

## Factors Affecting Job Satisfaction: Case Study on Poona College

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**Abstract:** The study aimed to study the factors that have an impact on the job satisfaction of employees. The study is based on primary data, which was collected from Poona College. The questionnaire was distributed to the employees in Poona College. According to H.R department, there are 300 employees in the college. They are taking place in every level and filed. In obtaining the sample size of the population, employees in Poona College were selected. The researcher further selected 15% of employees, it was counted in the formula of  $(300 \times 15 / 100 = 45)$ . Results revealed that satisfied employees have positive attitudes about their jobs. Satisfied workers are tend to work on time, loyalty and commitment to the job, tend to improve knowledge, willing to accept more responsibility, with a reduction of absenteeism. The positive attitudes will increase the quality and quantity of employees' performance. Therefore, such a situation is good for an organization but some organizations do not concern about satisfaction of employees.

**Key Words:** Attitude, Job Satisfaction, Factors, Human Recourse, Management.

### 1. INTRODUCTION:

Job Satisfaction is a very essential aspect in every organization. Jobs should be designed in such a way that the all the employees feel satisfied with their job. Job satisfaction plays a vital role in motivating the employees to perform their jobs more perfectly and in a good manner and also can achieve their goals and in turn, it increases the productivity, less attrition rates, absenteeism etc.

One of the main aspects of Human Resource Management is the measurement of employee satisfaction. Companies have to make sure that employee satisfaction is high among the workers, which is a precondition for increasing productivity, responsiveness, and quality and customer service. In fact, this is critical to organizational success.

The concept of job satisfaction have been explained in different ways via various scholars and experts. In Greenberg and Baron's words (2008), job satisfaction was exposed as a feeling that can produce a positive or negative effect toward one's roles and responsibilities at work and added that it is important to understand the concept of job satisfaction as there is no single way to satisfy all workers in the workplace. They realized that a positive feeling toward a person's job.

Employee satisfaction is of utmost importance for employees to remain happy and also deliver their level best. Satisfied employees are the ones who are extremely loyal towards their organization and stick to it even in the worst scenario. They do not work out of any compulsion but because they dream of taking their organization to a better level. Employees need to be passionate towards their work and passion comes only when employees are satisfied with their job and organization on the whole. Employee satisfaction leads to a positive ambience at the workplace. People seldom crib or complain and concentrate more on their work.

The first benefit of employee satisfaction is that individuals hardly think of leaving their current jobs. Employee satisfaction in a way is essential for employee retention. Organizations need to retain deserving and talented employees for long term growth and guaranteed success. if people just leave you after being trained, trust me, your organization would be in a big mess. Agreed you can hire new individuals but no one can deny the importance of experienced professionals. It is essential for organizations to have experienced people around who can guide freshers or individuals who have just joined. Employee attrition is one of the major problems faced by organizations. I don't think an individual who is treated well at the workplace, has ample opportunities to grow, is appreciated by his superiors, gets his salary on time ever thinks of changing his job. Retaining talented employees definitely gives your organization an edge over your competitors as they contribute more effectively. Moreover, no new individual likes to join an organization which has a high employee attrition rate. Employees who are not satisfied with their jobs often badmouth their organization and also warn friends and acquaintances to join the same.

किसी भी व्यवसाय को सुचारू रूप से संचालित किया जा सके ३. निगम द्वारा ऋण प्रदाय की औपचारिकता को कम करना चाहिए क्योंकि अधिकांश जनसंख्या अशिक्षित है ४. प्रशिक्षण की उचित व्यवस्था किया जाना चाहिए एवं ऋण राशि की वसूली के लिए भी उचित व्यवस्था हो ताकि हितग्राही निगम की योजनाओं से लाभान्वित हो सके।

निष्कर्ष —

निष्कर्ष रूप से हम कह सकते हैं कि राजनांदगांव जिले में अनुसूचित जाति अनुसूचित जन जाति वर्गों को छ०ग० अंत्यावसायी वित्त एवं विकास निगम से वित्तीय सहायता प्रदान कर स्वयं के रोजगार व्यवसाय प्रारम्भ करने में मदद कर रहा है निगम की योजनाओं के क्रियान्वयन से इन वर्गों का जीवन स्तर ऊँचा उठ रहा है और वे विकास की मुख्यधारा से जुड़कर आर्थिक सामाजिक व्यवहारिक रूप से सक्षम हो रहे हैं इस वर्ग के आर्थिक रूप से विकसित होने से समाज का गांव का जिले का राज्य का एवं राष्ट्र का भी आर्थिक विकास हो रहा है।

संदर्भ सूची —

१. जिला सांख्यिकी पुस्तिका राजनांदगांव
२. जिला अंत्यावसायी वित्त एवं विकास निगम का वार्षिक रिपोर्ट
३. जिला अंत्यावसायी वित्त एवं विकास निगम राजनांदगांव द्वारा प्रकाशित सामग्री
४. जिला राजनांदगांव की विकास झलक — २०१४
५. योजना पत्रिका

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## Social Entrepreneurship in India – Opportunities and Challenges in the Current Scenario

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**ABSTRACT:** Social entrepreneurship is a topic of growing interest among academicians and practitioners. The potential of social problems in India is well known, but the degree of support and interest is hardly significant. An entrepreneurial mindset is re-emerging in India. Right from ancient times, India has been entrepreneurial. But the era of liberalization of late had released the genie from the bottle – the suppressed urge and natural instincts of our effervescent entrepreneurial class has once again been unleashed. The opening up of the industrial sector to foreign competition had created a flutter among the Indian industrial circles. The paper attempts to shed light on the current state of affairs on the theme of challenges and opportunities facing the social entrepreneurship scene in India.

**Keywords:** social entrepreneurship, challenges, problems, opportunities.

### INTRODUCTION

The economic development of a Nation depends on its industrial development. The industrial development is based on the entrepreneurial competencies of the people. Entrepreneurs are innovative, highly motivated, and criti-

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## “Role and Importance of Infrastructure in Agriculture Development”

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### Abstract:

The researcher examines how physical infrastructure contributes to agricultural development in India. The importance of good infrastructure for agricultural development is widely recognized. Agriculture infrastructure, implies those facilities that help farmers in the processes of sowing to selling; namely- Road connectivity, Irrigation, Machinery, Electrification, Storage, Seeds, Agriculture research, etc. There is also a need to improve infrastructure in line with the ambitious objective of doubling the farmers income in India by 2022 and to make agricultural sustainable and prevent farmers suicides. Therefore invest on agricultural infrastructure will improve not only the agricultural production but also the agricultural productivity. Development of road infrastructure is imperative for agriculture and overall economic growth. Water is another basic factor in agriculture next only to land. Majority of the farmers uses old techniques of production and outdated machinery or equipment. Electricity is one of the important input in farming. Farmers are faces shortage of power. Cold storage



## **PUBLICATION CERTIFICATE**

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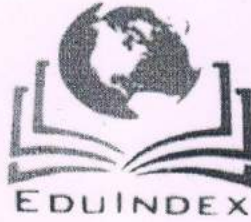
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## Dairy Production and Process In India

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### Abstract:-

As a Commerce Senior teacher I am going to write my research paper about the dairy farming, it's production and process especially in India. In my research paper I am going to present how the dairy production helps to Indian economy. How the Indian economy develop on dairy farming and it's production which kinds of new technology are using for increase the dairy production in India. Is India will became the first number of country in the world in coming days. How many problems are coming to the farmers regarding the dairy farming, it's production and process. What are the major sources of dairy farming many researchers wrote about the dairy farming and it's production. But my present research paper is different from other papers because in my paper I am going to studying the actually what is dairy farming, how it is more important, it's production and its distribution etc. in India.

Apart from low productivity of the animals, there are many other problems like large human and livestock population and it's pressure on land, degraded pasture lands, shortage of feed, in gredients and fodders, which need to be targeted. While the agriculture sector is witnessing a kind of stagnation or a decline in growth rate in areas where the green revolution earlier brought a new dawn for human survival against brought a new dawn for human survival against hunger and malnutrition, the dairy sector is showing better promise.

### Introduction:-

Dairy farming in India has been a important part of the agriculture scenario for thousands of years. India's agrarian economy has about 70% of it's population living in villages, where livestock cheese, butter, ghee etc. India is not only one of the top producers of milk in the world, but also the largest consumer of milk and milk products in the world. Agriculture and animal husbandry have a symbiotic relationship, in which the agricultural sector providers feed and fodder for the livestock and animals provide milk, manure and draught power for various agricultural operations. Dairy sector is instrumental in bringing socio-economic transformation in India. It has created lot of employment opportunities in India and also provides improved nutritional benefits.

Animal husbandry is a major sub-sector of agriculture sector and contributes about 28.6% to the agriculture value output.

### Importance of Dairy farming:-

Milk is a wholesome food among all the animal products. It contains in proper proportions the various essential food ingredients required by human body inclusion of milk in the human diet increases the digestibility of other types of food as well. The productivity of milk varies in different countries, as some countries are surplus in production, some are deficit in production and in some of the countries, availability matches their requirement. The annual milk production in India in 2015-16 was 155.5 million tonnes and the per capita availability of milk was 337 grams per day. In India, milk is produced by a vast number of

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## A STUDY OF PRADHAN MANTRI MUDRA YOJANA (PMMY)

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### Abstract:

Banks play a crucial role in the economic development of any country in the world. On a larger scale, national banks offer alike access to credit and financial services to larger business, local governments, and in some cases international customers. Most individual, especially those living in rural and interior parts of India have been excluded from the benefits of formal banking system. Therefore, they never had access to insurance, credit, loans and other financial instruments to help them establish and grow their micro business. So, most individuals depend on local money lenders for credit. The role of private sector is very much important in accelerating the pace of economic growth. The banks increase the participation of the private sector in economic development by making available loans easily on reasonable rate of interest. The expansion of financial sector encourages entrepreneurs to make investments by promoting entrepreneurship. An attempt has been made in this paper to analyze the necessity of MUDRA bank for micro as well as small level entrepreneurs.

**Key Words:** PMMY, Mudra bank, MFIs, self-employment.

### Introduction:

Pradhan Mantri Mudra (Micro Unit of Development and Refinance Agency) Yojana is a potential step of promotion of financial inclu-

sion in India. It was originally launched on 8<sup>th</sup> April, 2015 by hon'able prime Minister Narendra Modi under the guideline of Department Of Financial services (GOI). Under PMMY, Micro Units Development and Refinance Agency Ltd. (MUDRA), a new institution has been set up by Government of India for development and refinancing activities relating to micro units. It was announced by hon'able Finance Minister 'Arun Jately' while presenting the Union Budget for FY 2015-16. MUDRA Ltd will monitor the progress of Pradhan Mantri Mudra Yojana. Under this scheme, people can take three type of loan i.e. Loan up to Rs. 50,000 under Shishu; Rs. 50,000 to Rs. 5 lakh under Kishor; and Rs. 5 lakh to Rs. 10 lakh under Tarun.

In FY.2016-17, 39701047 accounts have opened in India. The Union Budget has announced a target of Rs. 2.44 lakh crore for Mudra Loans during 2017-18. At present, the scheme is applicable in all over India having 29 states and 7 union territories. The top three states getting biggest chunk of loan are Tamilnadu, Karnataka, and Maharashtra. MUDRA Ltd. will also refinance Micro-Finance Institutions through Pradhan Mantri Mudra Yojana. The top three institutions that received refinance under the MUDRA scheme are: SKS Microfinance, Ujjivan Financial Services Pvt. Ltd. and Equitas Microfinance Pvt. Ltd.

### Objective of the Study:

1. To know the product offering PMMY.
2. To study the objective and role of PMMY in India.
3. To analysis the loan sanction under different Mudra product to small business units.

### Research Methodology:

The study is based on secondary data. Like different books, economic survey, newspapers and relevant websites have been consulted in order to make the study an effective one.

### Pradhan Mantri Mudra Yojana (PMMY):

PMMY aims to bank the unbanked. The objective of PMMY is to support the entrepre-

# पर्यावरण आणि औद्योगिक प्रदूषण

डॉ.पंडित नामदेव औटे

वाणिज्य विभाग, आनंदराव धोंडे ऊर्फ बाबाजी महाविद्यालय, कडा ता. आष्टी जि. बीड

प्रास्ताविक :

मानवाचा इतिहास पाहिला असता असे लक्षात येते की, मानवी संस्कृतीच्या जवळजवळ ९५ % कालावधीत मानव निसर्गाचाच एक भाग म्हणून अस्तित्वात होता, परंतु इतर प्राण्यांच्या तुलनेत माणसाचे स्थान वेगळे ठरले. मानवाकडे असलेली बुद्धिमत्ता, कल्पनाशक्ती, स्मरणशक्ती व वाचाशक्ती याचमुळे कदाचित इतर प्राण्यांप्रमाणे निसर्गाशी मिळतेजुळते घेण्यापेक्षा मानवाने नैसर्गिक घटकांवर ताबा मिळवण्याचा सतत प्रयत्न केल्याचे दिसून येते.

मानवाने याच नैसर्गिक विविधतेचा उपयोग आपल्या विविध व्यवसायाच्या विकासासाठी केलेला दिसतो. पृथ्वीचा व पृथ्वीवरील साधन संपत्तीचा उपयोग वेगवेगळ्या पातळींवर केलेला आढळतो. काही ठिकाणी संपूर्णपणे निसर्गावर अवलंबून असलेली शेती तर दुसरीकडे अतिप्रगत तंत्रज्ञानाच्या सहाय्याने व्यावसायिक स्वरूपाची शेती आढळते. शेतीच्या क्रांतीनंतर अठराव्या शतकाच्या मध्यात औद्योगिक क्रांतीचे वारे जगभर घुमु लागले. याच सुमारास लोकसंख्या वाढीस सुरुवात झाली. वाढत्या लोकसंख्येबरोबरच मागणी वाढीस लागली. त्यामुळे अधिकाधिक मागणी पुरविण्यासाठी उद्योग वाढले. औद्योगिकरणामुळे साधनसंपत्तीचा वापर प्रचंड प्रमाणात वाढला. नगरे व शहरांचा विकास व वाढ झाली. मानवाचे राहणीमान उंचावले. गरजा संपून ऐश्वर्यसंपन्न आयुष्याकडे वाटचाल वेगाने होऊ लागली. या सर्व गोष्टी पुरविण्यासाठी नैसर्गिक संपत्तीचा अधिकाधिक वापर अविवेकी पद्धतीने सुरू झाला. निसर्गातील मूलभूत संपदा. उदा. मृदा, पाणी, हवा, वनस्पती, खनिजे इत्यादी वरील ताण अतिरेकी पद्धतीने वाढला. यामुळे नैसर्गिक चक्रामुळे कार्यरत असलेल्या पृथ्वीवरील जैविक परिस्थितिक व्यवस्थेवर मोठा तणाव निर्माण झाला.

अणुऊर्जा प्रकल्पामधून होणारे किरणोत्सर्जन सजीव सृष्टीला हानीकारक ठरत आहे. उदा. रशियातील चेर्नोबील येथील अणुऊर्जा केंद्रातून २८ एप्रिल १९८६ रोजी झालेले किरणोत्सर्जन. रसायन उद्योगातील तांत्रिक बिघाड किंवा मानवाचा निष्काळजीपणा यामुळे विषारी वायुगळती होऊन सजीव सृष्टीवर गंभीर परिणाम होतात. उदा. डिसेंबर १९८४ मध्ये भोपाळ येथील युनियन कार्बोइडच्या कारखान्यातून मिथिल आयसोसायनाइड या विषारी वायूची गळती होऊन त्याच्या प्रादुर्भावामुळे तेथील हजारो लोक मृत्युमुखी पडले. अनेकांना कायमचे अंधत्व किंवा अपंगत्व आले. औद्योगिक प्रदूषकांमुळे ऑक्सिजन चक्र, कार्बन चक्र, जलचक्र व पर्यावरण यांच्यात असंतुलन निर्माण झाले आहे. औद्योगिक



09

## The Impact of Covid-19 on Banking Sector

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### Abstract:

In today's era, as everyone knows that to defeat pandemic like covid-19, the Indian Government announced complete lock out in the country from 24 March 2020 and was then extended to 3 May 2020 by the Government of India. The Indian government needs to lockout so that the lives of the people of the country can be saved. This is going to severely affect various sectors of our country. Banking is the backbone of the Indian economy. This research paper is an attempt to assess the casual impact of a pandemic like covid-19 on banks due to lockdown. As a result, all commercial organizations, educational institutions and public and private sector offices have been closed. This research article has indicated a very serious impact of the lock down on banks in the event of moving beyond the July 2020. The rapid spread of pandemics such as covid-19 had led to a steep decline in key indicators indicating significant impact on its impact and GDP growth.

### Rationale of the Study:

The first news of the outbreak of novel coronavirus came from Wuhan city of China on 31 December 2019. The corona virus is a new virus that has not yet been identified in humans. The literature indicates that the corona virus is a very large family of virus its spreading speed is very fast. This corona virus can cause anything from the common cold to the more severe. To prevent this from spreading across the country, the Indian government announced a lockdown on 24 March 2020 extended to 3 July 2020. Many actions taken by governments around the world. WHO praised the timely action by Indian Prime Minister Narendra Modi and many people as a lockdown, because of the cure of diseases or in the absence of vaccine to prevent the virus from spreading was the best option? By the way, various institutions like IMF and World Bank central banks economists from different countries have expressed their facts about the divesting effect of lockdown in GDP world especially in general and emerging economies like India.

A Bank is an institution that has the primary function of depositing and leading money to needy individuals, business and governments. When a person deposits money in a Bank it does not mean to the Banks what the amount is. The person knows that the money is safe with the Bank. The Bank provides many facilities to customers such as providing loans, debit cards and credit cards to generate demand. It has been expanded and modernized as certain that the Banking sector is poised to become the fifth largest banking industry in the world in the year 2030 and will be the third largest by 2035.

### Objective of the Study:

Following are the objectives of the research paper:

1. To Study the change in RBI policy due to covid-19.
2. To Study the effect of covid-19 in Indian Banking sector.
3. To find out solutions for Indian Banking system to face Covid-19 pandemic.
4. To study the RBI circular announced certain regulatory measures for overcoming from the covid-19 pandemic.
5. To study the reducing the effect of covid-19 pandemic all commercial Bank, co-operative Bank all India Financial Institutions and Non-Banking Financial companies.
6. To study the RBI provide the facilities to pay the working capital loans in the form of cash credit.

### Hypothesis:

1. Increase loans defaulters due to reduce revenue and margin.
2. Raising need and preference for digital transactions.
3. Growing preference for health and life insurance policies.

## Comparative study of adsorption capacity of matki seed husk for the removal of congo red, crystal violet, and methylene blue from aqueous solution

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<sup>1,2</sup> Anandrao Dhonde Alias Babaji College, Kada. (INDIA)

### ABSTRACT:

Many industries such as paper, food, cosmetics, textiles etc. use dyes in order to colour their products. The presence of Congo red, Crystal violet and Methylene blue dyes in water even at very low concentration is highly visible and undesirable. The degradation by-products of organic dyes have dangerous impacts on the environment. The ability of the low cost materials viz. matki seed husk (MtSH) powder to remove Congo Red (CR), Crystal Violet (CV), and Methylene Blue (MB) dyes in aqueous solution was studied by using batch adsorption process. Effect of contact time, adsorbent dosage (g/L), pH, salt and effect of temperature were studied in batch technique and results showed that amount of the dye adsorbed increases with increase in contact time and adsorbent dosage studied. The extent of adsorption was strongly depends on pH of solution, free energy of adsorption ( $\Delta G^\circ$ ), enthalpy ( $\Delta H^\circ$ ), and entropy ( $\Delta S^\circ$ ) changes were calculated. Equilibrium adsorption isotherms and kinetic were investigated. The experimental data were analyzed by the Langmuir and Freundlich models and the isotherm data fitted well to the Freundlich isotherm. The kinetic data obtained were analyzed using a pseudo-first order and pseudo-second-order equation. The experimental data fitted very well the pseudo second-order kinetic model.

**Key words:** Adsorption, Matki seed husk, Dyes, Adsorption isotherm, Equilibrium kinetics, etc.

### INTRODUCTION:

Pollution caused by the textile wastewater is a common problem faced by many countries. The effluents from textile, leather, food processing, dyeing, cosmetics, paper, and dye manufacturing industries are important sources of dye pollution. Wastewaters from dyeing and finishing operations in the textile industry are generally high in both colour and organic content. Colour removal from textile effluents has been the target of great attention in the last few years, not only because of its potential toxicity, but mainly



## Research Article

### PHYTOCHEMICAL, ANTIMICROBIAL ACTIVITY OF DIFFERENT EXTRACT OF *DALBERGIA SISSOO* LEAVES

Ghumare Pramila, Dattatraya Jirekar \*

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#### ABSTRACT

Traditional system of medicine consists of a greater number of plants with different medicinal and pharmacological benefits and hence represents a valuable tank of new bioactive molecules. In the present investigation, *Dalbergia sissoo* plants were collected from kada, District Beed, which is used widely as traditional medicine in the treatment. The study was carried out to evaluate the phytochemical and potential antimicrobial activity against five types of bacteria (*Staphylococcus aureus*, *Salmonella typhimurium*, *Proteus vulgaris*, *Pseudomonas aeruginosa* and *megaterium*) and two fungi (*Aspergillus niger* and *Aspergillus flavus*) of five extracts. To assess the antimicrobial activity of five extracts by using Cylinder plate or cup plate method. The obtained results showed a potential effect as maximum zone of inhibition was 8 mm, 7mm and 6 mm in aqueous, ethanol and acetone extract respectively.

**Key words:** *Dalbergia sissoo*, phytochemical, antibacterial activity.

#### INTRODUCTION

From old days to recent civilization, human beings are depending on nature for running their life smoothly from day to day. Plants remain a main source of drugs and now a day's much emphasis have been given to nutraceuticals. The role of traditional medicines in the solution of health problems is invaluable on a world level. Medicinal plants continue to supply valuable therapeutic agents, both in modern and in traditional medicine<sup>1</sup>. The side effects of the modern medicine as well as traditional medicines are gaining importance and are now being studied to find the scientific basis of their therapeutic actions<sup>2</sup>. Research work on medicinal plants has more intense and information on these plants has been exchanged. Research work will go a longer way in the scientific exploration of medicinal plants for the benefit of man and is likely to decrease the dependence on synthetic drugs<sup>3</sup>. Herbal drugs are used in traditional methods of treating the diseases worldwide. Several types of medicinal plants are existing in the nature and are effective in treating different type of diseases<sup>4</sup>. Herbal medicine is a success of popular therapeutic diversity. In recent times there has been a tremendous increase in the use of plant-based health products in developing as well as developed countries, resulting in an exponential growth of herbal products globally<sup>5</sup>. Many species of *Dalbergia* are important timber trees, valued for their decorative and often fragrant wood, rich in aromatic oils<sup>6</sup>. The most famous of these are the rosewoods, so named because of the smell, but several other valuable woods are yielded by the genus<sup>7</sup>. The scientist's Swedish brothers Nils and Carl Dalberg, who lived in the 18<sup>th</sup> century gives generic name *Dalbergia* honors. The plant is native to India; it is the state tree of Punjab (India). The plant is used in treatment of leprosy, jaundice, gonorrhoea and syphilis etc.

#### TRADITIONAL USES

Different parts of *Dalbergia sissoo* are traditionally used in treating different diseases. Sissoo oil extracted from seeds is used to treat blue itching, burning on the skin, and scabies. Leaves: Finely ground paste of 8-10 leaves of sissoo and 25 g of palm candy taken in the morning alleviates profuse menstruation. 50-100 ml decoction of the leaves taken thrice in a day is useful in Painful micturition and to cure boils and pimples. 10-15 ml juice (leaves) taken thrice in a day helps in eliminating pus in urine and in treating jaundice. The leaves warmed and tied on breast and consuming the decoction of the leaves removes swelling of the breast. The 3 to 6 g. bark powder or decoction of the leaves is most useful in gonorrhoea. Decoction of the bark and leaf is used in leprosy. Make a decoction of 10gm sissoo bark with 500 g of water and it should be boiled till the liquid reduces to half. Mix the juice of the bark and consume for forty days every morning which helps in leprosy<sup>8</sup>.

#### MATERIAL AND METHOD

The fresh leaves of *Dalbergia sissoo* are collected from Kada, District Beed. The fresh leaves were dried under shade, powdered and pass through 40 mesh sieve and stored in closed bottle for further use. The powder was extracted with water, ethanol, chloroform, and acetone and petroleum ether by Soxhlet apparatus. Phytochemical analyses were carried out for all the extract as per the standard methods<sup>9</sup>.

#### ANTIMICROBIAL ACTIVITY

Bacterial and fungal strains: The test organisms were purchased from NCIM, NCL Pune. Bacteria were incubated at 37°C in incubator for 24 hrs. They were further stored at 4 °C in the refrigerator to maintain stock culture. Here qualitative



Review Article

A Review on Pharmacological Properties of *Aegle marmelos*

Ghumare Pramila, Dattatraya Jirekar\*

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\*Corresponding author's E-mail: dattajirekar1@gmail.com

Received: 14-09-2020; Revised: 22-11-2020; Accepted: 28-11-2020; Published on: 15-12-2020.

ABSTRACT

Aegle marmelos (Rutaceae) may be a vital ayurvedic tree plant referred to as Bael. Aegle marmelos is best referred to as the wooden fruit tree. it's a medium-sized tree that grows throughout the Indian forest at 1200 feet. it's found throughout India, from the Himalayan forest to Bengal, central and southern India. the varied components of this plant contain variety of coumarins, alkaloids, sterols and essential oils. Various parts of this plant like leaves, roots, seeds, bark and fruit, contain antioxidant, antimicrobial, antiviral, anti-micro filarial, antiarthritis, antithyroid, analgesic, anti-inflammatory, anticancer, antidiabetic, antiulcer, wound healing and contraception. Various pharmaceutical properties are reported in these books on the important skills of Aegle marmelos.

Keywords: Aegle marmelos, Pharmacological properties.

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hepatoprotective activity, haemolytic activity, larvicidal activity and anti-inflammatory activity etc.

Table 1: Scientific classification of Aegle marmelos<sup>3</sup>.

- Kingdom: Plantae
- Order: Sapindales
- Family: Rutaceae
- Subfamily: Aurantioideae
- Genus: Aegle
- Species: A. marmelos
- Nomenclature: Aegle marmelos (L.) Corr. Serr.

INTRODUCTION

Since thousands of years Aegle marmelos have been used as a natural source of medicinal compounds. Man is using numerous herbs and plant extract to cures and relief from various physical and mental illness. These herbs are used in traditional Chinese, Ayurveda, Siddha, Unani and Tibetan medicines. Ancient literature such as Rigveda, Yajurveda, Atharvaveda, Charak Samhita and Sushrut Samhita also describes the use of herbs for the treatment of various health problems<sup>1</sup>. Bael is a deciduous sacred tree, associated with Gods having useful properties, especially as a healing agent This tree is popular in 'Shiva' and 'Vishnu' temples and its leaves are trifoliate symbolizing the 'Thrimurthies'- Brahma, Vishnu, Shiva, with spear shaped leaflets resembling "Thrisoolam" the weapon of Lord Shiva. Many legends, stories and myths are associated with this tree. A. marmelos is a slow-growing, medium sized tree, 25 to 30 feet tall. The stem is short, thick, soft, flaking bark, and spreading, sometimes spiny branches, the lower ones drooping. Young suckers bear many stiff, straight spines. There are sharp, axial one-inch long spikes on this tree. The leaflets are oval or lancet shaped, 4- 10 cm long, 2-5 cm wide. Leaves composed of 3 to 5 leaflets in it<sup>2</sup>. In last five decades, these plants have been extensively studied by advanced scientific techniques and reported for various medicinal properties viz, anticancer activity, antibacterial activity, antifungal activity, antidiabetic activity, antioxidant activity,

Table 2: Names of Aegle marmelos in different languages<sup>4</sup>.

Sr. No.	Name	Language
1	Aegle marmelos	Latin
2	Wood/Stone apple, Bengal Quince, Indian Quince	English
3	Mbau Nau, Trai Mam	Vietnamese
4	Bel, Gudu	Nepali
5	Toum	Lao (Sino-Tibetan)
6	Modjo	Javanese
7	Oranger du Malabar	French
8	Ohshit, opesheet	Burmese
9	Mapin, Matum, Tum	Thai
10	Shreephal, Bilva, Bilwa	Sanskrit
11	Bel, Shreefal	Bengali
12	Kaveeth	Marathi
13	Vilva Maram, Vilva Pazham	Tamil
14	Maredu	Telugu
15	Bel	Urdu



## Comparative study of adsorption capacity of matki seed husk for the removal of congo red, crystal violet, and methylene blue from aqueous solution

Dattatraya Jirekar<sup>1</sup>, Pramila Ghumare<sup>2</sup>

<sup>1,2</sup> Anandrao Dhonde Alias Babaji College, Kada. (INDIA)

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**Kingdom:** Plantae

**Order:** Sapindales

**Family:** Rutaceae

**Subfamily:** Aurantioideae

**Genus:** *Aegle*

**Species:** *A. marmelos*

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4	Bel, Gudu	Nepali
5	Toum	Lao (Sino-Tibetan)
6	Modjo	Javanese
7	Oranger du Malabar	French
8	Ohshit, opesheet	Burmese
9	Mapin, Matum, Tum	Thai
10	Shreepal, Bilva, Bilwa	Sanskrit
11	Bel, Shreefal	Bengali
12	Kaveeth	Marathi
13	Vilva Maram, Vilva Pazham	Tamil
14	Maredu	Telugu
15	Bel	Urdu





RESEARCH ARTICLE

EVALUATION OF ANTIOXIDANT POTENTIAL AND PHYTOCHEMICALS OF *BALANITES AEGYPTIACA* (LINN.) LEAF EXTRACT

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Keywords

*Balanites aegyptiaca* (Linn.), phytochemical, GC-MS, DPPH, antioxidant.

ABSTRACT

Leaf of *Balanites aegyptiaca* (Linn.) plant have been used as traditional folk medicines especially in Africa and southern Asia in the form of juice to treat diarrhea, curing anthrax, dysentery, cuts and clean malignant wounds. So this study is intended to evaluate the antioxidant potential and phytochemical contents in *Balanites aegyptiaca* (Linn.) leaf ethanol extract with GC-MS analysis and qualitative method according to standard protocol. Antioxidant potential of ethanol extract was found to be significant with IC<sub>50</sub> value 37.61 ± 0.64 µg/mL using DPPH (2, 2-Diphenyl-1-picryl hydrazyl) free radical scavenging assay method. The presence of various bioactive phytochemical contents in *Balanites aegyptiaca* (Linn.) leaf ethanol extract like carbohydrate, protein, amino acids, glycoside, tannins, saponin, flavonoids and phenolic compounds were found to be positive. The GC-MS analysis was carried out for the identification of active compounds in the extract and reported 12 phytochemicals, which are responsible for antioxidant activity. This evaluation revealed the antioxidant potency of leaf extract and its content active compounds role in reducing of oxidative stress related complications.

Citation: *Bhimraj Gawade, Mahemud Shaikh and Mazahar Farooqui. 2020. "Evaluation of Antioxidant Potential and Phytochemicals of Balanites Aegyptiaca (Linn.) Leaf Extract", Asian Journal of Science and Technology, 11, (11), 11336-11340.*

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INTRODUCTION

*Balanites aegyptiaca* (Linn.) is a drought tolerant perennial tropical ever green plant belongs to family Zygophyllaceae (Balanitaceae) and traditionally known as desert date. The *Balanites* name originally derived from the Greek word which means fruit resemble acorn (Gupta S.C. *et al.*, 2012) and also known by different vernacular names in various countries. It is native to arid and sub arid part of Africa and Middle East especially Arabian Peninsula, but most widely in various parts of Africa and South Asia (Al-Thobaiti & Abu Zeid, 2018). *Balanites aegyptiaca* (Linn.) is multipurpose plant used for food and fodder in different regions of Africa and South Asia (Elseed *et al.*, 2002). Among the various parts of *Balanites aegyptiaca* (Linn.) plant, fleshy pulp of the fruit is eaten and also used as a food, beverage, & medicines (National Research Council, 2008). All part of *Balanites aegyptiaca* (Linn.) has several bioactive phytochemical contents, which possess miscellaneous medicinal properties by possessing an effect on causes of a reaction or trigger of a response in the living tissue (Abdelkarim *et al.*, 2014).

The bark, fruit and oil of tree have been widely used to treat various disease or disorders such as cancer, tuberculosis, malaria, diabetes, sleeping sickness, wounds, colds, syphilis, liver and spleen disorders, jaundice, yellow fever, snake bite and aches (Al-Thobaiti S. A. and Abu Zeid I. M., 2018; Mohamed Hussain S.A. *et al.*, 2019). The extract of root bark has been used in diarrhoea, haemorrhoid and also acts as a fish poison (Bukar A. *et al.*, 2004). *Balanites aegyptiaca* (Linn.) fruits have various primary and secondary metabolites such as alkaloids, tannins, steroids, glycosides, flavonoids, furanocoumarin, saponins, fixed oil protein, fat, carbohydrates and vitamin C (Datti Y. *et al.*, 2020). Along with this it has various electrolytes or minerals such as calcium ions, iron, magnesium, phosphorus, zinc, copper and potassium ions (Stadlmayr B. *et al.*, 2013). Though already some traditional information is available about the *Balanites aegyptiaca* (Linn.) plants and review has been intended on various aspects of ethnopharmacology and phytochemistry of *Balanites aegyptiaca* (Linn.). Almost all the parts of *Balanites aegyptiaca* plant are traditionally used in several folk medicines (Yadav J. P. and Panghal M., 2010; Chothani D. L. and Vaghasiya H. U., 2011; and Saboo *et al.*, 2014). This evaluation study focus on the antioxidant potential and phytochemicals present in leaf extract of *Balanites aegyptiaca*

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### Phytochemicals and Antioxidant Activity Investigation of *Butea monosperma* Lam. Leaves Ethanol Extract

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#### Abstract

The aim of this study was to investigate phytochemicals and antioxidant activity of plant *Butea monosperma* Lam. leaves ethanol extract. The different extracts of this plant were reported the rich source contents of bioactive phytochemicals in the leaves and afford for various pharmacological activities. The ethanol extract of leaves was subjected to investigate phytochemicals and antioxidant activity by using DPPH in vitro system. The provided evidence of results concluded that the ethanol extract of *Butea monosperma* Lam. leaves are potential sources of natural bioactive phytochemicals and showed potent in vitro antioxidant activity with their IC<sub>50</sub> value of 44.16 µg/ml. Therefore phytochemical investigation of plant leaves ethanol extract was noted various bioactive phytochemicals, which may serve as a potent source of natural antioxidants.

**Keywords:** *Butea monosperma* Lam., phytochemical, pharmacological, antioxidant.

#### Introduction

The antioxidant activity has been reported to prevent oxidative damage caused by free radicals generated due to metabolic action of body and it is used in curing various human diseases related to disorders of oxidative stress. The potent antioxidant activities exhibited by traditionally used medicinal plants due to the presence of phenolic compounds and flavonoids. This type of medicinal plants can act as effective source of natural scavengers in preventing oxidative damages caused by the free radicals [1].

Widely distributed phenolic compounds in medicinal plants [2] have been gained much attention, due to their radical scavenging activity. The presence of bioactive phytochemicals in the ethanolic extract of *Butea monosperma* Lam. plant showed potential antioxidant activity [3]. The broad information about bioactive phytoconstituents, ethnopharmacology along with the traditionally claimed medicinal use different parts of *Butea monosperma* Lam. plant [4] has been widely used as curative agents for variety of ailments [5]. Physicochemical analysis of leaves has been reported presence of sterols, triterpenes, glycosides, flavonoids and proteins [6]. Hence this plant shows various types of pharmacological activities, which may be due to the presence of the investigated active chemical constituents [7].

When antioxidant agents added in foods, it reduces rancidity, retard the formation rate of toxic oxidation products and increases life of patients. These antioxidants may help to relieve from oxidative stress. The antioxidant activity of *Butea monosperma* Lam. medicinal plants extracts has been extensively studied by researchers and reported significantly. This plant might be helpful in preventing and slowing the process of diseases involved as result of oxidative stress related disorders [8].

Therefore, traditional uses and medicinal importance of medicinal plant system, the present study was carried out to investigate phytochemicals and the antioxidant activity of leaves ethanol extracts of *Butea monosperma* Lam.



## TO STUDY THE NANOCATALYSIS APPLICATIONS IN CHEMICAL INDUSTRY

**Ishwar G. Nannaware**

Assiatant Professor

Anandrao Dhonde Alias Babaji Mahavidhyalaya,

Kada, Tal-Ashti Dist-Beed, Maharashtra India.

**Abstract:-** *Nanocatalysis as an immerging research topic has attracted much more attention in the past years. The functionalized materials with a nanodimension displayed a more significant and dramatically powerful catalytic capability than traditional catalysts in chemical reactions. Due to the increased surface area and multiple catalytic centers, nanocatalysts are plays an important role in enhancing the yield. Nanocatalyst in industry consists of nanoparticles with variable crystallite sizes, shapes, and compositions and its catalytic performance .The aim of this paper is to study the various applications of nanocatylysis in chemical reactions*

**Keywords:-** Nanocatalyst, organic reactions, construction, Green Chemistry, nanocomposite, mesoporous, nanoscale, Industrial Interaction.

**Introduction:-** Nanocatalysis is a rapidly growing field which involves the use of nanomaterials as catalysts for a variety of homogeneous and heterogeneous reaction. The heterogeneous catalysis represents one of the oldest commercial practices of chemical science. The nanoparticles of metals, metal oxides, and

# Histological Damage Tapeworm *Tylocephalum govindi* Sp. Nov. (Cestoda-Lecanicephalidae) In The Intestine Of *Trygon sephen*

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## ABSTRACT

The marine water fish *Trygon sephen* collected from Ratnagiri district during the period of June 2017 to May 2018. After dissection their intestinal passage was examined for tapeworm parasite. The tapeworm, *tetragonocephalum* sp. Shipley (1905). The histopathological studies were carried out and observation clearly shows that the parasite, *Tylocephalum govindi* Sp. Nov. was approaching to the intestinal villi, embedded in the fibroblast cell and is attached to the intestinal villi. The histopathological studies of tapeworm *Tylocephalum govindi* Sp. Nov. Have been studied to find the pathological changes and extend of damage of the intestinal layers of *Trygon sephen*.

**Keywords:** Histological Damage, *Tylocephalum govindi* Sp. Nov, *Trygon sephen*, intestinal villi.

## 1. INTRODUCTION

The study of different types of the diseases to the tissues of host is known as "Histopathology". During the life cycle of cestode, it is accomplished twice in different host. In fishes the mechanism of parasites establishment varied from species to species and it also depends on the stage of parasite, host tissue and environmental conditions. The physiological conditions in a particular host gut (fishes) with regard to pH or other physiological characters may provide favourable or unfavourable site for metabolism of particular species. The various forms of cestodes scolex or head bears hold fast organs, which are beautifully adapted for attachment to the mucosa of specific hosts, but in some species scolex are poorly developed; hence they cannot specifically adapted to any particular intestine, and have a wide host spectrum. The extensive study on the host parasite relationship has been carried out by Nadkal, Mohandas, John and Simon (1974). The pathogenicity of cestodes of various orders, Rees, G. in 1967. In fishes Mevicar (1972) described host parasite relationship of *Phyllobothrium*, *Acanthobothrium*, *Echinobothrium*, Sircar and Sinha (1980) have also studied the histopathology of *Lytocestus indicus* occurring in fresh water fishes. Murlidhar and Shinde (1987) observed histopathology of *Acanthobothrium uncinatum* of fish *Rhynchobatus djeddensis* Hunter (1972), Amlacher (1961), Hayunga E. G. (1977) and Mackiewilz (1972) has studied the histopathology of intestine of fish caused due to cestodes. Boruclnska and Caira (1993) observed a comparison



## Engineered Nanomaterial's for Soil Conservation and Environmental Enrichment

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### Abstract

The Soil is considered as highly concentrated materials of various partials of different sizes. The applications of natural and engineered nanomaterial are possible in environmental and agricultural sector. The use of engineered carbon-based nanomaterial's as sorbents for contaminants in soil systems will be emphasized in many ways. The new approach is proposed to use of the nanoparticle in soil sciences because the interaction of nanoparticle with soil particle take place efficiently due to advantages of their size.

**Keywords:** *Environmental pollutants, environmental pollutants, sorbents, water purification, Carbon based nanomaterial, fertilizers, pesticides, contaminants in soils.*

### Introduction:

The researchers used many scientific studies to improve the modern technologies for reducing the pollution. The term Nanotechnology is the creation of functional materials devices and the system through the control of matter in Nano range. The Nanomaterials is the control of matter at dimensions between 1nm to 100 nm, where unique phenomena enable novel applications. Rapidly evolving and revolutionizing in the agriculture [1]. Nano science & Nanotechnology can play an important role in pollution sensing through surface-enhanced Raman scattering, surface Plasmon resonance, fluorescent detection, electrochemical detection and optical detection, treatment through adsorption, photo catalysis treatment of pollutants and reduction by nanoparticles. The Nanotechnology research is very much useful in the environment and agricultural development. Nanomaterial's like: carbon nanotubes, fullerenes, biosensors, controlled delivery systems, Nano filtration find relevant applications in agree and food areas like: natural resources management, delivery mechanisms in plants and soils. The agricultural waste and biomass are use in food processing and food packaging.

Nano sensors in the environment and agriculture begin to have wide applications due to the environmental monitoring of pollutants present in the atmosphere, in soils and in wastewater [2]. Various categories of sensors are used like: biosensors, electrochemical sensors, optical sensors for environmental improvement. The Nano-detection sensors and devices will be the main instruments for trace of heavy metals and these can be applied to real samples. In conventional water treatment methods include bio-sand, coagulation, reverse osmosis, distillation and adsorptive filtration through ion-exchange resins, active alumina or iron oxide cannot remove all the contaminants [3]. For that widely used sorbents for water treatment include: Nano-

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## ‘परिवार विघटन का दस्तावेज’ – ‘अशक’ के नाटकों के संदर्भ में

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सामान्यतः संयुक्त परिवार संगठन के आधारपर निकट के नाते रिश्तेदारों की एक सहयोगी व्यवस्था है, जिसमें सम्मिलित वास अधिकारों एवं कर्तव्यों का समावेश होता है। हम ऐसे घराने को संयुक्त परिवार कहते हैं, जिसमें पीढ़ी की गहराई परिवार की अपेक्षा अधिक लंबी होती है तथा जिसके सदस्य एक-दूसरे से संपत्ति, आय एवं पारिवारिक अधिकारों एवं दायित्वों के आधारपर संबंधित होते हैं। परिवार के सदस्य एक दूसरे के सुख-दुख, हर्ष-शोक में भागीदार रहते हैं। संयुक्त परिवार के सदस्य व्यक्तिगत इच्छाओं और स्वार्थों को महत्व न देकर अन्य सदस्यों के लिए उन्हे त्याग देने के लिए प्रस्तुत रहते थे। करुणा, प्रेम, संतोष के कारण परिवार का प्रत्येक सदस्य एक दूसरे के साथ जुड़ा रहता था किंतु वर्तमान युग में उपर्युक्त व्यवस्था में व्यवधान उत्पन्न हो रहा है। भौतिकवादी, पूँजीवादी युग में त्याग का स्थान स्वार्थ ने ले लिया है और व्यक्ति महत्वाकांक्षी हो गया है। वह अपनी इच्छाओं को ही अधिक महत्व देता है, अन्य सदस्यों की उपेक्षा करता है। यही कारण है कि परिवार विघटित होते जा रहे हैं और एकाकी परिवार की परंपरा बल पकड़ती जा रही है।

उपेंद्रनाथ अशकजीने विशेषकर समाज के मध्यवर्गीय जीवन को अपनाकर नाटक लिखे हैं। साथही समाज के महत्वपूर्ण घटक स्त्री-पुरुष, परिवार, विवाह, शिक्षा आदि को अपनाकर सभी नाटक लिखे

हैं। यहाँ पर उनके सामाजिक नाटकों में जो पारिवारिक, वैवाहिक तथा शैक्षिक समस्याओं का वर्णन किया है। उपर्युक्त मूद्दों के आधारपर अशकजी के नाटकों में पारिवारिक विघटन दिखायी देता है।  
स्वर्ग की झलक –

नाटक का उद्देश्य आधुनिक शिक्षा को स्पष्ट करना है। अशक स्त्री शिक्षा या आधुनिक शिक्षा का विरोध नहीं करते बल्कि स्त्री की उस मनोवृत्ति का विरोध करते हैं, जो हमारे समाज में अधिक पढी-लिखी लड़कियों में पायी जाती है। मिसेज राजेंद्र और मिसेज अशोक ऐसी शिक्षिता आधुनिकाएँ हैं जो कभी गृहिणी नहीं बन सकती। जो बच्चों को दूध पिलाने से अस्वस्थ है और खाना नहीं बना सकती तथा बीमार बच्चे को घर छोड़कर कंसर्ट देखने चली जाती है। ऐसी शिक्षिता माता भी नहीं बन सकती, क्योंकि ममता नाम की चीज उनके पास नहीं होती। लेखक कहना चाहते हैं कि वे आधुनिकाएँ भी माता नहीं बन सकती जो अपने बच्चे को दूध न पिलाकर बीमार करती है। नाटक का नायक रघू ऐसी ही शिक्षित पत्नी चाहता है लेकिन जैसे ही मि. अशोक और मि. राजेंद्र की पत्नी को देखता है तो अपना निर्णय बदलकर साली रक्षा से विवाह की बात करता है। उसके भाई गिरधारी को शिक्षिता से डर लगता है। वह कहता है – ‘शिक्षा को मैं बुरा नहीं कहता पर जिस तरह की शिक्षा आजकल लड़कियों को मिल रही है और उसका जो प्रभाव पड़ रहा है, उसकी ओर से आँखें बंद नहीं की जा सकती।’”

पति-पत्नी का दंपति जीवन ही परिवार की नींव है। नाटक के दो पात्र मि. अशोक तथा मि. राजेंद्र शिक्षित और अपटूडेट लड़कियों से विवाहकर परिवार में ‘स्वर्ग की झलक’ देखना चाहते हैं। रघु छुट्टी के दिन मि. अशोक के घर जाकर देखता है कि उसकी पत्नी बीमार होने से उसने खाना नहीं बनाया, वह स्वयं खाना बना रहा है। दूसरी तरफ रघु ‘दर्शन’ का अध्यापक मि. राजेंद्र के घर जाकर देखता है कि वह बीमार बच्चे को गोद में लेकर थपकियाँ लगा रहा है क्योंकि उसकी पत्नी हिसार पीड़ितों की मदद के लिए कंसर्ट शो में चली गयी है। मानों मि. राजेंद्र स्वर्ग का

कथाकारांचो कथा त्यांच्या जीवनाभूतानुसार निर्माण झालेली आहे. दलित कथेतून ग्रामोण शहरी भागातील दलित जीवन साकारतांना दिसते दलित कथेच्या मधून आलेली माणस पांटासाठी धडपडतांना दिसतात. पांटाचा प्रश्न सोडविण्यासाठी तो पाटेल त्या मार्गाचा अवलंब करतांना दिसून येतात. या कथेतून आंबेडकरी विचार धारा प्रकट झाली आहे.

दलित कांदबरी :

दलित कांदबरी ही पांढरपेशी वाट मॉडर्न नवा-आशय-विषय घेऊन अवतरली आहे. काही कांदबरीकारांचो ठळक नावे पुढील प्रमाणे - अण्णाभाऊ साठे, शंकरराव खरात, नामदेव वटकर, केशव मेश्राम, नामदेव देसाळ, दलित कांदबरी ही डॉ. बाबासाहेब आंबेडकरांचे विचार मांडतांना दिसते. दलित कांदबरीत दलित जीवनाचा गतकालीन व वर्तमान कालीन जीवन पट मांडलेला असतो. दलित कांदबरीचा विषय हा उपेक्षित जीवन जगणाऱ्या माणसांचा असतो दलित कांदबरी दलित समूहाचे, सामाजिक बांधिलकीचे तत्त्व जपतांना दिसते गावकुसा बाहेरील उपेक्षित जीवन दलित कांदबरी चित्रित करते. बाबुराव बागूल अधोरी कांदबरीत मंत्र-तंत्र हया अधोरी विद्येचा चमत्कार दिसून येतो दलित कांदबरीकारांनी महार, मांग, भटक्या जमाती, तमासगौर, वाघ्या मुरळी, वेठबिगार, झोपडपट्टी, हातभट्टी, स्त्रीर्यावरील अत्याचार असे अनेक विषय घेऊन कांदबरी लेखन केलेले दिसून येते दलित कांदबरी जास्त प्रमाणात लेखन करणारा कांदबरीकार म्हणून अण्णाभाऊ साठे यांच्याकडे पाहिले जाते.

संदर्भ सूची :

- १) आधुनिक गराठी वाङ्मयाचा इतिहास १८१८ ते २००० प्राचार्य - डॉ. वसंत बिरादार.
- २) ग्रामोण वाङ्मयाचा इतिहास संपादक- रामचंद्र कान्हुळे
- ३) दलित चळवळ आणि साहित्य - कृष्णा किरवले
- ४) दलित साहित्य : एक अभ्यास , संपादक - अर्जुन डांगळे
- ५) कडक भीमराव : आंबेडकरी जलसे : स्वरूप व कार्य, अभिनव प्रकाशन, मुंबई.

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## भारतातील महिला सबलीकरण: एक समाजशास्त्रीय दृष्टीकोन

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आनंदराव धोंडे ऊर्फ बाबाजी महाविद्यालय कडा,  
ता. आष्टी, जि. बीड

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परिचय: स्त्रीयांचा सन्मान, रोजगार, आरोग्य, शिक्षण असे अनेक प्रश्न १९७५ नंतर समोर आले. या सर्व प्रश्नांची चर्चा सार्वजनिक व्यासपीठावर करावी लागेल, असे वातावरण निर्माण झाले होते. स्त्री चळवळीत शोषणमुक्तीचा विचारही वारंवार चर्चिला गेला. त्या आंदोलनात अनेक विचारसरणीच्या कार्यकर्त्यांनी एकत्रितपणे आपले विचार मांडले. स्त्रीमुक्तीची सामूहिक संघर्षाची परिभाषा सोडून सबलीकरणाच्या परिभाषेला मान्यता दिली. १९८० च्या दशकाच्या मध्यापासून विकास हा विशेषतः महिलांच्या संदर्भात सबलीकरण हा शब्द लोकप्रिय झाला आहे. त्यानंतर महिला सबलीकरणाची संकल्पना रूढ झाली. भारत सरकारने ह्यज्य हे वर्ष महिला सबलीकरणाचे वर्ष म्हणून घोषित केले. महिलांचे सबलीकरण म्हणजे स्त्रियांचे सामाजिक, राजनैतिक, आर्थिक सामर्थ्य वाढविणे. त्यामध्ये त्यांच्या स्वतःच्या क्षमतेसंबंधी त्यांचा आत्मविश्वास वाढविणे हा आहे. महिला सबलीकरणात विविध पैलूंचा विचार केला जातो. तळागाळातील कार्यक्रम आणि धोरणात्मक वादविवादात सक्षमीकरणाने कल्याण आणि उन्नती, समुदायातील सहभाग आणि दारिद्र्य निर्मूलन यासारख्या पदांचा विकास आणि हस्तक्षेपाचे उद्दीष्ट वर्णन केले. जगातील लोकसंख्येच्या जवळजवळ ह्यः स्त्रिया आहेत परंतु महिलांची लोकसंख्या पुरुषांपेक्षा तुलनात्मक दृष्ट्या कमी आहे. जोपर्यंत त्यांच्या सामाजिक स्थितीचा प्रश्न आहे, तोपर्यंत त्यांना सर्व ठिकाणी पुरुषांइतकेच

## महिलांवरील घरगुती हिंसाचार : कारणे, परिणाम आणि उपाय

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 कडा, तालुका आष्टी, जिल्हा. बीड.

### परिचय :

"हुंड्यासाठी वधूवर अत्याचार" या आणि अशा अनेक घटना आपण कोणत्याही वृत्तपत्राचे निरीक्षण केले तर आपल्या दृष्टीस पडतील. यासारखी अनेक प्रकरणे आहेत जी नोंद विरहित असतात. आपल्या देशामध्ये असे अनेक प्रकरणे सातत्याने घडत आहेत. काहीवर अत्याचार, काहींना मारहाण तर काहींना ठार मारले जात आहे. याला ग्रामीण, आदिवासी, शहरी भाग अपवाद नाही. हे सर्वच ठिकाणी आणि सर्व वयोगटातील व्यक्तींच्या बाबतीत सत्य आहे. एका पिढीकडून दुसऱ्या पिढीपर्यंत हिंसाचार मार्गक्रमण करत आहे. घरातील हिंसाचाराच्या या विदारक समस्येचे वर्णन करण्यासाठी वापरण्यात आलेला शब्द म्हणजे घरगुती हिंसा. घरगुती हिंसाचाराला कुटुंबातील कोणताही सदस्य बळी पडू शकतोय मग तो सदस्य बायको, पती, मुलगा, मुलगी, आई, वडील, आजोबा-आजोबा इत्यादी असू शकतात. पण या शोध निबंधात महिलांच्या हिंसाचारावर लक्ष केंद्रित केले आहे. हिंसाचार शारीरिक, लैंगिक किंवा भावनिक अशा विविध प्रकारात होऊ शकतो. आपण ज्या समाजामध्ये राहत आहोत त्या समाजाकडे समाजशास्त्रीय दृष्टीकोनातून पाहिले तर घरगुती हिंसाचार समाजाचा अविभाज्य भाग बनलेला आहे असे जाणवते. विविध प्रसंग, मानसिक समस्या आणि सामाजिक प्रभाव देखील तीव्रतेत भर घालतात. भौगोलिक स्थानानुसार आणि संस्कृतीतील बदल यामुळे हिंसाचाराच्या तीव्रतेत फरक असू शकतो. त्यांच्या घरातील घटनांच्या कार्यांचे विश्लेषण केले गेले आहे.

**बीज शब्द :** घरगुती हिंसाचाराचे कारणे, दुष्परिणाम आणि संभाव्य उपाय

महिलांवरील घरगुती हिंसाचार घरगुती हिंसाचाराचा हा प्रकार सर्वात सामान्य आहे. हे इतके प्रचलित होण्याचे एक कारण म्हणजे समाजातील रुढीवादी मानसिकता जसे की पुरुषांपेक्षा महिला शारीरिक आणि भावनिक दृष्ट्या दुर्बल असतात. आज कोणत्याही क्षेत्रात महिला पुरुषांपेक्षा कमी नाहीत हे वास्तव आहे. तरीही पुरुषांपेक्षा महिलांवर होणा-या हिंसाचाराच्या घटनेचे प्रमाण जास्त आहे. विवाहित भारतीयांपैकी जवळजवळ दोन तृतीयांश महिला घरगुती हिंसाचाराचा बळी पडतात आणि १५ ते ४६ वर्षे वयोगटातील सुमारे ७० टक्के विवाहित महिला

मारहाण, बलात्कार किंवा जबरदस्तीने लैंगिक अत्याचाराचे बळी ठरतात. २०२० चा विचार केला असता हि संख्या वाढलेली दिसून येते. भारतात ५५ टक्केहून अधिक महिला घरगुती हिंसाचारग्रस्त आहेत, स्त्रियांना मारहाण करणे याचे सर्वात सामान्य कारणे म्हणजे हुंड्याबद्दल असंतोष आणि हुंड्याच्या नावाखाली नववधूला जाळणे, मारणे, उपाशी ठेवणे, टोचून बोलणे, जोडीदाराशी वाद घालणे, तिच्याशी लैंगिक संबंध ठेवण्यास नकार देणे, मुलांकडे दुर्लक्ष करणे, जोडीदाराला न सांगता घराबाहेर जाणे, अतिरिक्त वैवाहिक जीवनात व्यस्त राहणे, सासू-सासऱ्यांची काळजी न घेणे किंवा स्त्रियांमधील वंध्यत्व अशा विविध कारणास्तव कुटुंबातील सदस्यांकडून त्यांच्यावर प्राणघातक हल्ला देखील होतो. हुंड्याचा लोभ, मुलांची इच्छा आणि जोडीदाराचा मद्यपान ही ग्रामीण भागात महिलांवरील घरगुती हिंसाचाराची प्रमुख कारणे आहेत. मागणी असलेल्या हुंड्याची रक्कम घरी न आणल्यामुळे तरुण वधू जिवंत जाळल्या जातात किंवा सतत छळ केला जातो. असे अनेक घटक आहेत ज्यामुळे अगोदर मतभेद होतात नंतर ते घरगुती हिंसेचे स्वरूप धारण करतात. तरुण विधवांवरील हिंसाचारही वाढत चालला आहे. त्यांना ग्रामीण भागात पुनर्विवाहासाठी परवानगी दिली जात नाही. जेव्हा गर्भपात करण्यास असहमत असते तेव्हा स्त्रीला मारण्याच्या घटना देखील घडलेल्या आहेत. स्त्रीभ्रमणहत्या ही वाढती घिंता आहे. महिलांविरुद्ध होणाऱ्या शारीरिक अत्याचाराच्या इतर प्रकारांमध्ये थप्पड मारणे, ठोसे मारणे, पकडणे, त्यांच्यावर लबाडीचा आरोप लावणे, सार्वजनिक अपमान करणे आणि त्यांच्या समस्यांकडे दुर्लक्ष करणे समाविष्ट आहे. त्यांच्या विरोधात होणारी मानसिक छळाची इतर काही उदाहरणे म्हणजे त्यांच्या स्वतःच्या अभिव्यक्तीच्या हक्कांना आळा घालणे आणि जन्मजात कुटुंब आणि मित्रांशी संबंध ठेवण्याच्या स्वातंत्र्यास आळा घालणे होय.

महिलांवरील हिंसाचाराचे परिणाम रू अत्याचार म्हणजे एका व्यक्तीने दुसर्या व्यक्तीला राजरोसपणे धमकी देणे, ज्याचा परिणाम प्रामुख्याने त्या दुसर्या व्यक्तीचे नुकसान होण्यास किंवा नाव लौकिकास धक्का लावण्यात होतो. येथे आपण महिलांचा विचार करू. महिलांवर होणाऱ्या अत्याचारास त्रास देणारा घटक मुख्यता पुरुष असतो व हळूहळू इतर नाते



## महिला सबलीकरण आव्हाने आणि उपाय

प्रा. डॉ.आव्हान भगवान भानुदास

समाजशास्त्र विभाग आनंदराव धोंडे महाविद्यालय कडा, तालुका- आष्टी, जिल्हा- बीड.

प्रस्तावना - भारतीय संस्कृती जगातील प्राचीन संस्कृतींपैकी एक आहे. भारतीय समाजातील उच्च दर्जाची मूल्यव्यवस्था, कुटुंबव्यवस्था आणि त्यातील स्त्रीचे स्थान हे महत्त्वपूर्ण आहे. जन्मापासून ती वेगवेगळ्या भूमिका पार पाडत असते. म्हणून तिला प्राचीनकाळी महत्त्वपूर्ण स्थान दिले होते. परंतु आधुनिक काळात पुरुषप्रधान संस्कृतीच्या वर्चस्वामुळे 'केवळ चूल आणि मूल' एवढ्यापुरते तिचे अस्तित्त्व मर्यादित होत गेले. परिणामी सामाजिक, आर्थिक, राजकीय, शैक्षणिक व सांस्कृतिक क्षेत्रांमध्ये महिलांना पुरुषांच्या बरोबरीचे स्थान नाकारल्यामुळे तसेच शिक्षणापासून वंचित ठेवले गेल्यामुळे, त्यांच्यात मागासलेपण वाढत गेले. महिलांना सर्वच घटकापासून दूर ठेवल्यामुळे त्यांच्या आणि समाजाच्या विकासाला खीळ बसलेली दिसून येते. आज एकविसाव्या शतकातही स्त्रियांवरील अत्याचारात दिवसेंदिवस वाढ होत असल्याचे दिसते. 'स्त्री आणि पुरुष' सामाजिक विकासाची चाके मानले जातात. परंतु भारतीय समाजात पुरुष चाकाची गती स्त्री चाकाच्या गतीपेक्षा अधिक असल्याचे दिसून येते. जोपर्यंत 'स्त्री-पुरुष' यांच्यामध्ये समानता येत नाही तोपर्यंत विकासाला चालना मिळणार नाही. समाजाच्या सर्वांगीण विकास करण्यासाठी महिलांचे सक्षमीकरण करणे ही काळाची गरज आहे. तरच सामाजिक-आर्थिक विकासाचे स्वप्न साकार करता येईल. भारतीय समाजाचा अभ्यास केल्यानंतर लक्षात येते कि, महिलांना भारतीय समाजात दुय्यम स्थान देण्यात आलेले आहे. तिला शिक्षण आणि इतर सामाजिक घडामोडी-पासून वंचित ठेवण्याचा प्रयत्न झालेला आहे. स्त्रीला एकीकडे देवता म्हणायचे आणि दुसरीकडे कनिष्ठ समजून तिच्याकडे जाणीवपूर्वक दुर्लक्ष करायचे. ती सुद्धा एक माणूस आहे असे विचार समाजसुधारकांनी स्वातंत्र्यपूर्व कालखंडात मांडण्याचा प्रयत्न केला. तेव्हापासून आजपर्यंत अनेक क्षेत्रात महिलांना पुरुषांच्या बरोबरीने येण्यासाठी अडथळे निर्माण होत आहेत म्हणूनच 'महिला सबलीकरणावर' प्रकाश टाकण्याचा प्रयत्न केलेला आहे.

शोधनिबंधाची उद्दिष्ट्ये:

१. महिला सबलीकरण ही संकल्पना स्पष्ट करणे.
२. महिला सबलीकरणाच्या आव्हानांचा आढावा घेणे.
३. महिला सबलीकरणासाठी उपाययोजना सुचवणे.

शोधनिबंधाचे गृहितके:

१. महिलांचे शिक्षणामुळे सबलीकरण होत आहे.
२. महिलांच्या सबलीकरणामध्ये अनेक घटक अडथळा निर्माण करतात.
३. 'स्त्री-पुरुष' समानता यावरच महिला सबलीकरण अवलंबून आहे.



### वृद्धांच्या समस्या : एक समाजशास्त्रीय अभ्यास

प्रा.डॉ.आन्हाड भगवान भानुदास

समाजशास्त्र विभाग आनंदराव धोडे ऊर्फ वावाजी महाविद्यालय कडा, ता. आष्टी जि. वीड

प्रास्ताविक : मानवी जीवनातील अंतिम चरण म्हणजे वृद्धत्व होय. प्रत्येक व्यक्तीच्या जीवनाच्या अंतिम टप्प्यात वृद्धत्व येतच असते. वृद्धापकाळात मानवी जीवनात अनेक समस्या निर्माण होतात. १९ व्या शतकापर्यंत भारतीय समाजामध्ये संयुक्त कुटुंब पध्दतीत सर्वांना सहजपणे सामाऊन घेतले जात होते. परंतु काळाबरोबर या पध्दतीचे रूपांतर विभक्त कुटुंबात होत गेले. त्यास कारणीभूत झाले ते नागरीकरण, औद्योगीकरण आणि वाढता व्यक्तिवादी दृष्टीकोन यामुळे वृद्धांची अवस्था दयनीय झालेली दिसून येते. वृद्धावस्था हि मानवी जीवनातील अपरिहार्य अशी अवस्था आहे. या अवस्थेला आधारभूत घटक म्हणजे वय हा मानला आहे पण देश परतवे यामध्ये फरक आहे काही देशामध्ये ६५ वर्षे आहे तर भारत सरकारने मात्र ज्या व्यक्तीने वयाची ६० वर्षे पूर्ण केली आहेत. अशा व्यक्तींचा समावेश 'वृद्ध' या संकल्पनेत केला आहे. भारत सरकारने ६० हि वयोमर्यादा गृहीत धरून सन १९५१-२०११ मधील वृद्ध लोकसंख्येची आकडेवारी जाहीर केली आहे.

भारतीय लोकसंख्येतील वृद्धांचे प्रमाण

अ.क्र.	वर्ष	लोकसंख्या (कोटी)	६० वर्षांवरील लोकसंख्येचे प्रमाण
१	१९५१	३६.०१	५.५ %
२	१९६१	४३.९	५.६%
३	१९७१	५४.८	६.०%
४	१९८१	६८.३	६.५%
५	१९९१	८४.५	६.८%
६	२००१	१०२.७	७.५%
७	२०११	१२१.०	८.६%

(भारतीय लोकसंख्या: एक दृष्टीक्षेप इंटरनेट)

उपरोक्त सारणीवरून भारतातील लोकसंख्या ज्याप्रमाणे वाढत आहे. तसतशी वृद्धांची संख्या वाढत जाण्याबरोबरच लोकसंख्येतील वृद्धांचे प्रमाण वाढत आहे. जसे प्रमाण वाढत आहे, त्या प्रमाणात वृद्धांच्या समस्यांची तीव्रता वेगाने समोर येत आहेत. संयुक्त कुटुंबातील प्रेम, आपुलकी, सहानुभूती, जिन्हाळा, माया हि तत्वे संपुष्टात येत आहेत. यामुळे वृद्धांच्या समस्या गंभीर बनत आहेत. त्यामध्ये सामाजिक, शारीरिक, मानसिक, आर्थिक यासारख्या अनेक समस्या निर्माण झालेल्या आहेत. प्रस्तुत शोध निबंधासाठी काही उद्दिष्टे निश्चित केली आहेत

संशोधनाचा उद्दिष्टे :

१. वृद्धांच्या समस्यांचे स्वरूप लक्षात घेणे.

२. वृद्धांच्या समस्यांचे अध्ययन करणे.

गृहीतके :

१. वृद्धांच्या विविध समस्या आहेत.

## ७३ वे घटना दुरुस्ती विधेयक आणि नवीन पंचायतराजमध्ये महिलांना संधी: समाजशास्त्रीय अभ्यास

प्रा. डॉ. आम्हाड भगवान भानुदास\*

### गोषवारा

१९६२ साली ७३ वे घटना दुरुस्ती विधेयक मंजूर झाले आणि २४.०४.६३ पासून 'पंचायतराज' ची अंमलबजावणी सुरु झाली. ७३ व्या घटना दुरुस्तीच्या माध्यमातून पंचायतमध्ये महिलांना ३३.३३% आरक्षण देणे हि समानतेकडे जाणारी एक पायरी आहे. पण ती यशस्वी होण्यास महत्वपूर्ण आधार मिळालेला नाही. महिला नेतृत्वावर भाष्य करण्याच्या सरकारी प्रयत्नांन व्यतिरिक्त, स्थानिक लोक आणि स्वयंसेवी संस्थानीही महिलांसाठी काही प्रयत्न केले पाहिजेत. एक गट स्थापन झाला पाहिजे. या संघटना गट महिलांमध्ये आत्मविश्वास वाढवितील आणि सहकार्याची भूमिका बजावतील. योजना बनवण्यापासून ते निर्णय घेण्यापर्यंत महिलांना आपली भूमिका घेता आली पाहिजे. गरीब महिलांकडे वेतन मजुरीवरून काम सोडून पंचायतीमध्ये प्रभावशाली भूमिकेची अपेक्षा करणे धाडसाचे ठरेल, तसेच त्यांच्या सर्वांगीण विकासासाठी विशेष प्रयत्न करावे लागतील. संविधानाच्या भावनांना व्यावहारिक करण्यासाठी पुनः समाज सुधारणेला चळवळीचे रूप द्यावे लागेल. महिला सक्षमीकरणाच्या बाबतीत त्यांना सन्मान, पाठिंबा आणि सुरक्षित वातावरणाची गरज आहे.

कीवर्ड : ७३ वी घटना दुरुस्ती, पंचायत राज आणि महिलांना संधी

### प्रस्तावना

१९६२ ला पी. व्ही. नरसिंहराव यांनी 'पंचायतराज' संबंधी ७३ वे घटना दुरुस्ती विधेयक तयार केले. २२ डिसें. १९६२ ला या विधेयकावर लोकसभेत बहुमत सिध्द झाले. २३ डिसें. १९६२ ला विधेयकावर राज्यसभेत बहुमत सिध्द व त्यानंतर या विधेयकास १७ राज्यांच्या विधिमंडळाची मंजूरी मिळाली. २० एप्रिल १९६३ ला विधेयकावर राष्ट्रपतीची स्वाक्षरी होऊन पंचायतराज संस्थांना घटनात्मक दर्जा प्राप्त झाला. व २४ एप्रिल १९६३ पासून पंचायत राजच्या अंमलबजावणीस सुरुवात झाली. २४ एप्रिल १९६४ पर्यंत या शिफारसी सर्व राज्यांना लागू करण्याचे बंधन करण्यात आले. २०१० पासून २४ एप्रिल हा दिवस संपूर्ण देशामध्ये 'पंचायतराज' दिन म्हणून पाळला जातो. भारतीय राज्यघटनेत २४३ (ड) पंचायतराज मध्ये राखीव जागांची तरतूद केली आहे.

१. ग्रामसभेला 'पंचायती राज' पद्धतीचा आधार मिळाला.
२. जिल्हापरिषद, पंचायत समिती, ग्रामपंचायत याप्रमाणे त्रिस्तरीय पध्दत असेल.
३. तिन्ही स्तरावर सभासदांची थेट निवडणूक होईल.
४. प्रत्येक पंचायतीचा कालावधी ५ वर्षांचा आणि वयाची अट २१ वर्ष आहे.

\*समाजशास्त्र विभाग आनंदराव धोंडे उर्फ बाबाजी महाविद्यालय कडा, ता.आष्टी जि. बीड



## आधुनिक भारतातील महिलांची बदलती स्थिती: एक समाजशास्त्रीय अभ्यास

प्रा.डॉ.आव्हाड भगवान भानुदास

आनंदराव धोंडे महाविद्यालय, कडा.

### गोषवारा

भारताला स्वातंत्र्य मिळाल्यानंतर, भारत सरकारने विकास कार्यक्रमांच्या माध्यमातून महिलांना व्यक्ती म्हणून समान दर्जा देण्याची योजना आखली. परंतु, बरेच प्रयत्न करूनही भारतीय महिला आजही पुरुषांच्या तुलनेत दर्जाने कमी आहेत. हा पेपर आधुनिक भारतातील महिलांच्या बदलत्या स्थितीचे विश्लेषण करण्याचा प्रयत्न करतो. हा पेपर प्राथमिक आणि दुय्यम सामग्री वर आधारित आहे. या अभ्यासावरून असे दिसून आले आहे की आधुनिक भारतातील महिलांनी जीवनाच्या प्रत्येक क्षेत्रात महत्त्वपूर्ण प्रगती केली असली तरी त्यांना अजून समाजातील खोलवर रुजलेल्या पुरुषप्रधान मानसिकते विरुद्ध संघर्ष करावा लागला आहे. भारतीय राज्यघटना स्त्रियांना पुरुषांइतके समान हक्क प्रदान करते परंतु आधुनिक महिलांच्या स्थितीत उल्लेखनीय बदल घडवून आणण्यासाठी ते कधीही प्रभावी ठरले नाहीत. पुरुषांबरोबर समान पाऊल ठेवणे अद्यापहि महिलांसाठी एक संघर्ष आहे कारण समाजात अजूनही पुरुषप्रधान संस्कृतीचे वर्चस्व कायम आहे.

कीवर्ड: महिलांची सामाजिक स्थिती, अनेक क्षेत्रात सहभाग, पुढाकार

### परिचय

महिलांशिवाय जगामध्ये काहीही शक्य नाही. स्त्री हा समाजाची मूलभूत घटक आहे. महिलांच्या त्यागावर कुटुंब, घर, समाज आणि देश बनतो. म्हणून जोपर्यंत महिला विकास कामांसाठी पुढाकार घेत नाहीत तोपर्यंत देश प्रगती करू शकत नाही. थोडक्यात महिलांची प्रगती झाल्याशिवाय जगाच्या कल्याणाचा विचार करणे अशक्य आहे. गेल्या काही वर्षात भारतातील महिलांच्या स्थितीत बदल होत आहेत. प्राचीन, मध्ययुगीन काळांपेक्षा आज महिलांमध्ये सामाजिक, आर्थिक, राजकीय आणि सर्वसाधारण स्थितीत बदल झाला आहे. कायद्याच्या दृष्टीने जरी महिलांचा दर्जा उंचावला गेला असला तरी पुरुषांच्या तुलनेत त्या अजूनही दूर आहेत. सैद्धांतिकदृष्ट्या आधुनिक महिलांची स्थिती किती व्यावहारिक-दृष्ट्या कमी होती हे वास्तव होते. आधुनिक भारतीय समाजात अजूनही महिलांचे शोषण आणि अपमान होत आहे. ऐतिहासिक दृष्ट्या, १८ वे शतक हे आधुनिक काळ म्हणून ओळखले जाते. या काळात स्त्रियांची स्थितीत आमूलाग्र बदल झाला. पुढील दोन चरणांत त्यांचा अभ्यास केला जाऊ शकतो.

भारतात ब्रिटीशांच्या काळातील महिलांची स्थिती

मोगल साम्राज्याचा नाश झाल्यानंतर इंग्रजांनी भारतीय लोकांवर आपले वर्चस्व प्रस्थापित केले. ब्रिटीशांच्या कारकिर्दीत आमच्या समाजातील आर्थिक आणि सामाजिक संरचनांमध्ये बरेच बदल करण्यात आले. या काळात महिलांचे जीवनमान कमी-अधिक समान राहिले, तरीही पुरुष आणि महिलांमधील असमानता दूर करण्यात काही महत्त्वपूर्ण प्रगती साधली गेली. बालविवाह, सती प्रथा, देवदासी पध्दती, विधवा पुनर्विवाह बंदी इत्यादी सामाजिक दुष्कर्म, एकतर राजा राम मोहन राय आणि विद्या सागर या सुधारकांच्या प्रयत्नांनी नियंत्रित केले गेले किंवा योग्य कायदे करून काढले. पंडिता रमाबाई सारख्या अनेक महिला सुधारकही महिलांच्या

## कोविड-१९ चा समाजजीवनावर झालेला परिणाम

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समाजशास्त्र विभाग

आनंदराव धोंडे महाविद्यालय कडा.ता.आष्टी

### गोपवारा :

कोरोना व्हायरस हा अतिसूक्ष्म घातक विषाणू आहे. या व्हायरसला कोविड-१९ म्हटले जाते. हा व्हायरस सर्वप्रथम डिसेंबर २०१९ मध्ये चीनमधील वुहान या शहरात आढळून आला होता. ११ मार्च रोजी जागतिक आरोग्य संघटनेने या व्हायरसला महामारी म्हणून घोषित केले आहे. हा संसर्गजन्य रोग असल्याने याचा प्रसार जगभरातील २१३ पेक्षा अधिक देशांमध्ये वेगाने झाला आहे. आजअखेर जगभरात या विषाणूच्या संसर्गांमुळे लाखोंच्या संख्येने लोक मृत्युमुखी पावले आहेत. कोरोना विषाणूने संपूर्ण जगाला विळखा घातला आहे. याची उत्पत्ती, प्रभाव, फैलाव, लक्षणे आणि उपायांच्या पद्धती यावरून सर्वत्र चर्चा सुरु असून या आरोग्याला घातक असलेल्या विषाणू विरुद्ध प्रत्येकजण उभा राहताना दिसतोय. तरीपण यामुळे सामान्य जनता मात्र हवालदिल झालेली दिसते. वास्तविक कोरोना व्हायरस नवा नाही. काही वर्षांपूर्वी आलेला सार्स रोगही कोरोनाचाच एक प्रकार होता. मात्र कोविड-१९ नावाच्या नव्या विषाणूने सर्वांवर मात करत सर्वत्र धुमाकूळ घातला आहे. जगाचा विचार केला तर १५.११ कोटी व्यक्तींना कोरोना झाला आहे आणि ३१.७९ लाखापेक्षा जास्त व्यक्तींचा बळी घेतला आहे. भारतातही २,४२,३६२ पेक्षा जास्त व्यक्तींचा मृत्यू झाला असून महाराष्ट्रात ७५,२७७ व्यक्तींचा मृत्यू झालेला आहे आणि लागण झालेल्या रुग्णांची सध्या सातत्याने वाढत आहे. याचा परिणाम समाजातील सर्वांगावर झालेला दिसतो.

**कीवर्ड-** कोविड-१९, व्यक्तीच्या सामाजिक, आर्थिक, मानसिक जीवनावर परिणाम

### परिचय:

चीनमधील वुहान या शहरामधून उदयास आलेल्या कोविड-१९चा जवळजवळ प्रत्येक समाजात गंभीर परिणाम झाला आहे. आरोग्यावर होत असलेल्या विपरीत परिणामामुळे कोविड-१९ ला जागतिक आरोग्य संघटनेने जागतिक महामारी म्हणून घोषित केले आहे. मोठ्या प्रमाणात पसरलेल्या कोविड-१९ने जगाचा प्रवास थांबविण्यास भाग पाडले आहे. व्यक्तीनेही स्वतःला काही बंधने घातली आहेत. तसेच, लॉकडाऊनला जगभर पसरलेला रोग नियंत्रित करण्यासाठी एकमेव उपाय म्हणून ओळखले गेले आहे. भारतीय समाजातील लॉकडाऊन सामाजिक, शैक्षणिक, आर्थिक, राजकीय, कृषी, मानसिक स्तर आणि इतर बऱ्याच गोष्टींशी निगडित आहे ज्यामुळे लोकांच्या जीवनावर विनाशकारी परिणाम झाला आहे. भारतीय समाजात पूर्वी जसे उच्च जातीतील लोक अस्पृश्यांशी सामाजिक-अंतर राखत असत तसेच अंतर कोविड-१९ च्या कारणास्तव समकालीन समाजात व्यक्ती-व्यक्ती अंतर ठेवत असल्याचे दिसून येत आहे. अर्थव्यवस्थेच्या दृष्टीकोनातून ग्रामीण आणि शहरी दोन्ही ठिकाणी विपरीत परिणाम झाला आहे. ग्रामीण भागातून शहरामध्ये रोजगारासाठी स्थलांतरित झालेला मोठा वर्ग आहे. लॉकडाऊनच्या निर्णयाचा या वर्गावरदेखील अपरिमित परिणाम झाला. सध्या जगभरात कोरोना विषाणूच्या साथीने धैमान घातले आहे. या साथीपुढे जगातील विकसित देश देखील हतबल झालेले दिसत आहेत. या विषाणूने समाजातील बहुसंख्य व्यक्तींची परिस्थिती चिंताजनक केली आहे. या रोगाच्या होत असलेल्या प्रसारामुळे 'जिवंत राहणे' हीच प्राथमिकता आहे हे अधोरेखित करायला भाग पाडले आहे. या शोधनिबंधात कोविड- १९चे समाजावर झालेले परिणाम यावर लक्ष वेधले आहे.

## On Solution of Homogeneous Liouville Fractional Differential Equations by Sumudu Transform

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### Abstract

In this paper, we study the homogeneous Liouville fractional differential equations with constant coefficients. The solutions in terms of Mittag-Leffler and Wright functions of homogeneous Liouville fractional differential equations with constant coefficients are obtained by Sumudu transform method (STM). The results obtained by STM are illustrated by examples.

**Subject Classification:** 44A15, 44A99.

**Keywords:** Sumudu transform, Mittag-Leffler functions, Wright functions, Fractional differential equations.

## 1 Introduction

Many problems in physics, engineering and biology etc. are modeled via fractional differential equations such as diffusion, signal processing, electrochemistry, viscoelasticity [24, 27]. In literature numerous methods are available to solve fractional differential equations like power series method, iterative method, adomain decomposition method, transform method, monotone method etc. [1, 7, 9, 15, 18, 21, 26, 28]. Integral transform methods such as Fourier, Laplace, Mellin, and Hankel etc. were extensively used to study fractional differential equations [5, 6, 14, 16, 25]. In 1993, Watagulla [30, 31] introduced Sumudu transform and applied it to solve ordinary differential equations in control engineering problems. The complex inversion formula for Sumudu transform was proved by Weerakoon [28, 29] in 1994 and applied it to solve partial differential equations. Asiru studied the properties of Sumudu transform [1, 2, 3] and solved integral equations of convolution type [4] and

## The Solution of Miller-Ross sequential Fractional Differential Equations By Sumudu Transform

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### Abstract

In this paper, we make use of the Sumudu transform method (STM) a type of Miller-Ross sequential fractional differential equations. We apply STM to fractional ordinary differential homogenous equations. We obtain the exact solutions of fractional ordinary differential homogenous equations in terms of Mittag-Leer functions. Some illustrative examples are also given.

AMS 2010 Subject Classification : 44A15; 44A99:

Keywords: Sumudu transform; Mittag-Leer functions; Fractional derivatives; Fractional differential equations..

## 1 INTRODUCTION

The fractional calculus is a generalization of differentiations and integrations to non-integers orders. There are many problems in physics and engineering formulated in terms of fractional differential and integral equations, such as diffusion, signal processing, electrochemistry, viscosity etc. The solution of fractional equations are investigated by many authors using different methods in obtaining exact and approximate solutions. The Sumudu transform method is applied to obtain the solution of ordinary differential equations [7]. The Sumudu transform was first defined by Watugala in 1993, which is used to solve engineering control problems [17]. He extended the Sumudu transform to two variables in 2002 [18]. The first applications to differential equations and inversion formulae were done by Weerakoon in 1994 and 1998 [15],[16]. The application dealing with the convolution-type integral equations were done by Asiru in 2001, 2002 and 2003 [1],[2],[3]. The fundamental properties and applications of Sumudu transform were seen in the paper 2006. Moreover the Sumudu transform was also used to solve the fractional differential equations [5],[6]. In this paper, we can find an explicit solution of fractional ordinary homogenous differential equations with Miller-Ross sequential fractional derivative by using the Sumudu transform method.

## Method of Solving Fractional Differential Equations By Sumudu Transforms

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### Abstract

Our aim is to obtain solution of fractional differential equation of order  $\alpha$  ( $0 < \alpha < 1$ ) with initial conditions by Sumudu transform method. The methods are well illustrated by many examples.

**Keywords:** Euler Gamma function, Mittag-Leffler function, Riemann-Liouville fractional derivative, Fractional differential equations, Sumudu transform method.

### 1 INTRODUCTION :

The origin of fractional calculus goes back to 1695 when Leibniz considered the derivatives of order  $\frac{1}{2}$ . Since then, many famous mathematicians which includes Laplace, Fourier, Abel, Liouville, Riemann, Grunwald, Letnikov, Levy, Marchaud, Erdelyi, and Riesz have worked on this and related questions. However, for three centuries, the theory of fractional calculus was developed mainly as a purely theoretical field of mathematics. Many applications have been found for fractional calculus, some of which are discussed in Debnath [15], [7] and Podlubny [1].

Fractional calculus plays a vital role in the analysis of scientific problems in a broad array of fields such as physics, engineering, biology and economics[18]. There is no doubt that fractional calculus has become an existing new mathematical method of solution of diverse problems in Mathematics, Science and Engineering[8, 17]. Many researchers attracted towards fractional differential equations and obtained the solutions of fraction differential equations by using the different transform method. Miller and Ross [3] and Oldham and Spanier [14] provided historical details on the fractional calculus Bodkhe and Panchal [9, 10, 11, 12] have developed new methods for obtaining solutions of linear fractional partial differential equations.

In section 2, definitions of Euler Gamma function, Mittag-Leffler function and Riemann-Liouville fractional derivative and some properties are considered. Also

## Sumudu Transforms and the Mittag-Leffler Function

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### Abstract

The exponential function of  $e^z$  plays a very important role in the theory of integer-order differential equation. The generalization of the exponential function is the Mittag-Leffler function and the Mittag-Leffler function is the solution of a fractional linear differential equation with constant coefficients. The number relationship for this function were obtained by using infinite series and Sumudu transform.

**Keywords:** Mittag-Leffler function; Sumudu transform; Special functions.

## 1 INTRODUCTION

The Mittag-Leffler function and its generalizations are important due to its direct involvement in the problems of physics, engineering and applied sciences. The Mittag-Leffler function originally occurs as the solution of fractional order differential equations and fractional order integral equations. The properties of the Mittag-Leffler function are describes some of the important results deal with Sumudu transform which is directly applicable in the solution of differential equation and in the study of the or behavior of the solution for small and large value of the arguments. Sumudu transform and the generalization of the concept of fractional is an improper integral, the gamma function is known as Euler function of second kind [11]. The infinite series useful to find a solution a second order liner homogenous differential equation with all cases, constant coefficients and non- constant coefficients. The Sumudu transform is important tool solve initial-value problem, composed by Linear ordinary or Linear partial differential equation with constant coefficients and initial condition. A fractional differential equation can be interpreted as generalization of an ordinary differential equation and to solve a fractional differential equation with constant coefficients are called as Mittag -Leffler function which is the generalization of exponential function that is solution of a ordinary differential equation with constant coefficients[2].

In this paper the Mittag-Leffler function is introduced in non -conventional but educational was ie by means of the Sumudu transform of a generalization of the exponential function. In some cases of the Mittag-Leffler function are mentioned and one of the most important generalization of Mittag-Leffler function is given by



## Comparative Study Between Riemann-Liouville Fractional Derivative And Caputo Fractional Derivative

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### Abstract

In this paper, we study the properties of Riemann-Liouville and Caputo fractional derivatives and also comparison between Riemann-Liouville and Caputo fractional derivatives. The examples of Riemann-Liouville and Caputo fractional derivatives.

**Keywords:** Mittag-Leffler; Riemann-Liouville; Caputo Fractional derivatives; Fractional differential equations.

## 1 INTRODUCTION :

The origin of fractional calculus goes back to 1695 when Leibniz considered the derivatives of order  $\frac{1}{2}$ . Since then, many famous mathematicians which includes Laplace, Fourier, Abel, Liouville, Riemann, Grunwald, Letnikov, Levy, Marchaud, Erdelyi, and Riesz have worked on this and related questions. However, for three centuries, the theory of fractional calculus was developed mainly as a purely theoretical field of mathematics. Many applications have been found for fractional calculus, some of which are discussed in Debnath [2], [3] and Podlubny [8].

Fractional calculus plays a vital role in the analysis of scientific problems in a broad array of fields such as physics, engineering, biology and economics [10]. There is no doubt that fractional calculus has become an existing new mathematical method of solution of diverse problems in Mathematics, Science and Engineering [7, 12]. Many researchers attracted towards fractional differential equations and obtained the solutions of fractional differential equations by using the different transform method. Miller and Ross [7] and Oldham and Spanier [9] provided historical details on the fractional calculus.

## Caputo Fractional Derivative And Its Applications To Fractional Differential Equations By Transform Method

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### Abstract

In this paper, the operational transform formula corresponding to Sumudu transform of Caputo fractional derivatives are derived by direct application of Sumudu transform. These formula are applied to solve certain homogenous and non-fractional differential equations with non-zero initial conditions.

*AMS<sub>2010</sub> Subject Classification* : 44A15, 44A99.

**Keywords:** Sumudu transform; Mittag-Leffler; Fractional derivatives; Fractional differential equations.

## 1 INTRODUCTION

The integral transforms are widely used in applied science, mathematical physics and engineering. In order to solve fractional differential equations, the integral transforms were extensively used and there is a lot of literature available on the theory and applications of integral transforms, such as the Laplace, Fourier, Mellin and Hankel. G. K. Watugala (1993) introduced a new integral transforms named Sumudu transform and further applied to the solution of ordinary differential equation in control engineering problems. [1, 2, 13] Q. D. Katatbeh and F. B. M. Belgacem derived the Sumudu transform of Riemann-Liouville, Caputo and Miller-Ross sequential fractional derivatives by using Laplace-Sumudu duality property and applied to solve certain fractional differential equations [9]. Here we derived these formulae by direct application of Sumudu transform and use these results to solve certain fractional differential equations with non-zero initial conditions [4, 5, 6]. The Sumudu transforms of two parameter function of Mittag-Leffler types, Riemann-Liouville, Caputo fractional derivatives are studied [12, 8]. This result are used for solving the fractional differential equation

## Riemann-Liouville Fractional Derivative And Its Applications To Fractional Differential Equations By Transform Method

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### Abstract

In this paper, the operational transform formula corresponding to Sumudu transform of Riemann-Liouville fractional derivatives are derived by direct application of Sumudu transform. These formula are applied to solve certain homogenous and non-fractional differential equations with non-zero initial conditions.

*AMS<sub>2010</sub> Subject Classification* : 44A15, 44A99.

**Keywords:** Sumudu transform; Mittag-Leffler; Fractional derivatives; Fractional differential equations.

## 1 INTRODUCTION

The integral transforms are widely used in applied science, mathematical physics and engineering. In order to solve fractional differential equations, the integral transforms were extensively used and there is a lot of literature available on the theory and applications of integral transforms, such as the Laplace, Fourier, Mellin and Hankel. G. K. Watugal (1993) introduced a new integral transforms named Sumudu transform and further applied to the solution of ordinary differential equation in control engineering problems. [1, 2, 13] Q. D. Katatbeh and F. B. M. Belgacem derived the Sumudu transform of Riemann-Liouville, Caputo and Miller-Ross sequential fractional derivatives by using Laplace-Sumudu duality property and applied to solve certain fractional differential equations [9, 8]. Here we derived these formulae by direct application of Sumudu transform and use these results to solve certain fractional differential equations with non-zero initial conditions [4, 5, 6].

## 2 Preliminary Results, Notations and Terminology

In this section we give definitions and some basic results which are useful in rest of the paper.

# Method of Cryptography by Applying Laplace Transform To Tangent Trigonometric Function

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**Abstract:** In this paper we introduced method of cryptography i.e. encryption and decryption by applying Laplace transform and their inverse using tangent trigonometric function by considering series of the form  $Gy^m \tan ny$ .

**Key-words:** Laplace transform, Inverse Laplace transform, Expansion of tangent trigonometric function, Cryptography, Encryption, Decryption.

**Introduction:** In mathematics an integral transform plays an important role in the conversion of a function from one function into another function. In this paper we apply Laplace transform to trigonometric tangent function for the method of Cryptography. The Cryptography is the process of converting ordinary plain text into unintelligible text and vice-versa. In present age the network and electronic communication is very important. The use of Cryptography facilities the provision of cash withdrawal from banking, from ATM, pay TV, online purchasing, banking transactions cards, computer passwords, e-commerce transactions, e-Governing, SMS service, e-mails etc. In human life the security of financial information is an essential part. The purpose of using this method is for more security in communication as compared to other methods because cipher text obtained by this method could not be cracked by other persons easily. In the first part we apply Laplace transform to tangent trigonometric function  $y \tan y$  then we apply  $y^2 \tan 2y$  for the same purpose. Finally we conclude by comparing these two functions.

## Preliminaries:

**Definition: Laplace Transform:** The Laplace transform of a function  $f(y)$  defined for all real numbers  $y \geq 0$ , is the function  $F(s)$ , which is a unilateral transform defined by

$$L[f(y)] = F(s) = \int_0^{\infty} f(y)e^{-sy} dy \text{ where } s \text{ is a complex number frequency parameter}$$

**Definition: Inverse Laplace Transform:** If  $F(s)$  is the Laplace transform of  $f(y)$  then the inverse Laplace transform of  $F(s)$  is given by  $f(y)$  and we write  $L^{-1}[F(s)] = f(y)$ .

## Formula:

$$1) \text{ If } f(y) = y^n \text{ then } L[y^n] = \frac{n!}{s^{n+1}} \text{ and } L^{-1}\left[\frac{1}{s^n}\right] = \frac{t^{n-1}}{(n-1)!}$$

## Main Results:

**Encryption:** Suppose we want to send the message “KADA”

In this method we can convert the given plain text in to such a hidden text which could not Possible to crack without key by operating Laplace transforms. Suppose that we are given A

## USE OF LAPLACE TRANSFORM &amp; SUMUDU TRANSFORMS IN CRYPTOGRAPHY

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**Abstract:** In real life mathematics plays an important role in the process of cryptography. In this paper we introduced cryptographic method i.e. encryption and decryption method by using Laplace transform & Sumudu transform and their inverses. For operating online facilities password is required for confidentiality. Also in military services at every stage services, Indian police confidentiality are required.

**Key-words:** Laplace transform, Sumudu transform, Inverse Laplace transform, Inverse Sumudu transform, Cryptography, Encryption, Decryption.

**Introduction:** Cryptography is associated with the process of converting ordinary plain text into unintelligible text and vice-versa. The cryptography is based on mathematical concept and used in many applications like online banking, online purchasing, banking transactions cards, computer passwords, e-commerce transactions, e-Governing, SMS service, e-mails, ATM cards etc. In human life the security of financial information is an essential part. The purpose of using this method is for more security in communication as compared to other methods because cipher text obtained by this method could not be cracked by other persons easily. In the first part we apply Laplace transform to exponential function for Sumudu transform for the same purpose. Finally we conclude by comparing these two methods.

**Preliminaries:**

**Definition: Laplace Transform:** The Laplace transform of a function  $f(t)$  defined for all real numbers  $t \geq 0$ , is the function  $F(s)$ , which is a unilateral transform defined by

$$L[f(t)] = F(s) = \int_0^{\infty} f(t)e^{-st} dt \text{ where } s \text{ is a complex number frequency parameter}$$

**Formulae:**  $L[t^n] = \frac{n!}{s^{n+1}}$

**Definition: Inverse Laplace Transform:** If  $F(s)$  is the Laplace transform of  $f(t)$  then the inverse Laplace transform of  $F(s)$  is given by  $f(t)$  and we write

$$L^{-1}[F(s)] = f(t).$$

**Definition: Sumudu transform:** Consider a set  $A$  defined as

$$A = \left\{ f(t) \mid \exists M, T_1, T_2 > 0, |f(t)| \leq Me^{\frac{|t|}{T_1}}, \text{ if } t \in (-1)^j \times [0, \infty) \right\} \text{ For all real } t \geq 0.$$

the Sumudu transform of a function  $f(t) \in A$ , is denoted by  $F(u) = S[f(t)]$  and is denoted as

$$F(u) = S[f(t)] = \int_0^{\infty} \frac{1}{u} e^{-\frac{t}{u}} f(t) dt, u \in (-T_1, T_2)$$

**Definition : Inverse Sumudu transform:** If  $F(u)$  is the Sumudu transform of  $f(t)$  then the inverse Sumudu transform of  $F(u)$  is  $f(t)$  and we write  $f(t) = S^{-1}[f(t)]$

## SOLVING SIMULTANEOUS DIFFERENTIAL EQUATIONS BY USING LAPLACE TRANSFORM

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**Abstract:** In mathematics an integral transform plays an important role in the conversion of a function from one function into another function. The Laplace transform method can be used for finding solution of system of ordinary differential equations. In this paper we have to discuss the method of solution of simultaneous differential equations using Laplace transform.

**Key-words:** Laplace transform, Inverse Laplace transform, Simultaneous Differential equations, Properties, Cramer's rule.

**Introduction:** The system of simultaneous linear differential equations which contain a single independent variable and two or more dependent variables. In general the number of will be equal to the number of dependent variables i. e. if there are n dependent variables there will be n equations. Operations such as differentiation and integration can be replaced by algebraic operations in the complex plane. Thus the linear differential equation can be transformed into algebraic functions of a complex variable s. For finding the solution of simultaneous differential equation the system described by ODE the solution is difficult. Hence we consider system described by Transfer Function. The method is very easy to explain. Apply the Laplace transform on both sides of the given differential equation. This will transformation the differential equation into algebraic equation. If we solve this equation for dependent variables then taking the inverse Laplace transform on both sides. The result is the solution of given differential equation.

### Preliminaries:

**Definition: Laplace Transform:** The Laplace transform of a function  $f(y)$  defined for all real numbers  $y \geq 0$ , is the function  $F(s)$ , which is a unilateral transform defined by

$$L[f(y)] = F(s) = \int_0^{\infty} f(y)e^{-sy} dy \text{ where } s \text{ is real or complex number frequency parameter}$$

### Properties of Laplace Transform:

Property	Laplace Transform
$f(y)$	$L[f(y)] = F(s)$
Linearity property	$L\{C_1f_1(y) + C_2f_2(y)\} = C_1F_1(s) + C_2F_2(s)$
First translation property	$L[e^{ay}f(y)] = F(s-a), s-a > a$
Second translation property	$L[g(y)] = e^{-as}y(s)$ , where $g(y) = \begin{cases} F(y-a), & y < a \\ 0, & y > a \end{cases}$
Change of scale property	$L[f(ay)] = \frac{1}{a} F\left(\frac{s}{a}\right), a > 0$
Derivatives	i) $L[f'(y)] = sL[f(y)] - f(0), s > 0$ ii) $L[f^{(n)}(y)] = s^n L[f(y)] - s^{n-1}f(0) - s^{n-2}f'(0) - \dots - f^{(n-1)}(0), s > 0$
Multiplication of y	i) $L[yf(y)] = -F'(s)$



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## RESEARCH ARTICLE

# USE OF LAPLACE TRANSFORM IN DIFFERENTIAL EQUATIONS

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### ABSTRACT

The concept of Laplace transform plays an important role in various fields of science, engineering and technology such as control engineering, communication, signal analysis and design, system analysis, solving differential equations, system of modeling, etc. In this paper we have to discuss the method of solution of differential equations using Laplace transform.

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## INTRODUCTION

In mathematics an integral transform plays an important role in the conversion of a function from one function into another function. The Laplace transform method can be used for finding solution of system of ordinary differential equations, partial differential equations and integral equations. It can be used to convert many common functions such as exponential functions, sinusoidal functions and damped sinusoidal functions into algebraic functions of a complex variable  $s$ . Operations such as differentiation and integration can be replaced by algebraic operations in the complex plane. Thus the linear differential equation can be transformed into algebraic functions of a complex variable  $s$ . For finding the solution of differential equation the system described by ODE the solution is difficult. Hence we consider system described by Transfer Function. The method is very easy to explain. Apply the Laplace transform on both sides of the given differential equation. This will transformation the differential equation into algebraic equation. If we solve this equation for roots then taking the inverse Laplace transform on both sides. The result is the solution of given differential equation.

### Preliminaries

**Definition: Laplace Transform:** The Laplace transform of a function  $f(y)$  defined for all real numbers  $y \geq 0$ , is the function  $F(s)$ , which is a unilateral transform defined by

$L[f(y)] = F(s) = \int_0^{\infty} f(y)e^{-sy} dy$  where  $s$  is real or complex number frequency parameter

### Properties of Laplace Transform:

1) **Linearity property:** If  $C_1$  and  $C_2$  are any constants,  $f_1(y)$  and  $f_2(y)$  are functions with Laplace transform  $F_1(s)$  and  $F_2(s)$  respectively

i.e.  $L[f_1(y)] = F_1(s)$  and  $L[f_2(y)] = F_2(s)$ , then

$$L\{C_1 f_1(y) + C_2 f_2(y)\} = C_1 L\{f_1(y)\} + C_2 L\{f_2(y)\} \\ = C_1 F_1(s) + C_2 F_2(s)$$

2) **First translation property:** If  $L[f(y)] = F(s)$  then

$$L[e^{ay} f(y)] = F(s-a), \quad s-a > a$$

3) **Second translation property:** If  $L[f(y)] = F(s)$  and  $g(y) = \begin{cases} F(y-a), & y < a \\ 0, & y > a \end{cases}$  then

$$L[g(y)] = e^{-as} F(s)$$


4) **Change of scale property:** If  $L[f(y)] = F(s)$  then  $L[f(ay)] = \frac{1}{a} F\left(\frac{s}{a}\right)$

5) **Laplace transform of Derivatives:** If  $L[f(y)] = F(s)$  then

$$i) L[f'(y)] = s L[f(y)] - f(0)$$

In general ii)  $L[f^{(n)}(y)] = s^n L[f(y)] - s^{n-1}f(0) - s^{n-2}f'(0) - \dots - f^{(n-1)}(0)$

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*Review Paper*

**CLIMATE CHANGE, MOSQUITO DIVERSITY AND EPIDEMICS OF MOSQUITO BORNE DISEASES IN INDIA**

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**Abstract**

Mosquitoes are important vectors responsible for spreading various diseases in human population. They belong to family *Culicidinae* of order Diptera. Mosquito fauna in the world 3700 species belong to 112 genera. In India 393 species of mosquitoes are occurring. Mosquitoes are very efficient vector of human diseases today. It has been estimated that worldwide 7 to 8% economy is spend only for control of mosquito borne diseases. Mosquitoes are potential vector of malaria, dengue and other diseases. Environmental factors impact on mosquito species diversity. The key findings of the research is that only 10% species of female mosquito species act as vector of different pathogen that spread diseases like dengue, malaria, elephantiasis, lymphatic filariasis etc. India rank fifth in terms of mosquito biodiversity after Brazil, Indonesia, Malaysia and Thailand. The study of mosquito diversity is essential to understand species abundance and species variation. It is evident that climate change, mosquito diversity and epidemics of mosquito borne diseases are interrelated with each other.

Key words: Mosquito, Species diversity, Climate change, Epidemics.

**INTRODUCTION**

Today vector borne diseases is big problem for the world. Mosquitoes act as harmful vectors for various diseases. Mosquitoes transfer diseases to about 700 million peoples annually. India is one of the countries where incidence of mosquito borne diseases are more Mosquitoes belongs to the orders Diptera in the family Culicidae. The British government studies the taxonomy of mosquito of the world which resulted in the publication of the monograph of the Culicidae in 1910. Only female mosquito can cause Chikungunya, yellow fever, Filariasis, Japanese encephalitis and other serious diseases

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Research Article

## A study on biology and larval behaviour of fruit piercing moth of *Othreis (Eudocima) materna* (L.) (Lepidoptera: Noctuidae) on pomegranate, *Punica granatum*

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### Abstract

Among different fruit piercing moths, the genus *Othreis* are the most harmful, causing widespread damage to pomegranate, citrus and mango fruits causing fruit fall in tropical and subtropical countries. The present communication deals with the study on the biology of *Othreis materna* (L.) from egg to adult's death which was carried out at room temperature of the laboratory to investigate the delicate and vulnerable stages of its life cycle. The life cycle of the moth was completed within 45-61 days, with an average 55.03 days in case of male and within 47-63 days with an average 57.07±4.92 in case of female. Eggs hatching started at night or early in the morning and duration of hatching was 2.72 days. The eggs measured were about 0.95 to 0.03 mm in diameter. The freshly emerged first instar larvae were light yellowish coloured and translucent. The first instar larvae were very active after hatching and they moved 4 to 6 feet for searching the food. The larvae were fed with the leaves of *Tinospora cordifolia* (Giloy or Guduchi). The total larval duration in days from first, second, third, fourth and fifth instar varied from 2.12±0.01, 1.81±0.05, 2.87±0.02, 3.90±0.11, 4.74±0.38 in days respectively and total larval period was 15.44±0.57. Pupae were dark brown in colour and total pupation period was of 13.81±0.12 days and total adult duration for male and female was 23.08±0.70 and 25.20±0.66 days respectively. The adult of *O. materna* was bright orange in colour and of medium size. The male was small than the female. This is first study of this type from Marathwada, which will help to trace the vulnerable and delicate stage of the life cycle of this *O. materna*.

**Keywords.** Behaviour, Biology, Fruit piercing moth, Life-cycle, *Othreis materna* (L), Pomegranate

### INTRODUCTION

The moth of *Othreis spp.* is a destructive pest of various fruits in tropical and subtropical countries including India, Southeast Asia, Africa, Australia and South Pacific (Waterhouse and Norris, 1987). It is polyphagous pest feeding at night by piercing the skin of the ripening fruits with their strong proboscis and sucking the juice. Internal injury consists of a bruised dry area beneath the skin resulting in the development of secondary rots at the puncture site (Atachi *et al.*, 1989). In India four

species of *Othreis (Eudociam)* such as *O. materna*, *O. fullonia*, *O. homaena* and *O. cajeta* are serious pest on various fruits such as pomegranate, citrus, guava, papaya, grapes, tomato and mango, etc. (Sundra Babu and David, 1973). The larvae feed on *Tinospora cordifolia* which belongs to family Menispermaceae. According to Ramkumar *et al.* (2010) the Menispermaceae creepers were supported well for the survivability of the larvae, whereas presence of sclerotized blades and erectile barbs in the proboscis suggested that the moth can capable of piercing the hard-skinned fruits. So,



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## RESEARCH ARTICLE

### SEASONAL VARIATION OF MOSQUITOES IN RELATION TO ABIOTIC ENVIRONMENTAL FACTORS IN BEED DISTRICT OF MAHARASHTRA, INDIA

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##### Key words:

Mosquito, diversity *Culex*, *Aedes*,  
*Anopheles Armigeres*, *Mansonia*,  
Beed District, India.

#### ABSTRACT

The present study gives an overview of data on the biodiversity of mosquitoes. The distribution pattern of mosquitoes is related to habitat preference. These habitats may be natural or man-made. Mosquitoes are carriers of number of diseases. The study was carried out for one year during August 2019 to July 2020. Collection of mosquito species from different nine geographical regions of Ashti tehsil, District Beed (M.S.). Mosquitoes were collected at different habitats. A total number of 3274 mosquitoes were collected from nine different localities. A diverse collection of Mosquitos reveals the presence of Seventeen species belonging to five genera i.e. *Anopheles*, *Aedes*, *Culex Armigeres* and *Mansonia*. *Anopheles* genus dominated with seven species. The highest population of mosquito species observed in the rainy season in the month of September. Whereas density of mosquito species was observed least in the summer, in the month of February. Genus wise Contribution (percentage) of Mosquitos was dominated by *Anopheles sp.* (33.87%), followed by *Aedes sp.* (28.68%), *Culex sp.* (26.66%), *Armigeres sp.* (8.77%) and *Mansonia Sp* (2.02%). The most dominant species collected from study areas was *Culex quinquefasciatus* (18.7%) followed by *An. subpictus* (9.8%), *Aedes aegypti* (9.32%) and *An. culicifacies* (8.86 %) and the least collected species was *Anopheles gigas* (1.68%).

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#### INTRODUCTION

Now a day's mosquito is most problematic arthropod regarding human health. It is not only nuisance but also vector parasites for number of diseases. So for the better and healthy human health worldwide number of workers are working on "mosquito and mosquito borne diseases" but till today we are not got satisfaction. More than half of the world's population live in areas where this mosquito species is present. Globally mosquito borne diseases causes 2.5 million deaths per year viz. Malaria, Dengue, Yellow fever, Elephantiasis etc. Sustained mosquito control efforts are important to prevent outbreaks from these diseases. There are several different types of mosquitoes and some have the ability to carry many different diseases'. The distribution pattern of adult mosquitoes is related to habitat preference of the immature stages. These habitats may be natural or man-made, temporary or permanent. Climate change, infrastructural disabilities and availability of breeding beds result in surveillance of mosquitoes (Episton,1998; Gubler, 1998; Reiter, 2001). It provides favorable condition for mosquito distribution and their abundance. It is main cause for spreading of infectious diseases like Malaria, Chikungunia, Yellow, Fever, Elephantiasis, Dengue etc.

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Day by day global change is occurring across a wide range of fields and those changes affect almost every aspect of human societies. There are a number of drivers of global change that are changing the physical and social environment on planet to such an extent that they have the potential to influence the status of many vector-borne diseases. These complex global phenomenon and natural as well as infrastructural disabilities are favorable for mosquito development and mosquito borne diseases. In India the major mosquito vectors of these diseases belong to the genera *Anopheles*, *Culex*, *Aedes* and *Mansonia*. The knowledge on biodiversity of mosquitoes in an area provides adequate information on population diversity, distribution pattern and preferential habitat selection which will help to evolve a suitable strategy and implement the same for the meaningful suppression of the mosquito population and in turn to reduce the mosquito menace. In last few decades cases of dangerous diseases like Malaria, Chikungunia, Dengue, Elephantiasis, Yellow fever and other Viral fever were reported from villages in Marathwada region of Maharashtra. Hence the present investigation was carried out to morphological identification of mosquito species and their prevalence for planning of mosquito vector control measures in Ashti taluka of Beed district of Maharashtra (India).

#### MATERIALS AND METHODS

The study was carried out for twelve months during August 2019 to July 2020. Collection of mosquito specimens from

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# Correlations of Zooplankton Population with Some Physico-chemical Parameters of Chandani Dam, Maharashtra (India).

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**Key words :-** Correlation Coefficient ( $r$ ) Zooplankton population, , Physico-chemical Factors, Chandani Dam, Maharashtra.

**Abstract :** Present paper deals with study of monthly variations in the zooplankton population and their correlations with some physicochemical characteristics of Chandani Dam in Osmanabad district, Maharashtra during June 2018 to May 2019. Parameters like, Water temperature, transparency, Sp. Conductivity, pH, TDS, dissolved oxygen, carbon dioxide, alkalinity, hardness, Chlorides etc. have been studied. The diversity and population dynamics of zooplankton is under the control of numerous physico-chemical factors. The population of zooplankton fluctuates along with the physicochemical factors. A study revealed that 20 genera of zooplanktons belonging to 4 groups viz. Rotifera, Cladocera, Copepoda and Ostracoda were observed. Highest zooplankton populations were recorded in the month of December and January. The present investigation showed positive correlations with parameters like DO, CO<sub>2</sub>, transparency, conductivity whereas water temperature, TDS, pH, Chlorides, alkalinity showed negative correlations with zooplankton population.

## Introduction:

Freshwater ecosystems are highly diversified and having with wide range of physicochemical conditions, which greatly influences the aquatic life. The quality of water is described by its physical, chemical and microbial characteristics. The Zooplankton is an important group of micro-organisms which indicates the trophic status of water body. Some of them are also acting as bio-indicators of organic and inorganic pollution of water body. The diversity and population dynamics of the zooplankton in fresh water ecosystem is controlled by several physico-chemical factors such as water temperature, pH, DO, free CO<sub>2</sub>, alkalinity, chlorides etc. The occurrence and abundance of zooplankton in the water body depends on its productivity which in turn is influenced by the physicochemical parameters and level of nutrients. Seasonal changes in physicochemical conditions in aquatic bodies influences the plankton dynamics, Bhowmick et.al. (1993). The seasonal fluctuations of zooplankton in relation to physico-chemical factors and their correlations have been studied by many workers in India including Tonapi (1980). Trivedy and Goel (1988)Kulshekhara et.al (1989), Adholia (1991), Chandrashekhar and Kodarkar (1996), Asif Khan et. al. (1996), Sayestehfer, Salaskar and Yeragi (2003), Surve P. R. et. al.(2004), Lendhe and Yeragi (2004), etc.

The Present paper deals with study of monthly variations in the zooplankton population and their correlations with some physicochemical characteristics of Chandani

A New Species of *Anthobothriumambadasii* In *Rhynchobatusdjeddensis*, from Ratnagiri District, of Maharashtra State, India.

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### ABSTRACT

Thirteen parasite collected from *Rhynchobatusdjeddensis* from Mirya, Ratnagiri District, West co The scolex is flower like with four bothridia. The scolex is 3.11 (4.57-4.65) in length and 7.53 (7.34-7.73) in width. The bothria 3.03 (3.12-2.93) in length and 2.88 (2.81-2.96) in width. The mature proglottids are longer than broad and measures 13.94 (13.9-13.9) in length and 7.73 (7.65-7.81) in width. ast of Maharashtra state, India in the period of June 2016- May 2018. These cestodes were flattened preserved in 4% formalin, stain with Harris haematoxylin passed through the various alcoholic grades, cleared in xylene, mounted in DPX and whole mount slides were prepared for further anatomical studies. Sketches are drawn with the help of Camerr Lucida and all measurements are in millimeters.

**Keys** –New record *Anthobothriumambadasii* Sp. Nov. (Cestoda-Lecanicephalidae) in *Rhynchobatusdjeddensis*, from Mirya, Ratnagiri District.

### INTRODUCTION

Benden in the year 1850 erected the genus *Anthobothrium* cornucopia recovered from galeuscainmustelussularis collected from the Belgian water. Mola (1908) synonymised *Anthobothrium* with *Phyllobothrium*. but (1943) redescribed *A. auriculatum* Rhydolphi, (1891) and gave his opinion that the name of genus given by Benden is corrected. Linton (1819) described *A. variable* from *Trygoncentura* from Massachusetts *A. crispum* molin described in (1858), in (1890) *A. laciniatum* described linton, *A. variable* (Linton, 1889) southwell, 1925 and *A. panjadi* Shipley and hornell, 1906 from rays of Ceylon waters. southwell, (1912) from *Rhynchobatusdjeddensis* collected from ceylon water described *A. lintoni*, Yamaguti (1934) established *A. parvum* from *Alopiasvulpinus* collected from Japan. *A. karuatayl* woodland described in 1934, in 1947 *A. hickmanin* described in (1974). Yamaguti in (1952) three species described *A. rajat* *A. Pteroplateae*, *A. bifidum*, later on subhapradha (1955) described three more species *A. septum* from *Rhynchobatusdjeddensis* and *Trygonimbricatus*, *A. crenulatum* *Rhinobatus*, *haivi* and *A. spinosum* from *carachariasacutus* collected from the Madras coast saoud described species *A. taeniuri* is (1963), in (1968), *A. veravalensis* is another new species described by shinde et. Al in (1981) from *Rhinobatusdjeddensis* collected from veraval, India. Butter (1987) described *A. amulatum* from *Rhinobatuarmatus* collecting from Australia srivastava and srivastava (1988) found a new species *A. sassonense* from *Rhinobatu granulates* in (2002) *A. altavela* species described by Lassadnaifar another species in the same year *A. galeornin* described by suriano in (2002), Ruhnke & Caira two new species *A. caseyi*, and *A. lyndoni* described in (2009).

### MATERIAL AND METHODS

Cestode parasites were collected from the intestine of *Dasyatiswalga* at Burundi Ratnagiri district (M.S.) India during the period of June. 2016 to May. 2018. These cestodes preserved in hot

# Histopathological Damage By Cestode *Uncibilocularis Dasyatisii* Sp. Nov. In The Intestine Of *Dasyatis Walga* (Muller And Henley, 1841)

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## ABSTRACT

*The marine water fish Dasyatis walga collected from Ratnagiri district during the period of June 2018 to May 2019. After dissection their intestinal passage was examined for tapeworm parasite. The genus Uncibilocularis was established by Southwell (1925) with its type species U. trygonis (Shibley et Hornell 1906), the histopathological studies were carried out and observation clearly shows that the parasite, Uncibilocularis dasyatisii Sp. Nov. was approaching to the intestinal villi, embedded in the fibroblast cell and is attached to the intestinal villi. The histopathological studies of tapeworm Uncibilocularis dasyatisii Sp. Nov. Have been studied to find the pathological changes and extend of damage of the intestinal layers of Dasyatis walga.*

**Keywords:** *Dasyatis walga, Histological Damage, Uncibilocularis dasyatisii Sp .Nov, intestinal villi.*

## 1. INTRODUCTION

The study of different types of the diseases to the tissues of host is known as "Histopathology". During the life cycle of cestode, it is accomplished twice in different host. In fishes the mechanism of parasites establishment varied from species to species and it also depends on the stage of parasite, host tissue and environmental conditions. The physiological conditions in a particular host gut (fishes) with regard to pH or other physiological characters may provide favourable or unfavourable site for metabolism of particular species. The various forms of cestode scolex or head bears hold fast organs, which are beautifully adapted for attachment to the mucosa of specific hosts, but in some species Scolex are poorly developed; hence they cannot specifically adapted to any particular intestine, and have a wide host spectrum. The extensive study on the host parasite relationship has been carried out by Ahmed, A.T.A. and Sanaullah, M.1975. The pathogenicity of cestodes of various orders, R. M. and DE. SA, L. M. 1962. Described host parasite relationship of *Phyllobothrium*; *Acanthobothrium*, *Echinobothrium*, Sircar and Sinha(1980) have also studied the histopathology of *Lytocestus indicus* occurring in fresh water fishes. Hayunga, E. G. 1977. Comparative histology of thses colices of three caryophyllaeid tapeworms: Relationship to pathology and site selection in host intestine. Diss. Abs. Int. Murlidhar and Shinde (1987), Amlacher (1961), Hayunga E. G. (1977) and Mackiewilz (1972) has studied the histopathology of intestine of fish caused due to cestodes. Boruclnska and Caira (1993) observed a comparison of mode of attachment and histopathogenicity of tapeworm

# PREVALENCE OF TYLOCEPHALUM GOVINDII SP. NOV. IN TRYGON SEPHEN FROM ALIBAG, RAIGAD DISTRICT (M.S.), INDIA.

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## ABSTRACT

The present communication deals with the Prevalence of cestode parasite in *Trygon Sephen* from different places of Alibag, Raigad District (West coast of Maharashtra, India). During the period of June 2016 to May 2018. Total 170 cestode parasites were recorded from 291 fishes. The collected parasites were of *Tylocephalum* genus. This report summarizes the data incidence, index of infection of cestode parasites with effect of environmental factor.

**Keywords:** Seasonal Prevalence of *Tylocephalum govindii* Sp. Nov, *Trygon Sephen*, Alibag, Raigad district (M.S.) India.

## INTRODUCTION

Fish is an important human food as well as the source of income of a segment of the population. India's present total annual fish production is about 5.7 million tonnes. Prevalence of cestode parasite from *Trygon Sephen* was undertaken to investigate the innate factor and morphological character such as season, temperature, humidity, age and sex of the host. The present investigation included application of the statistical method to understand the distribution of cestode parasite of population levels for three seasons i.e. rainy, winter and summer during the period of June 2016 – May 2018. The influence of different seasons on the infection with different groups of parasites was carried out by many workers on different hosts. Hanck et. al. (1978), Dogiel et al (1961), Hopkin (1959), Anderson (1978), Batra, V.A. (1994), Holmes, J.C. (1983), Anderson (1976), Crofton (1971a), Amino omar (1978, 1997) Pennvuick, K.L. (1971a) Peterson (1971), Murlidhar, A. (1991), Sushella (1987) have clearly shown that geographical distribution of cestode parasites is affected by Seasonal changes. Parasite can have wide range of impact on the ecology of their hosts, in terms of health (Alme and Owen, 1967) behaviour (Milinski 1984 more 1984) sexual selection (Howard and Minchella, 1990 Watve and Sukmar, 1997) and regulation of the host populations (Freeland, 1983). This makes it interesting to examine the ecological factors determining parasite loads; potential factors determining the transmission of parasites include environmental conditions that affect the viability behaviour of parasite propogules (Rogers and Sommerville, 1963) and feeding movement and defection patterns of the host. Parasitologic investigations of large patient populations are rarely conducted in the India. Where the illusion of freedom from parasitic infections still predominates, such investigations are considerable more common in third world countries where endemic parasites are more readily documented. Gastrointestinal parasite infections are world-wide problem for both small and large scale farmers, but their impact is greater in and the availability of a wide in India due to range of agro-ecological factors suitable for diversified hosts and parasite

# Histological Damage Tapeworm *Tylocephalum govindi* Sp. Nov. (Cestoda-Lecanicephalidae) In The Intestine of *Trygon sephen*

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## ABSTRACT

The marine water fish *Trygon sephen* collected from Ratnagiri district during the period of June 2017 to May 2018. After dissection their intestinal passage was examined for tapeworm parasite. The tapeworm, *tetragonocephalum* sp. Shipley (1905). The histopathological studies were carried out and observation clearly shows that the parasite, *Tylocephalum govindi* Sp. Nov. was approaching to the intestinal villi, embedded in the fibroblast cell and is attached to the intestinal villi. The histopathological studies of tapeworm *Tylocephalum govindi* Sp. Nov. have been studied to find the pathological changes and extend of damage of the intestinal layers of *Trygon sephen*.

**Keywords:** Histological Damage, *Tylocephalum govindi* Sp. Nov, *Trygon sephen*, intestinal villi.

## 1. INTRODUCTION

The study of different types of the diseases to the tissues of host is known as "Histopathology". During the life cycle of cestode, it is accomplished twice in different host. In fishes the mechanism of parasites establishment varied from species to species and it also depends on the stage of parasite, host tissue and environmental conditions. The physiological conditions in a particular host gut (fishes) with regard to pH or other physiological characters may provide favourable or unfavourable site for metabolism of particular species. The various forms of cestodes scolex or head bears hold fast organs, which are beautifully adapted for attachment to the mucosa of specific hosts, but in some species scolex are poorly developed; hence they cannot specifically adapted to any particular intestine, and have a wide host spectrum. The extensive study on the host parasite relationship has been carried out by Nadkal, Mohandas, John and Simon (1974). The pathogenicity of cestodes of various orders, Rees, G. in 1967. In fishes Mevicar (1972) described host parasite relationship of *Phyllobothrium*, *Acanthobothrium*, *Echinobothrium*, Sircar and Sinha (1980) have also studied the histopathology of *Lytocestus indicus* occurring in fresh water fishes. Murlidhar and Shinde (1987) observed histopathology of *Acanthobothrium uncinatum* of fish *Rhynchobatus djeddensis* Hunter (1972), Amlacher (1961), Hayunga E. G. (1977) and Mackiewilz (1972) has studied the histopathology of intestine of fish caused due to cestodes. Boruclnska and Caira (1993) observed a comparison

**\*REVALENCE OF CLADOSPORIUM SPORES OVER SUNFLOWER FIELDS****G.M. Pathare**

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**ABSTRACT**

Present paper deals with the aerobiological investigation over Sunflower fields by using Volumetric continuous Tilak Air Sampler was employed for exploring fungal airspora over a Sunflower field at Kada, Tal. Ashti and Dist. Beed. 5<sup>th</sup> July to 30<sup>th</sup> September 2003 for second Kharif season and 10<sup>th</sup> November 2003 to 29<sup>th</sup> February 2004 for first Rabi season. The present paper deals with airborne concentration of *Cladosporium* spores over sunflower fields. The concentration of airborne *Cladosporium* spores was assessed and the roles of the metrological parameters over the spore concentration were discussed. The spore concentration was maximum (58030/m<sup>3</sup> and 46270/m<sup>3</sup> of air) in the month of September 2003 and December 2003 during second Kharif season and first Rabi season respectively.

**Key words:** - Aerobiology, *Cladosporium*, Air Sampler, Sunflower field.

**INTRODUCTION:**

Aerobiology is an interdisciplinary science which deals with the study of biological component like pollen grains, fragments of fungal spores, hyphal fragments, bacteria, viruses, algae, lichens, minute insects & insect parts, protozoan cyst, etc. In the atmosphere a biotic particulates & gases affecting living organisms have been recently included in the concept of aerobiology. The aerobiological studies are mainly concern with interrelationship between the biological component in the atmosphere, source of biological component, their release in the atmosphere, their deposition & impact on health of plants & animals including human beings. Airborne infections & the resulting diseases threaten the lives & productivity of plants. Airborne diseases still pose a challenge to mankind.

The role of fungi in causing diseases to crop plants, man, domestic animal, in bringing deterioration of food grains in storage, valuable monuments has been subject of great interest for long time. Standing vegetation has a great

influence of Aerospora of any place and it changes with changes in weather. Aerobiological survey conducted in various part of India revealed richness of Aerospora.

Sunflower (*Helianthus annuus* L.) is one of the most important oil seed crops being grown all over the world. It is mainly grown for its oil, which is generally for culinary purposes in preparation of vanaspati and in manufacture of soaps and cosmetics. The sunflower oil is chemically a tri-glyceride. It contains 68% linolic acid, so it is especially recommended for patients having heart troubles. Sunflower seed, cake or meal is a protein rich feed and is used as a concentrate for cattle, animals like pig, sheep, goat and poultry feed. Sunflower is native of North America. In Germany and Russia it is grown on large scale. Now a day's sunflower crop cultivation has become more popular among the farmers of Marathwada region. As considering survey of this crop that since last few years sunflower is subjected to various type of fungal diseases which may be soil borne, seed borne, airborne etc. The aim of present study





## STUDIES ON COMPOSITION AND COMPONENTS OF ASCOSPORES BELONGING TO ASCOMYCETS OVER SUNFLOWER FIELDS

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### Abstract

Present paper deals with the aerobiological investigation over Sunflower fields by using Volumetric continuous Tilak Air Sampler was employed for exploring fungal ascospores over a Sunflower field at Kada, Taluk-Ashti and District-Beed. 5<sup>th</sup> July to 30<sup>th</sup> September 2003 for second kharif season and 10<sup>th</sup> November 2003 to 29<sup>th</sup> February 2004 for rabi season. During the present studies composition & component of the ascospores belonging to ascomycets over the Sunflower field was studied. For this study of spore catches were prepared, mounted and spore scanning was carried out regularly. Fifteen types of fungal spores belonging to the ascomycets were trapped during second Kharif and First Rabi season. Apart from these various dust particles were also seen in abundance.

**Keywords:** Airspora, Ascomycetes, Air Sampler, Sunflower field.

### Introduction

Aerobiology is an interdisciplinary science which deals with the study of biological component like pollen grains, fragments of fungal spores, hyphal fragments, bacteria, viruses, algae, lichens, minute insects & insect parts, protozoan, etc. In the atmosphere a biotic particulates & gases affecting living organisms have been recently included in the concept of aerobiology. The aerobiological studies are mainly concern with interrelationship between the biological component in the atmosphere, source of biological component, their release in the atmosphere, their deposition & impact on health of plants & animals including human beings. Airborne infections & the resulting diseases threaten the lives & productivity of plants. Airborne diseases still pose a challenge to mankind. The role of fungi in causing diseases to crop plants, man, domestic animal, in bringing deterioration of food grains in storage, valuable monuments has been subject of great interest for long time. Standing vegetation has a great influence of aerospora of any place and it changes with changes in weather. Aerobiological survey conducted in various part of India revealed richness of aerospora. Sunflower (*Helianthus annuus* L.) is one of the most important oil seed crops being grown all over the world. It is mainly grown for its oil, which is generally for culinary purposes in preparation of vanaspati and in manufacture of soaps and cosmetics. The sunflower oil is chemically a triglyceride. It contains 68% linoleic acid, so it is especially recommended for patients having heart troubles. Sunflower seed cake or meal is a protein rich feed and is used as a concentrate for cattle, animals like pig, sheep, goat and poultry feed. Sunflower is native of North America. In

Germany and Russia it is grown on large scale. Now a day's sunflower crop cultivation has become more popular among the farmers of Marathwada region. As considering survey of this crop that since last few years sunflower is subjected to various type of fungal diseases which may be soil borne, seed borne, airborne. However detail studies on Aerospora over the sunflower field in respect to the seasonal conditions are meagre. Considering these facts studies on Aerospora belonging to ascomycets over the sunflower field is carried out.

### Materials and Methods

Continuous Volumetric Tilak air sampler (Tilak and Kulkarni 1970) was installed in the sunflower fields of a constant height at 1.5 meters above the ground level at Kada, Taluk-Ashti, District-Beed. From 5<sup>th</sup> July to 30<sup>th</sup> September 2003 for second Kharif season and 10<sup>th</sup> November 2003 to 29<sup>th</sup> February 2004 for Rabi season. The air was sampled at the rate of 5 liters/minute which left traces of deposition over the cellophane tape, affixed on the outer surface of drum. The slides were prepared after eight days and scanned regularly. The identification of spores was done which was based on visual characteristic of spores such as shape, size, colour, wall structure and ornamentation etc. The daily record of meteorological data was regularly maintained.

### Results and Discussion

Analysis of spore catches from the result presented in table I revealed that fifteen types of fungal spores belonging to the ascomycets were trapped on the cellophane tape fixed on the drum of the sampler during second kharif and first rabi season.

Table : Total spore concentration and percentage contribution of during two different seasons

Sr. No.	Spore Type	Season's total fungal spore conc/m <sup>3</sup> in air		% contribution of fungal spores in season's total airspora	
		Kharif	Rabi	Kharif	Rabi
	<b>Ascomycotina</b>				
1)	Chaetomium	434	630	0.08	0.11
2)	Claviceps	210	350	0.04	0.06
3)	Didymosphaeria	6272	1414	1.23	0.26
4)	Hypoxylon	1400	2296	0.27	0.41

# Traditional Medicinal Uses of Neem in Human Life

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**Abstract:** *Neem is very important plant belonging to Meliaceae and Botanical name is Azadirachta indica is derived from the Persian. Azad means "Free" dirakht means "Tree". Hence it literally means "the free tree of India". This plant is very important which is medicinal property and therefore, commercially exploitable. In Ancient period it is also used in the treatment of Unani, Ayurveda, Homeopathic medicine, therefore considered as cynosure of modern medicine. It is now considered as a valuable source of unique natural products for development of industrial products. The use of traditional medicine and medical plants in most developing countries, as a normative basis for the maintenance of good health, has been widely observed. In the last century approximately 130 pharmaceutical products discovered based on the information obtained from the traditional scientist and physician. The importance of Neem tree has been recognized by the US National Academy of sciences, and publish a report in 1992, entitled 'Neem -a tree for solving global problems' Neem used to development of new drugs from medicinal plants and because of these facts the domain market for plant derived chemicals, pharmaceutical, fragrances, flavours and colour ingredients. The main purpose of this paper was to evaluate medicinal applications of Neem in human life.*

**Keywords:** Neem, Meliaceae, Azadirachta indica, Pharamaceutical

## I. INTRODUCTION

Neem is most important tree found wild and often cultivated in India and a sacred gift of nature. Neem tree is mainly cultivated in the Indian subcontinent, Neem is a member of the mahogany family, Maliaceae. The height of the tree is about 12m to 2.75m with spreading branches. Bark is dark grey and rough, leaves are green in colour, bluntly serrate and alternate. The flowers are white, having a scented odour especially at night. Its fruit is smooth, oblong and small in size and called, Nimboli. Unripe fruit is green and bitter in taste while the ripe is yellow in colour and somewhat sweetish in taste.

Neem provides shades, ornamental look, shelter belt, fuel wood and construction material and also helps in degraded land reclamation and soil conservation activities. Neem has been used extensively by humankind to treat various ailments before the availability of written records which recorded the beginning of history. Since prehistoric times, Neem has been used by humankind (Venugopalana, 2013). The Neem tree is an incredible plant that has been declared the "Tree of the 21<sup>st</sup> century" by the United Nations (United Nations Environment /programme, 2018). The US National Academy of Science published a report in 1992 entitled "Neem: A tree for solving global problems" (National Academy of Science, 1992).

## II. METHODOLOGY

The databases used to get information from journals and articles or google. For the search primordial and current literature author visited Library.

### A) Medicinal uses of Neem in Humankind

#### a) Antiviral

Galhardi et al. studied the in vitro antiviral property of Azadirachta indica polysaccharides for poliovirus. The research of Xu et al. Showed the in vitro antiviral activity of neem seed kernel extracts against duck plague virus



# Toxic Plants Diversity in Ashti Taluka of Marathwada and their Properties

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**Abstract:** A survey of Toxic plants diversity belonging to various families and toxic plants in Ashti taluka of Marathwada region. The present paper deals with total of toxic plants are Twenty-Five (25) belonging to sixteen (16) families were recorded and their toxic properties, toxic parts studied in detail. Based on the available literature traditional information and clinical symptoms, about 25 plants belonging to different angiospermic families have been identified and recorded as toxic plants. Regarding diversity family Solanaceae appeared to be dominant with 3 species like that, Euphorbiaceae and papilionaceae with three species each.

**Keywords:** Toxic plants, Diversity, Ashti taluka, Marathwada.

## I. INTRODUCTION

Some plants toxins act as general protoplasmic poisons and affect many species of plants representing different families (Agrios, 2000). Since ancient civilization, the plants were used for the fulfilment of food, clothing and shelter. Human being explored and exploited plants for fulfilling their various fundamental needs. Cases of poisoning with plants in date back to prehistoric ages when man of past ages started experimenting with plants for satisfying his basic needs (Chopra et al., 1984). With the modern man, in this modern world phytotoxicity is relatively less frequent, ranks third next to grung and household chemicals (Frohne, 1983).

Still acute cases of poisoning were filled in hospital record, pertaining to death of man and animals either deliberately or accidentally. Toxic plants perhaps accord to with the fruit of poison, enumerating the course of evolution and signifying parallel evolutionary pathways in plants and animals (Chopra et al., 1984). Different toxic plants exhibited varied range of toxicity, in some plants the whole plant or some part of plant are toxic.

A survey of literature indicates that several works have been done or-carried out on toxic plants in all part of the word by Bernard (1988), Turner (1991), Campbell (2000), Knight (2001) etc. toxic plants found in all over the world, like that the in Ashti taluka of Marathwada have toxic plants. However, no investigation has made on diversity toxic plants of Ashti Taluka. The objective of this study is to trace out the availability and also highlighted toxic properties and principles of plant species.

## II. MATERIALS AND METHODS

Ashti taluka is in Beed subdivision of Beed district in Maharashtra state. It is located in southern region of Marathwada. The temperature of this region varied out 20°C to 35° C. The present information has been collected by survey during the months of January 2019 to October 2019. An intensive survey was conducted in the rural areas of Ashti, and plants with toxic property to man and animals were documented. Based on the ethnobotanically scrutinized data, a taxonomic list of toxic plants with their toxic properties was also provided. The voucher specimens of toxic plants were identified with the use of floras like Flora of the presidency of Madras (Gamble & Fischer, 1953). The specimen of the toxic plants was preserved in the form of herbarium. Finally, all the properties identified plants were alphabetically arranged in accordance with their botanical names and the information was tabulated along with the poisonous parts, local name, properties.

# Investigation of Ethno-Medico Weeds From Marathwada Region, Maharashtra, India

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**Abstract:** The present paper reveals the importance about 45 ethno-medicinal weeds used by local people of Marathwada region. The local names in vernacular or in marathi, Botanical names and Botanical families are recorded. Weeds are commonly unwanted and undesirable plants. They grow rapidly in areas such as crop fields, gardens, lawns, parks, orchards, road sides, landscaped areas and human construction sites also. Generally weeds are unattractive and adapted ecologically to grow aggressively to capture available land. These weeds reduce air flow, causes health problems. It also affects the quality of products and income of farmers. On the other hand, the weeds are used as human food, animals' food and have medicinal values also. The claims are on remedies for common cough and cold, fever, cuts and wounds, burns, asthma, jaundice and diabetes etc. Some weeds and crop are used as insect repellent, mosquito repellent and also in snakes' bites.

**Keywords:** Weeds, Ethno- medico botany, Marathwada, vernacular, Marathi.

## I. INTRODUCTION

Weeds have been main source of food, medicine and many necessities of life since ages. Tribal people even today depend on all their food, medicine and other needs of life on the surrounding flora. Weeds are naturally grown plants, have significant value in ethanol botany and are group of plants very aggressive competitive noxious and troublesome to man. The weeds like parthenium hysterophorus L. is troublesome and causes allergic diseases but on the other hand they are useful in neuralgia and dysentery and also act as a tonic, the naturally occurring many plants are not really unwanted in the light of traditional herbal medicines (Pantnaik, 1956 and Govindiah 1981). Traditional drugs are receiving great emphasis in the recent years. Marathwada region is basically a tropical climate type containing three Seasons, summer, winter and monsoon. The arid region is to marginally semi arid ecoclimatic zone forming the western peninsula of Marathwada Tribes of this area Jalna Aurangabad Beed Parbhani Osmanabad Latur and Hingoli. Some indigenous plants for the various needs, especially medicines, personal literature revealed that they are only a few records on ethano-medicobotany from Marathwada region. The Ethnobotanical knowledge of this was known through, Jain (1991), Shastri (1996), Dastur (1996), Bhatt et al. 2001 and Jadeja (2005). some efforts have been made for the studies despite on ethnobotanical but the fact that aborigines exist in millions in this country. The present work is keeping in view that an attempt to report the traditional medicines in the region of different areas. The present investigation is to draw attention of physiochemists and pharmacologists.

## II. MATERIALS AND METHODS

During this investigation usually botanical collection tours, for recording of Ethanolmedicinally data were made by taking interviews with village Dr vaidya's Bhagat, seniors and elder persons were also interviewed for getting knowledge of Ethanol botany. These consists of information which has been traditionally passed on from one generation to the next generation in the tribal communities. Identification was done by referring references Karthikeyan et al. (1981), toshet al. (1988), it all Dane cooke (1901-1908) Santapau (1988). The local names were collected, from local inhabitants and checked for their genuine but these names should be taken in local relevance. Importance and

# Development of sport psychology in the field of competitive sports

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## ABSTRACT

*Compared with the field of mass exercise and physical education, competitive sports have received more attention from sports psychology. A series of sports psychological intervention techniques have been used in the Beijing Olympic Games, such as psychological film and music, psychological website, psychological testing for athletes and rapid adjustment of multi-functional service vehicles. Leading technologies in the psychological field such as electroencephalography, event related potential and computer quadrant map are used to diagnose the mental state or training effect of athletes during exercise. The rise of positive psychology has a rich theoretical and applied field, and also enriches the theory and application fields of modern sports psychology. Sports psychology has seen many new trends in the 20th century, and smooth experience is one of them. In the field of competitive sports, the connection between psychological monitoring and sports practice is the closest. Psychological monitoring is also moving towards a systematic and specialized direction. It is suggested that the research results of sports psychology that have been obtained can be applied more in future practice.*

**Keywords :** Sports psychology; Competitive sports; Psychological monitoring)

## INTRODUCTION

With the success of the 29th Beijing Olympic Games in 2008, Chinese sports psychologists have received more attention from insiders and outsiders, and the scientific and applied research of competitive sports psychology has been more widely recognized. At present, the research and application team of competitive sports psychology in China has continued to grow and develop, and has gradually embarked on a more standardized and sustainable development path.

### **Application of Competitive Sports Psychology in Beijing Olympic Games**

In preparing for the psychological training of the Beijing Olympic Games, Chinese sports psychologists used a variety of methods to carry out a variety of psychological services for athletes of key projects. The psychological support provided to athletes mainly involves the following aspects: concentration, emotional control, emotional stability, goal orientation and role positioning, psychological stability, psychological stability, psychological fatigue recovery, self-confidence, wake-up level adjustment, of negative emotions caused by weight control, training communication, team cohesion and so on.

# Sports Psychology

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## ABSTRACT

Sports psychology is a sub discipline of psychology applied to a competitive sport as a specific context of organized physical activity. Competitive sport is focused on high achievement and consistent excellence, in contrast to other settings in which exercise is used for physical education, leisure, or rehabilitation. The major emphasis in sport psychology is on the study and application of psychological factors enhancing athletic performance and on the impact of sport participation on a person's (or team's) development. Psychological characteristics of high-level performance, motivation, psychological techniques for individual performance, life span development, exercise and health psychology and future directions in sports psychology. The book includes chapters on expertise, intrinsic and extrinsic motivation, exercise and mental health, compulsive exercise, measurement, pain, confidence building, self-efficacy, and a theoretical discussion of cognitive and dynamical systems. Introduction, Competitive Sport as a High Achievement Setting, Performance Enhancement, Athletic Excellence from a Developmental Perspective, Conclusion: Future Directions in Sports Psychology.

**Keywords :** Sports, Psychology, Confidence, Performance.

## INTRODUCTION

Many definitions of sport psychology have been suggested, there has been no comprehensive and internationally accepted definition of sport psychology. In its Position Stand # 1 (1995), the European Federation of Sport Psychology (FEPSAC) proposed that "sport psychology is concerned with the psychological foundations, processes, and consequences of the psychological regulation of sport-related activities of one or several persons acting as the subject(s) of the activity". This definition indicates that sport psychology attempts to improve athletic performance and help athletes to concentrate better, deal effectively with competitive stress, and to practice more efficiently. The term "sport" is used as an umbrella term that includes different kinds of sport, exercise, and other physically active pursuits. These types of physical activity are also used in other settings such as organized physical education, leisure, and rehabilitation (healing). Another important feature of sport psychology is its double nature.

## MAJOR FOCUS AND TRENDS IN SPORTS PSYCHOLOGY

Noteworthy are two major focuses in sport psychology research, with two corresponding trends in applied work. The first is understanding the psychological factors that affect athletic performance and how athletes realize their potential in sport. Applied aspects here include high-quality practices, optimal performance, and adequate recovery at the level of an individual athlete and team. The second important objective of sport

# Modern Methodic Pf Power Cardio Training In Students' Physical Education

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## ABSTRACT

Significant increase of students' physical condition and health level at the account of application of modern power cardio training methodic. Participated in the research. The age of the tested was 19 years. The research took one year. We used methodic of power and functional impact on trainees' organism. Such methodic is some system of physical exercises with weights to be fulfilled under accompaniment of specially selected music. We showed control tests showed experimental group students achieved confidently higher physical indicators. Boys demonstrated increase of physical strength and general endurance. Increase of control group students' body mass can be explained by students' insufficient physical activity at trainings, conducted as per traditional program.

**Keywords :** health, physical condition, students, physical education, power-cardio training.

## INTRODUCTION

Recent years there has been observed negative tendency to noticeable worsening of modern young people: students' and pupils' physical condition and health. K. Hardman in his works expresses serious trouble about significant falling of students' physical health standards and growth of obesity in developed European countries and developing countries of Africa and Asia. It was found that young people's excessive involvement in internet activity and computer games was a serious threat to their physical and psychic health. For correction of this negative situation scientists note that physical functioning level of most of young people does not correspond to optimal parameters. As per the data of D. Basset most of USA youth do not realize the recommended 60 minutes a day of physical functioning. it is also noted that youth of Russian Federation has insufficient level of motor.

The key to this problem's solution can be changes in physical education programs for students. Besides, it is necessary to raise the quality of young people's training. Rather important are modern training methodic, permitting for teachers to use new effective forms and methods of physical education in educational process. Scientists throughout the world discuss new styles of teaching in higher educational establishments. The authors note that new styles of teaching permit for a student to actively participate in educational process and achieve the set targets with high effectiveness.

Specialists also note the absence of students' right for choosing the most favorable training programs in many higher educational establishments. General orientation of physical education programs in higher educational

# Role of Women Entrepreneurs in Economic Empowerment of Rural Areas

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## Abstract:

*In this globalized era, economic growth of a country highly depends on the participation of women in the development of that country. But for a male dominated society like India where majority of population lives in rural areas, it is very difficult for a woman to think about to establish their own business. Entrepreneurship amongst women has been a recent concern in rural India. Woman Entrepreneur is a person who accepts challenging role to meet her personal needs and become economically independent. In India around three million women entrepreneurs are working and mainly they are skewed towards smaller sized firms, as almost 98 percent of women-owned businesses are micro-enterprises. This paper mainly concerned with the women entrepreneurship situation in rural areas of India. This is a conceptual paper and uses secondary data from books, journals, articles, web sites and government reports. This study highlighted the current scenario of women entrepreneurs and their contribution in economic empowerment of rural areas of India. This paper also focuses on the future prospects of women entrepreneurs and government initiatives for making women entrepreneurs more successful. This study suggests some strategies for empowering rural women.*

**Key Words:** Women Entrepreneurs; Economic Growth; Government Schemes; Rural India.

## Introduction :

India, formally called Republic of India, is a country of South Asia. In terms of its population, India is the second most populous nations in the world and falls slightly behind China. As per the census statistics, 2016 India occupies 2.4% of the world's land area but over 17.85% of the world's population lives in India. Total population of India is approximately 1.32 billion out of which 48.36% are females and 51.64 are males. 72.2% of the population lived in about 638,000 villages and the remaining 27.8% lived in 5480 towns and urban agglomerations. The statistics of India Census, 2011 reveals that majority of population of India lives in villages. People living in villages are facing the problem of low investment, low saving and low production. In case of women in rural areas situation become worst because women continue to struggle the dual responsibilities. In villages females are illiterate, less contribution in decision making, high health risk, less financial resources access etc. Majority of decisions of family are taken by the male. In such type of environment, it is very difficult for a female to think about their career. In rural areas, where there is shortage of big industries then self-employment or entrepreneurship works only an alternative for employment. Self-employment is an employment generator for rural masses. Entrepreneurship is a process of creating something new by assuming the risk and rewards and an individual who takes risks and starts something new is known as an entrepreneur (Robert D Hisrich, 2007). Government of India has defined women entrepreneurs based on women participation in equity and employment of a business enterprise. Accordingly, a woman run an enterprise is defined as "an enterprise owned and controlled by a women having a minimum financial interest of 51% of the capital and giving at least 51% of the employment generated in the enterprise to women". Thus women entrepreneur is a person where risk and benefits are owned by women. Women Entrepreneurs in India represent a dynamic group of women who have broken away from the beaten track, where demands at home, family oppositions & cultural inhibitions, have led to lack of support, resources and opportunities; are now exploring new vistas of economic participation with an all new vigor. A great many of them have chosen the Entrepreneurs World



## Agricultural Entrepreneurship Development

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### Abstract

Traditionally, agriculture is seen as a low-tech industry with limited dynamics dominated by numerous small family firms which are mostly focused on doing things better rather than doing new things. Over the last decade, this situation has changed dramatically due to economic liberalization, a reduced protection of agricultural markets, and a fast changing, more critical, society. Agricultural companies increasingly have to adapt to market changes.

These changes have spurred new entrants, innovation, and new cycles of entrepreneurship within existing firms. It is recognized by politicians, practitioners, as well as scientists that farmers and growers increasingly require entrepreneurship, besides sound management and craftsmanship, to be sustainable in the future. Recent studies show that agricultural entrepreneurship is not only wishful thinking or a new hype; it has a profound impact on business growth and survival.

### Introduction

What is exactly meant by agricultural entrepreneurship? To start, there is no fixed definition of entrepreneurship; a wide diversity of definitions can be found. In daily language, the term "entrepreneur" is often interchangeably used with business owner, starter, someone who is self-employed, sole-trader, or farmer. Agricultural literature is in this perspective not helpful since it provides a multitude of operational definitions of the agricultural entrepreneur. Definitions about entrepreneurship are fuelled by disciplinary inheritance, for instance, building further on the classic economist Schumpeter (1934), or departing from the personal psychologist McClelland (1967).

Many attempts have been made to establish some clarity in this semantic confusion in order to provide the field of entrepreneurship its own distinct signature. Over the last decade, there has been a growing consensus that a fundamental, distinctive feature of entrepreneurship is the identification, evaluation, and pursuit of replace business by entrepreneurial opportunities. Entrepreneurial opportunities differ from normal possibilities to optimize the efficiency of existing products in the sense that the former involves new means-ends relationships. There are several arguments that can be put forward why the opportunity definition as an overarching definition is attractive for agricultural entrepreneurship.

1. It does not limit the study of agricultural entrepreneurship to specific situations such as new venture creation (e.g., a large group of the agricultural businesses are already in existence for decades).

# महिला सबलीकरण व योजना

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डॉ. अपोक भाऊराव माळखरे  
अर्थशास्त्र विभाग  
आनंदराय धोंडे ऊर्फ  
बाबाजी महाविद्यालय, कडा  
ता. आश्टी जि. बीड

## सारांश (गोशवारा):

रापुर्ण जगामध्ये महिला सबलीकरण हा विशय महत्वाचा विशय म्हणून समोर आला आहे स्त्री सबलीकरणासाठी जागतिक पातळीवर, राज्यपातळीवर, गावपातळीवर, पासकीय, प्रशासकीय, सामाजिक, राजकीय क्षेत्रात घटनात्मक तरतुदी करून त्याची अंमलबजावणी केल्यास स्त्री सबलीकरणाला चालना मिळेल महात्मा फुले आणि सावित्रीबाई फुले यांच्या विचारांचा वारसा असलेल्या महाराष्ट्रात महिलांना स्थानिक स्वराज्य संस्थामध्ये 50 टक्के आरक्षण प्रदान करून महिलांना सबलीकरणाच्या माध्यमातून समाजाच्या मुख्यप्रवाहात आणण्याचा प्रयत्न केला आहे.

## प्रस्ताविक:

भारत कृशी प्रधान देश म्हणून ओळखला जातो कृशीप्रधान देशात गावागावामध्ये पहरामध्ये महिला घरातील कामाबरोबरच पुरुशांबरोबर नोकरीमध्ये काम करतांना दिसून येतात. परंतू महिलांना स्वायत्तता सुरक्षा व संरक्षण देण्यासाठी सबलीकरणाचे अभियान राबविण्यास सुरुवात करण्यात आली परंतू महिला खरोखरच अबला आहेत का व त्यांना सबला बनविण्याची गरज आहे का?

जगामध्ये भारत देश विविध परंपरा, संस्कृती यामुळे ओळखला जातो पुरातन काळापासून महिलांना देवीचे रूप मानून पुजनीय मानले आहे. परंतू देशात महिला समाजाच्या बंधनात अडकून पडल्या आहेत त्यांना दुय्यम स्थान दिले जाते त्यांचे अधिकार हिरावून घेतले जातात, तरीसुद्धा समानतेच्या गोष्टी वोलल्या जातात. असे असतानाही निर्भया कांड किंवा कोपर्डीसारख्या अमानुश घटना घडताना दिसून येतात. यावर उपाय म्हणून महिलांना स्वायत्तता सुरक्षा व संरक्षण देण्यासाठी सबलीकरण अभियान राबवले जाते प्रत्येक यषस्वी पुरुशामागे स्त्रीचा सहभाग असतो. अनेक महापुरुश स्त्रीमुळे घडले राजमाता जिजाऊ, राणी लक्ष्मीबाई, अहिल्यादेवी होळकर, सावित्रीबाई फुले, रमाबाई आंबेडकर, मदर टेरेसा, सरोजिनी नायडू, इंदिरा गांधी, कल्पना चावला, सुनीता विल्यम्स, पी.टी. उशा, मॅगसेस पुरस्कार प्राप्त मंदा आमटे यांचे आदिवासी भागातील आरोग्य सेवेचे कार्य, भारतरत्न पुरस्कार प्राप्त ख्यातनाम गायिका लता मंगेशकर, अनाथाची माय सिंधुताई तपकाळ अशा कितीतरी महिलांनी देशाचा नावलौकिक वाढविला आहे. मुळातच महिलामध्ये निसर्गतः काही देणग्या पुरुशांपेक्षा जास्त आहेत सहनपिलता, स्मरणपक्ती, बचतवृत्ती, वात्सल्याची जाणीव हे गुण निसर्गतःच अधिक आहेत त्यामुळे स्त्री मुळातच सबला आहे. जरी संविधानाने स्त्री व पुरुश यांना समान अधिकार दिले असले तरी भारताच्या पुरुशप्रधान संस्कृतीमुळे स्त्री आज समाज व कुटुंबाच्या बंधनात अडकून पडली आहे महिला सबलीकरणाच्या दृष्टीने महिलांना त्यांच्या क्षमतांची जाणीव करून वैयक्तिक स्वातंत्र्य व निर्णय घेण्याचा अधिकार मिळणे आवश्यक आहे.

देशातील अर्धी लोकसंख्या ही महिलांची आहे महिला सबलीकरणासाठी मातृदिवस, महिलादिन, बालिकादिन, जननी सुरक्षा अभियान असे कार्यक्रम राबविले जातात त्यातून स्त्री जागृतीचे काम केले जाते महिला सबलीकरण करताना हुंडा प्रथा स्त्री भुणहत्या, निरक्षरता, अत्याचार अशा विघातक प्रवृत्तीचा नाप करणे आवश्यक आहे तसेच सामाजिक, घरगुती अन्याय व अत्याचार या विरुद्ध कठोर कायदे करून महिलांना पारंपरिक, सामाजिक, आर्थिक व मानसिक स्वरूपात



यशवंतराव चव्हाण यांचे आर्थिक विचार

डॉ. अशोक भाऊराव माळशिखरे

अर्थशास्त्र विभाग

आनंदराव धोंडे ऊर्फ बाबाजी महाविद्यालय, कडा ता. आष्टी जि. बीड

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प्रस्तावना :

भारताचे उपपंतप्रधान, पहिले मुख्यमंत्री, कुशल प्रशासक, उत्कृष्ट संसदपटू, भारताचे संरक्षणमंत्री अशा यशवंतरावांचा जन्म सांगली जिल्ह्यातील देवराष्ट्रे या गावी १२ मार्च १९१४ रोजी झाला. १९१४ म्हणजे पहिल्या महायुद्धाचा काळ १९१७-१८ मध्ये युद्ध संपले आणि प्लेगची साथ सुरु झाली या प्लेगच्या साथीमध्ये यशवंतराव चव्हाण यांच्या वडीलांचे निधन झाले. त्यानंतर कुटुंबाची सर्व जबाबदारी विठाबाईवर पडली. त्या चार मुलांना घेवून कराडला आल्या. रोजगार करत त्या मुलांचा संभाळ करू लागल्या परंतु ही मिळकत खूप कमी होती. त्यांनी न्यायविज्ञाना भेटून ज्ञानोबाला कराडच्या कोर्टात बेलीफ म्हणून नौकरी मिळवून दिली परंतु आर्थिक अडचणीमुळे ज्या गावात यशवंतरावांचा जन्म झाला त्या देवराष्ट्रे या गावी पुन्हा यावे लागले. त्यांचे चौथी पर्यंतचे शिक्षण देवराष्ट्रे येथेच झाले. पुढील शिक्षणासाठी कराडच्या टिळक हायस्कूलमध्ये दाखल करण्यात आले. १९३४ मध्ये ते मॅट्रीकची परीक्षा पास झाले. १९३८ मध्ये त्यांनी कोल्हापुरच्या राजाराम महाविद्यालयातून बी.ए. ची पदवी संपादन केली. १९४१ ला पुण्याच्या लॉ कॉलेजमधून त्यांनी एल.एल.बी. ही पदवी प्राप्त केली. २ जुन १९४२ रोजी यशवंतराव चव्हाण व वेणुताई यांचा विवाह सोहळा पार पडला. यशवंतरावांनी आपल्या वकिली व्यावसायाला कराड येथे सुरुवात केली.

पुढे यशवंतराव राजकारणामध्ये सक्रिय सहभागी झाले. सातारा जिल्हा कॉंग्रेसचे अध्यक्ष व त्यानंतर १९५२ मध्ये कराड मतदार संघातून विधान सभेवर निवड झाली. १९५६ मध्ये द्वैभाषीक मुंबई राज्याचे मुख्यमंत्री झाले. १९६० मध्ये महाराष्ट्र राज्याची निर्माती झाली व पहिले मुख्यमंत्री म्हणून चांगली कामगिरी केली. १९६३ मध्ये ते लोकसभेवर निवडून गेले. १९८२ मध्ये दहाव्या वित्त आयोगाचे अध्यक्ष म्हणून त्यांची निवड झाली. "देशातील सर्वोत्तम मुख्यमंत्री" म्हणून त्यांची प्रशंसा केली जाते या सर्वोत्तम मुख्यमंत्र्याचे २५ नोव्हेंबर १९८४ रोजी दिल्ली येथे निधन झाले.

यशवंतराव चव्हाण यांचे आर्थिक विचार

यशवंतराव चव्हाण यांचे आर्थिक विचार प्रामुख्याने शेती, उद्योग, सहकार, समाजवाद, आर्थिक विपमता इत्यादीशी निगडित आहेत.

१) शेतीसंबंधीचे विचार :

यशवंतराव चव्हाण यांनी कृषिविषयक विचार मांडताना शेतीच्या मालकी हक्काचा प्रश्न, भूमिहीनांचा प्रश्न व कृषी विकासासाठी उपाय यावर भर दिला. त्यांच्या मते जमीन कसणारा जमिनीचा मालक असला पाहिजे. भारतात शेती क्षेत्रात भूमिहीनांची संख्या अधिक आहे. म्हणून ज्याच्याकडे अधिक जमीन आहे त्यांनी एक ते दोन टक्के जमीन भूमिहीनांना द्यावी. त्याच बरोबर पडोसक जमीन लागवडीखाली आणली जावी. शेतीच्या आधुनिकीकरणाच्या मार्गातील अडथळे दूर केले जावेत. नद्यांचा पाण्याचा शेतीसाठी वापर केला जावा. नद्यावर धरणे बांधली जावेत जेणे करून शेती उत्पादनात मोठ्या प्रमाणात वाढ होईल.

# डॉ. बाबासाहेब आंबेडकर यांचे आर्थिक विचार

डॉ. अशोक भाऊराव माळशिखरे

अर्थशास्त्र विभाग, आनंदगव धोंडे ऊर्फ बाबाजी महाविद्यालय, कडा ता. आप्टी जि. बीड

सारांश (गोपवारा) :

डॉ. बाबासाहेब आंबेडकर यांनी विविध विषयावर आपले आर्थिक विचार मांडले आहेत. कृषि विषयक, उद्योगासंबंधी, रुपयाचा प्रश्न सार्वजनिक अर्थव्यवहार, पाणी व्यवस्थापन, वित्तीय प्रशासन समाजवाद, अर्थशास्त्राचे स्वरूप, शेतमजुरी, आंतरराष्ट्रीय व्यापार, दारुबंदी, कर विषयक विचार अशा विविध विषयांवर डॉ. बाबासाहेब आंबेडकर यांनी आपले विचार मांडलेले आहेत.

प्रस्तावना :

भारतीय राज्यघटनेचे शिल्पकार, भारतरत्न डॉ. भीमराव आंबेडकर यांचा जन्म १४ एप्रिल १८९१ रोजी रत्नागिरी जिल्ह्यातील अंबेवडे या गावी झाला. त्यांनी आपले प्राथमिक शिक्षण दापोली तर माध्यमिक शिक्षण सातारा येथे पूर्ण केले, तर एल्फिन्स्टन कॉलेज बॉम्बे येथुन एम.ए. (अर्थशास्त्र) कोलंबिया विद्यापीठातुन पी.एच.डी. ही पदवी संपादन केली. १९२२ मध्ये बॅरिस्टर परीक्षा व १९२३ मध्ये डॉक्टर ऑफ सायन्स ही पदवी मिळवली.

डॉ. बाबासाहेब आंबेडकर भारतीय संविधानाचे शिल्पकार, भारताचे पहिले न्यायमंत्री होते. डॉ. भीमराव आंबेडकरांनी दलिततांच्या उत्थानाकरता आणि भारतातील मागासलेल्या वर्गांच्या प्रगतीकरीता आपल्या संपूर्ण जीवनाचा त्याग केला. आज समाजात दलिताना जे स्थान आहे याचे संपूर्ण श्रेय डॉक्टर भीमराव आंबेडकर यांना जाते.

"देशप्रेमापुढे स्वतःच्या विश्वांतीचा त्याग केला. माणसाला स्वाभिमान शिकवला. ज्यांना आम्हाला संकटाशी सामना करणे शिकवले असा या आकाशात एकमेव तारा बाबासाहेब होता."

१९२७ मध्ये डॉ. आंबेडकरांनी अस्मृश्यता मिटवण्याकरता व जातीभेद संपविण्याकरता काम केले. या करिता त्यांनी अहिंसेच्या मार्गाने आंदोलन केले. पाणवटे सर्वाकरीता खुले केले जावेत. मंदीरात प्रवेश खुला करण्यात यावा. १९३२ मध्ये दलिततांच्या अधिकाराकरीता धर्मयुद्धातील योद्ध्या प्रमाणे लढले. त्यांची लोकप्रियता वाढत गेली. लंडन मधल्या गोलमेज संमेलनात सहभागी होण्याचे त्यांना आमंत्रण मिळाले. ज्यात त्यांनी वेगळ्या मतदारविरोधात आवाज उठविला व वेगळ्या मतदार संघाची मागणी केली. १९३७ ला त्यांनी स्वतंत्र लेबर पार्टी बनविली. १९३७ ला केंद्रीय विधानसभा निवडणुकीत त्यांनी १५ जागा जिंकल्या. १५ ऑगस्ट १९४७ ला भारत स्वतंत्र झाल्यावर डॉ. आंबेडकरांनी आपल्या स्वतंत्र लेबर पार्टीला आखिल भारतीय अनुसूचित जाती संघ पार्टीत विलीन केले.

कॉंग्रेस आणि महात्मा गांधींनी दलित वर्गाला हरिजन असे नाव दिले. परंतु डॉ. आंबेडकरांना हे आवडले नाही त्यांचे म्हणणे असे होते ही, "अस्मृश्य समाजातील लोक देखील आपल्या समाजाचा एक भाग आहेत आणि ते मुष्टा समाजातील अन्य सदस्यासारखेच सामान्य माणस आहेत."

त्यांचा त्याग, संघर्ष आणि समर्पणाच्या बळावर भारताने पहिले कायदामंत्री झाले. डॉ. भीमराव आंबेडकरांचा संविधान निर्मातीमागचा मुख्य उद्देश देशातील जातिपातीचा भेदभाव मुळापासून नष्ट करणे हा होता. समाज, स्वातंत्र्य, कृषि आणि मानवतेवर आधारीत भारतीय संविधानाला जवळ-जवळ २ वर्षे १९४७ मध्ये आणि ७ दिवसांच्या अथक परिश्रमाने २६ नोव्हेंबर १९४९ ला तयार करून तेव्हाचे राष्ट्रपती डॉ. राजेन्द्र प्रसाद यांच्याकडे सुपूर्द करित देशातील सर्व नागरीकता राष्ट्रीय एकता, अखंडता आणि स्वातंत्र्य यांच्यासाठी जीवून पणतीने भारतीय संस्कृतीला गौरवान्वित करत डॉ. आंबेडकर यांना अनेक आभार व्यक्त झाले होते. संपूर्ण देशाची समस्त वाढत्या त्यांना इन्सुलिन प्याने त्यांच्या या आजारकरता ते सुर्वेसाठी

# लोकसंख्या आणि पर्यावरण

डॉ. अशोक भाऊराव माळशिखरे

अर्थशास्त्र विभाग प्रमुख, आनंदराव धोंडे ऊर्फ बाबाजी महाविद्यालय, कडा ता. आष्टी जि. बीड

प्रस्तावना :

आजच्या सजीवांना आवश्यक असलेला प्रमुख घटक म्हणजे ऑक्सिजन होय. सजीवांची जसजशी उत्क्रांती होत गेली, तसतसे विविध प्रकारचे प्राणी अस्तित्वात आले. परंतु इतर प्राण्यांच्या तुलनेत मानवाचे स्थान वेगळे आहे. मानवाने आपल्या कल्पनाशक्तीच्या जोरावर निसर्गाशी मिळतेजुळते घेण्यापेक्षा निसर्गावरताबा मिळविण्याचा प्रयत्न केला. अशमयुगात पाषाणाच्या सहाय्याने व नंतर धातुच्या सहाय्याने मानवाने नैसर्गिक साधनांचा वापर करण्यास सुरुवात केली. नंतर शेतीचा विकास झाल्यावर मानवी वस्त्या निर्माण झाल्या. परिणामी निसर्गावर मात करणारा शक्तिमान घटक उदयास आला. पंधराव्या शतकानंतर निसर्गशास्त्रांमध्ये भर पडली त्यांच्या कक्षा आकाशाला भिडल्या. निसर्गनियमाच्या विरुद्ध जाऊन गेली लाखो वर्षे निसर्गाचे जे सुरळीतपणे चालणारे चक्र होते त्यात अडथळा निर्माण केला.

मानवाने नैसर्गिक विविधतेचा उपयोग आपल्या व्यवसायांच्या विकासासाठी केलेला दिसतो. काही ठिकाणी निसर्गावर अवलंबून असलेली शेती ही दुसरीकडे अतिप्रगत तंत्रज्ञानाच्या सहाय्याने व्यवसायिक स्वरूपाची शेती, औद्योगिक क्रांतीमुळे विज्ञान व तंत्रज्ञानाच्या विकासात झालेली वाढ याच काळात लोकसंख्या वाढीस सुरुवात झाली. वाढती लोकसंख्या वस्तुव सेवांची मोठ्या प्रमाणात मागणी करू लागले. शहरांचा जसाजसा विकास होत गेला. तसे मानवाचे राहणीमान उंचावले. ऐश्वर्यसंपन्न आयुष्याकडे वाटचाल होऊ लागली. या सर्व गोष्टींची पूर्तता करण्यासाठी. नैसर्गिक संपत्तीचा अविवेकी वापर सुरू झाला. निसर्गातील पाणी, हवा, वनस्पती, खनिजे यांचा अतिरेकी वापर सुरू झाला. परिणामी कारखाने मानवी वस्त्यांमधून सोडले जाणारे दुषित सांडपाणी, धुर, वाहने, ध्वनिप्रदुषण, निसर्गातील आकस्मिक बदल यांचे विपरीत परिणाम मानवाला भोगावे लागणार आहेत. मानवाने आपल्या गरजा पुरवण्यासाठी प्रचंड शहरे, कृत्रिम व रासायनिक खते, कीटकनाशके मोठमोठी धरणे, कालवे यांचा बेसुमारपणे वापर केला. यामुळे मृदा, जल, खनिजे, प्राणी व वनसंपत्तीचे मोठे नुकसान झाले. ज्या गोष्टी निर्माण करायला निसर्गाला हजारो वर्षे लागली, त्या गेल्या काही वर्षात मानवाने नष्ट केल्या. जर आपण पर्यावरण तत्वांना समजून घेतले नाही तर कदाचित उद्या आपल्या अस्तित्वाचा प्रश्न उभा राहिल यासाठी पर्यावरणाचा समतोल राखणे महत्त्वाचे आहे. त्यासाठी ५ जून हा दिवस जागतिक पर्यावरण दिन म्हणून साजरा केला जातो.

"पृथ्वीवरील पर्यावरणाचे आकलन आणि मानवी जीवनाचा पर्यावरणावर पडणारा प्रभाव यांचा पर्यावरण शास्त्र होय."



## Agricultural Changes and Agriculture Productivity in Ahmednagar District

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### ABSTRACT

The Ahmednagar district is agriculturally imbalance, the valleys of river Godavari, Bhima and its tributaries are agriculturally superior and different components are agriculturally backward. There is excessive diploma of iversification in physiography and soils due to this, district have pretty disparities in gricultural productivity. There is excessive variant in distribution and density of non bodily determinants such as irrigation, regular and contemporary farm implements, technological input, agricultural credit etc. Agriculture is the main occupation and the predominant remain of the humans dwelling in the Ahmednagar district which is one of creating district of Maharsashtra. The effects of productiveness indices published that there are greater or much less comparable sample of agricultural productivity. Although modifications in agricultural productiveness are no longer uniform and there is variant amongst the specific tehsils of district. These variants are due to the variant in the bodily and non bodily determinants. The availability and use of bodily and non bodily determinants in all the tehsils is no longer uniform and so is the productivity. On the groundwork of composite productiveness at some stage in the length of investigation seven tehsils has recorded exchange in their productiveness level. The bad alternate observed in 4 tehsils namely, Nagar, Shrirampur, Nevasa and Karjat whilst fine exchange observed in tehsils of Shevgaon, Sangamner and Kopargaon. Rest of the six tehsils namely, Rahuri, Pathardi, Jamkhed, Shrigonda, Parner and Akole seen no exchange in their productiveness level.

### Introduction:-

Development in agriculture performs an essential position in each country wide economy- climate developing, developed or in-transition. It has remained an vital sourceof food, fodder and uncooked fabric for range of industries. In the world close to aboutfifty percentage working populace nevertheless relies upon on agriculture for employment. Indeveloping nations agriculture and allied things to do maintain the practicable for providingsignificant employment possibilities and typical monetary boom as nicely as socioeconomic development. India's financial improvement appreciably rests onagriculture that employs 58.5 percentage of country's work pressure and it contributes about20 percentage Gross Domestic Product (GDP) (Shah, R. K. 2014).

Indian agriculture looks to be the three phases of the place the nature ofagriculture has been shifted i.e. put up independence length (1950-51 to 1965-66).



## बीड जिल्ह्यातील जलसिंचन स्थिती: एक अभ्यास

डॉ. राजपंगे एम.जी.

भूगोल विभाग,

आनंदराव धोंडे कला, वाणिज्य व विज्ञान महाविद्यालय,

कडा, ता.आष्टी, जि. बीड

### प्रस्तावना:

कृषी विकासासाठी जलसिंचन ही अत्यंत महत्वाची बाब आहे. आधुनिक काळात पारंपारिक पिकापेक्षा नगदी व फळपिकांना जलसिंचन हे अपरिहार्य झाले आहे. जलसिंचनाची व्यवस्था असेल तर उत्पादन व उत्पादकता वाढते यात शंका नाही. भारतीय शेती पारंपारिकरित्या मान्सूनच्या पावसावर अवलंबून आहे. परंतु अलिकडच्या काळात पर्यावरणाच्या बिघडत्या समतोलामुळे मान्सूनचा लहरीपणा वाढला आहे. यामुळे कधी कोरडा दुष्काळ तर कधी पुरसदृश्य स्थिती अशी विचित्र स्थिती मराठवाड्यात आढळते. यामुळे पिकांची पाण्याची गरज व उपलब्ध जलसिंचन यांचा ताळमेळ बिघडतो व पर्यायाने पिकांचे नुकसान होते. ज्यावेळी जमिनीतील पिकास पाण्याची कमतरता असते त्यावेळी कृत्रिम मार्गांनी वेळोवेळी पिकांना पाणीपुरवठा करावा लागतो.

### अभ्यासक्षेत्राची ओळख :

बीड जिल्हा मराठवाड्याच्या मध्यस्थानी आहे. बीड जिल्ह्याचा अक्षवृत्तीय विस्तार  $18^{\circ}27'$  उत्तर ते  $19^{\circ}27'$  उत्तर अक्षांश व रेखावृत्तीय विस्तार  $74^{\circ}49'$  पूर्व ते  $76^{\circ}48'$  पूर्व रेखांश असा आहे. जिल्ह्याच्या उत्तरेस औरंगाबाद व जालना, पूर्वेस परभणी व लातूर हे जिल्हे आहेत. दक्षिणेस उस्मानाबाद व अहमदनगर तर पश्चिमेस अहमदनगर जिल्हा आहे. जिल्ह्याचे एकूण क्षेत्रफळ  $10698$  चौ.कि.मी. असून ते महाराष्ट्राच्या एकूण क्षेत्रफळाच्या  $3.47\%$  एवढे आहे.  $2011$  च्या जनगणनेप्रमाणे जिल्ह्याची एकूण लोकसंख्या  $25,25,049$  होती. महाराष्ट्राच्या एकूण लोकसंख्येशी हे प्रमाण  $2.30\%$  आहे. जिल्ह्यात एकूण  $11$  तालुके आहेत. प्रशासकीय सोयीच्या दृष्टीने जिल्ह्याचे दोन महसुली विभाग पाडण्यात आले आहे. एक उपविभाग बीड येथे असून याअंतर्गत बीड, गेवराई, पाटोदा, आष्टी, शिरूर (कासार) हे तालुके



## भारतातील पाणी समस्या व आंतरराज्यीय जलसंधर्ष - एक भौगोलिक अभ्यास

प्रा. डॉ. माधव गणपती राजपांगे

आनंदराव धोंडे महाविद्यालय, कडा

### प्रस्तावना -

पाणी म्हणजे जीवन असा अर्थ मानवी समाज घेत असतो. खरोखरच 'जल हे तो कल है' उक्ती मानवी समाजाबरोबरच पृथ्वीवरील सर्व सजीवसृष्टीच्या जीवनाच्या उत्थानासाठी महत्त्वपूर्ण आहे. भारतात सरासरी दरवर्षी ६ मी. पर्जन्यवृष्टी होते. पण ही सरासरी विश्वासाहार्य वाटत नाही कारण ती संख्या मोड करून दर्शविण्याचा प्रयत्न केलेला असतो, वास्तव मात्र वेगळे असते. भारताच्या उत्तर-पूर्व भागात चेरापुंजी व मौसमग्राम येथे ११ मी. इतके पर्जन्य दुसऱ्या ठिकाणी म्हणजे राजस्थानच्या पश्चिम भागात केवळ ०.१ मी. पर्जन्यवृष्टी होते आणि पश्चिम घाटात हेच प्रमाण वाढून ३ मी. पर्यंत जाते. दख्खनच्या पठारावर ०.०६ मी. इतका पाऊस होतो. म्हणजेच पर्जन्याचे वितरण विषम स्वरूपाचे असून केवळ चार महिने आणि त्यातही जेमतेम १०० दिवस पर्जन्यवृष्टीसाठी देशात महत्त्वाचे आहेत. त्यामुळे नैसर्गिक पर्जन्यवृष्टीचे पाणी जतन करून त्याचा वापर नियोजनबद्ध केल्यास निश्चितच भारतीय कृषी अर्थव्यवस्था वृद्धीगंत होण्यास मदत होईल. जलसमस्येची जनजागृती व समस्या निर्मूलनासाठी नियोजनाचा अभाव व शासन कर्त्यांच्या राजकीय इच्छा शक्तीच्या अभावामुळे भारतातील ६०० मिलीयन लोकांना पाण्यासाठी संघर्ष करावा लागत आहे. देशातील २६ राज्यांपैकी २४ राज्यात पाण्याची फार मोठी समस्या निर्माण झाली असून त्यांचे संघर्षात रूपांतर झाले आहे. राज्या-राज्यात पाणी वाटपावरून वाद निर्माण झाले आहेत.

देशातील जवळपास २१ महानगरातील भूगर्भीय जलपातळीवरील जलसाठा इ.स. २०२० पर्यंत नष्ट होण्याच्या मार्गावर असल्याचे संशोधनातून स्पष्ट झाले आहे, त्यामुळे संपूर्ण भारतात पाणी ही एक समस्या म्हणून राज्यकर्त्यांबरोबरच सर्व भारतीय लोकांना आव्हान देत आहे.

### भारतीय जलाची मागणी (बिलियन क्यूब मॅट्रिक)

(तक्ता क्र. १)

क्षेत्र	जलसंधारन मंत्रालय			एन.सी.आय.डब्ल्यू.		आर.डी.
	२०१०	२०२५	२०५०	२०१०	२०२५	२०५०
सिंचन	६८८	९१०	१०७२	५५७	६११	८०७
पिण्याचे पाणी	५६	७३	१०२	४३	६२	१११
उद्योग	१२	२३	६३	३७	६७	८१
ऊर्जा	०५	१५	१३०	१९	३३	२०
इतर	५२	७२	८०	५४	७०	१११
	८१३	१०९३	१४४७	७१०	८४३	११८०

संदर्भ - ११ वी पंचवार्षिक योजना (भारत सरकार २००७-२०१२), खंड - ३ पान नंबर ४६.





## नाशिक जिल्हयातील नैसर्गिक वन क्षेत्राचा भौगोलिक अभ्यास

आहिरे बाबाजी मोतीराम

संशोधक विद्यार्थी

डॉ. बाबासाहेब आंबेडकर मराठवाडा विद्यापीठ,  
औरंगाबाद

प्रा.डॉ. राजपंगे माधव गणपती

मार्गदर्शक

भूगोल विभाग प्रमुख

आनंदराव धोंडे उर्फ बाबाजी महाविद्यालय,  
कडा ता. आष्टी. जि. बीड - ४१४२०२

### गोषवारा :

वनांमुळे जैवविविधतेचे संरक्षण, औषधी तसेच इतर ही उपयुक्त वस्तूंची उपलब्धता तसेच तेथील लोकांना उपजीविकेचे साधन असे अनेक फायदे होतात. भ्रमसाट विकास प्रकल्पांमुळे वनक्षेत्रे अत्यंत वेगाने कमी होत चालली आहेत. यामुळे जैवविविधता धोक्यात येऊ लागली आहे. वन्यप्राण्यांची नैसर्गिक आश्रयस्थाने नष्ट होऊ लागल्याने मानव वन्यजीव संघर्ष वाढीस लागले आहेत. वनांचे क्षेत्र कमी होऊ लागल्याने दरवर्षी पृथ्वीच्या तापमानात वाढ होत आहेत. जागतिक तापमानवाढीमुळे हवामान बदल वेगाने होत आहे. यामुळे चक्रीवादळांचे, ढगफुटीचे व अवकाळी पावसाचे प्रमाण वाढत आहे. निसर्गाचे हे बदलते स्वरूप आपल्यासाठी अत्यंत चिंताजनक आहे, हे जात असून ही वनांचा न्हास थांबलेला नाही, ही आजची सद्यस्थिती आहे. देशातील जंगले वाढविण्यासाठी सरकार व राज्य सरकार विविध घोषणा, उपाययोजना करीत असतात. या घोषणा, योजना कितपत यशस्वी झाल्या व खरेच किती वनक्षेत्र वाढले, घटले, नेमके कुठे वाढले, कुठे घटले, वाढण्याची किंवा घटण्याची कारणे काय ह्याचा अभ्यास करणे गरजेचे आहे.

की. वर्ड (कळ शब्द) : नैसर्गिक वन क्षेत्र, नैसर्गिक आपत्ती, जंगल, वनाच्छादन, अवर्गीकृत वने, कुन्हाड बंदी, सामाजिक वनीकरण, वृक्षदिंडी.

### प्रस्तावना :

पृथ्वीच्या एकूण क्षेत्रफळाच्या सुमारे दोन तृतीयांश क्षेत्रफळ पाण्याने व्यापले आहे. उर्वरित जमिनीचा एक तृतीयांश भाग जंगलांनी व्यापलेला असणे आवश्यक आहे. झाडांनी दाटलेल्या भागाला वन, जंगल, रान Forest असे म्हणतात. एकेकाळी पृथ्वीच्या भूपृष्ठाचा ५०% हिस्सा व्यापणाऱ्या वनांनी वर्तमानात पृथ्वीच्या पृष्ठभागावरील ९४ % हिस्सा, अर्थात भूपृष्ठाचा ३० % हिस्सा, व्यापला आहे. वनांमध्ये सजीवांना नैसर्गिक आसरा लाभतो, तसेच वनांमुळे जलचक्राचे नियमन व भूपृष्ठाचे संरक्षण होते. जंगल आपल्या गरजा भागवतात उदा. लाकूड, औषधी वनस्पतीवन. म्हणजे वृक्षांचे वर्चस्व असलेले मोठे क्षेत्र आहे. एक हेक्टर पेक्षा मोठी असलेली व १० % पेक्षा अधिक वृक्षराजी असलेल्या कोणत्याही जागेला 'वन' किंवा 'वनाच्छादन' म्हणतात. वने ही जगातील कार्बनचे सर्वात मोठे साठे आहेत. ते कार्बन डाय-ऑक्साइड वायूचे शोषण करतात आणि वातावरणातील उष्णता वाढ रोखतात. उष्ण कटिबंधातील वनांमध्ये जगातील सर्वात जास्त कार्बनचे साठे आहेत.

### उद्दिष्टे :

- १) जंगल क्षेत्राचा सद्यस्थितीचा आढावा घेणे.
- २) जंगल क्षेत्राचा न्हासाची कारणे शोधणे.
- ३) नाशिक जिल्हयातील जंगल क्षेत्राच्या न्हासावर विविध उपाय योजना करणे.



## Problems Related to Natures Hazards in India and Maharashtra

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### Introduction:

The word disaster is derived from the ancient Greek Word (dus-) "bad" and (aster), "star". The root of the word disaster ("bad star" in Greek) comes from an astrological sense of a calamity blamed on the position of planets.

Disaster is defined as "any occurrence that cause damage, ecological disruption, loss of human life, deterioration of health and health services, on a scale sufficient to warrant an extraordinary response from outside the affected community or area" (WHO)

Disasters can be defined in different ways.

- A disaster is an overwhelming ecological disruption occurring on a scale sufficient to require outside assistance.
- A disaster is an event located in time and space, which produces conditions whereby the continuity of structure and process of social units becomes problematic.
- It is event or series of events of events which seriously disrupts normal activities.

### Types of disasters:

There is no country that is immune from disaster, though vulnerability to disaster varies. Following are the main types of disasters.

- **Natural disasters.**  
These disasters include floods hurricanes, earthquakes and volcanic eruptions impacts causing further impacts on human health, as well as secondary impacts causing further death and suffering from floods causing landslides, earthquakes resulting in fires, tsunamis causing widespread flooding and typhoons sinking ferries, etc.
- **Environmental emergencies**  
These emergencies include technological or industrial accidents, usually involving hazardous material, and occur where these materials are produced, used or transported. Large forest fires are generally included in this definition because they tend to be caused by humans.
- **Complex emergencies.**  
These emergencies involve a breakdown of authority, looting and attacks on strategic installation. Complex emergencies include conflict situations and war.
- **Pandemic emergencies**  
These emergencies involve a sudden onset of a contagious disease that affects health but also disrupts services and businesses, bringing economic and social costs.

### The Geography of Disaster:

One of the important factor concerns what might be called the geography of disaster? It has often been pointed out that most of the World's worst disasters tend to occur between the Tropic of Cancer and the Tropic of Capricorn and that, coincidentally; this area contains the poorer countries. Of course, a major significance of this is that such countries find themselves

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## Dr. Ambedkar's Vision and Indian Development to Water Management

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### Abstract

Dr. Ambedkar had greatly contributed to the water resource development in India as a member of Central Cabinet in-charge of the Department of Irrigation and Electric Power during 1942-46. Though he made a substantial contribution to the nation's development in this position, surprisingly, this aspect of his life has hardly been studied. The objective of present paper is to highlight the great contribution of Dr. Ambedkar to the water resource development in India which is hardly studied by the researchers. The study is descriptive in nature. Secondary sources like books, research journals, magazines, newspapers were thoroughly studied and analysed to meet the objectives of the study. Paper concludes that Dr. Ambedkar played a great role in the establishment of Damodar Valley Corporation, Hirakund Dam, Sone and Kosi River project. He contributed a lot in constitution of a central authority for the water issues in India. Today's Central Water Commission is also due the efforts made by him as a Member of Viceroy's Executive Council. Paper also discusses about the relevance of his ideas related to water resources in present era of water crisis.

**Keywords:** Water, Waterways, Irrigation, River, Dam, Drought, flood, recharge, contamination, arsenic.

### 1. Introduction

Ambedkar's Contribution to Water Resources Development' notes, "India's water policy emerged during the years that Dr. Ambedkar held this portfolio in the years 1942-46. It was during these years that, for the first time, the Labour Department formulated a policy for planned development of irrigation and electric power resources in the country on a comprehensive all-India scale, and against an all India background as a part of its post-war plan of economic development. The planning on the part of Dr. Ambedkar and his team in the Labour Department led to some basic developments, which laid the foundation of India's water policy. It resulted in the establishment of a high-level technical organisation at the Centre, namely the Central Waterways, Irrigation, Navigation Commission (the present-day Central Water Commission)".

The policy framework prepared at that time under the guidance of Dr. B R Ambedkar emphasized on these components.

- (a) Adoption of a concept of River Valley Authority or corporation for the management and control of projects on inter-State rivers
- (b) Adoption of the concept of regional and multipurpose development of River Valley Basin as a whole
- (c) Establishment of administrative and technical expert bodies at the Centre. The Central Waterways, Navigation and Irrigation Commission set up for this purpose was the precursor of the present-day Central Water Commission, and the Central Technical Power Board that of the Central Electricity Authority.

### PM Modi Revived Ambedkar's Vision

It is well known that rapid progress has been taking place under the Modi government in developing India's inland waterways. Two multi-modal terminals, one at Varanasi and another at Jharkhand's Sahibganj are already operational.

Prime Minister Narendra Modi, back in 2016 had credited Dr B R Ambedkar for giving India a river navigation policy. Many people may have known about the social reform efforts by Dr Ambedkar; however, they came to know about his works on water only after PM Modi spoke at length on this.

### Research methodology

The study is purely conducted on secondary data assembled from sources such as journal articles.

### Objective of the study

Improving productivity of irrigation water by efficient conveyance and its effective farm level use by adopting conservation agricultural practices. Production of more profitable crops through high efficiency irrigation systems (HEISs) for meeting increasing domestic demand and enhancing exports.

### Developing India's Inland Waterways: A Socio-Economic Revolution in the Making

India is a land of rivers. Its civilization, livelihood, culture and commerce have evolved along the banks of rivers. Notwithstanding this historical fact, India's inland waterways, in the modern era, have been largely neglected. Due to a lack of funding and infrastructural lacunae, Indian rivers once so busy carrying goods and people had been left unused and/or underutilised with the advent of the railways, thereby undermining their socio-economic potential. Meanwhile, the world-over, waterways, both inland and coastal have been seen to be given importance as they significantly reduce cargo transportation costs and also the carbon footprint.

### Untapped Potential

Although India has a 7,500-km-long coastline, with approximately 14,500 km of navigable waterways, coastal shipping accounts for only 6% and inland water transport for about 0.4% of trade.

## “Structural Properties of Vanadium Substituted Yttrium Iron Garnet”

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### Abstract

The garnet having the general formula  $Y_3V_xFe_{5-x}O_{12}$  ( $x = 0.0, 0.2$  and  $0.4$ ) were synthesized using double sintering ceramic technique. The samples were characterized by X-ray diffraction technique. The X-ray diffraction studies of compositions revealed the formation of single phase cubic structure with lattice constant ranging from 12.364 to 12.381 Å up  $x=0.0$  to  $x=0.4$ .

The IR spectra of all samples are taken in the range of  $300-800\text{cm}^{-1}$ . IR spectra show typical absorption bands indicating the garnet nature of samples.

**Keyword:** Garnet, Vanadium, structural, IR study.

### Introduction:

Yttrium iron garnet (YIG)  $Y_3Fe_5O_{12}$  belongs to a group of magnetic oxides and has received a great deal of attention in laser, microwave devices and ultrasonic devices field. They are characterized by magnetic and magneto-optical properties. Yttrium iron garnet (YIG) is a microwave ferrite, which in polycrystalline form has specific characteristics.

Garnets are cubic oxides with space group  $O_h^{10}$  and they are characterized by the chemical formula  $\{A_3\}[B_2]X(C_3)O_{12}$ , where the different brackets reflect the various oxygen coordination of the A cations while the [ ] and ( ) indicate six fold and four fold coordination of the B and C cations, respectively. A can be one of the fourteen well known rare earth ions or Yttrium while B and C are the cations like Al, Ga, Cr, etc [1]. Yttrium iron garnet is one of the well known family of ferrimagnetic oxide magnetic materials. In the present study, we report our results on the structural properties of vanadium substituted yttrium iron garnet ( $Y_3Fe_{5-x}V_xO_{12}$ ) ( $x = 0.0 - 0.4$ ) through X-ray diffraction, infrared spectroscopy.

Pure and substituted yttrium iron garnet has been studied intensively by several researches with a view to understand their basic properties. Substituted yttrium iron garnets have been extensively used in wide band non reciprocal devices [2,3]. Non-magnetic substitutions in yttrium iron garnet have provoked great interest for scientific studies of the effects caused by the magnetic dilutions [4,5]. In general, non-magnetic cations occupy two non-equivalence sites with more or less pronounced preference for one site [6]. Non-magnetic ions usually occupy octahedral or tetrahedral site.

## The Influence of Substitution of Jahn-Teller $\text{Cu}^{2+}$ Ions on the Structural and Magnetic Properties of Nickel Ferrite.

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### Abstract

The polycrystalline samples of copper substituted nickel ferrite having the generic formula  $\text{Ni}_{1-x}\text{Cu}_x\text{Fe}_2\text{O}_4$  ( $x = 0.0, 0.2, 0.4, 0.6, 0.8$  and  $1.0$ ) have been synthesized by standard double sintering ceramic method using AR grade oxides. The formation of mono phase cubic spinel structure of all the samples under investigation have been carried out using X-ray diffraction technique at room temperature. The lattice constant, X-ray density, bulk density and porosity were obtained as a function of copper content. It is found that lattice constant increases with copper content  $x$ . The variation in lattice constant has been explained on the basis of difference in ionic radii. The magnetic properties like saturation magnetization ( $M_s$ ), magneton number ( $n_B$ ), coercivity etc. of mixed Ni-Cu ferrite were obtained from magnetization ( $M$ ) versus applied magnetic field ( $H$ ) plots. The saturation magnetization decreases from  $54.725 \text{ emu/gm}$  to  $37.14 \text{ emu/gm}$ . The values of structural and magnetic parameters of mixed Ni-Cu spinel ferrite shows strong influence of Jahn Teller  $\text{Cu}^{2+}$  ion.

**Keywords:** Ni-Cu spinel ferrite, Jahn-Teller ion ( $\text{Cu}^{2+}$ ), magnetic properties.

### 1. Introduction:

Spinel ferrites are commercially important materials because of their excellent electrical and magnetic properties. Interesting physical and chemical properties of ferrites arises from ability of these compounds to distribute cations amongst the available tetrahedral A-site and octahedral B-site and magnetic A-A, B-B and A-B interactions. Ferrites fulfill the wide range of applications from microwave to radio frequencies and are of importance from both fundamental and applied research point of view. [1,2]. The twin property of electrical insulator and magnetic conductor makes ferrites useful in many devices such as transformer cores, antenna rod, and memory chips, microwave devices, magnetic recording etc. Compared to other magnetic materials ferrites can be easily prepared, low cost and highly stable. The important electrical and magnetic properties of ferrites depend on various factors which include method of preparation, type, nature and number of dopants etc. [3, 4].

The mixed ferrites are studied by number of workers because they have low eddy current loss, high resistivity good magnetic property and therefore they are more important commercially. Nickel ferrite ( $\text{NiFe}_2\text{O}_4$ ) has been an important spinel ferrite material due to its high Curie temperature, low microwave loss, low magnetic anisotropy and low magnetostriction. According literature nickel ferrite is a inverse spinel ferrite whose degree of inversion depends on sintering temperature and other processing parameters. Copper ferrite ( $\text{CuFe}_2\text{O}_4$ ) is a distinguished among other spinel ferrites by fact that it under goes structural phase transition accompanied by a reduction crystal symmetry to tetragonal due to cooperative Jahn-Teller effect. However, there are differences about the phase transition temperature of  $\text{CuFe}_2\text{O}_4$  [5, 6]. The mixed ferrite of nickel and copper has not been studied for its structural and

## Structural and Magnetic Studies of Copper Substituted Nickel ferrite

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### Abstract

In this present work, compositions of copper substituted nickel spinel ferrites samples with the general formula  $Ni_{1-x}Cu_xFe_2O_4$  (with  $x = 0.0, 0.4, \text{ and } 0.8$ ) prepared by standard ceramic technique is investigated. The structural properties of these ferrite samples have been studied using X-ray diffraction technique. X-ray diffraction studies of compositions revealed the formation of single phase cubic structure. Magnetization measurements were carried out using pulse-field hysteresis loop technique at room temperature. The saturation magnetization ( $M_s$ ), magneton number ( $n_B$ ), and coercivity ( $H_c$ ) obtained from pulse field magnetization technique decreases with Cu substitution  $x$ .

**Keywords** -XRD, lattice constant, x-ray density, magnetization.

### 1. Introduction

In recent years, nano-sized spinel ferrite particles have attracted considerable attention of scientists and technologists due to their interesting and unusual properties both from the fundamental and academic point of view which is altogether different from their bulk counterpart [1]-[3]. The ability to produce nano-sized particles has opened new applications for magnetic materials, such as magnetic media, high density recording, drug delivery, magneto caloric refrigeration etc. [4]-[6].

Among the different spinel ferrites, nickel ferrite ( $NiFe_2O_4$ ) is a well-known soft magnetic material and having inverse spinel structure, whose degree of inversion depends on the thermal heat treatment. The high electrical resistivity and moderate magnetic properties makes nickel ferrite an excellent core material for various applications in electronic and telecommunication. Nickel ferrite has been successfully synthesized by various methods and studied for its structural and magnetic properties by many researchers [7]-[11]. Copper ferrite ( $CuFe_2O_4$ ) is a distinguished among other spinel ferrites by fact that it undergoes structural phase transition accompanied by reduction crystal symmetry to tetragonal due to cooperative Jahn-Teller effect. However there are differences about the phase transition temperature of  $CuFe_2O_4$  [12], [13]. In this work we report our results on structural and magnetic properties of mixed Ni-Cu spinel ferrites.

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## Low temperature synthesis and investigations of magnetic properties of cobalt ferrite nanoparticles

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**Abstract.** In the present study we report the synthesis of cobalt ferrite nanoparticles using one of the well-known wet chemical method i.e. sol-gel auto combustion technique. The synthesis was carried out at sufficiently low temperature of 100°C. Citric acid was used as a fuel in the synthesis process. The obtained nanoparticles were sintered at 550°C for 4 h and then used for structural and magnetic investigations. The phase pure nature and nano crystalline nature was investigated through X-ray diffraction technique. Room temperature X-ray diffraction pattern show well defined reflections oriented at different Bragg's angle corresponding to Miller indices (220), (311), (222), (400), (422), (511) and (440). All this reflections belongs to cubic spinel structure. Thus, XRD analysis confirms the formation of single phase compound. The particle size was obtained through Scherrer's equation and found to be 21 nm, indicating the nanocrystalline nature. The magnetic properties were investigated using pulse field hysteresis loop tracer at room temperature. The saturation magnetization show increased values as compared to the bulk cobalt ferrite. The coercivity found to be less which exhibits the superparamagnetic behaviour. The obtained structural and magnetic parameters are useful in biomedical applications.

### 1. Introduction

Over the past decades ferrites have proved a prominent magnetic material used in many applications due to their excellent magnetic as well as electrical properties [1, 2]. They have the applications in the field of antenna rods, transformer cores, magnetic data storage, high frequency devices etc [3, 4]. In the recent decades, ferrites in nanocrystalline form have attracted many researchers as these nanoparticles exhibit smaller size, large surface to volume ratio and superparamagnetic behaviour [5, 6]. These characteristics of nanoparticles are useful in targeted drug delivery, hyperthermia, magnetic sensors, catalyst and many other areas [7]. Ferrite crystallizes in cubic spinel structure, cubic garnet structure and hexagonal structure. Spinel ferrite structure is very much attractive and show better



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## Study of XRD and Dielectrical Properties of Indium ( $\text{In}^{3+}$ ) Substituted Yttrium Iron Garnet

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### Abstract

The garnet series having the general formula  $\text{Y}_3\text{In}_x\text{Fe}_{5-x}\text{O}_{12}$  ( $x = 0.0, 0.2$  and  $0.4$ ) were synthesized by using double sintering solid state reaction method. The samples were characterized by X-ray diffraction technique (XRD). The X-ray diffraction studies of compositions revealed the formation of single phase cubic structure with lattice constant ranging from 12.37 to 12.43 Å up to  $x = 0.4$ . The dielectric properties were investigated using LCR-Q meter (hp HEWLETT) in the frequency range 100 Hz to 1 MHz. The dielectric constant ( $\epsilon'$ ), dielectric loss ( $\epsilon''$ ) and dielectric loss tangent ( $\tan \delta$ ) were measured as a function of frequency by using LCR-Q meter. The frequency dependence of dielectric measurements was carried out for given samples.

**Keyword:** garnet, YIG, XRD, dielectric.

### 1. Introduction

Ferrites represent an important category of materials, which are in great demands due to their numerous applications in many fields. The electrical and magnetic properties of ferrites are strongly dependent on their chemical composition and their method of preparation [1, 2]. It is important to optimize the electrical and magnetic properties of ferrites, for desired applications. Due to their interesting properties scientists, researchers and engineers are still interested in designing the various types of ferrites material substituted with different cations with different valences and prepared by different techniques.

Among the various types of ferrites rare earth garnet especially yttrium iron garnet (YIG) is of great importance for scientist and technologist because of their applications in microwave communication devices such as circulators, gyrators and phase shifters because of its small ferromagnetic resonance line-width, high electrical resistivity and low dielectric loss in microwave regions in many fields [3]. Yttrium iron garnet (YIG) is microwave ferrite, which in polycrystalline form has specific characteristics. The magnetic and crystallographic properties of the magnetic iron garnet have been studied by many workers [4-7]. Substituted iron garnets have found extensive use in wide band non reciprocal microwave devices [8].

### 2. Experimental:

The samples of  $\text{In}^{3+}$  substituted  $\text{Y}_3\text{In}_x\text{Fe}_{5-x}\text{O}_{12}$  garnets with  $x = 0.0, 0.2$  and  $0.4$  were prepared by well known double sintering ceramic method in which a molar ratio of analytical  $\text{Y}_2\text{O}_3$ ,  $\text{Fe}_2\text{O}_3$  and  $\text{In}_2\text{O}_3$  (all 99.99% pure AR grade chemicals, Mumbai) were mixed thoroughly in stoichiometric proportions and then ground to very fine powder by using agate mortar for about 3 hr. These mixtures in powder form were pre-sintered in a Indfur Programmable muffle furnace at  $1200^\circ\text{C}$  for 24 h and cooled to room temperature



**'FIVE POINT SOMEONE' A NOVEL WITH MODERN NARRATIVE TECHNIQUES**

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**ABSTRACT**

*The novel Five Point Someone has already been in focus when the movie 3 Edits was released. The movie has tremendous similarity with the book. This is Chetan Bhagat's first novel, it begins with the prologue. He has used innovative narrative techniques in this novel. The prologue begins with a situation wherein an ambulance is carrying Alok, who is in critical situation. And the narrator is making promise to himself to write Alok's story if he gets well. The readers get the idea that Alok is well as the narrator is keeping the promise made to himself of writing a novel on Alok's life story. He has chosen to begin the prologue with this crucial situation. Alok is injured and it is not really known that he will get well. To raise the curiosity of the readers Bhagat has chosen this technique of adding a crucial situation in the prologue. Thus, Bhagat organizes his novel by inserting various innovative narrative techniques and presentation of India and provides a readable content.*

'Novel is a fictitious prose narrative of considerable length, which depicts imaginary characters and situations---imaginary or real places, people and events. It represents human feelings and actions.' There is reflection of author's thoughts and opinions on the events in the story and the personalities of the characters in the novel. Sometimes, the author presents the incidents similar to those which he has experienced in his life. The characters and their actions are shaped according to the author's wish or experience. In modern age new methods and techniques are used to convey the message.

Chetan Bhagat's novels have been proved the engrossing literary pieces among the Indian literature. His novels represent the youth and their world with their ambitions, dreams, failure, success, struggle and the world around them. His stories are full of new and absorbing issues. The newness in them creates involvement in reading. His characters are very much like real world and they are appealing. There are no unacceptable characters or incidents in his novels, which make them much like the real world. The readers do not really understand the relation between these unreal incidents and the real world. But the readers become engaged as to find out the reality about it. Bhagat satisfies the readers as novel travels towards the end. Thus, the readers are not disappointed.

Bhagat writes his novels using narrative techniques like the first person narration, conversation, flashback, etc. But with these he uses some of the innovative techniques like SMS, emails, fax, prologues and epilogues. His prologues always make the readers think that his novels are based on true events. He himself is involved in the prologue and has some

**NARRATIVE TECHNIQUES IN THE NOVELS OF CHETAN BHAGAT**

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*Indian writing in English has been developing since its beginning. The Indian authors have been working hard in order to make their works more beautiful and readable. They are changing its structure, characterization, plot construction, narration and themes. These changes have been accepted and appreciated by the readers. This study will focus on the technical aspect of the narration. Modern Indian writers have been using various innovative narrative techniques in their novels. In the beginning the focus was not on the technical aspect of the novel. The writers in the beginning used the conventional methods like third person narration, first person narration, conversation, etc. They used only one technique and the same point of view throughout the novel. But the modern writers use innovative narrative techniques. They use various narrative techniques in one novel as well as they keep on changing the point of view to the different narrator's. Today's world is the world of technology. So the technology is also included in their works. Technological devices like SMS, email, telephonic conversation, FAX have been used in the contemporary Indian fiction. Modern Indian writers are trying to reflect the image of India at various levels in their novels. For that they are selecting the themes through which Indian culture, tradition, religious beliefs, race conflicts, political and social issues are presented. They have not limited their themes to only India. They have been choosing other countries and issues related to it, with the various states in India. Thus the modern Indian writers are presenting India at various levels and they are presenting their stories and characters with proper narrative technique.*

Indian English Literature has been attracting people around the world. Experimental and innovative works have been making Indian English Literature more attractive and readable. Plays, fictions, short stories and poetry are changing as literary forms. Dramatists, writers and poets are using their new ideas in their works. Thus the innovative and experimental writing is being created.

Fiction is one of the literary forms which is read and liked right from the seventeenth century. Even today fiction is read all over the world with interest. The authors have been working hard on its structure, writing style and presentation of characters. Fiction has been changing since its beginning. Fiction writers are making it different and more beautiful with their new ideas. Modern writers are creating wonderful pieces of literary works. Though the novels are changing in presentation, structure, style and technique authors have not stopped working on it. So the new experiments have been made in this area. Conventional structures and methods

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# "Poetry, A Purifying Force : A Study Of Sidney's Concept"

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## ABSTRACT :

Poetry is a purifying and humanizing force. It enhances the beauty and glory of the world. Writing poetry is an execution of a high-flying fancy that transcends the limitations of dry reality, and changes the real into an ideal world. The poet as maker is blessed with the power to make goodness highly pleasant and highly alluring.

Sidney's concept of "other nature" in *Apology for Poetry* (1595), expounds a philosophical justification for all imagination writing that nourishes the seeds of civility. Art is not an imitation, but an invention of a new nature, the creation of a "speaking picture" (Sidney 25). It stirs the streams of sublimity in man and "turns into gold all poisonous words" (Shelley 252). Like Emerson, Sidney feels that the poet combines surface reality with divinely perceived sublime ideas. However, the nature created by the poet, is not a "postcard" but an unbidden, unseen, uplifting force that by purifying the unfathomable depths of mind, enters into the practical experience of the reader. "Poetry is a world of which the articulate and readers the inarticulate part" (James Reeves 71). It is an educational and uplifting world, both ideal and eternal, both instructive and entertaining.

## Introduction :

Yet the world created by the poet is never in contradiction with the real world. It is completely imaginative and incongruous; it is not a free play of bizarre fancy that offends the pleasant curiosity of the reader. Poetic invention is strictly confined to what is proper, fitting and pleasant. It seems new and fine only because the moral standards revealed in it are higher than we generally apply in practical life. 'The second nature' comes out of the first "as the fruit of a tree". The urgency and seriousness of mission and the vitality of delightful expression are so intensely interfused that one fails to resist his allurements to the images of perfection.

## Visions of Sublime :

Sidney's doctrine of "other nature" is indeed, a brief term but like a small drop of water reflects the colours of classical volumes. Platonic idea of divine inspiration, Aristotle's concept of imitation, and Horatian norm of poetry to teach and delight, has been assimilated in a compact way. Sidney's elaborate presentation of the lofty notion of poetry as pure inspiration is Platonic in origin. The poet according to Plato is a "light and winged holy thing" who is inspired to utter that which the Muse impels" Sidney also develops this view. The poet is presented as possessing great passion and lofty heavenly inspiration. He receives and conveys sublime visions. Beauty and truth are combined by him to compose a world of grandeur and divine wisdom. Sidney's doctrine of poetic creation is colored throughout by Platonic ideas for "the world conjured up by the poet".



स्त्रीवादी समीक्षेचे बदलते आयाम : डॉ. वंदना लव्हाळे यांची

विज्ञान साहित्य समीक्षा

प्रा. डॉ. गोपीनाथ बोडखे

आनंदराव धोंडे उर्फ बाबाजीमहाविद्यालय, कडा, ता. आष्टी जि.बीड

प्रस्तावना:-

वर्तमान कालखंडात कोरोना विषाणूच्या संसर्गामुळे संपूर्ण जग हादरून गेले आहे. दुसऱ्या महायुद्धामुळे अनेक संकटे निर्माण झाली होती अन्नधान्याचा तुटवडा निर्माण झाला होता आरोग्यविषयक अनेक समस्या निर्माण झाल्या परंतु यातून पुढे अनेक देशांनी विज्ञानाच्या आधारे अन्नधान्याच्या बाबतीत स्वयंपूर्ण निर्माण केली आरोग्यविषयक सुविधा निर्माण केल्या त्या प्रमाणे आजच्या कोविड-१९ महामारीतही विज्ञानाच्या जोरावर मानव यावर मात करत आहे पण आज जग थांबले आहे. सामाजिक, धार्मिक, शैक्षणिक सांस्कृतिक, क्रीडा व साहित्य क्षेत्रावर याचा परिणाम झालेला दिसून येत आहे.

साहित्य क्षेत्रावर या महामारीचा झालेला परिणाम येणाऱ्या काळामध्ये आपल्या निदर्शनास येईलच. विज्ञान साहित्यात या परिणामांचे प्रतिबिंब निश्चितच उमटेल. विज्ञान साहित्य मराठीत कमी प्रमाणात लिहिले गेले असले तरी अलीकडील काळात नव्या दमाचे लेखक कवी यांकडे वळले आहेत. नवी वैज्ञानिक दृष्टी साहित्यकृतीतून अभिव्यक्त होत आहे. नवनवीन संशोधनाचा समावेश होत आहे. यामुळे निर्माण झालेल्या वैज्ञानिक संशोधनाची माहिती लोकांपर्यंत पोहोचत असून नवीन वैज्ञानिक संशोधनासाठी दिशा मिळत आहे यासाठी विज्ञान साहित्याचे महत्त्व अधिक वाटते. एवढेच नाहीतर विज्ञान अज्ञानातून ज्ञानाकडे जाण्याच्या मार्गावर सोबत व मार्गदर्शन करते आहे, अंधश्रद्धा निर्मूलन व्हावे म्हणून समाजप्रबोधन विज्ञान करते आहे. थोडक्यात सांगावयाचे तर मानवी जीवन सुसह्य करण्यासाठी विज्ञान मदत करते अशा या विज्ञान साहित्याला न्याय देण्याचे काम मराठी विज्ञान समीक्षकही करत आहेत.

विज्ञानाचा थेट संबंध मानवी जीवनाशी असल्यामुळे त्याचा मानवी जीवनावर होणाऱ्या परिणामांज्या विचार विज्ञान साहित्यामध्ये येतो. खऱ्या अर्थाने या सर्व बाबींची दखल घेऊन साहित्यकृतींना न्याय देण्याचे काम समीक्षक करतो विज्ञान साहित्य जसे दुर्मिळ तसेच समीक्षकही दुर्मिळ आहेत उत्तर महाराष्ट्र जळगाव येथील विज्ञान साहित्याच्या समीक्षक डॉ. वंदना लव्हाळे यांनी विज्ञान कथा कादंबरी आणि कवितांची समीक्षा करून विज्ञान लेखक-कवींना प्रेरणा देण्याचे कार्य केले आहे. त्यांचे विज्ञान साहित्यावरील काही समीक्षा लेख व पुस्तकं माझ्या वाचनात आले. प्रस्तुत शोधनिबंधात डॉ. लव्हाळे यांच्या विज्ञान साहित्य समीक्षेचा शोध घेतलेला आहे.

आपल्या विविध समीक्षापर लेखांमध्ये त्यांनी विज्ञान साहित्यचे अभ्यासपूर्ण असे विवेचन करून निष्कर्ष नोंदविलेली आहेत. मराठीतील पहिली विज्ञान कथा 'तारेचे हास्य' १९१६ पासून तर १९७५ च्या स्त्रीमुक्ती चळवळीनंतर शुभदा गोगटे, माधुरी शानभाग, रेखा वैजल या स्त्री लेखिकांनी स्त्री पात्रांना केंद्रस्थानी ठेवून चित्रण केलेले आहे. मराठी विज्ञान कथेतील स्त्री चित्रणाच्या संदर्भात डॉ. लव्हाळे असा निष्कर्ष नोंदवितात की, "विज्ञान कथांत स्त्रीजाणिवांचे चित्रण हे मर्यादित

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हैद्राबाद मुक्ती दिन

'१९४५ ते १९६० या काळातील स्त्रियांचे कथालेखन'

प्रा.डॉ.गोपीनाथ बोडखे,

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ता.आष्टी जि.बीड

तात विनाशार्त विलीन झाले  
तंत्र्य दिले. म्हैसूर, हैद्राबाद  
सामील होण्यासाठी  
गंना भारतात सामील  
घेतले. अशाप्रकारे

प्रस्तावना -

'१९४५ ते १९६० या काळातील स्त्रियांचे कथालेखन' असा शोधनिबंधाचा विषय असल्याने या कालखंडाकडे वळण्याआधी मराठी वाङ्मयाच्या इतिहासातील 'कथे'चे स्थानाचा आढावा घेणे म्हत्वाचे वाटते म्हणूनच प्रस्तावनेमध्ये मराठी कथेचा इतिहास व १९४५ पर्यंतची मराठी कथा व त्यामध्ये स्त्री कथा लेखिकांचे योगदान, सांस्कृतिक परिवर्तन पाहणे गरजेचे आहे.

१९४५ नंतरच्या कथा प्रामुख्याने 'नवकथा' शीर्षकाखाली येणार्या वैशिष्ट्यांमध्ये मंडण्याचा आहेत. मराठी कथेच्या प्रारंभापासून म्हणजेच हरिभाऊ आपटे पासून ते १९४५ पर्यंत लेखिकांनी 'कथा' वाङ्मयामध्ये मौलिक भर घातली आहे.

१९४५ नंतरचा कालखंड मराठी वाङ्मयाच्या दृष्टीने वेगवेगळ्या जाणिवेने झपाटलेला दिसून येतो. दुसरे महायुद्ध, युरोपातील मानवी संस्कृतीची उलथापालथ मोठ्या प्रमाणात होत होती. यात्रिकता, बकालपणा व गतिमानता इत्यादीमुळे मानवी जीवन ढवळून निघाले होते. नवनवीन शोधांनी ज्ञानाच्या क्षेत्रात भर पडत होती. राष्ट्रां-राष्ट्रातील देवाण-घेवाण सोपी झाली होती. जुनी परंपरा, जुन्या श्रध्दा, जुनी संस्कृती, जुनी मूल्ये यांची झालेली पडझड लेखिकांनी शब्दबद्ध केली होती. 'सत्यकथा' सारख्या वाङ्मयीन मासिकाने आपले जुने वळण बदलले. 'अभिरुची' सारखे मासिक नविन कथालेखक मराठीत देऊ लागले.

१८९० ला 'करमणूक' या नियतकालिकाच्या माध्यमातून मराठी कथेला स्वतःचा चेहरा नसायला. याचे श्रेय हरीभाऊ आपटे यांना जाते. आशय व अभिव्यक्तीच्या दृष्टीने हरीभाऊ यांनी मराठी कथेला नवे वळण लावले. १९१० ते १९२६ या काळात 'मनोरंजन' नियतकालिकाच्या काळातीलकथेने वाचकाला बोधकरण्यापेक्षा मनोरंजन करण्याकडे अधिक लक्ष दिले. ही कथा मध्यमवर्गीयाभोवती रेंगाळत राहिली. १९२६ ते १९४४ हा 'यशवंत'-'किर्लोसकर' कालखंड होय. या कालखंडात मराठी लघुकथेने आधुनिक वळण स्विकारले. कथेच्या वाट्यालीतील हा कालखंड उत्कर्षाचा मानला जातो. या कालखंडात मराठी कथा अधिकाधिक रेखिव झाली. या कालखंडात न. सी. फडके, वि. स. खांडेकर, दिवाकर कृष्ण, य. गो. बोकिल यांनी कथालेखन केले.

१९४५ पूर्व कालखंडातील स्त्रीयांचे कथालेखन -

१९४५ नंतरच्या वाङ्मयीन प्रवाहामध्ये नवकथाकारांचा काळ म्हटले जात असले तरी दुःखातीपासूनच लेखिकांचा सहभाग होता. हरिभाऊ आपटे यांच्या प्रेरणेने व मार्गदर्शनाखाली त्यांच्याबरोबर लिहू लागलेल्या लेखिका म्हणजे काशीबाई कानिटकर, आनंदीबाई शिर्के, गिरिजाबाई केळकर या होत्या. 'मनोरंजन' मासिकाच्या काळात गिरिजाबाई केळकर आणि आनंदीबाई शिर्के या लेखिकांनी स्त्रीयांच्या दुःखाविषयी लिहावयास सुरुवात केली होती. दोघींनीही मोठ्या प्रमाणात लेखन केले. 'समाजचित्रे', 'केवळ विश्रांतीसाठी' व 'कथाकुंज' हे त्यांचे तीन कथासंग्रह प्रसिद्ध झाले

रंगपुरा औरंगाबाद.  
रंगाबाद.  
एन-2 सिडको औरंगाबाद.

### निसर्ग आणि विज्ञाननिष्ठ कवी : आ.य.पवार

प्रा.डॉ.गोपीनाथ पांडुरंग बोडखे,  
आनंदराव धोंडे ऊर्फ बाबाजी  
महाविद्यालय, कडा, ता. आष्टी  
जि. बीड.

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#### प्रस्तावना :

१९६० नंतर मराठी साहित्यामध्ये विविध आंगी विकास होत गेलेला दिसून येतो. नव कविता, कथा व कांदबरीचा उदयही १९४० नंतर मराठी साहित्यात झाला. अनेक कवी, लेखकांनी स्वतःचा एक नवा दृष्टीकोन घेऊन साहित्यक्षेत्रामध्ये आपला ठसा उमटविला. साहित्यिकांच्या गद्य-पद्य लेखनातून मराठी साहित्य विविध अंगानी विकसीत होऊ लागले. या मराठी साहित्याच्या विकास प्रक्रियेमध्ये जामखेड येथील निसर्ग व विज्ञान कवी आ.य.पवार यांचे योगदानही मला महत्वाचे वाटते. मराठी साहित्यामध्ये विज्ञान कविता दूर्मिळ असून ग्रामीण साहित्यातील पहिले विज्ञान कवी म्हणून आ.य.पवारांची ओळख आहे. 'कुरुकुंज्याचा थवा' (१९६९), 'रानमाती' (१९७२), 'सीनाकाठच्या कविता' (१९९०), 'ऊनपाऊस' (२०१३), 'धूळपेर' (२०१८) इत्यादी त्यांचे काव्यसंग्रह प्रसिध्द आहेत.

पवारांची कविता विज्ञाननिष्ठ व निसर्गवादी आहे. आधुनिक माणसाने भौतिकसुख मिळवण्यासाठी निसर्गावर मोठ्या प्रमाणात अतिक्रमण केले आहे. नव्हे तर वैज्ञानिक प्रगतिच्या नावाखाली वर्तमान कालखंडात निसर्गाचा न्हास होत आहे. यात्रिकीकरण व औद्योगिकरणामुळे प्रदुर्षणात वाढ झाली आहे. या सर्व बाबींच्या परिणामांचे प्रतिबिंब विज्ञान साहित्यामध्ये उमटले आहे. विज्ञान साहित्य मराठीत कमी प्रमाणात लिहिले गेले असले तरी अलीकडील

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## - Impact of Information Communication Technology (ICT) on Library Professional Development

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### Abstract-

Information needs and diverse information tools have affected our daily life as well as research and developmental activities. Latest devices for information communication have resulted in the expeditious dissemination of information and revolutionized the information handling activities in research and academic libraries in India. Academic libraries, mostly attached to universities and research institutions as centers of information services, have largely benefited by the rapid changes in technology. The advent of digital computer advances in telecommunication and audiovisual technologies have opened up new ways of collecting, organizing and disseminating scientific and technical information.

**Keywords-**Information needs,(ICT),Information support,digital computer.

### Introduction-

Technology has drastically changed the way librarians define themselves and the way they think about their profession and the institutions they serve. The librarian in the digital world now acts as a guardian of information, as a consultant to the users, an information broker and also a continuous learner. The platform of Internet and WWW has helped to change the ways of accessing and locating information and

there by change the functions of an academic librarian and academic library in the modern information society.

The biggest challenges facing the library profession today is preparing the professionals to use technology effectively. An academic library professional will be required to serve as an information service consultant with specific information technology skills As technology has saturated all levels of library's operations and services, the library professional in an academic institution has to anticipate the changing expectations of users, and be flexible in adapting and adopting new skills and levels of awareness. While being trained in IT skills, what every library professional chooses to ignore is the management aspect of a library. In addition to the technical and professional skills,

### Significance of the study

The shift from print to digital information has a high impact on all components of the academic library system in India, especially the users, the services and the staff. Though information is considered as an important resource, the use of ICT tools to collect and disseminate information has been in a slow pace in majority of the University libraries. This may be due to various factors like insufficient funds, inadequate staff trained in handling computers and software packages, administrative concerns, etc. In Kerala, automation has been initiated in almost all University libraries using library automation software and is under different stages of completion, but this has been extended to only a few department libraries in each university. In the library system in the Universities, comprising of a Central library and departmental libraries, the application of ICT has changed the type of services delivered through University libraries in the state, but a dynamic change is not yet reflected in the infrastructure and manpower development in the university libraries and the whole of library profession.

### Statement of the problem

## Farmers Suicide in India-Causes and Remedies

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### Abstract:

Agricultural sector is the main income for the rural people in India. It plays a significant role in their life. In India, small and marginal farmers account for 70%, according to the 2011 census of the Government of India. These small and marginal farmers took credit from banks and private money lenders. The non-repayment of credit led to an agricultural crisis and farmers' suicide. This study focused on the reasons that caused such a disaster. The study rests on a review of the literature which was extracted from journals, reports, and newspapers from 2004 to 2019. The review identified the following reasons for the agricultural crisis and farmer's suicides-poverty, indebtedness, crop failures, distress, lack of awareness on new technologies, inadequate debt, marketing of produce, the high interest of non-institutional credit, and depletion of water levels. The article concluded noting that -the government had to shift its focus from industries to agriculture and shift its agricultural policies from short-term to long-term ones.

(*Keywords: Agricultural crisis, Distress, Economic conditions, Farmer's suicide.*)

### INTRODUCTION

According to the 2011 census of the Government of India, seventy percent of the Indian farmers are small and marginal. Livestock farming gives these farmers a secondary income, apart from agriculture. But even this is insufficient to satisfy their daily necessities. Due to this, farmers are forced to borrow money, not only for agriculture purpose but also for day to day consumption. The amount so borrowed, have not been used for the purchase of new technological equipment or for asset building which could have generated incremental income. Moreover, these farmers do not repay the loans on time. Thus, farmers' indebtedness grows. According to the National Crime Records Bureau report of 2015, 38.5% farmers committed suicide due to bankruptcy or indebtedness, 19.5% due to agricultural problems, 11.7% due to family problems, 10.5% due to illness, 2% due to marriage problems and 1.15% due to property disputes. The report further stated that in 2015, 45.2% small farmers and 27.4% marginal farmers committed suicide. In the same year, a total of 12,602 people committed suicide in the agricultural sector in India, out of which 8,007 were farmers and 4,595 of them were agricultural laborers. This data clearly showed that indebtedness (38.5%) was the major cause of farmers' suicide.

State government. The state government delayed the payment to the farmers by two to three months. Due to this reason, farmers approached the middlemen and sold their produce at a low price (Srinivas, 2019). NDTV (2017) reported that AkilBharathiyaKisanMahasabha General Secretary Leader HannanMollah said that all of the farmers in India were in distress. Farmers committed suicide since they could not recover the cost incurred. The government was not ensuring instant reliefs for the farmers. All the farmers had united and asked the government to waive bank loans and implement long term policies for avoiding the farmers' suicides. Former Reserve Bank of India Governor RaghuramRajan said that 'First we need to worry about why people are so distressed and angry. There is a lot of agriculture distress. I personally believe that farm loan waivers are not the answers. But there are other answers' (Press Trust of India, 2019). Unnikrishnan (2019) observed that loan waiver was not a permanent solution for farmer's problems. Moreover, the government had announced to



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## Need of Green & Eco-Friendly Entrepreneurship to Protect Environment

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### Introduction

The world is facing with a direct climatic change due to the destruction of the ozone layer as a result of the emission caused by harmful gases into the atmosphere. In order to have a sustainable life in the current world, people should adopt lifestyles that will ensure the promotion of healthy living and dissuade pollution. The key to attaining this goal is crafting and investing in eco-friendly business ideas. Plus, there should be a myriad of projects and initiatives to ensure eco-friendly investment opportunities as well as living is encouraged. Accordingly, all the stakeholders and pioneers in various business sectors need to step up including the entire business community. Particularly, the sectors needs to see to it that the initiative of going green is reached by all means necessary. As much as installing eco-friendly measures are ideal, the whole business sector must invest in going green.

### Objectives

1. To create awareness about green bussiness opportunities
2. To know the importance of green busines

### Hypothesis

The world is on the right track towards achieving green living goals

A recent survey found that 88% of Americans believe taking care of the earth is very important - but only 52% believed that the government should be taking action to protect it. Green business can benefit either way: greater consumer interest and/or more protective policy!

Globally, a report from 2014 says that 55% of consumers across 60 countries are willing to pay higher prices for goods from environmentally conscious companies. A 2013 study claims that 71% of Americans at least consider the environment as a factor when shopping.

Organic food sales in particular seem to have turned a corner, jumping 11.3% in 2014, while overall food sales grew only 3%. Organic food has become far more mainstream over the last several years - expanding well beyond the niche market it once was. Sales in 2014 were over \$35 billion - compared to only \$3.4 billion in 1997. Growth is expected to continue strongly until at least 2018.

### Green & Eco-Friendly Businesses

#### 1. Start Air Duct cleaning

Dust and dirt in the air can clog the air ducts that are installed in homes or offices. This lower the efficiency of the air conditioner and results in the use of a lot of energy to drive the gadget. The business idea would require regular cleaning of the air ducts to ensure less energy consumption. Also, with proper marketing, both private homes and offices would be willing to hire an expert for the service because it ultimately helps to saves on energy bills.

#### 2. Sale of Energy Saving Bulbs

This idea is very lucrative in 2018 since majority of the households enjoy electricity in their homes. A lot of consumption of electricity subsequently leads to an increase in the electric bills. To avoid this, individuals seek energy saving electric bulbs that use electricity but reduce the energy they use and still provide electricity thus saving on bills.

Besides, this is a business that can thrive in almost any part of the world since even without electricity; one can use the bulbs to

# A STUDY ON PRODUCT ADAPTAION PROCESS IN AUTOMOBILE INDUSTRY

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## 1 Abstract

*Product adaptation involves changing the product to meet local conditions or preferences. There are several levels of adaptation. Although, products are frequently adapted to local tastes, in some instances they must be adapted to local superstitions or beliefs, too. Governmental regulations, Technological considerations, Cultural imperatives acceptable to Consumers, Measurement standards like volume, length, weight, quantity aesthetics and dimensions of vehicle are some of the very significant factors affecting product adaptation process in automobile manufacturing companies.*

*Developing new innovative products within the automotive industry means investing huge sums beforehand. Companies doesn't know if the merchandise are going to be successful on the market after launch. Hence, companies have an interest in knowing and measuring the critical success drivers within the event steps. This research is aimed to understand the product adaptation process and its impact on the operating cost and revenue of the automobile manufacturing companies. The study will highlight the relationship between importance give for product adaptation practices and its impact on operating cost and revenue growth of automobile companies.*

**Keywords: Product Adaptation, Revenue Growth, Operating Cost, Automobile Companies.**

## 2 Review of Literature

World trade and investment have grown rapidly, with many attractive markets opening up. The number of global companies also grows dramatically. To compete in foreign market, companies that operate in global markets need to broaden the sources of competitive advantage relentlessly over time.

Although most of the multinational companies using global marketing have been highly successful, it does not mean that all elements of the marketing mix, that is product, pricing, promotion and distribution are standardized. In contrast, business can make some elements of marketing more global and others less so.

Accordingly, the global organization needs to evaluate and provide possible adaptations related to product, promotion, price, and distribution when they enter through the foreign markets.

→ Implementation of employed oriented plans.

The above mentioned suggestions can be accepted for minimizing urban population pressure and broken down being migration towards urban area. The present travelling government, for creating self employment there are many plans underlying as well as for this action ton system also implementing.

## AGRI-ENTREPRENEURSHIP: A KEY FOR ECONOMIC DEVELOPMENT OF MARATHWADA

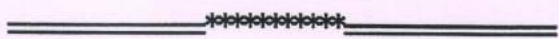
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### INTRODUCTION

Agriculture is historically seen as a low-tech industry with minimal complexities dominated by numerous small family businesses that are mostly focused on doing better things rather than doing new things. Due to economic liberalization, decreased regulation of agricultural markets and a rapidly changing, more sensitive, environment, this situation has changed drastically over the last decade. Agricultural industries are regularly being enforced to adjust to market vagaries, evolving consumer habits, improved environmental regulations, new product quality requirements, chain management, food safety, sustainability, and so on. Such developments have paved the way for investment in new entrants, creativity and the portfolio.

This research paper is aimed at understanding the concept of Agri- Entrepreneurship and its need for developing it in Marathwada. This paper describes the challenges involved in developing Agri- Entrepreneurship in Marathwada region and explains various entrepreneurial opportunities for developing it in Marathwada. It aims to study the role of Agri-Entrepreneurship in Economic Development of Marathwada.

### Objective of the study:

1. To study basic concepts of Agri- Entrepreneurship.



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## **“Social Entrepreneurship in India- Opportunities and Challenges in the Current Scenario.”**

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### **ABSTRACT:**

Social entrepreneurship is a topic of growing interest among academicians and practitioners. The potential of social problems in India is well known, but the degree of support and interest is hardly significant. An entrepreneurial mindset is re-emerging in India. Right from ancient times, India has been entrepreneurial. But the era of liberalization of late had released the genie from the bottle – the suppressed urge and natural instincts of our effervescent entrepreneurial class has once again been unleashed. The opening up of the industrial sector to foreign competition had created a flutter among the Indian industrial circles. The paper attempts to shed light on the comment state of affairs on the theme of challenges and opportunities facing the social entrepreneurship scene in India.

(**Keywords:** social entrepreneurship, challenges, problems, opportunities.)

### **INTRODUCTION**

The economic development of a Nation depends on its industrial development. The industrial development is based on the entrepreneurial competencies of the people. Entrepreneurs are innovative, highly motivated, and critical thinkers. When these attributes are combined with a drive to solve social problems, a social entrepreneur is born. Social enterprises are the organizations which aim their efforts toward improving the general welfare of society and they apply market-based strategies to achieve a social purpose. Social entrepreneurs and social enterprises share a commitment of going ahead with a social mission of improving society. There is a great difference between social entrepreneurs and nonprofit organizations on the basis of their goals and objectives. Social entrepreneurs are driven by social as well as financial goals whereas nonprofit organizations work purely for social purpose. An understanding of whether and how social entrepreneurship differs from processes and activities by political actors or social activists who also aim to bring about social change or alleviate social problems. In a nutshell, the concept of social entrepreneurship is still poorly defined and its boundaries to other fields of study are still fuzzy. While to some this may appear to be a problem, we see it as a unique opportunity for researchers from different fields and disciplines, such as entrepreneurship, sociology and organizational theory, to challenge and rethink central concepts and assumptions.

The entire mechanism of social entrepreneurship remains same as economic entrepreneurship, except few distinctions, which set apart this from conventional or economic entrepreneurship. India has been in need of social entrepreneurship for a very long time and could be benefited more. Some social enterprises which are established in India are changing the very face of society by balancing the social imbalance. Government of India also encourages such initiatives by motivating them and awarding them time to time along with