam, Pune in the year of 2022. Plankton samples were collected by using standard methods APHA (1998) and persevered in 4% formaldehyde. Many physico-chemical factors such as Temperature, BOD, pH, chloride etc. are influence the abundance of zooplanktons. During the study period many different types of zooplanktons recorded. Phyla like Rotifera, Copepoda, Cladocera, Sarcomastigophora. In that the dominant phylum is Rotifera and the highest zooplanktons species recorded in summer season. And the genus Lecane was dominant under the phylum rotifera among all other genera. While during winter, egg and larval forms of the zooplanktons are observed.

Keywords: Khadakwasla Dam, Zooplanktons, Abundance, Diversity, Rotifera, Copepoda

Introduction:

Water is one of the most important components of the earth. For all living and many non-living things require water for their daily life. Human beings are the most advance animal in the earth. So humans should take care of these natural resources. The Marine and fresh aquatic bodies contain many microscopic and macroscopic animals like producers, consumers which are very important in food chain. The fresh water bodies contain many planktons like phytoplankton and zooplanktons rich in nutrient food for fishes. And zooplanktons also show the pollution level of the water body. The abundance and diversity of zooplanktons varies according to light intensity major factor and many physico-chemical factors like temperature, some other factors like pressure, gravity and predator. Sreelatha, K. and Rajalakashmi. S. (2005). Hence it is very necessary to study the zooplankton abundance and their diversity. Therefore, the present investigation was

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New triazole-based Schiff base ligands and their Co(II) and Ni(II) complexes as biological potent molecules: Chemical preparation, structural elucidation and biological studies

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ARTICLE INFO

Keywords:
Schiff base
Metal complexes
Molecular docking
Antioxidant
Anticancer activity

ABSTRACT

Preparation of sequence of Co(II) and Ni(II) metal complexes (C1a - C3a and C1b - C3b) of bidentate ligands (L1 - L3) has been resulted from the condensation of substituted 1,2,4-triazole with various substituted 1,3-diphenyl-1H-pyrazole-4-carbaldehyde are described in the present study. The structures of synthesized complexes were established by elemental investigation, IR, mass spectroscopy and TGA examinations. The data confirmed that bonding through the nitrogen atom from imine group and sulfur atom of triazole, ligand get integrated with the metal ions in a bidentate nature, gave an octahedral geometry to the complexes. The antibacterial activities have been tested against *S. aureus* Gram-positive bacteria and *E. coli* Gram-negative bacteria. Further, through DPPH radical scavenging capacity assay the antioxidant activity values were quantified; all the compounds demonstrate outstanding antioxidant activities. Using molecular docking and highest binding affinities for biological targets, the ligand and complex interactions have been studied. The *in vitro* anti-proliferative nature of synthesized ligands and their Ni(II) and Co(II) complexes were appraised with the help of SRB assay against Human hepato carcinoma cell (Hep-G2), Lung cells (A-549), Breast cell (MCF-7), Prostate cell (PC-3). Anti-tubercular studies revealed that the complex demonstrates a greater anti-tubercular activity than the analogous ligands.

Introduction

One of the greatest medical challenges facing research scientists in the 21st century is to find a cure for cancer in human beings, however drugs (cisplatin, oxaliplatin, carboplatin) used in cancer treatments include many side effects. Therefore, finding cancer treatment method that can minimize the side effects is a hot topic of current research. Recently, the study related with metal comprising drugs, displays auspicious biological activities [1]. To replace drugs with the first row transition metals like copper, zinc, cobalt and nickel are the most evaluated category due to their coherence and endogenous presence in the life system as cofactors in several enzymes [2]. Nowadays, heterocyclic chemistry has become a separate field of chemistry for present society and for prospects in scientific field, as nitrogen, oxygen, and sulphur are the most well-known hetero atoms with significant role in biological systems. Due to implications in drugs and industrial studies, heterocyclic compounds are considered as one of the important classes of organic compounds [3,4]. The most important type of heterocyclic compound is a five membered triazole with three nitrogen atoms and two carbon atoms [5]. The three nitrogen atoms from triazole, procedures polar and non-polar interactions with diverse key residues in the receptor-ligand binding procedure, and are widely useful in the molecular design in the growth of anti-AD (Alzheimer's disease) agents [6]. Amine and thione-substituted triazole have been studied as

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11. Real and Fake Humans in Ubik and Three Sigmata OPF Palmer Eldritch

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Dick's blurred lines of real and fictive include even humans, as seen in Androids, where a human, Isidore was not perceived as completely human due to his mental capacities, which were much lower than the rest. Thus, despite being human, he did not have the same rights to emigrate as proper humans did.

The division of real and fake humans is evident in Ubik and Three Stigmata of Palmer Eldritch as well. In both novels, there are people with psi talents divided into special categories according to their specific talent. In Three Stigmata, there are only precogs, people with precognitive talents, and Ubik, which was written later, has more developed and diverse psi talents. There are precogs, anti-precogs, anti-animators, anti-telepaths and anti-parakineticists. People with psi talents are useful and people are able to make a living out of their skills. In the societies, there seem to be no prejudice towards people with talents, but they really do not fall in the same category as other humans in the novel. However, they and their skills are problematic, as they blur the line of the reality, so it would be possible to wonder whether they can be seen as enhanced humans or the ones which do not fall under the same category as real humans.

First, in Ubik, Runciter's company employs people with anti-psi talents which then nullify the talents of people with psi talents, which belong to the company of Hollis, their rival and a man behind the explosion on Luna. Joe explains that 'the anti-psi factor is a natural restoration of ecological balance'[1] In other words, anti-psis 'prey on the psis, and the psis are life forms that prey on the Norms. That makes you a friend on the Norm class. Balance, the full circle, predator and prey'[2]. Psis can intervene in the life of normal people and then they would need the powers of the anti-psis to help them nullify the effects of psis. And people pay very well for that. That way, it is a full circle – anti-psis help psis make a living.

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Novel terephthalaldehyde bis(thiosemicarbazone) Schiff base ligand and its transition metal complexes as antibacterial Agents: Synthesis, characterization and biological investigations

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ARTICLE INFO

Keywords:
Terephthalaldehyde bis(thiosemicarbazone)
Amino acids
Antimicrobial and anticancer activity

ABSTRACT

The synthesis and structural characterization of mixed ligand metal complexes from terephthalaldehyde bis (thiosemicarbazone) (TPTSC) (L_1) and alanine (L_2) by using ultrasonication are reported. The ligand and their transition metal complexes were characterized on the basis of their elemental, FT-IR, magnetic moment, molar conductance, mass spectra, and SEM analysis. The mixed ligand complexes are in the ratio 2:1:2 [M:L_1:L_2] ratio as found from the elemental analyses and found to have the formulae $[M_2L_1(L_2)_2].nH_2O$ where M = Co(II), Ni(II), Cu(II), Cd(II) and Zn(II), L_1 = TPTSC and L_2 = alanine. The molar conductance data show that complexes are non-electrolytes. FT-IR spectra show that the Schiff base is coordinated to the metal ions in a bidentate manner with N and S donor sites of the terephthalaldehyde bis(thiosemicarbazone) and second ligand alanine coordinated to the metal ions via its N and O of amino acid. The geometrical structure of these complexes is found to be tetrahedral. The antimicrobial activity of the synthesized Schiff base ligand and mixed-ligand metal complexes have been screened against gram-positive and gram-negative bacteria and two fungi species were tested. Mixed ligand complexes exhibited significant antibacterial activity against *Klebsiella Pneumoniae*, *Salmonella typhi*, *Enterococcus Faecalis*, *Staphylococcus aureus*, *Escherichia coli* and the fungi *Aspergillus flavus* and *Aspergillus niger*. Further, these compounds have been screened for their anticancer activity using Human Breast Cancer Cell Line MDA-MB-231.

1. Introduction

Preparation of new Schiff base ligands with electron donors and electron acceptors is important for developing metal complexes with their properties and new reactivities. Schiff bases and metal complexes have many biological, medicinal, analytical, and industrial applications, in addition to their catalytic properties in organic synthesis. Semicarbazones Schiff base has many activities such as antibacterial, antifungal, antiviral, antitumor, antimicrobial, antioxidant etc [1–3]. Metal complexes play an important role in the development of coordination chemistry relevant to catalysis, materials science, and life sciences. Currently, scientists are interested in the coordination of polydentate ligands having N, O, S as donor sites[3a]. Metal complexes with polydentate ligands have been classically reported in many studies. Mixed metal complexes of ligands have recently been used in rapidly developing biological and chemical chemistry. Chiral mixed ligand metal complexes consisting of 8-hydroxy quinoline and sugar were used for the hydrolysis of metal acetate [3b]. Researchers now attracting more for the combination because of the potential use of Schiff bases in biological modelling, catalysis, molecular magnets, and synthesis of important drugs for antibiotics, antiallergy and anticancer [1–4]. The structure and reactivity of Schiff bases attract medical attention [5]. Intramolecular

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Synthesis, Physicochemical Characterization and Biological Evaluation of Schiff Bases and their Ni (II) Complexes

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Abstract

In this investigation, the chemical synthesis and physicochemical categorization of synthesized ligands (L_1–L_3) have been successfully designed and derived from substituted 4-amino-5-mercapto-1, 2, 4-triazole using various substituted 1,3-diphenyl-1H-pyrazole-4-carbaldehyde and resultant Ni (II) complexes (C_1–C_3) have been described. The structures of synthesized ligand and the resultant complexes were inspected using UV-Vis spectroscopy, thermo gravimetric analysis, Fourier transform infrared spectroscopy and ^{1}H NMR. The consequential data revealed octahedral geometry for the resultant complexes. The novel nickel complexes have been ascertained as potential antimicrobial and antioxidant agents.

Keywords: Nickel complexes, Schiff base, biological Screening.

1. Introduction

Heterocyclic aromatic substituents are a decisive class of organic bilobates gained substantial attention to its biologic values in drug designing also in synthesis. N,O and S are the almost best-known hetero atoms [1]. In heterocyclic chemistry, triazole acquired unique position due to large number of biological activities. 1, 2, 4-Triazoles comprise five members in its ring with two carbon and three nitrogen atoms [2-3] whereas; pyrazoles are nitrogen comprising heterocyclic compounds having copious applications in pharmacological and agrochemical industries[4]. 1,2,4-Triazole have broad-ranging spectra of therapeutically fascinating drug like anticarcinogenic, analgetic, bactericidal, antimicrobic, antioxidant, antiurease, anti-inflammatory, diuretics, antiepileptic, hypoglycemic and anti-migraine agents [5-8].Ample of pyrazole derivatives are acknowledged because of their biotic activities such as antitubarcular[9], antidepressant and enzyme inhibitory activities.

The Hard N and S atoms in triazole based Schiff bases serve as plausible chelating agent.[10] These ligands can efficiently coordinate via N atom of imine linkage, S of thiol group or N atoms of triazole moiety to the transition metal ions. The biological activity of metal

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Application of 2-chlorobenzaldehyde thiocarbohydrazone as a chromogenic ligand for cadmium(II) detection and removal from water and food

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ARTICLE INFO

Keywords:
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Cadmium(II)
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ABSTRACT

Background: Cadmium, a hazardous element, is indeed naturally present in the environment and can pose serious health risks to people exposed to it through air, food, or water. Exposure to cadmium has been linked to a range of health issues, including kidney, liver, and lung failure.
Methods: Various samples from different sources are analyzed for their cobalt(II) content by extraction followed by UV–visible spectrophotometry and compared with atomic absorption spectrophotometry.
Results: The reagent 2-chlorobenzaldehyde thiocarbohydrazone forms yellow 1:2 [Cd(II)-2CBTCH] complex in ethylene chloridewhich was extracted from an acetate buffer (pH 5.8) and observed maximum absorbance at 420 nm. The molar absorptivity and Sandell's sensitivity of the complex was reported to be 0.7868×10^4 L mol^{-1} cm^{-1} and 0.01428 μg cm^{-2}. The method obeys Beer's law in the range of 3.5–9.5 μg mL^{-1} of [Cd(II)-2CBTCH] complex, which indicates linearity between two variables. For five replicate determinations ($n = 5$), the standard deviation was 0.84 with the regression equations as $y = 0.0661\ x + 0.01$ with $R^2 = 0.999$ as the correlation coefficient. The relative standard deviation (% R.S.D.) was found to be 0.84.
Conclusion: The method was effectively used in variety of foods and water samples and was evaluated its performance in terms of Student 't' test and Variance 'f' test, which indicates the significance of the present method as an inter comparison of the experimental values using atomic absorption spectrophotometer.

Introduction

It's true that the widespread use of industrial technology has often led to increased pollution, and efforts have been directed towards mitigating the adverse effects of pollutants. Cadmium, a hazardous element, is indeed naturally present in the environment and can pose serious health risks to people exposed to it through air, food, or water. Exposure to cadmium has been linked to a range of health issues, including kidney, liver, and lung failure. Additionally, it has been associated with damage to the cardiovascular, immunological, and reproductive systems, as you mentioned [1,2]. The fact that cadmium has a long half-life (10–30 years) and can accumulate in the kidneys makes its impact on human health even more concerning. The concentration of cadmium in urine is reflective of its presence in the kidneys [3]. The combustion of fossil fuels, leechate from waste sites, run-off from agricultural land, and mining residues, particularly from Zn and Pb mines, all contribute to the Cd concentration in the environment [4]. Cadmium minerals are rare, however due to its chemical resemblance to zinc, it is reported in all zinc ores as an isomorphous replacement. It's available in the coal, soil and mineral fertilizers. Cadmium metal has strong sacrificial corrosion resistance, especially in alkaline and seawater conditions, a low melting temperature, quick ion electrical exchange activity, and high electrical and thermal conductivity, whether in an alloy or as an oxide. Cadmium compounds have excellent resilience to high temperatures and strains as pigments, as well as superior dispersion in polymers to provide strong coloring, high opacity, and tinting strength. The majority of cadmium pigments will remain colorfast for the lifetime of the plastic, glass, ceramic, or enamel in

Abbreviations: 2-CBTCH, 2-Chlorobenzaldehydethiocarbohydrazone; RSD, Relative standard deviation; UV–Vis, Ultraviolet visible.

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)iction of Trauma due to Gender Discrimination in Anita Nair's Novel *Ladies Coupe*

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bstract:

Anita Nair is one of the most famous female writers in India. She has represented lots of problems of women in male dominated society. There are many women those have conflicts in their mind about modernity and social limitations. Anita Nair has depicted traumatic women through her most of the literary pieces. The focus of this research paper is on such traumatized women from her famous novel 'Ladies Coupe' which unfolds the stories of six women characters. The researcher intends to study that how gender discrimination leads to trauma in the select novel of Anita Nair for the present study. Here the term 'Trauma' means an injury to the body or psyche by internal or external factors. In 'Ladies Coupe' there is a trauma due to gender discrimination in the patriarchal society. As the output of this gender discrimination there are internal conflicts in the mind of those ladies which leads to trauma.

Keywords: Gender, Discrimination, Trauma, Suppression, Alienation, Outburst of Anger, Female writer, Patriarchal Society.

Introduction:

Anita Nair is an Indian novelist who has written most of novels based on gender discrimination and suffering of those ladies due to gender unfairness. She has depicted the confused mind of Indian women about their existence in the patriarchal society. How they have been traumatized by this confusion is also depicted in the novel "Ladies Coupe". She was born on 26th January 1966 in Palakkad district of Kerala. She has written different short stories, essays, poetry, crime fiction, historical fiction and children's literature but best known for her novels such as "Ladies Coupe", "The Better Man", "Mistress", and "Lessons in Forgetting". She has also worked as the creative director of an advertising agency in Bangalore. As she has been working very actively in literary career she has got different awards such as "Kerala Sahitya Akademi Award" in 2012 for her contribution to literature and culture, "The Hindu Literary Prize" in 2014, "Crossword Book Award" in 2017 and so on.

This research paper focuses on different traumatic elements in the novel 'Ladies Coupe' such as 'Suppression', Outburst of Anger', 'Alienation' etc. Here the researcher intends to reveal those traumatic elements and causes of the trauma. The select novel revolves around the protagonist 'Akhila' who is forty five years old lady and other five ladies such as Janaki, a old lady, Prabhavati a housewife, Margaret Paulraj a schoolteacher, Marikolunthu an innocent lady and Karpagam a schoolmate of Akhila and a widow who use to fight against her rights. All these ladies are travelling in the same train and in same compartment. Here they discuss their problems and Akhila asks them a question that 'Does woman need a man for her survival? Here

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Facile Hydrothermal Synthesis of $NiMn_2O_4$/C Nanosheets for Solid-State Asymmetric Supercapacitor and Electrocatalytic Oxygen Evolution Reaction

Pragati N. Thonge, Suprimkumar D. Dhas,* Shivaji D. Waghmare, Aravind H. Patil, Teja M. Patil, Manesh A. Yewale, Avinash C. Mendhe, and Daewon Kim*

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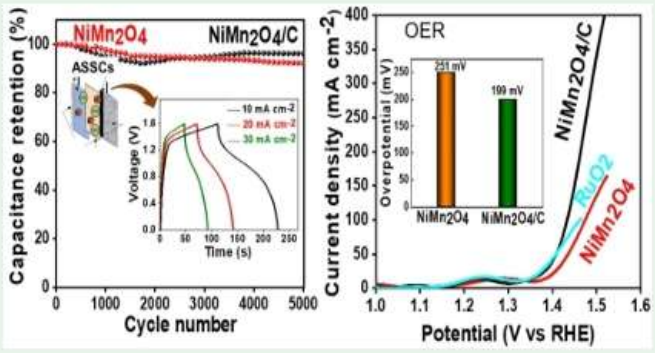
ABSTRACT: Our study presents a facile hydrothermal approach for synthesizing $NiMn_2O_4$ and $NiMn_2O_4$/C nanostructures (NSs) intended for implementation as electrode materials in high-performance supercapacitors. The $NiMn_2O_4$ and $NiMn_2O_4$/C NSs synthesized via the hydrothermal method were comprehensively characterized using XRD, FE-SEM, FT-IR, XPS, and BET. Subsequently, the electrochemical performance of both $NiMn_2O_4$ and $NiMn_2O_4$/C was evaluated via CV, GCD, and EIS in 2 M KOH aqueous electrolyte. Our results demonstrate that the $NiMn_2O_4$/C electrode revealed a substantial specific capacitance/capacity of 789.3 F g^{-1}/552.5 C g^{-1} at a scan rate of 5 mV s^{-1}. Furthermore, the $NiMn_2O_4$/C electrode maintained a specific capacity retention of less than 4% after 5000 cycles. When coupled with an activated carbon (AC) electrode, the $NiMn_2O_4$/C//AC configuration exhibited a notable specific capacitance/capacity of 101.6 F g^{-1}/162.5 C g^{-1}, accompanied by a high energy density of 36.11 W h kg^{-1} at a power density of 1000 W kg^{-1}, and sustained excellent cyclic stability (84% retention after 5000 cycles). Additionally, electrochemical analysis revealed an overpotential of 199 mV at 50 mA cm^{-2} and a minimal Tafel slope of 89 mV dec^{-1} for the oxygen evolution reaction (OER), suggesting the suitability of the $NiMn_2O_4$/C electrode for alkaline water electrocatalysis. Prolonged chronopotentiometry investigations at 100 mA cm^{-2} over 24 h further demonstrated a remarkable 97.3% retention of the OER activity.



KEYWORDS: *$NiMn_2O_4$/C NSs, Hydrothermal method, Supercapacitor, OER, KOH electrolyte*

1. INTRODUCTIONS

Supercapacitors serve as a crucial intermediary between batteries and traditional capacitors because of their notable attributes, including high specific power, rapid charge–discharge kinetics, and impressive long cyclic life. The energy storage mechanism of electrochemical capacitors relies on double-layer electric capacitors (EDLCs) and pseudocapacitors. Enhancing the interaction between the electrode and the electrolyte emerges as a requisite for augmenting supercapacitive efficacy.[1−4] To enhance the electrochemical performance of materials, a significant emphasis has been placed on the synthesis of porous materials. This approach is underpinned by the principle that increasing the surface area of materials can substantially improve their catalytic activity. Porous materials, characterized by their high surface-to-volume ratio, offer more active sites for chemical reactions, which are crucial for catalysis. The rationale behind focusing on porous materials is that the enhanced surface area directly correlates with an increase in the number of catalytic sites accessible for reaction. This, in turn, can lead to improved efficiency in charge storage and conversion applications, like batteries and fuel cells, by facilitating faster reaction rates and higher catalytic activity.[5,6]

The potential of water splitting to convert electrical energy sourced from renewable sources into hydrogen as a viable fuel holds substantial promise. The growth of novel catalysts and the systematic assessment of their physicochemical and electrochemical attributes to gauge their efficacy in facilitating water catalysis represent critical pursuits within the scientific community. Presently, industrial-scale electrochemical water splitting for the generation of hydrogen encounters impediments attributable to elevated potentials surpassing 1.5 V, thereby highlighting the imperative for economically viable

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Sustainable Textile Dyeing A Comprehensive Review of Textile Dye Pollution and Innovative Bioremediation

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Abstract:

This review is to make small step towards shedding light on the staggering environmental ramifications of textile dye pollution and the imperative for innovative, sustainable dyeing methodologies. Textile dye pollution poses a formidable threat to ecosystems and water bodies, originating from the widespread use of synthetic dyes in the textile industry. These dyes, often persistent and resistant to conventional degradation processes, infiltrate aquatic environments, disrupting ecological balance and endangering aquatic life. The urgency to address this predicament has never been more apparent, as textile dye pollution continues to escalate globally. With bacterial synergies at its core, this research beckons towards a horizon where innovation, sustainability, and economic viability blend into a transformative force for industry and environment alike.

Keywords: Synergies, Dye pollution, Ecological balance, sustainability, Textile industry.

1. Introduction:

More than 113 million tonnes of global fibre production occurred in 2021.The textile industry weaves intricate patterns that adorn our lives with colour and style. However, beneath the vibrant surface lies a looming environmental concern – the ominous presence of textile dye pollution. This pervasive issue has emerged as a silent yet formidable threat to ecosystems and water bodies worldwide, casting a shadow over the very fabric of our existence. As a seasoned scientist with over two decades devoted to unravelling the complexities of textile dye biodegradation, We thought compelled to shed light on the urgent need for sustainable dyeing practices. At the heart of this environmental conundrum is the widespread use of synthetic dyes within the textile industry. These chemical pigments, while enhancing the visual allure of fabrics, bring with them a dark side that extends far beyond the confines of fashion studios and manufacturing plants. The persistent and resilient nature of these synthetic dyes stands as a stark challenge to conventional degradation processes, presenting a unique menace to aquatic environments. Picture the tranquil flow of rivers and streams, reflective mirrors of nature's serenity, now tainted by the infiltration of synthetic dyes. This infiltration disrupts the delicate ecological balance, introducing a discordant note into the symphony of life that thrives beneath the water's surface. The once vibrant aquatic ecosystems, teeming with diverse species, now face an existential threat. As these synthetic dyes persist, resistant to the natural breakdown mechanisms, the consequences reverberate across the food chain, endangering aquatic life and compromising the biodiversity that sustains our planet. The urgency to confront this predicament has reached a crescendo, resonating with a call to action that echoes globally. Textile dye pollution, like an insidious ink spreading through watercolor, continues to escalate, leaving an indelible mark on the environment. The ramifications of our choices in the textile industry are not confined to factory floors but seep into the very essence of the ecosystems we depend on sustenance.

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Together, let us delve into the depths of textile dye pollution, confront its challenges, and illum ay forward toward a future where the vibrant hues of our textiles can coexist with the delicat planet's ecosystems. Imagine a river, once pristine and glistening, now tainted by the s synthetic dyes. This insidious infiltration occurs through industrial effluents, as synthetic toxic compounds, make their way into water bodies. The consequences are dire, compromisi quality of water resources. The toxic cocktail of synthetic dyes transforms serene aquatic env o repositories of contamination, creating a ripple effect that extends far beyond the visible surface. As these dyes persist in water bodies, their impact permeates the aquatic ecosystem, affecting the health of flora and fauna alike. The once crystal-clear waters turn into a toxic brew, threatening the survival of aquatic life and

CLIMATE CHANGE AND AGRICULTURAL SECTOR OF INDIA

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The agricultural industry in India is under a serious danger from climate change, which will have an influence on crop yield, water resources, and food security. In this abstract, the multiple implications of climate change on Indian agriculture are discussed. These effects include changing monsoon patterns, a rise in the frequency of extreme weather events, and rising temperatures. These changes make problems that already exist, such as the deterioration of soil, the spread of pests, and decreased agricultural yields, much worse. According to the findings of the study, smallholder farmers are particularly vulnerable, and the economic repercussions for rural communities are significant. Furthermore, it investigates adaptive techniques and policy measures that are necessary for minimizing unfavorable consequences. It places an emphasis on the necessity of sustainable practices, technical advancements, and good governance in order to guarantee the resilience of India's agricultural industry in the face of climate change.
Keywords: *Climate, Agricultural, India*

Introduction

It is being more acknowledged that climate change is a significant component that has a significant impact on agricultural output and food security all over the world. In the context of India, where agriculture continues to be an essential component of the economy, the fluctuation and change of the environment provide considerable issues. This introduction establishes the context by providing an overview of the significance of agriculture in India, its susceptibility to the effects of climate change, and the wider consequences for the production of food, the livelihoods of rural residents, and the stability of the rural economy. Over half of India's workforce is involved in activities linked to agriculture, thanks to the country's agricultural industry, which provides sustenance for a large population. In addition to making a sizeable contribution to the Gross Domestic Product (GDP), this industry is also extremely important for the development of rural areas and the provision of food. Changes in temperature and precipitation patterns, changes in growing seasons, and an increase in the frequency of extreme weather events like as droughts, floods, and cyclones are all examples of the ways in which climate change poses a danger to these foundations. In this introduction, we will dig into the specific implications that climate change has had on Indian agriculture. We will emphasize the significant difficulties that farmers are now facing, such as their lack of access to water, the deterioration of soil, crop failures, and the emergence of pests. There will also be a discussion on the socioeconomic ramifications for rural areas, particularly for smallholder farmers who are lacking in resources and do not have access to adaptable technology. In addition, the introduction will discuss the adaptive methods and policy solutions that India has implemented in order to reduce the amount of climate-related hazards that are associated with agriculture. Among them

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अनुवाद में प्रोक्ति, परिवृत्ति की अवधारणा

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प्रस्तावना:-प्रत्येक भाषा का अपना एक विशिष्ट परिवेश होता है, जिसमें वह भाषा पलती है, फुलती है। कोई भी दो भाषाएं ध्वनि, शब्द, अर्थ, उच्चारण, लय, पदबन्ध, वाक्य विन्यास, मुहावरे, कहावतें, लोकोक्ति, अलंकार, छंद आदि भाषा के संरचनात्मक अवयव के स्तर पर एक दूसरे से भिन्न होती हैं। फिर भी हर भाषा का अपना एक सामाजिक-सांस्कृतिक, ऐतिहासिक और भौगोलिक परिपेक्ष होता है। उसी परिवेश गत विशेषताओं के आधार पर उनका अपना एक अभिव्यक्ति कौशल्य भी होता है। उसी के भाषा संरचना और भाषा व्यवस्था का महत्वपूर्ण अंग अभिव्यक्ति पक्ष को माना जाता है। "अभिव्यक्ति पक्ष का तात्पर्य उस माध्यम से हैं जो कथ्य को व्यक्त रूप देने का साधन बनाता है"१ डॉ. भोलानाथ तिवारी ने अभिव्यक्ति को विशेष स्थान दिया है। उनके अनुसार" एक भाषा में व्यक्त विचारों को यथासंभव सम्मान और सहज अभिव्यक्ति द्वारा दूसरी भाषा में व्यक्त करने का प्रयास अनुवाद है"२ अर्थात अनुवाद का मूल लक्ष्य है, स्रोत भाषा की सामग्री को लक्ष्य भाषा में यथावत अपने मूल रूप में लाना। यह कहा जा सकता है कि भाषा अपनी मूल प्रकृति में शाब्दिक इकाइयों के बीच संबंधों की व्यवस्था है और व्याकरण, विभिन्न स्तर और संबंधों की व्यवस्था का अध्ययन करता है।

बीज शब्द:- अनुवाद, समतुल्यता, विचलन, परिवृत्ति, प्रोक्ति, स्रोत भाषा, लक्ष्य भाषा, भाषिक संरचना, अभिव्यक्ति आदि।

अनुवाद कार्य आसान नहीं है क्योंकि हर स्रोत भाषा अपनी विशिष्ट परिवेश में पनपती हैं। उनकी ध्वनि, शब्द या पद, पदबंध, वाक्य, प्रोक्ति, परिवृत्ति, प्रयुक्ति आदि महत्वपूर्ण इकाइयां है। जो एक दूसरे से भिन्न होते हुए भी एक दूसरे के आधार बने हुए हैं। यही इकाइयां भाषा को प्रभावशाली एवं संप्रेषनीय बनाती हैं। अनुवाद में इन गहन अभिव्यक्तियों के लिए अनुवादक का लक्ष्य भाषा पर पूर्ण अधिकार होना चाहिए। मूल पाठ की मूल अभिव्यक्तियों को लक्ष्य भाषा में अनूदित करने के लिए प्रोक्ति, परिवृत्ति का अध्ययन करना आवश्यक है।

प्रोक्ति:- भाषा का प्रयोग किसी विचार या मंतव्य को अभिव्यक्ति देने के लिए होता है। विचार या मंतव्य को अभिव्यक्ति देने के लिए वाक्य की आवश्यकता होती है,जिसे भाषा की सार्थक और महत्तम इकाई मानते है लेकिन कई बार वाक्य से पूर्ण अर्थ का संप्रेषण नहीं होता है। इसलिए आधुनिक भाषा वैज्ञानिक मानते हैं कि विचारों के आदान-प्रदान के लिए केवल वाक्य परिपूर्ण नहीं है बल्कि पूर्ण संप्रेषण के लिए वाक्य की सीमा को पार करना पड़ता है। वाक्य के इस ऊपरी संरचना को प्रोक्ति कहते हैं। विचार या मंतव्य को अभिव्यक्ति देने के लिए एकाधिक वाक्यों का प्रयोग करना पड़ता है, उस एकाधिक वाक्य समुच्चय को प्रोक्ति कहते हैं। "वक्ता का संदेश और श्रोता तक उस संदेश को संप्रेषित करने वाला भाषिक व्यापार वाक्योंपरी स्तर का होता है। वाक्योंपरी स्तर की इस संरचना में वाक्यों का अनुक्रम होता है। इसमें अनेक वाक्य एक साथ मिलकर अभिव्यंजना की दृष्टि से एक इकाई का रूप धारण करते हैं। वाक्य के इस अंतर्संबंध से पाठ या प्रोक्ति का निर्माण होता है। अत: व्याकरणिक संरचना की दृष्टि से यदि वाक्य भाषा की महत्तम इकाई है, तो संप्रेषणीयत्ता की दृष्टि से प्रोक्ति भाषा की महत्तम इकाई है।"३ अर्थात प्रोक्ति, वाक्य या वाक्यों के ऊपर की व्यवस्था है। प्रोक्ति में अंतर वाक्य संयोजन होता है, जो अर्थ को स्पष्ट करने में सहायक है। प्रोक्ति केवल वाक्यों का समुच्चय नहीं है,बल्कि उसमें एक निर्दिष्ट संदेश भी नहित रहता है। वह वाक्य एक दूसरे से जुड़े होते हैं। प्रत्येक वाक्य में वक्ता का कोई ना कोई प्रयोजन होता है। उनके आंतरिक संरचना में संप्रेषण तत्व की प्रधानता होती है। विषय के अनुरूप ही वाक्यों का क्रम होता है। इसी अंतरिक्ष संगति के कारण प्रोक्ति अपने आप में पूर्ण होती है। अनेक विद्वानों ने प्रोक्ति की परिभाषाएं निम्नानुसार की है-कृष्ण कुमार गोस्वामी-"प्रोक्ति यह संकल्पना व्याकरणिक और अर्थपरक इकाई के रूप में विकसित हुई है। इसमें अंतरवाक्यीय संयोजन होता है, जो अर्थ को स्पष्ट करने में सहायक होता है व्याकरणिक और आर्थिक दृष्टि से इसकी वाक्योंपरी संरचना को प्रोक्ति कहते हैं।"४

कुसुमकुमार अग्रवाल-"तर्कपूर्ण, क्रमयुक्त और आपस में आंतरिक रूप से सबद्ध ऐसी व्यवस्थित इकाई को प्रोक्ति कहते हैं, जो संदर्भ विशेष में अर्थ-द्योतन की दृष्टि से पूर्ण हो।"५ कुसुकुमार प्रोक्ति को तात्पर्ययुक्त संसक्त वाक्यों की एक कड़ी मानते हैं, जो वाक्यों की कड़ी से बीच संबंधों की व्यवस्था होनी चाहिए। उपर्युक्त परिभाषाओं से स्पष्ट होता है कि प्रोक्ति वाक्य या वाक्यों के ऊपर की व्यवस्था है। जिसमें वह वाक्य एक दूसरे से जुड़े होते हैं। वह वाक्य केवल वाक्यों की श्रृंखला नहीं होते हैं। तो वह एक तात्पर्ययुक्त संदेश का वाहन करते हैं और मूल कथ्य को एकसंघ बनाकर पूर्ण अर्थरूप ग्रहण करते है।

अनुवाद में प्रोक्ति का महत्वपूर्ण स्थान है। अनुवाद करते समय पाठ का अर्थ ग्रहण शब्द तथा वाक्य की सीमा से आगे बढ़कर समग्र वाक्यों के स्तर पर होने लगता है। वहां अनेक वाक्यों की योजना संस्क्तिपूर्ण, संदर्भपरक एवं तर्कपूर्ण होता है। वास्तव में कई बार शब्दों तथा वाक्यों से अनुवाद नहीं होता बल्कि समूचे पाठ या प्रोक्ति का अनुवाद होता है। अनुवादक स्रोत भाषा के किसी पाठ के समूचे खंड का विश्लेषण करता है। उसका अर्थ ग्रहण करके फिर लक्ष्य भाषा में प्रोक्ति के रूप में अनूदित करता है। मराठी के श्रेष्ठ नाटककार वसंत कानेटकर का 'प्रेमा तुझा रंग कसा?' नाटक का हिंदी अनुवाद प्रा. वसंत देव ने 'ढाई आखर प्रेम का' शीर्षक से किया है। वसंत देव ने मूल नाटक के विषय, आशय और प्रस्तुति की ताजगी अनूदित नाटक में कायम रखी है। इस नाटक में मध्यमवर्गीय जीवन में आने वाले प्रेम के विविध रंगों का हंसता खेलता चित्रण किया है। उसे अनुवादक ने मूल के अनुरूप सुरक्षित रखने का यथासंभव सफल प्रयास किया गया है। जैसे-

मूल मराठी

"बब्बड: (अस्वस्थतेने खिडकीतून मागे वळत) बाबा-
बल्लाळ: (मान वर करीत) ऊं? (ती गप्प पाहून) काय ग पोरी?
बब्बड: माझ्याकडे कोणी आल होत का?
बल्लाळ: तुझ्याकडे? म्हणजे तुला भेटायला?
प्रियवदा: कोण यायचं होत?
बब्बड: (चाचरत) नाही..... नाही..... तसं यायचं नव्हतं कोणी...!
प्रियवंदा: म्हणजे?
बब्बड: नाही, तसं विशेष कोणी नाही गं-!
प्रियवंदा: कोणी मैत्रीण का यायची होती तुझी?
बब्बड: मैत्रीण..... नाही..... हो मैत्रीणच!! (जिन्याकडे जात) आई, मी बाहेर जाणार आहे आत्ता!!
प्रियवदा: अगं पण आत्ताच कॉलेजातून आलीस ना?
बब्बड:हो, पण-जरा इकडं..... (घुटमळत) म्हणजे फिरायला जाईन म्हणते. अभ्यासानं अगदी डोकं उठले माझं!
प्रियवंदा: अगं माझ्याबरोबर चल! येतेस, थोडसं 'मार्केटिंग' करून येऊ?

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RESEARCH ARTICLE

Study of Physicochemical, Biochemical and Antioxidant Properties of Honey Collected from Barshi and Adjoining Area

Ujwala Bangar[1] · Rutuja Doke[1] · Prakash Patil[1] · Sampatrao Gaikwad[1] · Sandhyatai Gaikwad[1] · Parthraj Kshirsagar[1]

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Abstract Honey has played an essential role in traditional medicine during the past few decades. Its biological activities (antimicrobial, anti-inflammatory, etc.) depend on its floral or geographic origin. The present study was performed to investigate honey samples collected from different plant sources with respect to physicochemical, biochemical and antioxidant activities. Twelve honey samples from various plant sources and one from market were obtained and analyzed for pH, free acidity, electric conductivity, ash, sugar brix, total carbohydrate, starch, protein, total flavonoids, ascorbic acid, antioxidant activities and type of honey. The physicochemical characteristics of 13 honey samples were reported in present investigation ranged as pH (3.33–5.05), electrical conductivity (1.17–3.80 ns/cm), free acidity (13.3–29.4 meq/kg), ash (318–750 mg/g) and sugar brix (13–25). The biochemical activities of the said honey samples were reported in present investigation ranged as total carbohydrates (364–646 mg/gm), starch (88–420 mg/g), Protein (0.0009–0.0070 mg/g), ascorbic acid (16–76 mg/100 g) and flavonoids (0.029–0.201 mg/g). Antioxidant activity was determined using DMPD assay, ranging from 0.453 to 0.530 µM and by DPPH assay from 0.107 to 0.557 µM equivalent to ascorbic acid. Hierarchical multivariate cluster analysis (HCA) study divided 13 plant sources into five clusters with two major clades with 89.09% similarity on physicochemical and biochemical basis. Considering the medicinal importance and revealed physicochemical, biochemical and antioxidant compounds in honey, present study encouraged popularization of regional honey for establishing the apiary industry.

Keywords Honey · Physicochemical · Biochemical · Antioxidant activity · Multivariate analysis

Significance statement: The geographical variation and vegetation plays an important role in the variation of physicochemical properties of honey, considering this present study encouraged popularization of regional honey for establishing the apiary industry.

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Introduction

A natural sweet viscous liquid product produced by *Apis mellifera, Apis cerana indica* and *Apis mellipodae* from the nectar of plants has been consumed by humans as a nutritional source. In all over the world, honey synthesis mechanism is same, but the differences observed in physical and chemical properties of honey based on geographical and botanical origins [1].

Different groups of carbohydrates, proteins, alkaloids, vitamins, flavonoids, saponins, tannins, glycosides, terpenoids, organic acids, amino acids, mineral salts, various kinds of enzymes, phenolic compounds and antioxidants are the metabolites observed in the honey [2, 3]. Electrical conductivity of the honey varies according to sources of sample, because it contents different types of electrolytes in the form of free acids and various mineral constituents. Honey contains very little amounts of different elements like niacin, calcium, copper, riboflavin, iron, magnesium, and zinc. Flavonoids (flavanones, flavones and flavonols) and phenolic acids reported in honey are the main contributors for color, taste, and aroma [4, 5].

Honey contains high nutritional values and various antioxidant compounds, that's why it is consumed by humans

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STUDIES ON POTENTIAL APPLICATIONS OF BIOINOCULANTS IN AGRICULTURE

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ABSTRACT

Microbes in groups - "Microbial Consortia" can do wonders. Microorganisms hold tremendous potential to be used for the betterment of agriculture field. Furthermore, they are more effective when they are combined altogether. Through their individual as well as mutual metabolic activities they would offer additional benefits. We are aiming to isolate some potential microorganisms having different features like siderophore activity, phosphate solubilizing, potash mobilizing and indole-acetic acid producing abilities. Such isolates could be effectively used to develop an effective microbial consortia and formulation that can be used as Bio-fertilizer for the advancement of agriculture field. Biofertilizer (additionally bio-compost) is a substance which contains living microorganisms which, when connected to seeds, plant surfaces, or soil, colonize the rhizosphere or the inside of the plant and advances development by expanding the supply or accessibility of essential supplements to the host plant. Biofertilizers include supplements through the common procedures of nitrogen obsession, solubilizing phosphorus, and animating plant development through the combination of development advancing substances. We prepared the concertia by using two organisms viz- *Bacillus IS1* & *Pseudomonas IS2 spp*. On medium designed that containing vegetable waste. This media is very cheap and used as biofertilizer commercially.
Keywords : Biofertilizer, consortia, agriculture, multinutrients.

Introduction

Microorganisms hold tremendous potential to be used for the betterment of agriculture field. Furthermore, they are more effective when they are combined altogether. Through their individual as well as mutual metabolic activities they would offer additional benefits. We are aiming to isolate some potential microorganisms having different features like siderophore activity, phosphate solubilizing, potash mobilizing and indole-acetic acid producing abilities. Such isolates could be effectively used to develop an effective microbial consortia and formulation that can be used as Bio-fertilizer for the advancement of agriculture field. A single formulation with multiple benefits: Indian soils have been used for growing crops year after years without caring much for replenishing. Most importantly our Bio-fertilizer formulation allows much needed "Replenishing of soils". Offers protection to crop from being infected with diseases and thus enhanced production. Present chemical Fertilizers have hazardous effects not only on soil but on environment and human health also. Our formulation– in the form of "Microbial consortia" being Biological in origin won't show such negative impacts.

Nowadays, in India farmers are committing suicide because of agricultural loss or failure. Thus, we need to come up with solutions which will provide multiple benefits to the farmers.

Indian soils have been used for growing crops year after years without caring much for replenishing. This has led to depletion and exhaustion of soils resulting in their low productivity. The average yields of almost all the crops are among the lowest in the world. This is a serious problem which can be solved by using effective and more advanced Biofertilizers.

Smallholder farmers need to optimize their limited available resources to maximize their crop yield, especially in India where there is scarcity of water for irrigation. In such circumstances use of Bio-fertilizers would be an ideal measure as they aid in maximizing crop yield up-to 30% with additional benefits. "Microbial consortia" as biofertilizer formulation offers multiple benefits. They form a mutually beneficial or symbiotic relationship with host plants, protects them from diseases as they grow in the soil. Thus, they enhance the crop yield, boost the amount of organic matter and improve soil texture and structure.

Materials and Methods

1. Isolation of Macro and micronutrient solubilizing bacteria from soil sample:

Isolation of nitrogen fixing bacteria was isolated on specific media that is congo red yeast extract mannitol agar medium. Isolation of phosphate solubilizing bacteria were isolated on specific media that is pikovskayas media.

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डॉ. बाबासाहेब आंबेडकर - अस्पृश्यताविषयक विचारांचे समाज परिवर्तनातील योगदान

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घोषवारा :

हिंदू धर्मातील पवित्र धर्मग्रंथ वेदातील ऋग्वेद, या मध्ये एकूण दहा मंडल (प्रकरण) आहे. दहाव्या मंडलातील ९० वा सूक्त 'पुरूष सूक्त', या पुरूष सूक्तात अकराव्या आणि बाराव्या ऋचेत परमेश्वराने समाजपुरूषाचे चार विभागात विभाजन करून कोण कोणत्या भागातून उत्पन्न झाले याची माहिती या ऋचेतून मिळते. पुढील काळात चार वर्णाचे कार्यक्षत्रे निर्धारित करून ही वर्णव्यवस्था बंदिस्त करण्यात आली. परिणामी शूद्र, अतिशूद्र, बहिष्कृत वर्गाच्या वाट्यास दैन्य, दारिद्र्य, वंचीतता, उपेक्षा, अस्पृश्यता आली. डॉ. बाबासाहेब आंबेडकरांनी या वर्ण व्यवस्थेसशिडी नसलेलाबंदिस्तमनोरा, असे संबोधतात ज्यात कार्यक्षम व्यक्तीला स्वत:चा विकास करता येत नाही. या बंदिस्थ व्यवस्थेवर प्रथमत: आक्रमक टीका म. फुले करताना दिसते, त्यांनी शूद्रादी-अतिशूद्र अस्पृश्य वर्गाच्या डोक्यावरची शेणाची पाटी फेकून त्यांच्या हातात विद्येची पाटी दिली, हातातील घुंगरूची लाटी काढून ज्ञानाची लेखणी पकडण्यास शिकविले, स्वत:च्या घरातील पाण्याची विहीर अस्पृश्यांना उपलब्ध करून समतेचा झरा सुरू केला आणि बहिष्कृत समूहात शिक्षण प्रसार व्हावा म्हणून ङ्गभिडे वाड्यातफ शाळा सुरू केली. बाबासाहेब आंबेडकरांनी आपले तीन गुरू मानले होते त्यापैकी म. फुले एक आहेत, बाबासाहेबांनी फुल्यांचा वारसा चालवल्याचेदिसून पडते, त्यांनी फुल्यांच्या समतेच्या विहिरीचे रूपांतर महाडच्या महासागरात केला, भिडयांच्या वाड्यातील शिक्षणाचाधागा त्यांनी सिद्धार्थ ते मिलिंद महाविद्यालयापर्यंत आणला, म. फुल्यांनी अस्पृश्यांना जागृत केले तर बाबासाहेब आंबेडकरांनी अस्पृश्यांच्या गळ्यातील मडके काढून जिभेवर प्रचंड बंड करणारे शब्द पेरले. माणसाला माणसाप्रमाणे वागणूक न देणार्या अस्पृश्यतेच्या उगम, प्रचलन व या प्रथेला नष्ट करण्याच्या मार्गाचा डॉ. बाबासाहेब आंबेडकरांनी कोणता विचार मांडला याचे विश्लेषण या लेखाच्या माध्यमातून करण्याचा प्रयत्न केला जाणार आहे.

महत्त्वाचे शब्द :

सवर्ण स्पृश्य, अस्पृश्यता, वर्णव्यवस्था, धर्मग्रंथ, मनुस्मृती, पुरूषसूक्त, ऋचा, स्पृश्य लहर, विभूतिपूजा, प्रतिकार, बहिष्कार,

प्रस्तावना :

एकविसाव्या शतकातील तिसर्या दशकात वाटचाल करीत असताना आज देखील आपल्या पुढील प्रश्न व त्या प्रश्नांची उत्तरे सोडविण्याचा प्रयत्नकरत असताना आपणास म. फुले, शाहू व आंबेडकरी विचारांचा आधार घ्यावा लागतो. म. फुले व बाबासाहेब आंबेडकर या व्यक्ती भिन्न कालखंडाचे प्रतिनिधित्व करीत असले तरी त्यांचा दृष्टिकोन वा समाज जीवनाकडे बघण्याचा परिप्रेक्ष हा तत्कालीन व्यक्ती समूहापेक्षा वेगळा होता. त्यांनी ज्या विचारांची मांडणी केली, जे कार्य हाती घेतले ते सर्व काळाच्या कितीतरी पुढे असल्याचे लक्षात येते.

समाज परिवर्तना संदर्भात विचार करीत असताना प्रथमत: परिवर्तन आणि बदल या शब्दांच्या अर्थात जे भिन्नत्व आहे ते लक्षात घ्यावे लागेल. बदल हा निसर्ग नियमान्वये होतच असतो उदा. जन्मापासून मृत्यू होण्यापर्यंत जे बदल मानवी शरीर संदर्भात होतो किंवा ऋतूमानाच्या चक्राप्रमाणे - उन्हाळ्या नंतर पावसाळा व हिवाळा येणे हे क्रम प्राप्त आहे; परंतु परिवर्तन हे जाणीवपूर्वक केलेले बदल होय वा असे म्हणता येईल जे बदल होत आहे त्यास मानवी हिताच्या दृष्टीने वळण लावणे होय. एकंदरीत सामाजिक परिवर्तन या शब्दान्वये आपणास हेसूचीत करावयाचे आहे की, म. फुले व बाबासाहेब आंबेडकरांनी हिंदुस्थानातील समाजजीवनात जाणीवपूर्वक बदल घडवून आणण्यासाठी परंपरागत विचारधारेला किंवा असे म्हणता येईल कि त्यांनी व्यक्ती वा व्यक्ती समूहांच्या मतास, श्रद्धेस आव्हान दिले, व्यक्तीसमुहाची श्रद्धास्थाने, त्यांच्यावरील वैचारिक प्रभाव कशा विसंगत आहेत हे विचार त्यांनी तत्कालीन परिस्थितीच्या प्रवाहा विरोधात मांडली आणि तो विचार शाश्वत, चिरकालीन विचार म्हणून समोर येताना दिसतो. तो विचार आज सुध्दा

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Revisiting Myths and Beliefs: A Study of the Iconoclastic and Non-conformist Elements in Meena Kandasamy's Selected Poetry

Kapil Kulkarni & Samadhan D. Pawar

Abstract

In the realm of Indian English Literature, women writers have proved their mettle and won a place of privilege right from Krupabai Satthianadhan and Toru Dutt. In almost every literary genre, they have contributed substantially and have formed the group- Indian Women Writers in English. However, within this group there is a large section of women writers known as Dalit Women Writers. As Dalits and as women, they are doubly marginalized and this marginalization has inculcated in them a sense of subversion and rebellion. This subversion takes place in different forms like challenging the popular and prevalent myths and beliefs and re-interpreting them. This is the challenging of the ideology. These writers question and challenge the pertaining ideology which perpetuates and normalizes their subjugation. In a very bold and rebellious way the Dalit Women Writers have reacted to the atrocious patriarchy and caste discrimination which has reduced them to a mere physical existence. The present paper proposes to analyze the select poems of the contemporary Dalit writer and activist Meena Kandasamy with focus on the non-conformist and iconoclastic elements and the biting exposure of the male and upper caste domination through revisiting popular myths and beliefs in order to revise the understanding of the ideology of oppression.

Keywords : Iconoclastic elements; Ideology; Marginalization; Myths and beliefs; Patriarchy.

India has a long tradition of women writers writing in English. The first Indian woman novelist Krupabai Satthianadhan and the first Indian woman poet to write in English- Toru Dutt laid the foundation of this enormous corpus of Indian Women's Writing in English. For more than one and a

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SOCIAL MEDIA: IMPACTS ON LANGUAGE

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PAHUS, Solapur, Maharashtra

Abstract:

This research paper aims to investigate the impact of social media on English language learning, whether it has a positive or negative impact on language learning, and whether it is used. This research paper focuses on several important aspects such as grammar, vocabulary, and the four main language skills: listening, speaking, reading, and writing, remembering the impact of various elements of communication, and being good at all skills. Based on the results of this study, we can believe that social interaction affects our writing ability more than other skills. Software development continues to make it easier to create a message or statement of any length. Ironically, our smartphones have become smarter than we are, even when it comes to our ability to communicate. The basic building blocks of any language lie in its roots and sentence structure. In this generation, these building blocks are replaced or modified by incorporating several elements such as abbreviations and acronyms, neologisms and slang, emojis, and autocomplete. This article looks at both the positive and negative aspects of social media's impact on language and provides a critical assessment.

Keywords: language, social networks, language skills, vocabulary, social media components

1. Introduction:

The use of social media has a significant influence on language change. Social media platforms have led to changes in alphabet, syntax, and vocabulary, with an increase in the use of bowdlerization, emoticons, and distinctive terms specific to social media. Also, social media communication is characterized by casual jotting styles, on-formal language use, and the adaption of foreign words. Language changes both side positive and negative aspects. On the positive side, social media enables brisk and more effective communication and strengthens social bonds among druggies. Still, these language changes can also pose challenges to understanding and communication, particularly between different generations or in formal surroundings. Social media has also changed the communication style of scholars, leading to law-mixing and the creation of relaxed and ultramodern relations. Likewise, social media can be used as a pedagogical tool to ameliorate language literacy, particularly in jotting chops and vocabulary accession.

"What we share is what we share." - Charles W. Leadbeater The emergence of the internet and the consequential array of social media networks have, without doubt, resulted in an exponential increase in new types of written language: blogs, tweets, Facebook posts, Instagram status, etc. There's no doubt that social media has had a severe impact on the massive volume of people we are now able to communicate with along with the frequency with which we can communicate with them. This has to worldwide exposure to a myriad of

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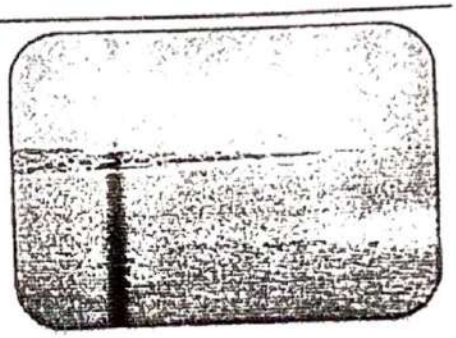
CONTRIBUTION OF VEER DAM TO INCREASE IN AGRICULTURAL IRRIGATED AREA IN KHANDALA TALUKA, MH



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Abstract :

Maharashtra is considered as a progressive state in India. Agricultural Sector Industrial Sector Political Sector Social Sector We can see that there has been a great change in Maharashtra.The day by day changes in the agricultural sector and its impact on the production is seen as a precursor to development in Maharashtra. When it comes to agriculture or irrigation, we can see that some part of Maharashtra is surrounded by the Sahyadri mountain ranges. The abundant rainfall and rivers originating in these ranges are seen as a boon for agriculture in Maharashtra. For Khandala Taluka in Satara District, Veer Dam is seen as a milestone for irrigation. We can see that the British built this dam. It shows excellent construction and ideal examples of architecture. Two canals have been constructed at this dam. Therefore, there is an increase in the area of irrigation. In India, the problem of growing population is very important and food supply to them is very important. Many irrigation facilities are created on a large scale through government schemes. In the present study we are going to study Veer Dam in Khandala Taluka of Satara District. We will see growth in the irrigation sector.

Key Words: irrigation, agricultural production, area under irrigation.

Introduction:

Agriculture is a very ancient primary occupation. We see humans farming for subsistence. The needs of food, clothing and shelter depended on agriculture from earlier times. In India, we can see that agricultural revolution has come along with the industrial revolution. The agricultural revolution has led to a tremendous increase in production. Modern farming is becoming the need of the hour to meet the growing population's food needs. The population is increasing and the land is limited. Therefore, people should pay attention to how to produce more in the same land. Therefore, attention should be

२२. यशवंतराव चव्हाण - अस्पृश्य व नवदीक्षित बौद्धविषयीचे विचार व कार्य

नील जनार्धन नागभिडे
संशोधक विद्यार्थी, सहाय्यक प्राध्यापक व विभाग प्रमुख, इतिहास विभाग, रामकृष्ण परमहंस महाविद्यालय, उस्मानाबाद.
प्रा. डॉ. विष्णू बब्रुवान वाघमारे
प्रोफेसर व विभाग प्रमुख, पदवी व पदव्युत्तर इतिहास विभाग, श्री. शिवाजी महाविद्यालय, बार्शी, सोलापूर.

घोषवारा

यशवंतराव चव्हाण यांनी महाराष्ट्रामध्ये समताधिष्ठित एकजिनसी समाज निर्माण करण्याचे आपली जीवन उद्दिष्टे मानली होती. वेळोवेळी त्या अनुषंगाने विधिमंडळात, सभा- संमेलनात आणि लेखनाच्या माध्यमातून त्या भूमिकेचे प्रकटीकरण ते करत होते. व्दिभाषीक राज्याचे व नंतर मराठी भाषक संयुक्त महाराष्ट्राचे मुख्यमंत्री म्हणून येथील समाज व्यवस्थेने ज्यांना शेतको वर्ष उपेक्षित, वंचिततेच्या दास्य श्रृंखलेनी बंदिस्त करून ठेवली होती, त्या अस्पृश्य, नव दीक्षित बौद्ध समाजा संदर्भात मूलगामी सुधारणा करणारे प्रत्यक्ष कार्य व विचाराची मांडणी यशवंतरावांनी केली आहे. त्यांच्या विचारात सामाजिक समता व उद्याच्या महाराष्ट्रातील राज्य बहूजन राज्य असणार आहे हे वास्तव स्वप्न त्यांनी सांगली येथील 6 जानेवारी 1960 च्या भाषणात ' उद्याच्या महाराष्ट्रातील राज्य मराठा राज्य होणार नसून, ते मराठी राज्यच होईल', अशी भूमिका मांडली आणि 17 मार्च 1960 रोजी मुंबई राज्य पुनर्रचना विधेयकावर झालेल्या चर्चेस उत्तर देताना मुख्यमंत्री यशवंतराव चव्हाण यांनी दादासाहेब मल्हारराव शिर्के (शेडयूल्ड कास्ट फेडरेशन पक्षा तर्फे सन.1957 च्या सार्वत्रिक निवडणूकीत विधानसभेवर निवडून आले) यांच्या 'मराठी भाषिक राज्य होणार की मराठा राज्य होणार याची भीती वाटते...' या प्रश्नाला संबोधून असे म्हटले की, मी बाहेर बोलतो आणि विधानसभेत बोलत नाही असे म्हटले जाऊ शकते म्हणून '.....मी असे सांगू इच्छितो की, तसे होणार नाही आणि आम्ही तसे होऊ देणार नाही'. एकंदरीत यशवंतराव चव्हाण यांनी आपले कार्य व विचारांच्या माध्यमातून महाराष्ट्रात सामाजिक समता प्रस्थापित करण्याचे प्रयत्न करून डॉ. बाबासाहेब आंबेडकरांच्या विचार परंपरेचा वारसा चालवल्याचे दिसून पडतो.

महत्त्वाचे शब्द - सवर्ण, अस्पृश्यता, वर्ण व्यवस्था, महार वतन, बलुते, धर्मांतर, दीक्षाभूमी, भूमिहीन आंदोलन, राज्य पुनर्रचना विधेयक.

प्रस्तावना

कार्ल मार्क्सने एकदा लोकांना संबोधित असताना अशी भूमिका घेतली होती की, "माझे म्हणणे नाही की, जगातील सर्व माणसांची दु:खे नष्ट व्हायला पाहिजे, माझे केवळ, एवढेच म्हणणे आहे की, माणसांना माणसांची दु:खे असायला पाहिजे आणि भूक हे माणसाचे दु:ख नाही तर पशू-प्राण्यांचे दु:ख आहे." कार्ल मार्क्सने मानवी जीवनाचा आढावा घेताना, त्यांच्या वाटचालीचा निरीक्षण

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सोलापूर जिल्ह्याच्या विकासात भाई. एस. एम पाटील यांचे योगदानः- एक चिकित्सक अभ्यास

पाटील किरण महादेव
संशोधक विद्यार्थी
श्री शिवाजी महाविद्यालय बार्शी जिल्हा सोलापूर

प्रा.डॉ.वाघमारे विष्णू बब्रुवान
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इतिहास विभाग प्रमुख,
श्री शिवाजी महाविद्यालय बार्शी जिल्हा सोलापूर

प्रस्तावना :

आधुनिक इतिहास लेखनामध्ये स्थानिक इतिहास लेखनाचे स्थान अत्यंत महत्त्वपूर्ण आहे. एखाद्यानं मोठा घटक निवडला तर तो टेलिस्कोप च्या साह्याने इतिहासाचा अभ्यास करेल आणि एखाद्याने लहान घटक किंवा स्थानिक इतिहास निवडला तर त्याचा अभ्यास सूक्ष्मदर्शकाच्या माध्यमातून करता येईल, म्हणजेच टेलिस्कोपचा वापर करणे याचा अर्थ असा नव्हे की आपण सूक्ष्मदर्शकाचा वापर थांबवला पाहिजे. स्थानिक इतिहास लेखनामध्ये एखाद्या शैक्षणिक संस्थेचा एखाद्या जिल्ह्याचा, तालुक्याचा, गावाचा,आदिवासी पाड्याचा, तसेच कर्तृत्ववान व्यक्तींचा देखील इतिहास लिहिता येतो.

सोलापूर हा महाराष्ट्र राज्याच्या पश्चिम या भागातील एक महत्त्वपूर्ण जिल्हा आहे. प्रामुख्याने भीमा, सीना या नद्यांच्या खोऱ्यात वसलेला आहे. महाराष्ट्रातील अवर्षण जिल्ह्यांमध्ये सोलापूर जिल्ह्याचा समावेश होतो. संत, कवी, शाहीर समाजसेवक असे अनेक लोक या पावन भूमीत झाले .अशातच भाई.एस.एम.पाटील यांनी यांच्यामध्ये आपले एक वेगळे अस्तित्व निर्माण केल्याचे दिसून येते.

प्रस्तुत शोध निबंधाच्या माध्यमातून सोलापूर जिल्ह्यातील भाई.एस.एम.पाटील ऊर्फ तात्या या नावाने परिचित असणारे संपतराव मारुती पाटील यांच्या नेतृत्व कुशलतेची, जीवन कार्याची चिकित्सा करण्याचा हेतू आहे. काही व्यक्तीचे महत्त्व त्यांचे जीवन आयुष्य हे अशा स्वरूपाचे असते, ते केवळ एक नाव न राहता चळवळीचे व्यक्तिमत्त्व म्हणून उदयास येते. भाई.एस.एम.पाटील सोलापूर जिल्ह्यातील माढा तालुक्याच्या वरवडे या गावात जन्मलेल्या या व्यक्तिमत्त्वाने आपले संपूर्ण जीवन विद्यार्थिदशेपासून चळवळींसाठी वाहिले. यातून भाईंच्या जीवनाचा आधार चळवळीच्या माध्यमातून व बळीराजाच्या विषयाची कणव, राष्ट्रप्रेम प्रभावीपणे दिसून येते.

स्वातंत्र्यप्राप्तीनंतर देशात आणि विशेषत: महाराष्ट्रात राजकीय, सामाजिक चळवळीच्या, वैचारिक परिवर्तन अधिक प्रभावी झाले. यातूनच ३ ऑगस्ट, १९४८ रोजी आळंदी या ठिकाणी केशवराव जेधे, शंकरराव मोरे, क्रांतिसिंह नाना पाटील, माधवराव बागल, तुळशीदास जाधव, पंजाबराव देशमुख, यासारख्या क्रांतिकारकांनी शेतकरी कामगार पक्षाची स्थापना केली. त्याच प्रमाणे प्रा.एन.डी.पाटील यांची प्रेरणा घेऊन भाई. एस. एम. पाटील यांनी शेतकरी कामगार पक्षाचा झेंडा आपल्या खांद्यावर घेतला. या विचारा प्रती आपले संपूर्ण आयुष्य त्यांनी समर्पित केले व तो वसा आपल्या अंतिम श्वासापर्यंत संकल्पपूर्वक निभावला.

भाईचे शालेय शिक्षण वरवडे व मोडनिंब या गावी झाले. महाविद्यालय शिक्षण सोलापूर व पुणे या ठिकाणी झाले. पुण्याचा शिवाजी बोर्डिंग मध्ये राहून शिक्षण आणि चळवळीची सांगड घालून भाईनी कला शाखेत प्रवेश घेतला. भाईनी राष्ट्र सेवा दलाच्या माध्यमातून अनेक विद्यार्थी चळवळी चालवल्या. १९६३ साली देशातील अन्नधान्य तुटवडा बाबतच्या आंदोलनात भाईना स्थानबद्ध केले होते. भाई गोवा मुक्तिसंग्रामात देखील सक्रियपणे सहभागी झाले होते. भाई. एस. एम. पाटील यांनी शेतकरी कामगार पक्षावरील निष्ठा कायम जतन केली. या माध्यमातून अनेक चळवळी केल्या. विधिमंडळाचे सदस्यत्व, सोलापूर जिल्हा परिषद, जिल्हा बँक या माध्यमातून कष्टकरी बळीराजाचे हित साधण्याचा प्रयत्न केला. स्वच्छ चारित्र्य प्रत्येक आंदोलना पाठीमागे लोकहिताचा विचार व त्याकरता सदैव लढण्याची त्यांची वृत्ती कमालीची होती. भाई.एस.एम. पाटील यांच्या कार्याचा अभ्यास करणे व समाजाला त्याचे ज्ञान देणे हे या लेखा मागचा मुख्य उद्देश आहे.

संशोधनाची उद्दिष्टये :

१. भाई.एस.एम.पाटील यांच्या सामाजिक व आर्थिक परिस्थितीचा अभ्यास करणे.

२. भाई. एस.एम.पाटील यांचा सहकार व शिक्षण क्षेत्रातील योगदानचा अभ्यास करणे.

३. भाई.एस. एम. पाटील यांनी केलेल्या कृषी विषयक कार्याचा व कामगार विषयक सुधारणांचा शोध घेणे.

स्त्री उद्धारक : डॉ. बाबासाहेब आंबेडकर

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भारतरत्न डॉ. बाबासाहेब आंबेडकर म्हणजे भारतमातेचे एक महान सुपुत्र. अस्पृश्य समाजातील एका सर्वसामान्य कुटूंबात १४ एप्रिल १८९१ रोजी त्यांचा जन्म झाला. अस्पृश्यतेचे चटके आणि अवहेलना यांना सामोरे जात परकाष्ठेची जिद्दी आणि परिश्रम यांच्या जोरावर सर्व प्रतिकूल परिस्थितीवर मात करून त्यांनी अखंड ज्ञानसाधना केली. सर्वोच्च्य पदव्या प्राप्त केल्या. डॉ.बाबासाहेबांनी १९२० च्या दशकामध्ये भारताच्या सामाजिक राजकीय पटलावर पदार्पण केले आणि पुढील चार दशके ०६ डिसेंबर १९५६ रोजी त्यांचे महापरिनिर्वाण होईपर्यंत त्यांनी विविध क्षेत्रांत अतुलनीय योगदान दिले. भारतातील ब्रिटीश राजवटीच्या शेवटच्या कालखंडात भारतात सामाजिक, राजकीय, सांस्कृतिक व आर्थिक परितर्वन घडवून आणण्यात डॉ. आंबेडकर अग्रेसर होते. डॉ.बाबासाहेब आंबेडकर यांच्या सा-या ऐतिहासिक आणि अलौकिक कामगिरीला विद्वत्तेची झालर होती. या प्रज्ञासूर्याला दिशांचे बंधन नव्हते. अर्थशास्त्र, इतिहास, समाजशास्त्र यांच्यापासून कायदा राज्यशास्त्र, मानववंशशास्त्र आणि धर्मशास्त्र यांच्यापर्यंत अनेक ज्ञानशाखांमध्ये भरा-या घेऊन त्यांनी त्यामध्ये मोलाची भर घातली. ज्याला जगभरात मान्यता मिळाली. अर्थतज्ञ, शिक्षणतज्ञ, कायदेपंडीत, पत्रकार, संसदपटू, समाजसुधारक, राजकीय मुत्सद्दी, बौद्ध धम्मचक्रप्रवर्तक अशा भूमिकामधून त्यांनी भारताच्या इतिहासावर आपला वेगळा ठसा उमटवला आहे. डॉ. बाबासाहेब आंबेडकर यांना केवळ दलितांचे नेते म्हणून संबोधने हे फार मोठे अन्यायकारक होते यात शंकाच नाही. त्यांच्या स्त्री उद्धाराच्या कार्याचा आढावा सदर लेखामध्ये थोडक्यात घेत आहे.

संशोधनाची उदिदष्टये :

- प्राचीन भारतातील स्त्रियांचा सामाजिक दर्जा अभ्यासणे.
- अर्वाचीन काळातील स्त्रियांच्या समस्या अभ्यासणे.
- स्त्री उदधारासाठी डॉ. बाबासाहेब आंबेडकरांचे योगदान अभ्यासणे.

तथ्या संकलन

प्रस्तुत संशोधन लेखात मुख्यत: दुय्यम साधनांचा अवलंब केला आहे. यात प्राधान्याने संदर्भग्रंथ, पुस्तके, दैनिके, साप्ताहिके, इंटरनेट, सोशल मिडीया इ.

गृहितके :

- ❒ हिंदू परंपरेने भारतीय स्त्रियांना समानतेचे सर्व अधिकार नाकारले होते.
- ❒ भारतीय स्त्री अन्यायी रुढी परंपरेच्या जोखडात पूर्णपणे बंदिस्त व शोषित झाली होती.
- ❒ स्त्री उध्दारांच्या कार्यास डॉ. बाबासाहेब आंबेडकरांना सनातन्याकडून जोरदार विरोध झाला.

संशोधन पध्दती :

सदर संशोधनात वर्णनात्मक व विश्लेषणात्मक पध्दतीचा वापर करण्यात आला आहे.

प्राचीन भारतातील स्त्रियांचा सामाजिक दर्जा उच्च प्रतिचा होता. परंतु अर्वाचीन काळात तो घसरला. स्त्रियांचा बौद्धिक दर्जा उल्लेखनीय असल्याचे अनेक दाखले प्राचीन ग्रंथात आढळतात. स्त्री व पुरुष असा भेद तत्कालीन परिस्थितीत नव्हता. अथर्ववेदातील सदरील उल्लेख अचंबित करणारा आहे तो असा की, मुलीची ब्रह्मचर्य अवस्था संपलेली आहे. ती विवाहयोग्य झालेली आहे. यावरून कोणताच भेद पाळला जात नव्हता. भारतीय स्त्री समाजाची आधारशिला असून संस्कृतीचे अस्सल प्रतिक आहे. मनुने स्त्रियांच्या स्वातंत्र्यावर अनेक बंधने लादली. त्यात बालविवाह प्रथा, सतीप्रथा, हुंडाप्रथा, बाला-जरठ विवाहपद्धती, विधवांच्या केशवपनाची प्रथा सक्तीचे वैधव्य या सर्व प्रथा त्यावेळी अस्तित्वात होत्या.

डॉ. आंबेडकर यांनी गौतम बुद्धांना गुरुपदी विराजमान करून त्यांच्या तत्वाचा अंगीकार करत स्त्रीच्या हक्कांसाठी आजन्म संघर्ष केला. शिका व संघटित व्हा, अत्याचाराच्या विरूद्ध लढा द्या. हा मूलमंत्र बहाल केला. अडीच हजार वर्षांपूर्वी गौतम बुद्धांनी केलेले स्त्री-पुरुष समानता व स्त्रीमुक्तीचे कार्य

Distribution of Population in Osmanabad District

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Abstract:

Population Geography may be defined as the analysis and geographic interpretation of spatial variation of the structure and value of demographic phenomena. A spatial distribution is nothing but it is an arrangement of a phenomenon across the Earth's surface. Distribution and density of population are the two fundamental elements of population geography. Density of population is concerned with the ratio between the size of population and the area. The study of population distribution provides an accurate assessment of the dimension of growing demand for food, fibre, shelter, and a variety of social and economic facilities on the one hand and on the other leads to an objective evaluation of general nutrition level, standard of living, welfare issues and of programmes of development in operation,. There four an attempt is mode two study distribution of population in Osmanabad district. The main objective of study is to study the population distribution in Osmanabad district. To fulfill the objective the relevant information and data of Population is uscd for the period of 2001 to 2011 are based on the secondary sources.To calculateCrude density, total population is dividedby total area. To analyse densityof population, the tahsils of Osmanabad district are grouped into four categories on the basis of mean and standard deviation.

Keywords: Distribution, Population, Mean And Standard Deviation

Introduction:

The word 'population' can be used in different ways. A biologist may refer to a collection of animals or plants as populations, whereas a geographer uses the same word to indicate the collection of human beings. Indeed, the term is frequently applied to a collection of people, the exact number of peoples. Population is a precious and valuable resource of the earth. Population Geography may be defined as the analysis and geographic interpretation of spatial variation of the structure and value of demographic phenomena. These phenomena analyze the size and changes of population growth and distribution (Garnier, 1978).

Distribution of population is another aspect of population geography. A spatial distribution is nothing but it is an arrangement of a phenomenon across the Earth's surface.

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Evaluation and Exploration of Electricity Generation by Microbial Fuel Cell Isolated from Warje Waste Water Treatment Plant, Pune, India

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ABSTRACT

A microbial fuel cell (MFC) is bioreactor that converts chemical energy into electrical energy through metabolic activity of microorganisms under aerobic/anaerobic conditions. Study was carried out to test the performance of the cathodic electron acceptor and anodic electron donor which plays important role in microbial fuel cells for generation of electricity. The aim of our study is to explore these electricity generating bacteria. The two-chamber MFCs were used to conduct experiments. Total eight bacterial isolates were obtained from samples, out of which six isolates were prominent for generating electricity. The MFC was constructed and electricity generation was measured after various intervals. The effect of salt on MFC was studied, as well as source of carbon was altered, also the concentration of agarose was changed to study its effect. The bacterial isolate obtained from Warje waste water gave maximum 429mV. The series connection of five MFC chambers containing bacterial isolate from Warje waste water gave voltage of 65mV . The bulb (LED) glowed prominently at this voltage. Our results also indicated that searching and isolating bacteria that are more stable electricity producing bacteria could be a new strategy to for isolation and MFC from waste water treatment.

Key words: Microbial fuel cells, MALDI-TOF, Bioelectricity

Introduction

The most crucial element in today's world is energy. The need for time is to identify new energy sources. As a result of rising human activity, natural energy sources are being depleted, which affects fossil fuels. Nearly all of the traditional energy generation methods used today, which call for the burning of harmful fossil fuels, are expensive and not regarded as environmentally friendly (Zain *et al.*, 2009; Mohan *et al.*, 2007). According to the US Department of Agriculture and Energy, biomass energy can replace fossil fuels for roughly 30% of the country's energy demands (Zhiyong *et al.*, 2007). There are numerous ways to generate electricity. Over the world, multidirectional research is being done on the production of electricity. Microbial fuel cells (MFCs) have become a promising but difficult technology in recent years. In an MFC, microorganisms communicate with electrodes by exchanging or supplying electrons via an electrical circuit. MFC is viewed as a viable sustainable technology to satisfy rising energy needs, particularly when wastewaters are used as substrates because it can generate electricity and treat wastewater at the same time, potentially reducing the operational costs of wastewater treatment

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PRODUCTION OF NUTRABEVERAGE THROUGH FERMENTATION OF POMEGRANATE, STRAWBERRY AND PINEAPPLE JUICES WITH KEFIR GRAINS

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Keywords:

Fruit juice, Kefir grains, Probiotics, Fermentation, Nutrabeverage

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ABSTRACT: The term nutrabeverage was applied to the product of alcoholic fermentation made by using Kefir grains. In the present studies initially, the pH of the pomegranate juice sample was 3.7, 3.5 for strawberry and 3.8 pH for pineapple. The titrable acidity optimum was found in pineapple at 3.37 % while 16% TSS was found in pomegranate. The highest TSS content before fermentation was observed at 160brix, 90brix and 14.30 brix in the pomegranate, strawberry and pineapple juice respectively. After 15 days of fermentation at 25°C with pH 4.5, the lowest TSS content of 120brix, 8.30brix, and 100brix in the pomegranate, strawberry and pineapple nutrabeverage was observed respectively. The titrable acidity was found to increase after 15 days of fermentation at 25°C in all nutrabeverage while reducing sugar was found to the maximum before fermentation. The lowest reducing sugar content was 9.73%, 6.81% and 8.82% in the pomegranate, strawberry and pineapple nutrabeverage respectively recorded after fermentation. The maximum alcohol content 6.9%, 4.3% and 5.2% in the pomegranate, strawberry and pineapple nutrabeverage was observed at 25°C respectively at pH 4.5 after 15 days of fermentation. Vitamin C was found maximum before the fermentation of all juice. Additionally, this beverage has demonstrated strong antioxidant activity and sensory testing of the beverage produced positive findings.

INTRODUCTION: Various obstacles must be overcome by the food sector, such as rising consumer knowledge and demands for safer and more nutrient-dense food. The production of functional food products, or foods that can positively affect certain bodily functions in addition to their nutritional effects, is one of the innovations in the food industry.

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There are numerous fruit juices available for consumption such as apple juice, orange juice, and cranberry juice *etc*. Although different fruit juices have nutritious content with beneficial to health advantage. Using fruit juices as a substrate medium with kefir grains and baker's yeast for production of beverage product [22].

These innovations can improve people's health and well-being and/or lower their risk of contracting diseases. Prebiotics and probiotic foods are regarded as a significant category of functional foods in this context [8, 15, 28]. Fruit juices can also be utilised as a medium for fermentation or as a delivery system for probiotics because they have high levels of sugars, dietary fibre, and other highly

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The Study of Schemes for Women Empowerment

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Introduction:

Empowering women to participate fully in economic life across all sectors is essential to build stronger economies, achieve internationally agreed goals for development and sustainability and improve the quality of life for women, men, families and communities. The finding of the National family Health survey 4 (2015-16) show an increase in empowerment of women aged 15-49 years across major indicators that reflect empowerment with an increase in the percentage of women having savings account and increase in the percentage of women having household decision making.

Research methodology of the study:

This research article is depends an secondary data methods. I have given information from various reference books related to this topic.

Objectives of the study:

1) To study the various schemes for women empowerment.
2) To study the awareness of women empowerment.
3) To study the importance of women empowerment in society.
4) National policy for Empowerment of women:

In 2001, the National Policy for Empowerment of women was formulated as the blueprint for the future, with the goal of bringing about the advancement, development and empowerment of women. The NPEW laid down detailed prescriptions to address discrimination against women, strengthen exiting institutions which includes the legal system, provide better access to health care and other services equal opportunities for women's participation in decision making and main streaming gender concern in the development process etc. The policies / programmers of the government are all directed towards achieving inclusive growth with special focus on women in line with the objective of the National policy for empowerment of women.

Rajiv Gandhi Scheme for Empowerment of Adolescent Girls: Sabla

Sabala was introduced in the year 2010-11 and in operational in 205 selected districts on a pilot basis. It aims at all - round development of adolescent girls of 11-18 years. Sabla is being implemented through the state governments / UTs with 100 percent financial assistance from the central government for all inputs other than nutrition provision for which 50 percent central assistance to states is provided. Anganwadi Centre is the focal point for the delivery of the services. The schemes have two major components nutrition and non-nutrition. Nutrition is being given in the form of take home ration or not cook meal for 11-14 years out of school girls and 14-18 years all adolescent girls. Each adolescent girls is given 600 calories and 18-20 grames of protein and micro nutrient per day for 300 days in a years. The out of school adolescent girls attending Anganwadi centers and all girls are provided supplementation nutrition in the form of take home ration / hot cooked meal. The nutrition is provided is as oper the nooms for pregant and locating mothers. While the nutrition component aims at improving the

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भारतीय संघराज्यातील केंद्रीकरण आणि स्वायत्तेची समस्या

डॉ. पंडित महादेव लावंड

विभाग प्रमुख राज्यशास्त्र श्री शिवाजी महाविद्यालय, बार्शी

संघराज्यवाद ही शासनसंस्थेच्या सिद्धांतातील आधुनिक संकल्पना आहे. अमेरिकेच्या 1787 च्या संघराज्याच्या स्थापनेपासून संघराज्य सिद्धांताचा उदय झाला आहे. भारताच्या संविधानकारांनी देखील लोकशाहीचे तत्व म्हणून आणि प्रादेशिक स्वायत्तता आणि देशातील अखंडता राखण्याचा मार्ग म्हणून संघराज्य पद्धतीचा स्वीकार केला आहे. भारतीय संविधानकाराच्या विचारावर अमेरिकन, कॅनेडियन, ऑस्ट्रेलियन संघराज्य पद्धतीचा प्रभाव पडलेला दिसून येतो. भारताच्या संघराज्य पध्दतीचा अभ्यास सुप्रसिध्द घटना तज्ञ प्रा. के. सी. व्हिअर, प्रा. मॉरिस जोन्स, प्रा. ऑस्टीन, प्रा. दास, के संस्थानम यांनी केलेला आहे. प्रा. आयवर जेनिंग्ज यांनी देखील भारताच्या संघराज्य पद्धतीवर लिखाण केले आहे. याशिवाय केंद्र-राज्य संबंधावर अनेक अभ्यासकांनी पुस्तके लिहिलेली आहेत. केंद्र-राज्य संबंधाच्या बाबतीत सरकारीया समितीचा अहवाल प्रसिद्ध आहे.

आपल्या संविधानकारांनी भारतासारख्या खंडप्राय देशाला संघराज्य पद्धतीच जास्त अनुकूल ठरणारी आहे म्हणून तिचा स्वीकार केला आहे. भारतात 1935 च्या कायद्याने ब्रिटिश राज्यकर्त्यांनी संघराज्य पद्धतीचा पाया घातला होता. म्हणून भाषिक, धार्मिक, प्रादेशिक विविधता असलेल्या भारताला अनुकूल तत्त्व म्हणून संघराज्य पद्धतीचा स्वीकार केलेला असला तरी आपल्या संविधानात संघराज्य किंवा Federation न स्वीकरता Union हा शब्द स्वीकारलेला आहे.[1] डॉ. बाबासाहेब आंबेडकरच्या शब्दात युनियन या शब्दातून अखंडत्व असणारे संघराज्य असा अर्थ व्यक्त होतो. म्हणून आपल्या संघराज्यात संघराज्य पद्धतीने घटनेचे श्रेष्ठत्व, दुहेरी शासन पध्दती, अधिकार विभागणी, सर्वोच्य न्यायालय हे चार घटक स्वीकारले असले तरी त्यात केंद्रिकरणाच्या प्रवृत्तीवर अधिक भर दिलेल्या दिसतो. म्हणजे संघराज्यात्मक व्यवस्था असून देखील एकेरी राज्यघटना, एकेरी न्यायव्यवस्था, त्यातील राष्ट्रपतीद्वारे होणाऱ्या नेमणूका, केंद्रीय लोकसेवा आयोग, केंद्रीय निर्वाचन आयोग, प्रबळ केंद्र सरकार हे एकात्म पद्धतीचे घटक मोठ्या प्रमाणात प्रभावी आहेत. म्हणून भारताच्या संघराज्याला एकात्म पद्धतीचे गुणधर्म असणारे संघराज्य असे म्हटले जाते. तसेच भारताच्या पद्धतीला संघराज्याप्रमाणे असणारी शासन पद्धती असे म्हटले जाते.

वास्तविक संघराज्य पद्धतीचा विचार केल्यास जगात तीन प्रकारच्या संघराज्य पद्धती आढळतात. एकात्म प्रवृत्तीचे संघराज्य, सहकार्यावर आधारित संघराज्य, स्पर्धात्मक संघराज्य, त्यामुळे अमेरिकन पद्धतीचे संघराज्य हेच खरे संघराज्य म्हणता येणार नाही. मुळात भारतामध्ये एकाच अखंड प्रदेशातील विभागाला स्वायत्तता देवून संघराज्य केलेले असल्यामुळे आपल्या संविधानकारांनी केंद्रीकरण असणारे एकात्म प्रवृतीचे संघराज्य निर्माण केले. भारतात अशा प्रकारची एकात्म संघराज्य पद्धती निर्माण होण्याची आणि केंद्रीकरण वाढत जाण्याची आणखी काही कारणे आहेत. आणिबाणीचे अधिकार, केंद्र व राज्यामध्ये असणारी काँग्रेस पक्षाची सत्ता (1952-1967) आणि केंद्रीभूत नियोजन पद्धती व घटक राज्यातील विषमता आणि परावलंबित्व यामुळे केंद्रीकरण वाढत गेले.

सत्तावाटपाच्या प्रक्रियेत देखील 97 अधिकार केंद्राला, 66 अधिकार घटकराज्यांना, 47 अधिकार समवर्ती सुचीत असून या व्यतिरिक्त उर्वरित अधिकार केंद्राला दिले आहेत. कलम 249 प्रमाणे राज्यसभेत विशेष बहूमतांने ठराव करून राज्याच्या यादीतील एखाद्या अधिकार प्रथम केंद्र सरकारने वापरला तर त्यावर घटक राज्यांना कायदा

९. यशवंतराव चव्हाण यांची राजकीय वाटचाल

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प्रस्तावना

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

यशवंतरावांच्या नेतृत्वाच्या गुणांच्या विकासाची पायाभरणी त्यांच्या शालेय जीवनापासून झाली. कराडच्या टिळक हायस्कूलमध्ये शिकत असताना एकदा शेणोलीकर गुरुजींनी विद्यार्थ्यांना तुम्ही कोण होणार हे कागदावर लिहून देण्यास सांगितले होते. त्यावेळी यशवंतरावांनी सांगितले, ' मी यशवंतराव चव्हाण होणार'[2] या त्यांच्या उत्तरासरून यशवंतरावांच्या ठिकाणी असलेले वेगळेपण आणि त्यांचा प्रचंड आत्मविश्वास प्रकट होतो. यशवंतरावांच्या त्या प्रतिक्रियेबाबत गरुजींनी विचारले, 'अरे, तू न चांगलाच अहंकारी दिसतोस. तू सार्वजनिक कामांत रस घेतोस, हे चांगले आहे. पण त्यामुळे तू निदान देशातील मोठया माणसांचे 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 कोणत्या 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 आल्यानंतर त्यांना वाचणाची संधी मिळाली आणि आवडही जडली. वाचनात माणसे घडतात यावर त्यांचा दृढ विश्वास होता. ग्रंथसंमृध्दी यामुळे म. फुलेंनी महाराष्ट्राला सत्यशोधकी विचार दिला. यशवंतरावांच्या बाबतीतही त्यांचे वाचन ही त्यांच्या वैचारिक प्रगल्भतेचे प्रभावी वक्तृत्व व निर्भिड व्यक्तिमत्वाची खरी ताकद ठरली. यशवंतराव त्यांच्या वाचनाच्या आवडीबाबत असे स्पष्ट करतात की प्रथमत: मला अवघड वाटणाऱ्या आणि माझ्या काहीशा आवाक्याचा बाहेर असणाऱ्या पुस्तकांच्या वाचणाला मी हात घातला. शब्दकोशाचा वारंवार उपयोग करुन आणि अवतीभोवती मित्रमंडळीशी चर्चा करुन मी बरट्रॅंड रसेल याचे ' रोडस टू फ्रिडम ' हे पुस्तक वाचले. जवळजवळ एक महिनाभर मी हे पुस्तक वाचन होतो. या पुस्तकांच्या वाचनामुळे विचारांची दिशा किती व्यापक आहेत, याची

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गोषवारा (Abstract) :

भारतीय समाज सुधारकांच्या राजकीय विचारांचे अध्ययन करत असताना तात्कालीन सामाजिक परिस्थितीचा विचार करणे क्रमप्राप्त आहे. तात्कालीन समाजात मोठ्या प्रमाणातनिरक्षरता, अंधश्रद्धा, जातीभेद, सती प्रथा देवदासी बालविवाह यासारख्या अमानवीय प्रथा मोठ्या प्रमाणात होत्या. त्यामुळे समाज सुधारकांनी प्रथम समाज सुधारणांना अग्रक्रम दिलेला दिसून येतो.

समाज सुधारणे बरोबरच त्यांनी वेळोवेळी राजकीय विचार देखील व्यक्त केलेले आहेत. तात्कालीन ब्रिटिश सरकार आपल्या इंग्लंडमधील नागरिकांना देत असलेल्या नागरी अधिकार व भारतातील नागरिकांना दिलेले अधिकार यात जमीन आसमानाचे अंतर त्यांना दिसून येत होते. म्हणूनच भारतीय समाज सुधारकांनी सामाजिक सुधारणा बरोबरच राजकीय स्वातंत्र्यासाठी देखील आपले योगदान दिले आहे. राजा राममोहन रॉययांनी आपल्या सामाजिक कार्याबरोबरच राजकीय क्षेत्रात देखील योगदान दिले आहे. भारतीयांच्यासनदशीरराजकारणाचा पायात्यांनीच घालून दिला आहे.

न्या. रानडे यांनी भारतीय राष्ट्रीय काँग्रेसच्या स्थापनेत व तिच्या प्रारंभीच्या वाटचालीत मोलाचे योगदान केले आहे. त्यांनी भारतीयांना उदारमतवादी नेमस्त राजकारणातून राजकीय प्रश्न सोडवता येतात असे मार्गदर्शन केले आहे. गोपाळ कृष्ण गोखले यांनी गव्हर्नर जनरलच्या कार्यकारी मंडळात सहभाग घेऊन भारतीयांच्या हक्काचे संरक्षण करण्यासाठीवेळोवेळी आवाज उठवला आहे. डॉ. बाबासाहेब आंबेडकर यांनी देशाला मजबूत लोकशाही व्यवस्था निर्माण करण्याच्या दृष्टिकोनातून आवश्यक तरतुदी असलेली राज्यघटना लिहिण्यात सिंहाचा वाटा उचलला आहे. देशातील सर्व नागरिकांना समान सामाजिक, राजकीय व आर्थिक अधिकार मिळवून देण्यासाठी त्यांनी आवश्यक तरतुदींचा समावेश भारतीय संविधानात केलेला दिसून येतो.

महत्त्वाचे शब्द (Keyword) : नागरी स्वातंत्र्य, व्यक्ती स्वातंत्र्य, राजकीय विचार, सनदशीर, जहालमतवाद, उदारमतवाद, समाजसुधारक.

प्रस्तावना :

खंडप्राय अशा विशाल भारतात भाषा, जाती, धर्म, प्रथा परंपरा यांच्या प्रचंड विविधता असून देखील भारत एक राष्ट्र म्हणून यशस्वी होण्यामागे भारतातील समाजसुधारकांचा मोठा वाटा आहे. त्यांनी भारतीयांना आपल्या बुरसट चालीरीती सोडून देऊन समाजविकासात हातभार लावण्यास प्रवृत्त केले. सतीप्रथा, जातीभेद, बालविवाह, देवदासी, धार्मिक फुटीरतावाद यासारख्या समाजविघातक प्रवृत्तींना रोखण्यात भारतीय समाज सुधारकांचे योगदान अतिशय मोठे आहे. भारतीय समाजातील दोष दूर करून त्यालाप्रगतीपथावर पोहोचवण्यासाठी समाज सुधारकांनी दिलेल्या योगदानाच्याबळावरच आज आपण महासत्ता होण्याची स्वप्न पाहू शकत आहोत.

भारतीय समाजसुधारकांच्या राजकीय विचारांचा सकारात्मक प्रभाव आपल्या लोकशाहीवर स्पष्टपणे पाहण्यास मिळतो. भारतीयांना आधुनिक जगाच्या राजकीय व्यवस्थेचा परिचय करून देण्यात त्यांचे योगदान मोलाचे आहे. राजा राम मोहन रॉय, न्या. रानडे, गोपाळ कृष्ण गोखले वडॉ. बाबासाहेब आंबेडकर यांनी आपल्या राजकीय विचारांनी भारतीयांना उदारमतवादीलोकशाही विचारांची ओळख करून दिली असे म्हटल्यास वावगे ठरणार नाही. सुरेंद्रनाथ बॅनर्जी यांनी ज्यांना भारतातील सनदशीरचळवळीचे जनक म्हटले असे राजा राममोहन रॉय, भारतीय समाज सुधारकांचे मार्गदर्शक न्या. रानडे, महात्मा गांधींचे राजकीय गुरू गोपाळकृष्ण गोखले वभारतीय राज्यघटनेचे शिल्पकार डॉ. बाबासाहेब आंबेडकर यांचे राजकीय विचार निश्चितच भारतीय लोकशाहीला मौलिक मार्गदर्शन करणारे आहेत.

संशोधन पद्धती (Research Methodology) :

सदर शोध निबंधासाठी संशोधक प्रामुख्याने दुय्यम संशोधन साधनांचा वापर करणार आहे. भारतीय समाज सुधारकावर लिहिण्यात आलेल्या विविध ग्रंथांचा आधार संशोधक आपल्या शोध निबंधासाठी घेणार आहे. समाजसुधारकांच्या राजकीय विचारांवर आधारिततज्ञांनी लिहिलेल्या विविध वर्तमानपत्रातील

संशोधक

प्राचीन भारताची संस्कृती: स्वच्छता व आरोग्य

– प्रा. पंडित महादेव लावंड,
बार्शी

प्रस्तावना :

प्राचीन भारतीय संस्कृतीमध्ये वैयक्तिक व सार्वजनिक स्वच्छतेला अनन्यसाधारण महत्त्व दिले. गेले होते. सदृढ व निरोगी समाज निर्माण करण्याच्या हेतूनेच प्राचीन धर्मग्रंथातही स्वच्छता व आरोग्याच्या मूल्याला प्राथमिकता देण्यात आली होती. त्याला शास्त्रीय व व्यावहारिक आधार होता. प्राचीन धर्मग्रंथातील स्वच्छतेबाबतचे नियम हे व्यावहारिक बुद्धी आणि विशेषतः महिलांची सोय या अधिष्ठानावर आधारलेले होते. प्राचीन धर्मग्रंथातील स्वच्छतेबाबतचे हे नियम जितके तत्कालिन सामाजिक परिस्थितीमध्ये आरोग्याच्या दृष्टीने उपयुक्त होते तितकेच आजही उपयुक्त आहेत. त्यामुळेच प्राचीन भारतातील स्वच्छतेच्या परंपरेचा आदर्श विचारात घेणे आजही आवश्यक झाले आहे.

भारतातील प्राचीन आणि मध्ययुगीन काळातील लोक मन शुद्धी, शरीर शुद्धी, वापरावयाच्या वस्त्रांची स्वच्छता, धार्मिक विधी करण्याची ठिकाणाची स्वच्छता, जेवणाच्या पदार्थातील घटकांची स्वच्छता यांच्या शुद्धीला विशेष महत्त्व देत होते. त्याबाबत प्राचीन काळातील विविध धर्मग्रंथात मार्गदर्शन करण्यात आलेले आहे. मात्र त्यासंदर्भातील बहुतांश भाग मानवी व्यावहारातून आज लुप्त झालेला आहे. प्राचीन काळातील धर्मग्रंथामध्ये केवळ उपासना करण्यासाठी पाळावयाचे नियम सांगितले नाहीत तर मानवी समुदायाच्या विकासाकरीता पाळावयाचे नियमही सांगितले आहेत.[१] समाजातील प्रत्येक व्यक्तीला चांगल्या स्वच्छतेच्या सवयी लागण्यासाठी तशा प्रकारचे लोकांना आरोग्य शिक्षण मिळणेही तितकेच गरजेचे आहे. त्यादृष्टीने भारतातील प्राचीन काळातील पुढील संदर्भ विचारात घेणे आवश्यक ठरते.

भारतात प्राचीन काळातील नगरराज्यांमध्ये वैयक्तिक व सार्वजनिक स्वच्छतेबाबत काळजी घेतली जात होती. नागरिकांच्या आरोग्याच्या दृष्टीने नगरराज्यातील प्रमुख मार्गावर मलमूत्राचे विसर्जन करणे गुन्हा समजला जात होता. कौटिल्यानेही नगरराज्यातील साफसफाईला प्राधान्यक्रम दिला होता. कौटिल्याचे असे मत होते की, एखाद्या व्यक्तीने

संशोधक

डॉ. बाबासाहेब आंबेडकर यांचे राजकीय विचार

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प्रस्तावना:

अखंड भारताच्या सामाजिक आर्थिक व राजकीय वास्तवाच्या संदर्भात डॉ. बाबासाहेब आंबेडकरांनी केलेले मार्गदर्शन व राष्ट्रहिताचे कार्य भारतीय लोकशाहीत खूप महत्त्वाचे योगदान आहे. डॉ. बाबासाहेब आंबेडकरांनी फक्त दलितांसाठीच नव्हे, तर आर्थिक दृष्ट्या दुर्बल व शोषित घटकांना न्याय मिळवून देण्याचे कार्य केले. दलितांच्या न्याय व हक्कासाठी लढताना त्यांनी समाजातील सामाजिक व आर्थिक समतोलाची दरी किती मोठी आहे हे दाखवून दिले, व ती असलेली दरी भरून काढण्यासाठी सामाजिक समानता, न्याय, मानवी हक्क मिळवण्यासाठी प्रयत्नशील राहिले. भारतीय संसदीय शासन व्यवस्थेत सर्वांना न्याय, स्वातंत्र्य, समानता व बंधुता या मूल्यांची जोपासना समाजात होण्यासाठी घटनेत ची मूळ चौकट याच तत्वावर निर्माण केली आहे. डॉ. बाबासाहेब आंबेडकरांनी संसदीय लोकशाहीचे समर्थन केले आहे, आणि त्यामुळे भारतामध्ये सामाजिक न्याय व सामाजिक समता प्रस्थापित करण्यासाठी संसदीय लोकशाही आवश्यक्य आहे. डॉ. बाबासाहेबांचे कार्य फक्त भारतीय लोकशाही उभारणी करणे एवढेच नसून जगातील लोकशाही पुरस्कृत राष्ट्रांमध्ये सहकार्य असावे व यातून लोकशाही मूल्यांचे संरक्षण व्हावे अशी त्यांची इच्छा होती. डॉ. बाबासाहेब आंबेडकरांनी त्यांच्याद्वारे लिखित द इन व्हॅल्युएशन ऑफ फायनान्स ब्रिटिश इंडिया, नॅशनल डिव्हीडंट ऑफ इंडिया हिस्टॉरिकल अँड अनॉलीटिकल स्टडी, एशियन इंडियन कॉमर्स, भाषिक राज्याविषयी विचार, शूद्र कोन होते? द प्रॉब्लेम ऑफ रुपी, स्मॉल होल्डिंग इन इंडिया अँड देयर रेमेडीज या ग्रंथसंपदेतून तसेच ङ्गबहिष्कृत भारतफ आणि ङ्गमूकनायकफ वृत्तपत्रे यातून यांचे फार मोठे योगदान वैचारिक क्षेत्राला व जगाला मिळाले आहे. डॉ. बाबासाहेब आंबेडकरांनी सामाजिक आणि आर्थिक लोकशाहीची कल्पना मांडली आणि त्या कल्पनांचा सातत्याने पाठपुरावा केला.

डॉ. बाबासाहेब आंबेडकरांची संसदीय लोकशाहीचा विचार पाश्चिमात्य देशांकडून घेतला असला तरी, राज्य शासन विषयक विचार विचारवंत जेफर सन आणि मिल यांच्याकडून स्वीकारले आहेत. डॉ. बाबासाहेब आंबेडकरांचे राजकीय विचार समजून घेण्यासाठी त्यांचे लेख भाषण संग्रह मूकनायक वृत्तपत्रे ग्रंथ रचनेचा अभ्यास करणे गरजेचे आहे.

सुचक शब्द (Keywords) :

सामाजिक न्याय, स्वातंत्र्य, समता, बंधुता आणि मानवी हक्क.

राजकीय विचार (लोकशाही) :

लोकशाहीमध्ये समाजातील प्रत्येक घटकाला समान महत्व आहे. हे महत्व अधोरेखित करण्यासाठी भारतीय लोकशाहीत व राजकीय विचारात समानता महत्त्वाची पायरी आहे. या महत्त्वाच्या घटकाचा डॉक्टर बाबासाहेब आंबेडकरांच्या विचारात प्रत्येकाला समान दर्जाची व एकसमान संधी उपलब्ध झाली आहे. डॉक्टर बाबासाहेब आंबेडकर यांच्या शिवाय भारतीय संसदीय लोकशाहीचा विचार सुद्धा करणे शक्य नाही. डॉक्टर बाबासाहेब आंबेडकरांच्या मते लोकशाही हे राज्यकारभाराचे एक रूप आहे, पण ती स्थिर नसते, ती नेहमी बदलत जाते. अशा निरनिराळ्या बदललेल्या स्वरूपात जो राज्यकारभार चालविला जातो. डॉ. आंबेडकरांच्या मते लोकशाहीत मत विकणे गुन्हा तर आहेच त्याच बरोबर तो आत्मघातकी पण आहे. डॉ. आंबेडकरांच्या मते लोकशाहीचे ध्येय कालमानानुसार बदलत असते. या यात बदल होत जातो. पूर्वी राजाची सत्ता अबाधित होती. तिला आळा घालण्यासाठी लोकशाही जन्माला आली. मकर्तुमकर्तुमन्यथा कर्तुम्फअशा स्वरूपाच्या राजेशाहीला लोकमताचा लगाम घालने, है पूर्वी लोकशाहीचे ध्येय होते आता तिचे ध्येय लोकांचे जास्तीत जास्त हित करने हे आहे. डॉ. बाबासाहेब आंबेडकर यांनी केलेली हि विधाने वास्तवदर्शी असून त्याचे महत्व अनन्यसाधारण आहे.

लोकशाही म्हणजे काय? लोकशाही या शब्दाच्या व्याख्या अनेक लोकांनी स्वरूपाच्या केलेल्या आहेत. 'लोकांच्या राजकीय व सामाजिक जीवनात क्रांतिकारक बदल रक्ताचा एकही थेंब

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Research papers

Hierarchical spinel $NiMn_2O_4$ nanostructures anchored on 3-D nickel foam as stable and high-performance supercapacitor electrode material

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ABSTRACT

A simple hydrothermal route has been used to synthesize $NiMn_2O_4$ nanostructures (NSs) on nickel foam. The electrochemical investigation shows how annealing temperature affects its supercapacitive properties. The NMO@500-Ni-foam electrode shows a high specific capacitance of 930 Fg^{-1} at a constant scan rate of 5 mVs^{-1} in 1 M KOH electrolyte. Additionally, the corresponding symmetric supercapacitor device (SSCs) has a superior cyclic span with 93.7 % capacitance retention even after 5000 cycles, excellent electrochemical performance with a specific capacitance of 72.9 Fg^{-1}, specific energy of 11 $Whkg^{-1}$, and specific power of 857 Wkg^{-1}. The exceptional results suggest that $NiMn_2O_4$ grown on Ni-foam might be a promising candidate for electrochemical energy storage applications.

1. Introduction

The need for innovative energy know-how and conversion/storage initiatives has grown in recent years in order to address the world's pressing energy-related concerns as well as the current energy crises and environmental contamination [1–4]. To address this serious problem, there is an urgent need to develop energy-storage devices with high energy productivity, long lifespans, and exceptional chemical stability [5–7]. Supercapacitors (SCs), a type of energy storage system, have drawn the attention of researchers because of their exceptional features like quick charging and discharging, high power density, and environmental friendliness. But the energy density is lower than anticipated. The development of effective electrode materials can aid in the resolution of such issues [8–10].

Metal oxides of the spinel type have shown promise in a number of fields, including energy storage and conversion. Spinel-type metal oxides with the structural formula AB_2O_4 have drawn a interest as prospective energy storage materials because of their high theoretical capacitance, wide availability, and inexpensive cost [11–12]. In addition, transition metal oxides (TMOs) such as $NiCo_2O_4$, $NiFe_2O_4$, $ZnCo_2O_4$, $MnFe_2O_4$, and $NiMn_2O_4$ have sparked increased interest in energy storage due to their remarkable synergistic influence on the existence of two distinct cations in a mono crystalline phase, which can improve chemical stability and electrochemical performance of binary metal NPs [13–17]. The most appealing choice is $NiMn_2O_4$, which has a higher capacity for charge storage and higher conductivity than pure nickel and manganese oxide.

Additionally, the lattice orientations, including Mn and Ni, may offer

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Review Paper on Characterization and Application of Ornamental plants used in the Treatment of Sewage Effluent Treated Plant

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Abstract : This review paper explores the characterization and application of ornamental plants in the treatment of sewage effluent from Sewage Treatment Plants (STPs). Ornamental plants have gained attention as a sustainable and aesthetically pleasing solution for wastewater treatment. We analyze the diverse plant species used, their pollutant removal capabilities, and the factors influencing their efficiency. Additionally, we discuss the various applications of treated sewage effluent in ornamental plant-based systems. This research underscores the potential of ornamental plants in enhancing the ecological and visual appeal of wastewater treatment, promoting a harmonious coexistence of environmental conservation and landscape aesthetics.

IndexTerms – Biofiltration, Plant-Based Technologies, Sewage Effluent Reuse.

I. INTRODUCTION

The ever-expanding urban landscape and rapid industrialization have been accompanied by a staggering increase in sewage generation. As urban centers burgeon and populations surge, the disposal of sewage becomes an increasingly pressing concern. The indiscriminate discharge of untreated sewage into natural water bodies poses a grave threat to the environment, human health, and aquatic ecosystems. In response to this mounting challenge, statutory regulations, such as those issued by the Central Pollution Control Board (CPCB) in many countries, have mandated the installation of Sewage Treatment Plants (STPs) for various infrastructure projects.

This comprehensive review paper delves into the critical issues surrounding sewage treatment, emphasizing the necessity of sewage treatment, the constituents of sewage, and the emerging trends in recycled water utilization. By analyzing the current state of sewage management, exploring innovative sewage treatment technologies, and discussing the benefits and challenges of recycled water use, this review aims to shed light on the multifaceted dimensions of sewage treatment and its implications for urban development, environmental sustainability, and public health.

1. The Imperative of Sewage Treatment

Sewage, a complex mixture of suspended solids, organic and inorganic impurities, nutrients, bacteria, and other microorganisms, represents a potent environmental hazard. When left untreated, sewage poses severe threats to aquatic ecosystems, human health, and the quality of natural water bodies. The harmful substances present in sewage can lead to the eutrophication of water bodies, depletion of oxygen levels, and the spread of waterborne diseases. Furthermore, the discharge of untreated sewage into rivers and seas jeopardizes the health of aquatic plants and animals, disrupting the delicate balance of aquatic ecosystems.

In recognition of these environmental concerns, regulatory bodies like the CPCB have mandated the installation of STPs for certain infrastructure projects, including apartments, commercial construction projects, educational institutions, townships, and area development projects that meet specific criteria. This regulatory intervention underscores the importance of treating sewage at its source, preventing the contamination of natural water bodies, and safeguarding public health.

2. The Composition of Sewage: A Complex Mix of Contaminants

Understanding the composition of sewage is fundamental to appreciating the challenges it poses and the treatment processes required. Sewage is not a uniform substance; rather, it comprises a diverse array of constituents that can vary significantly in their origin and impact. The major components of sewage include suspended solids, organic matter, inorganic impurities, nutrients, saprotrophic and pathogenic bacteria, and other microorganisms.

Suspended solids consist of particles that are carried along with sewage and can include debris, organic matter, and particulate pollutants. These solids can clog waterways, impair the passage of light into aquatic ecosystems, and serve as a medium for the attachment and transport of contaminants.

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Model organisms used for Lipid profiling

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Abstract: Hyperlipidemia is the major cause of health issues. It leads to several other chronic diseases or disorders. Avoiding hyperlipidemia may help the mankind to stay away from several life threatening diseases. Research at various levels is being carried out to reduce the lipid levels in human body. For these kind of researches it is necessary to note the lipid profiles to test the effects molecules that can work out to reduce the lipid levels. Thus, different models can be used be to study the effects of drugs or newly formed molecules on lipid profiles of these models.

Keywords: Lipid profile, drosphila, models

Introduction:

Hyperlipidemia is increase in lipid levels above the normal levels.[10] It is the disorder of major concern all over the world today. It is also called as dyslipidemia. Sometime it is confused with the term hypercholesterolemia. Hypercholesterolemia is the type of hyperlipidemia which is related only to the cholesterol whereas hyperlipidemia indicates increased level of cholesterol and triglycerides.

It is the cause of concern asit is responsible for several life threatening diseases or chronic diseases like cardiovascular diseases, hypertension, diabetes, atherosclerosis and so on. In order to stay away from these diseaseslipid profiling is routinely done. Lipid profiling is the measure of cholesterol and triglyceroids in the body. A minimal lipid profile consists of plasma total cholesterol and triglycerides. A standard lipid profile also includes measurements of LDL cholesterol and HDL cholesterol. Total cholesterol, HDL cholesterol, and triglycerides are measured directly, whereas LDL cholesterol can either be measured directly or calculated by the Friedewald equation Several researches are being conducted so that the lipid levels in humans

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The moths (Lepidoptera: Heterocera) of Osmanabad: A Preliminary checklist

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Abstract-

Moths constitute the larger division of the order Lepidoptera. Prior to this study there has been only few surveys have carried out in January 2021 to December 2022 especially in Osmanabad district. We have Find the patterns of biodiversity of moths for study area by extensive survey. Some common moths are found during the survey such as *Asota plana, Lymantria dispar Achaea Janata, Spodoptera litura.* The arthropod, which includes insects, spiders, mites, and their relatives, is without question the most successful group of organisms on the planet. Lepidoptera is the second largest order of class insecta. They are also monitored to indicate climatic changes and environmental degradation. Occurrence and population of moth has greatly influenced by environment that includes biotic and abiotic factors, Rainfall, humidity, wind. Etc. Diversity is one of the important cornerstones of sustainable development and represents the biological wealth of a given Nation. Insects and plants are becoming extinct because of habitat loss, over-exploitation, pollution, overpopulation and the threat of global climatic changes. To establish a foundation for research on moths and provide a scientific data to forest dept. & wildlife for evaluating the threatened and endangered species values for their conservation in future.

Keywords- Lepidoptera, Heterocera, Moth, Diversity, Osmanabad.

Osmanabad is one of administrative district of state Maharashtra. Most of the area is rocky, while remaining park is plain. Osmanabad Weather Forecast Providing a local hourly Osmanabad weather forecast of rain, sun, wind, humidity and temperature. Osmanabad is 629 m above sea level and Osmanabad district is located in southern part of state, located at 18.17° N 76.03° E. Most part of district surrounded by Balaghat range (Washi, Kalamb, Osmanabad, and Tuljapur Tahsil.) Some part of the major rivers like Godavari and Bhima flows through this district. Osmanabad district is surrounded by following districts.

1)Solapur - South East 2) Ahmednagar -North West.

3)Beed - North 4) Latur - East. 5)Bidar and Gulbarga (Karnataka) – South

Crops: -

Both Kharif and Rabi crops are taken in this district. The main crops are Jawar, Sunflower, Gram, Hybrid-Jawar, Sugarcane, Tur etc. Total cultivable area is – 5.70 lakhs hectares. Out of which Kharif crop is 3.26 Lakhs hectares and rabbi crops 3.47 hectares.

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A Geographical Analysis of Water Resources in Osmanabad District

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Abstract:
The natural resources are base of a region includes the elements of climate, land, water, soil and biodiversity. They dictate the opportunities for livelihoods and incomes for the people of the region. Water finite in quantity, tangible in nature, and unequally distributed through out the world. Water is essential to human life. Growing water scarcity has become a very real obstacle to sustainable development. Therefore, an attempt is made here to ananlyse water resources in Osmanabad District. The present paper is based on secondary sources of data source. To find out variability in actual water storage, irrigated the statistical technique i. e. coefficient of variation is used. The analysis reveals that the high variability in actual water storage in Turori, Khasapur, Rui, Sakat and Chandani dams are mainly because these dams are situated in low and uncertain rainfall area, which indicates that there is not consistency in actual water storage in turn no guaranty of agriculture production.

Key words: *Water resource, actual storage, Variability, Coefficient of Variation.*

Introduction:

Resource means an available supply of something that is valued because it can be used for a particular purpose, usually to satisfy particular human wants or desires (Susan Mayhew, 2009) The natural resources are base of a region includes the elements of climate, land, water, soil and biodiversity. They dictate the opportunities for livelihoods and incomes for the people of the region. More recently the concept of a natural resource has been broadened to include the total natural environment, that is, the entire surface layer of the earth. Because all parts of the earth's surface are of some use to man. Water finite in quantity, tangible in nature, and unequally distributed through out the world. Only 2.5 per cent of 1386 million cubic kilometers of water available on erth is a fresh water and onethird this smaller quantity is available for human use (Bhattcharya Atanu et. all, 2015). Today, thirty-one countries having nearly 8 percent of the total population face water shortage, affecting more than 2.8 billion people, which is more than one third of the world's projected population.

The amount of freshwater available on the Earth today is no more than that was available 2000 years ago when the Earth's population was less than 3 percent of its current size. Rising demands of water in Agriculture, domestic consumption and industry are forcing stiff competition over the distribution of scare water resources, both amongst different regions and types of use. Water is likely to play the same role in world economy in the 21st century that oil played in the 20th century and will be source of conflicts world over to pose a major threat to human security if proper preventive measures are not taken globally. Water conservation basically aims at matching demand and supply. Storage of water by construction of various water resources projects has been one of the measures of water conservation.

Since agriculture accounts for nearly 70 percent of all water withdrawn from rivers, lakes and underground aquifers for human use, large potential for conservation lies with increasing irrigation, efficiencies. Typically, only about 45 percent of water withdrawn for irrigated agriculture ever reaches the crops. Even when sufficient irrigation water reaches agriculture fields, its can spoil much of the land unless drained properly.
(Bharti P. & Lkemefuna E.P.2014)

Water is essential to human life. In fact, since 60% of the human body is water, it can be said that water is life itself. Without water, no field of human activity can be complete. Today, the world is debating if the flow of information is more important than the flow of energy. That is a good question. But the flow of water is still more important. It is fundamental to the economy and to ecology – and to human equity. The issue of water is becoming still more critical in view of climate change and related environmental concerns (Kumar CP, 2018). Growing water scarcity has become a very real obstacle to sustainable development. Therefore an attempt is made here to ananlyse water resources in Osmanabad District.

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