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Effect of physical activity on physical fitness factor among first year college students

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Abstracts

The main purpose of the study was to examine the effects of physical activity on physical fitness factors among first year college student on the bend knee sit-ups variable. The study was being conducted on 250 first year college student. In the pre-post research design method use for study, the college student acted as their own control. Simple Systematic sampling was used for the collection of data. The data were anatomized using the students t-test. The position of significance was fixed at 0.05.

It was plant that the pre and post-intervention mean score of Bend knee sit up was 25.15 ± 5.17 and 30.11 ± 6.66 independently. T rate was plant to be 2.63 for fraudulent bend knees sit-ups, which was significant at .05 position. Thus, the null thesis that there won't be significant differences between pr and post-intervention fraudulent knee sit-ups was rejected.

Keywords: exercise, physical fitness, college students.

1. Introduction

Every existent is blessed with a body that is involved both in physical internal functions. These functions inclusively determine the character of an existent. They also prompt his geste and conduct. In a nutshell, they keep a person happy, energetic, content or make him sad lazy inactive or displeased. An energetic person, for illustration, can do internal and physical conditioning gormandize whereas an inactive can't. The capacity, therefore, depends upon the multiple factors that determine a particular existent. Thus, to develop and to ameliorate one's health and fitness physical education is essential.

Physical fitness is the capacity to eagerly, effectively, with interest and delectation. Also, his recovery must be briskly and hastily. Physical fitness is a veritably important moment. We say a person is a fit means a person is fit physically as well as mentally fit. If a person is fit in a factual sense also person is can perform each and every task efficiently. Suppose if work is demanded to be done this work can be done by both healthy and unhealthy person but the difference lies in timing as the work may be done by a healthy person in lower time but same work may be done by an unhealthy person in further time.

Physical fitness helps a person to fight with conditions and a physically fit person may get recovered fluently and snappily. While a person who isn't physically fit will

suffer from serious problems indeed by small illness. There are occasionally those situations where only physical fitness can be helpful. Though there are numerous physical fitness variables that can be used to determine overall strength fraudulent knee sit-ups are important for determining the core muscle strength.

2. Objective of the study

To study Effect of physical activity on bent knee sit up's ability among first Year college students.

3. Method

A sample of total 250 first year students was selected as a subject for present study. The variable selected in this study was. Only one trail was given. To analysis the data Mean, Standard deviation and t value was used at significance level of 0.05.

The subject is asked to lay down on ground on back side with knees bend, feet on the floor & heels not more than 12 inches from the buttocks. The angle at the knees should less than 90* angles the hands of the subject is on the back of the neck with the figures clasped & has to place the elbows squarely. On the mat the mat the subject's feet are to be held by assistant to keep them in touch with surface. The subject is asked to tighten the abdomen muscles & bring the head and elbows forward as he or she sit - ups. Finally, to touch the to the knees the entire above process constitutes one sit up. The subject is asked to return to the starting position & to do sit ups again.

4. Results and Discussion

Table 1:

Shows effect of physical activity on bent knee sit up's ability among first Year college students.

	Students No	Mean	S.D	S.ED	T-Value
Pre	250	25.15	5.17	1.79	2.63*
Post	250	30.11	6.66		

From the table-1, it is observed that that the Mean Value for Pre intervention Bend Knees Sit-Ups was 25.15±5.17, and Post intervention value was 30.11±6.66 and S.Ed (1.79) Tt Value was 2.63* which is significant at 0.05 level of confidence. Thus, the null hypothesis was rejected.

4.1 Discussion and finding

The present study deals with the effects of physical activity on bend knee sit-up among first year college student and one variable was selected i.e. Bend knees sit ups. Association of physical fitness components and health-related quality of life in women with systemic lupus erythematosus with mild disease activity.

5. Conclusion

In the light of finding, it was concluded that there can be significant effect of exercise on bent knee sit up's ability among male college students of of age group from 20-24 in first year colleges.

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DIELECTRIC PROPERTIES OF STRONTIUM HEXAGONAL FERRIT

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Abstract:

The M-type strontium hexagonal ferrite with molecular formula $\text{SrCe}_x\text{DyFe}_{11-x}\text{O}_{19}$ for $x=0.00, 0.25, 0.50, 0.75$ and 1 were prepared by sol gel auto combustion method with citric acid as a chelating agent at a metal to nitrates ration as an 1:3 with maintaining Ph 7. The powder was sintered at temperature 900° for 2 hours to get a stable product of strontium hexagonal ferrite. After sintering the powder grounded into fine powder and pressed in to pellets by using manual Hydraulic pellet press capacity 1-5 Ton. The dielectric properties studied using LCR meter with varying frequency at room temperature. It was observed that as frequency increases dielectric constant decreases.

Keywords- Ferrite, sol gel method, Hexaferrite, Dielectric properties.

INTRODUCTION:

From past few decades researcher are interested in synthesis of mixed ferrite with doping of various rare earth elements with varying composition and obtained a remarkable change in its properties which a useful various instrument. The M-type hexaferrites were discovered in 1950 and gaining technological importance due to its properties. It is used in microwave devices, micro strip antennas, radar, memory core etc. They are widely investigated due to its unique properties like excellent chemical stability, high electrical resistivity; high coercivity, high Curie temperature and low production cost compared to other rare earth compounds [1-4]. The structure of strontium hexaferrite composed of S i.e spinel and R i.e. hexagonal block. These block overlap cubically and hexagonally giving rise to unit cell formula SRS^*R^* , Where * denotes the rotation of block through 180° around the c axis. The unit cell is magnetoplumbite crystal structure having space group P63/m and 64 ions per unit cell. These 64 ions made from, 38 numbers of oxygen ions, two barium ions and 24 Fe

ions. The 24 Fe^{2+} ions distributed over five distinct sites i.e. 12k, 2a, 4f; octahedral site, 4f; tetrahedral and 2b trigonal pyramidal site [5-7]. The various iron sites and relative orientation of their spin moments are responsible for useful properties. Fe^{2+} ions at 2a, 2b, and 12k sites possess spin up while at 4f₁ and 4f₂ possess spin down. The doping at Fe^{2+} site leads to changes in structural and electrical properties.

The thrust of researcher to make useful material drives synthesis of various magnetic materials with doping of different magnetic, nonmagnetic elements at Sr or Fe site. Topkaya et al [8] found that substitution of yttrium cation improves coercivity and Chen et al [9] discovered a decrease in saturation magnetization as aluminium cation substitution increases. The lattice parameter and dielectric properties were controlled by synthesis methods, sintering temperature and amount of doping at Sr and Fe site. There are various methods used for synthesis of hexaferrite like hydrothermal process [9], solid state reaction [10], sol gel method [11, 12], microwave adsorption method [13], coprecipitation method [14] etc. An attempt has been made to understand the dielectric properties of Co-Dy substituted strontium hexagonal ferrite.

1. EXPERIMENTAL TECHNIQUES:

Sol gel method is employed to synthesize a strontium hexaferrite with chemical formula $\text{SrCo}_x\text{DyFe}_{1-x}\text{O}_{19}$ for $x=0.00, 0.25, 0.50, 0.75$ and 1. High purity (> 99%) (Sigma-aldrich) Strontium nitrate ($\text{Sr}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$), Cobalt nitrate ($\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$), Dysprosium Nitrate ($\text{Dy}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$) and Ferric nitrate ($\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$) with citric acid ($\text{C}_6\text{H}_8\text{O}_7 \cdot \text{H}_2\text{O}$) were taken as starting materials for the synthesis. All the starting materials were mixed in desired stoichiometric amount in sufficient amount of distilled water. The whole mixture is then placed on hot plate with magnetic stirrer. The mixture was continually stirred at constant temperature of 90°C and liquid ammonia was added slowly in order to maintain the pH a constant value 7. After continuously stirring and heating at 90°C for 2-3 hours the mixture become viscous and sol was formed and after some time it converts into dried gel, by the process of self-ignition the dried gel was burnt and a fine ash was obtained. The burnt ash is grounded for two hours and then subjected to final sintering at 900°C for 6 hours. After final sintering the powders were again grinded for two hours to obtain the fine particles of the final products.

2. CHARACTERIZATION

The dielectric properties studied as a function of frequency using LCR meter.

3. DIELECTRIC PROPERTIES:

3.1 Results and discussion

The electrostatic energy stored by a material per unit volume is called dielectric constant. Fig.1 shows the dielectric behaviour of dielectric constant with varying frequency at room temperature. The dielectric constant depends on the doping content as well as external applied frequency. The measurements of dielectric properties were carried out with change in frequency at room temperature. The values of capacitance were noted directly on LCR-Q meter with increase in frequency.

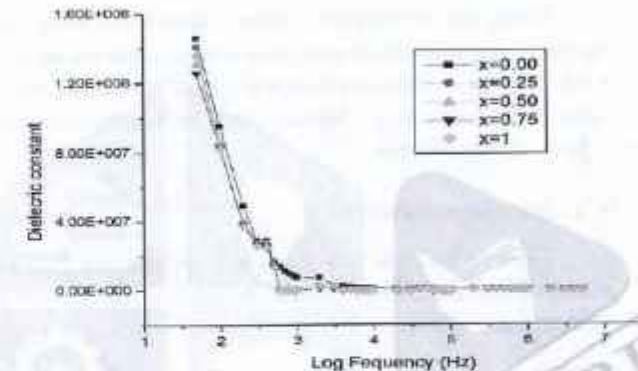


Fig. 1. Variation of Dielectric constant with frequency for $\text{SrCo}_x\text{DyFe}_{1-x}\text{O}_{19}$ $x=0.00, 0.25, 0.50, 0.75, 1$

The sample in the form of pellets was used. The values of dielectric constants are calculated by using the relation.

$$\epsilon' = \frac{Ct}{d\epsilon_0} \quad 3.1$$

Where C is capacitance, A is area, d is thickness of pellets, ϵ_0 is permittivity of free space.

The calculated dielectric constant values variation with frequency is shown in Fig.1. It is observed that the dielectric constant decreases sharply with increase in frequency and possess a constant value beyond certain frequency. This is a common behaviour of ferromagnetic material and also observed by other researcher [15-17]. The dielectric dispersion present a lower frequency side is due to Maxwell-Wagner type interfacial polarisation well in agreement with the Koops phonological theory [18, 19]. This model explains that the dielectric material with heterogeneous structure can be considered as a structure consisting of well conducting grains separated by a highly resistive thin layer. In this case the applied voltage on the sample drops mainly

across the grain boundaries and space charge polarisation is created the grain boundaries. The space charge polarisation determined by the available free charges on grain boundaries and grain boundaries are predominant at low frequency. The thinner is the grain boundary higher the dielectric constant.

As frequency increases and dielectric constant attains a constant value due to a fact that beyond a certain frequency of field, the electron exchange between Fe^{2+} - Fe^{3+} cannot follow alternating external field. The dielectric constant i.e. relative permittivity of a material is very stable in high frequency region hence this material is suitable for a stable high frequency application in a wide frequency range.

4. CONCLUSION

The hexagonal strontium ferrite synthesized successfully by sol gel auto-combustion method. The pellet was formed using sample powder to measure dielectric properties with varying frequency at room temperature. It was viewed that the dielectric constant with changing frequency have high values at low frequency due to presence of various defects and it becomes stable as the frequency of external field increases due to unable to follow the high frequency field.

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ANTIFUNGAL ACTIVITY OF SOME PLANT LATEX AGAINST FUNGAL PATHOGENS OF *COLOCASIA*

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ABSTRACT

The *in vitro* antifungal potency of four plant latex extracts were evaluated for their botanical fungi toxicants on pathogenic fungi of *Colocasia* (*Colocasia esculenta* L.) The antifungal effect of aqueous extracts of latex namely *Jatropha curcus*, *Calotropis gigantea*, *Ficus bengalensis* and *Ficus glomerata* were selected. Due to the presence of bioactive molecules the latex extracts showed significant inhibition in different concentrations. *Jatropha curcus* latex extract showed 100% reduction of radial growth of *Phytophthora colocasiae*.

Key words: *Colocasia*, Pathogens, Medicinal plants latex, Antifungal activity.

INTRODUCTION

Colocasia (*Colocasia esculenta* Lin) of *Araceae* family, is a perennial monocotyledonous herb, it grows to a height of 1-2 metres, the plant consist of central corm (lying just below the soil surface) from which leaves grow upward, roots grow downwards, while cormels, daughter corms and runners (stolons) grows laterally, east Asia is said to be an important region for ethnobotanical and genetic diversity of *Colocasia esculenta* Lin. From its centre of origin, it spread east ward to the rest of South –East Asia and to China, Japan and the Pacific Islands. From Asia it spread west ward to Arabia and the Mediterranean region. It arrived on the east coast of Africa over 2,000 years ago. It was taken by voyagers, first across the continent of Africa, and later on slave trade to the Caribbean. Today *Colocasia esculenta* lin is pantropical in its distribution and cultivation. The largest area of cultivation is in West Africa, which therefore account for the greatest quantity of production. Significant quantities of taro are also grown in the Caribbean and virtually in all humid and sub-humid parts of Asia (Purseglove, 1972). Since pesticides are designed specifically to fight harmful or even dangerous life forms and therefore are toxic to them, they may present hazards to the environment by their potential effect upon non-target organisms, including humans,

particularly when misused. The need to balance these benefits against the risks presents a challenge to the EPA (Environmental Protection Agency) unlike other chemicals.

This complex emulsion consisting of alkaloids, starches, sugars, oils, tannins, resins and gums that coagulates on exposure to air. It is also rich in enzymes like proteases, glucosidases, chitinases and lipases. It has been demonstrated that this substance is a source of natural fungicides (Barkai-Golan, 2001) which is regarded as both safe and effective against various diseases of banana, papaya and other fruits. The water-soluble fraction of papaya latex can completely digest the conidia of many fungi, including important postharvest pathogens (Indrakeerthi & Adikaram, 1996). Other latex extracted from several plants showed a strong antifungal activity against *Botryti cinerea*, *Fusarium* sp. and *Trichoderma* sp. (Barkai-Golan, 2001). The aim of this study was to evaluate the antifungal activity of some medicinal plant used in Ayurveda and traditional medicinal system for treatment of manifestations caused by pathogens.

MATERIALS AND METHODS

Plant material and latex collection: The fresh latex of *Jatropha curcus*, *Calotropis gigantea*, *Ficus bengalensis* and *Ficus glomerata* were aseptically collected from the aerial parts of the healthy plants as described by Aworh et al. (1994) in clean glass tubes containing distilled water to yield a dilution rate of 5:5 (v/v). The latex mixture was gently handled to maintain homogeneity during transport to the laboratory where it was stored at (4°C) until further use.

Fungal Pathogens

The pathogens such as of *Phytophthora colocasiae* caused by *Colocasia esculanta* leaf-blight of were used.

Preparation of latex extract:

The fresh latex was selectively decanted and centrifuged at 5000 rpm for 5 min. The precipitated material showing rubber aspect (poly-isoprene) was pooled apart and the supernatant was decanted carefully. Finally the samples were centrifuged as previously described and the clear soluble supernatant was collected and lyophilized. The stock solutions of latex extract was diluted suitably as required from stock solution (Juncker et al., 2009).

Determination of antifungal activity

Plant latex aqueous extracts of each prepared with distilled water and condensed to serve as stock extract was determined by food poisoning technique (Mishra & Tiwari, 1992) against tested pathogens in five different concentrations. Petriplates containing Czapek Dox Agar (CZA) medium, supplemented with different plant latex extracts at five concentrations (25, 50, 75 and 100%) with three replications were inoculated with fresh 7 days old culture of test fungi in 8 mm discs and kept upside down. The plates were incubated in BOD incubator at 28 ± 2 °C. Plates without plant latex extracts served as control. Starting two days after inoculation (DAI), radial growth was recorded daily for 8 days or until the plates were

overgrown. The growth inhibition was calculated by using the formula: $100 \times C - T / C$, Where C = growth in control and T = growth in treatment (Vincent, 1947).

RESULTS

Plant latex used in this study was tested against two pathogenic fungi to determine their antifungal activity. Different concentrations of plant latex (25, 50, 75 and 100%) were tested against pathogenic fungi.

The inhibition effects of the medicinal plant on pathogenic fungi were represented in Table 1. *Jatropha curcas* latex extract showed 100% reduction of radial growth of *Phytophthora colocasiae* at 100% & 75% conc. respectively.

Table 1: Antifungal activity of plant latex extracts against pathogenic fungi of *Colocasia esculanta*.

Plant species	Family	Conc. (%)	Radial growth of <i>Phytophthora colocasiae</i> (mm)	Inhibition (%)
<i>Jatropha curcas</i>	Euphorbiaceae	25	12	86.53
		50	10	88.77
		75	06	93.26
		100	04	95.51*
<i>Calotropis gigantean</i>	Asclepiadaceae	25	42	52.86
		50	38	57.35
		75	34	61.91
		100	30	66.32
<i>Ficus bengalensis</i>	Moraceae	25	45	49.49
		50	40	55.10
		75	36	59.59
		100	30	66.32
<i>Ficus glomerata</i>	Moraceae	25	34	61.84
		50	29	67.45
		75	26	70.81
		100	21	76.43
Control		--	89.10	--
CD (P=0.05)		--	--	8.30

DISCUSSION

The result agrees with Takazawa *et al.*, (1982) that there is a need to employ broad range of extractive solvents in the extractions of possible photochemical from medicinal plants. The growth of four test fungi were inhibited by ethanol and chloroform extracts while the aqueous extract was the least effective on the test fungi. The best antifungal activity was recorded in ethanol extract of *C.procera* latex against *Candida albicans* (Kareem *et al.*, 2008). Leaf extracts, chopped leaves and latex of *C. procera* have shown great promise as a nematicide *in vitro* and *in vivo* (Khirstova and Tissot, 1995). The mycelia growth, percentage spores germination and germ- tube extension in *Fusarium oxysporum* and *Aspergillus carbonaris* decreased when *Calotropis procera* extract concentration increases, where as growth of *Humicola brevis* and *Penicillium lanosum* were not affected (Rizk,2008).

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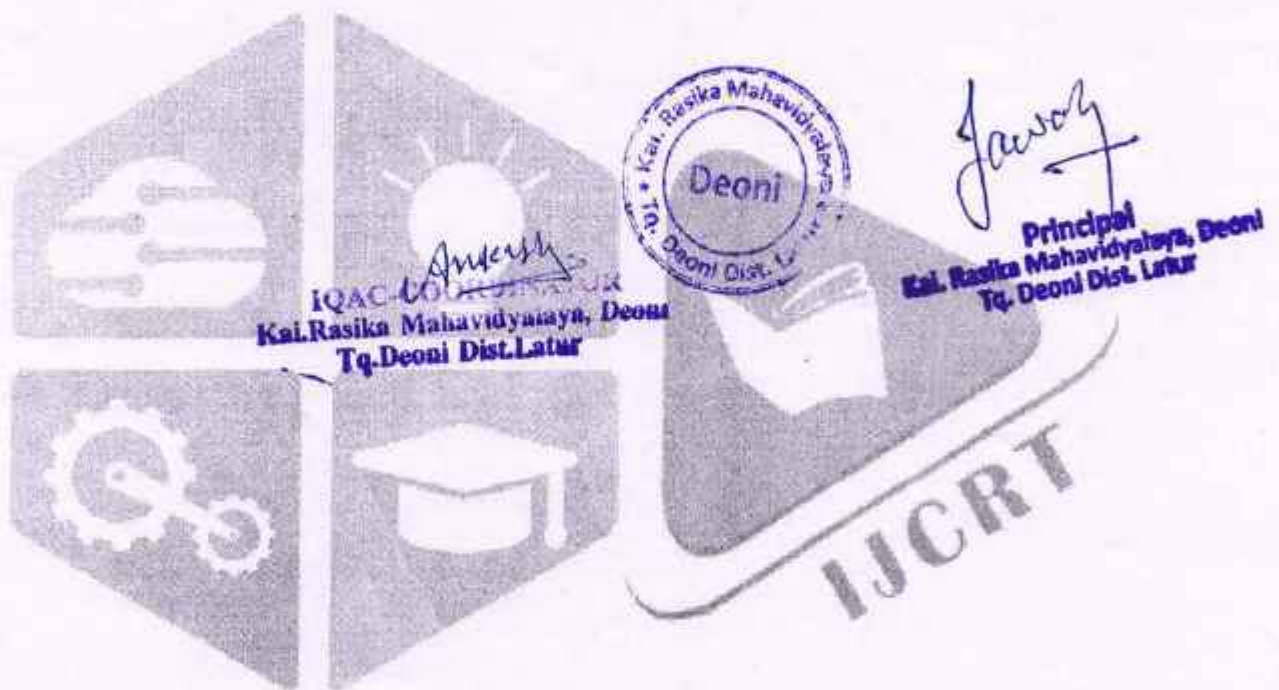
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सत्यशोधकी जलसे : प्रयोजन व स्वरूप

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इ.स. 1873 मध्ये सत्यशोधक समाजाची स्थापना झाली. सत्यशोधक चळवळीने महाराष्ट्रात आणि महाराष्ट्राबाहेर शिक्षण, संस्कृती, धर्मकारण, समाजकारण, अर्थकारण इत्यादी क्षेत्रात प्रबोधन आणि जागृती केली. सत्यशोधकी साहित्य परंपरेने लोकवाद्य, लोकसंगीत, लोकप्रयोज्य कला यातील सामर्थ्य अचूकपणे ओळखले आणि त्यांची प्रभावीपणे निर्मिती केली. 'सत्यशोधकी जलसे' हा असाच लोकप्रयोज्य कलाप्रकार आहे.

सत्यशोधक जलसा चळवळ सत्यशोधक चळवळीचेच एक महत्वाचे कृतिशील अंग होते. जलसामधून सत्यशोधक विचार, तत्वज्ञान, संस्कृती व कृतींचा प्रसार झालेला आहे सत्यशोधकी जलसांनी ग्रामीण भागात धार्मिक, सामाजिक आणि सांस्कृतिक स्वरूपाचे प्रबोधन घडविले. हजारो वर्षांपासून ज्ञानापासून वंचित असलेल्या समाजाला ज्ञानाच्या परिघात आणले. सत्यशोधकी जलसे पाहून गावोगाव आणि घराघरात फार मोठी लोकजागृती घडली. सर्व समाज धार्मिक, सामाजिक, सांस्कृतिक आणि आर्थिक गुलामगिरीच्या बेड्या तोडून मुक्त होऊ लागला. सत्यशोधक जलशातील पदे आणि वगांची रचना करणारे लेखक-कवी ग्रामीण भागातील आणि कष्टकरी वर्गातीलच होते. ते विविध जातीस्तरातील होते. त्यांची भाषा अरसल मराठी बळणाची आहे.

आद्यसत्यशोधकी लोकशाहीर भीमराव महामुनी यांनी इ.स. 1890 च्या दरम्यान सत्यशोधकी जलसांचा प्रारंभ केला. त्यांनी लोकरंजनातून प्रबोधन घडविले. जलसाकारांनी तमाशाकडून गण, गौळण, लावणी, बतावणी, वग या घटकांचा रूपबंध स्विकारला पण त्यातील आशय सत्यशोधकी तत्वज्ञानाने ओतप्रोत भरलेला होता. अज्ञानामुळे लोकांचे होणारे शोषण, कर्मकांड व अंधश्रद्धेमुळे होणारी अधोगती जलशातून चित्रित झाली आहे.

सत्यशोधकी जलसा : व्याख्या

हजारो लोकांच्या गर्दीसमोर खुल्या रंगमंचावर लोकभाषेतून ग्रामीण भागातील लोकमनाला चेतविण्याचे काम जलशाने केले आहे. 'जलसा' हा शब्द अरबी भाषेतून आलेला असून 'जलसा' म्हणजे गाणे बजावण्याची मेफल, सभा, संमेलन असा अर्थ प्रतीत होतो.

1) डॉ. अशोक चोपडे: "समता, न्याय, स्वातंत्र्य व आत्मसन्मान शिकवून समाज प्रबोधनाचे मानस तयार करणारी बहुजनावर्ती संगीत लोकनाट्यात्मक कृती म्हणजे 'सत्यशोधक जलसा'. ही लोकनाट्यात्मक कृती बहुजन समाजाच्या सर्वांगीण उन्नतीसाठी सत्यशोधकी विचारसूत्रानुसार सादर केलेली असावी."

2) डॉ. श्रीराम गुंदेकर: "वाद्यसंगीत, गायन, अभिनय, नाट्य, संवादफ्रेक इत्यादी प्रयोगसिद्ध लोककला प्रकारातील वैशिष्ट्यांच्या आधारे सत्यशोधक विचार आणि चळवळीच्या प्रसारासाठी सादर करण्यात येणारा दृक्श्राव्य कलाप्रकार म्हणजे सत्यशोधकी जलसा होय."²

3) डॉ. संभाजी खराट: "सत्यशोधक समाजातील कार्यकर्त्यांनी आपले विचार लोकापर्यंत जावे म्हणून तमाशाच्या ढंगाचा सत्यशोधक जलसा उभा केला. त्यात मनोरंजनापेक्षा आणि अश्लीलतेपेक्षा प्रबोधनाला विशेष महत्त्व दिले. प्रबोधनासाठी सादर केलेली कलाकृती म्हणजे जलसा म्हणता येईल."³

जलशाचे स्वरूप स्पष्ट करणाऱ्या विविध अभ्यासकांच्या व्याख्यांचा परामर्श घेऊन "समाजपरिवर्तनाच्या प्रेरणेतून विविध सामाजिक विषयावर पदे व वगाच्या माध्यमातून वाद्यांसह सामिनय सादर केला जाणारा नाट्यात्मक कलाविष्कार म्हणजे जलसा" अशी जलशाची व्याख्या करण्याचा प्रयत्न प्रस्तुत अभ्यासकांने केला आहे.

सत्यशोधक जलशाचे प्रयोजन/हेतू :

महात्मा फुले यांचे विचार लोकांपर्यंत पोहचविणे आणि समाजप्रबोधन करणे या उद्देशाने जलसे तयार झाले. प्रारंभी छोट्या-छोट्या मेळ्यांच्या स्वरूपात जलशांचे सादरीकरण होत असे. भीमराव महामुनी, भाऊराव पाटोळे, तातोबा पाटील कासेगावकर, रामचंद्र घाडगे कालेकर इत्यादी मंडळींनी सत्यशोधकी जलसे चालविले. "समाजप्रबोधन करण्यासाठी भाषणे, सभा घेण्यापेक्षा, पुस्तके लिहिण्यापेक्षा अतिशय प्रभावी अशा तमाशाच्या माध्यमातून हे सत्यशोधकी समाजाचे तत्त्वज्ञान लोकांना समजावून सांगितले तर ते लोकांना चटकन पटेल. शिवाय शेकडो लोकांना एकाचवेळी हा संदेश सांगता येईल. या भूमिकेतून सत्यशोधकी जलसा निर्माण झाला"⁴ त्या काळी सत्यशोधकी विचारांचा प्रचार-प्रसार करण्यासाठी जलसा हे महत्त्वाचे माध्यम होते.

लोकधर्मी व नाट्यधर्मी कलाप्रकारांची रसिकप्रियता ओळखून गीत, संगीत, अभिनयाच्या माध्यमातून परिवर्तनवादी विचार मांडण्यात येऊ लागले. या जलशांना लोकांची गर्दी वाढू लागली, त्यामुळे मोठ्या प्रमाणात जलसानिर्मिती करण्यात येऊ लागली. जलसानिर्मितीचे प्रयोजन सारांशरूपाने खालीलप्रमाणे सांगता येईल.

- 1) महात्मा फुले यांचे विचार समाजाला प्रभावीपणे पटवून सांगणे.
- 2) समाजप्रबोधन घडवून आणणे.
- 3) महात्मा फुले यांच्या निधनानंतर थंडावलेल्या परिवर्तनवादी सत्यशोधक चळवळीला जलशांच्या माध्यमातून बळ देणे.
- 4) अज्ञानी समाजाला शिक्षणाचे महत्त्व पटवून सांगणे.
- 5) समाजातील वाईट रूढी परंपरा व अंधश्रद्धा यांना विरोध करणे.
- 6) लावणी, पदे, वगांच्या माध्यमातून लोकांचे प्रबोधन करणे.
- 7) पौथ्या-पुराणातून कथन केलेल्या धर्मसंस्कृतीची चिकित्सा करून सत्यशोधकी तत्त्वज्ञानाचा प्रचार-प्रसार करणे.
- 8) तत्कालीन ब्राह्मणांच्या ब्राह्मण्य प्रवृत्तीवर टीका करणे.
- 9) लोकोत्सव, यात्रा, सभा, संमेलनाच्या निमित्ताने हजारांच्या संख्येने एकत्र जमलेल्या लोकांना महात्मा फुले यांचे सत्यशोधकी विचार रंजक पद्धतीने सांगणे.
- 10) सत्यशोधकी विचारांचा प्रचार-प्रसार करणे हे जलशांचे मुख्य ध्येय होते.
- 11) शेतकरी, महिला, शूद्रातिशूद्र या शोषित लोकांची अस्मिता, स्वत्व, स्वाभिमान जागृत करणे. त्यांना सन्मानाने जगण्यास प्रेरित करणे. इत्यादी.

डॉ. संभाजी खराट यांनी लिहिलेल्या 'म. जोतीराव फुले आणि सत्यशोधक जलसे' या पुस्तकाच्या प्रस्तावनेत प्रा. सुखराम हिवराळे जलशांचा हेतू सांगताना म्हणतात, "जलसे हे केवळ समाजाची घटकाभर करमणूक करण्यासाठी आणि केवळ निखळ मनोरंजन करण्यासाठी सादर करण्यात येत नव्हते. समाजप्रबोधन, सामाजिक जागरण आणि लोककल्याणाचे ध्येय समोर ठेवून जलसा सादर करण्याचे मोठे उद्दिष्ट जलसाकारांचे होते." जलसाकारांनी कोणत्याही सन्मानाची व अर्थप्राप्तीची अपेक्षा न ठेवता पदरमोड करून गावोगावी जाऊन लोकांना त्यांच्या दैनंदिन जीवनात निर्माण होणाऱ्या प्रश्नांना वाचा फोडण्याचे काम केले. जलशांचा हेतू हा समाजप्रबोधनाचा असल्यामुळे आणि जलसाकारांनी त्याग, सचोटी, अखंड परिश्रम करून आर्थिक अडचणींना तोंड देत व विरोधकांच्या आव्हानांचा सामना करीत आपले कार्य महाराष्ट्रभर चालू ठेवले. त्यामुळे इ.स. 1890 ते 1930-40 या कालखंडातील सामाजिक सुधारणेच्या कार्यातील मैलाचा दगड म्हणून सत्यशोधकी जलशांचा उल्लेख करणे यथोचित ठरेल.

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ABSTRACT

Study on bird diversity in the Lonar meteoritic crater (Maharashtra) India. Geologically located on Latitude 19° 58'45"N, Altitude 1852 ft was done, over a period of 2 years 2009 -2011. A total number of 17 bird species belonging to 13 families were recorded during the study covering an crater area. In present study recorded 17 avian species of 9 Order such as, Anseriformes, Passeriformes, Coraciiformis, Charadriiformes, Psittaciformes, Galliformes, Cuculiformes, Strigiformes, Falconiformes were observed and 17 were identified. The 17 identified species such as *Accipiter budius*, *Anas acuta*, *Anas poecilrhyncha*, *Anas quequedula*, *Athya brahma*, *Copsychus saularis*, *Coracias benghalensis*, *Eudynamis scotopacca*, *Halcyon smyrnensis*, *Himantopus himantopus*, *Meropus orientalis*, *Pavo cristatus*, *psittacula krameri*, *saxicolaoides fulicata*, *Tudorna ferruginea*, *Turdoides caudatus*, *vanellus indicus*. The lake region has wide variety of trees, which may be one of the major contributing factor for the richness of bird species.

Keywords: Lonar Meteoritic Crater, Bird Diversity

INTRODUCTION

Lonar Crater is an impact crater situated in the Buldana District of the Indian state Maharashtra. Geologically located on Latitude 19° 58'45"N, Altitude 1852 ft, the lake is 1.83 km (600 feet) in diameter and 170 meter in depth and its age is estimated to be 52000 ± 6000 years ago in the late Pliocene (Fudali, et al., 1980). Mythology associated the crater with the underground abode of demon Lonasura, who was killed by Lord Vishnu. The scientific studies were carried out in recent time attribute the probable origin of Lonar crater by the impact of large meteoritic body (Mahabal, 2008). It is the largest impact crater in basaltic rock and partially filled by saline water. Also once thought to be volcanic origin. The crater was firstly noticed by an Englishman, C J E. Alexander in 1823. Lonar crater is now recognized as an impact crater created by the hypervelocity impact comet or meteorite. The impact origin of this crater is clearly demonstrated by the presence of Plagioclase that has been either converted into maskelynite or contains planar deformation features. The Lonar impact crater in the Deccan the Indian peninsula provides unique opportunities to study physical and chemical process of impact crater on basaltic targets because terrestrial impact crater on basalts are extremely rare such studies are needed for determining provenance and other parameter of the excavated rocks and the creating phenomenon that may have implication for similar crater in Lunar Marian and other basaltic targets in solar system. Biodiversity is the degree of variation of life forms within a given species, ecosystem, biome, or an entire planet. Biodiversity is a measure of the health of ecosystems. Biodiversity is in part a function of climate. In terrestrial habitats, tropical regions are typically rich whereas Polar Regions support fewer species. Rapid environmental changes typically cause mass extinctions. One estimate is that less than 1% of the species that have existed on Earth are extant Raup (1994).

Birds are feathered, winged, bipedal, endothermic (warm-blooded), egg-laying, vertebrate animals. With around 10,000 living species, they are the most species class of tetrapod vertebrates. All present species belong to the subclass Neornithes, and inhabit ecosystems across the globe, from the Arctic to the Antarctic. Extant birds range in size from the 5 cm (2 in) Bee Hummingbird to the 2.75 m (9 ft) Ostrich. Modern birds are characterized by feathers, a beak with no teeth, the laying of hard-shelled eggs, a high metabolic rate, a four-chambered heart, and a lightweight but strong skeleton. Many species undertake long distance annual migrations, and many more perform shorter irregular

movements. Birds are social; they communicate using visual signals and through calls and songs, and participate in social behaviors, including cooperative breeding and hunting, flocking, and mobbing of predators. The highest bird diversity occurs in tropical regions. It was earlier thought that this high diversity was the result of higher speciation rates in the tropics, however recent studies found higher speciation rates in the high latitudes that were offset by greater extinction rates than in the tropics Weir, (2007). In the present study, we have observed avian diversity of Lonar Lake for two years from 2009-2011 such as.

MATERIAL AND METHODS

The observation was carried out for 5 h a day from 6:30 to 10:00 am in the morning and from 4:30 to 6:00 pm in the afternoon, when the activities of birds were prominent. Species were recorded using direct observation. Photographs Binocular and videos were taken to justify the species type for those species which were difficult to identify Ali, (1981) Grimmett *et al.*, (1999). Some inconspicuous bird species were also identified based on their calls like, the song and calls records of Chappuis (2000) and Roche (1996).

RESULTS

In present study recorded 17 avian species of 9 Order such as, Anseriformes, Passeriformes, Coraciiformis, Charadriiformes, Psittaciformes, Galliformes, Cuculiformes, Strigiformes, Falconiformes were observed and 17 were identified. The 17 identified species such as *Accipter hadius*, *Anas acuta*, *Anas poocylrhyncha*, *Anas quequedula*, *Athya brama*, *Copsychus saularis*, *Coracias benghalensis*, *Eudynamis scolopacea*, *Halcyon smyrnensis*, *Himantopus himantopus*, *Meropus orientalis*, *Pavo cristatus*, *Psittacula krameri*, *Saxicolaoides fulicata*, *Tadorna ferruginea*, *Turdoides caudatus*, *Vaniellus indicus*. The residential status is given in Table-I.

DISCUSSION

Birds are often common denizens of the ecosystems and they have been considered as an indicator species of inhabited areas. Population of bird is sensitive indicators of population in both terrestrial and aquatic ecosystem. The estimation of local density of avian fauna helps to understand the abundance of various species of other organisms. Gaston, (1975), Hardy, *et al.*, (1987), Blair, (1999), Turner, (2003), Shimelis and Alework (2008) studied on the species composition, relative abundance and distribution of bird fauna of riverine and wetland habitats of Infranz and Yiganda of Lake Tana, Ethiopia and observed that the 129 bird species consisting of three endemics, two globally threatened and 21 palaeartic migrants were identified. The species composition of birds during wet and dry season was not significant difference among the habitats. Patil, *et al.*, (2008) studied on the conservation and management of Salim Ali Lake Aurangabad and observed that the sanctuary was rich in bird fauna associated with some migratory species and ecologically important landmark. 64 bird species were observed as permanent residential, while 24 non-residential (migratory) bird species in the lake. Birds were visiting the lake as visitor in winter, summer and monsoon. The population of overall birds was increases in December and decline from January as the water levels recedes. Roy, *et al.*, (2008) studied on the sustainable development of Kowar lake, Begasara (North Bihar, India) and observed that the fluctuations in the values of species of wetland bird families (*Podicepsiformes*, *Pelecaniformis*, *Anseriformes*, *Anatidae* and *Charadriidae*) and found very less species diversity in the resident bird families (*Ciconiiformes*). The range of the species diversity of waterfowl (*Anatidae*) was recorded as (0.394 to 2.054), indicating higher productivity as well as spatial diversity in the lake. Bhatnagar *et al.*, (2008) studied on aquatic bird diversity of lake Bari (a component of Udaipur important bird area) with a special note on its habitat management and observed that the total 32 bird species belonging to 18 families. Among, these 20 species were resident, 2 species were summer migrant and 10 species were winter migrants. Kafle, *et al.*, (2008) studied on the status of and threats to water birds of Rupa lake, Pokhara, Nepal and observed that the 36 species of waterbirds in the lake which represents about 19% of the total 193 wetland-dependant birds found in Nepal. Mohan and Gaur (2008) studied on the avian diversity around Jajawal pond- A natural wetland and observed that the 62 species of birds belonging to 26

families and 15 orders out of these 62 species were water birds and 36 were terrestrial birds.



Figure 1-12: Birds species observed

Among water birds 6 species of waterfowl. Bhat *et al.*, (2009) studied on the avifaunal diversity of anekere wetland, Kakala, Udupi district, Karnataka, India and observed that the 44 bird species attracted this habitat, which including migratory and local aquatic birds, waders and others. Highest population of tree ducks (lesser whistling teal) was recorded. Birasal *et al.*, (2010) studied on the water bird diversity at Heggeri lake, Haveri district and observed that the 30 bird species belonging to 10 families. Roy *et al.*, (2011) studied on the changes in densities of water birds species in Santragachi Lake, India; Potential effect on limnological variables and observed that the 22 species

of birds active in around the water body Lesser Whistling ducks followed by Northern Pintail (*Anas acuta*), Cotton Pigmy Goose (*Nettion coromandelianus*) and Godwall (*Anas strepera*) were the most common duck species.



13 *Psittacula krameri*



14 *Pavo cristatus*



15 *Eudynamis scolopacea*



16 *Athene brama*



17 *Accipiter badius*

Figure 13-17: Birds species observed

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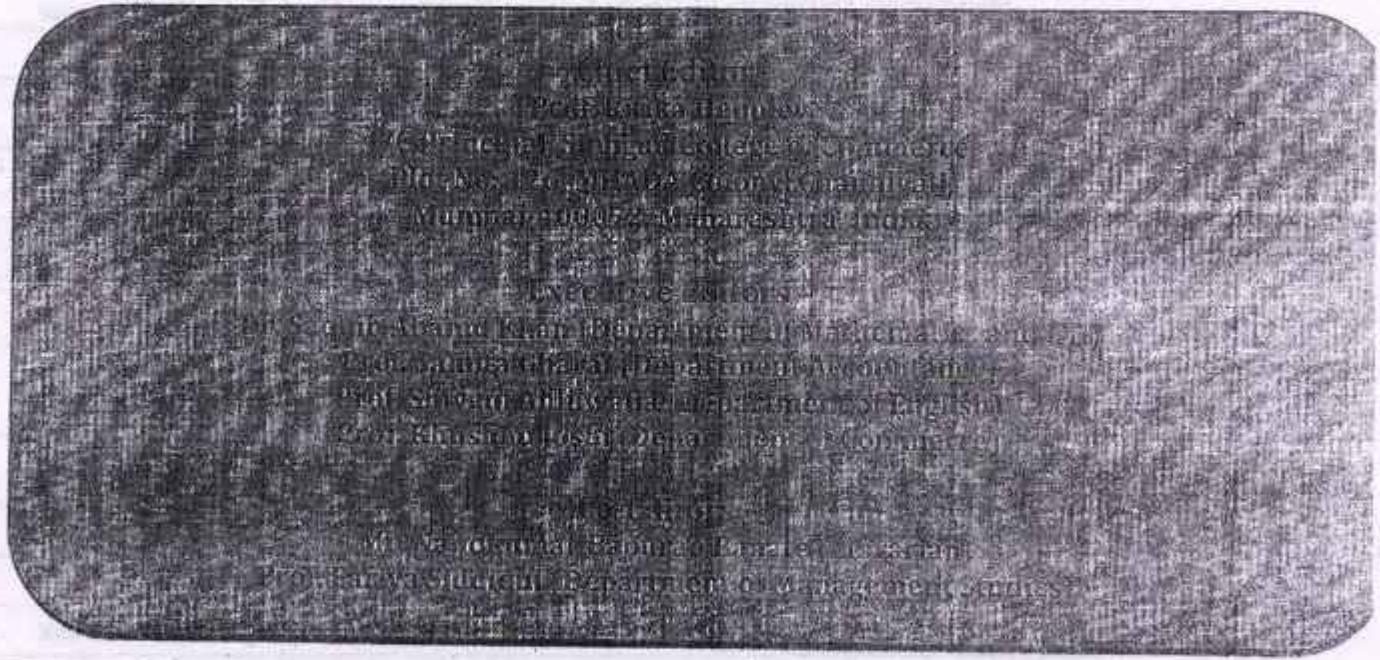
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**Content Analysis of Authorship Pattern of SAJLIS Journal
Published in 2012-2015**

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Abstract:

This paper is described the content analysis of authorship pattern of SAJLIS Journal published in 2012-2015. Authorship is the important bibliometric measures reflecting contemporary communication patterns, productivity and collaboration among the researchers. this is the UGC-CARE listed of research journal as per UGC Notification June 2019. This is quarterly journal in the subject of library and information science. This paper analyses the content analysis of 23 articles published between January to December 2016. This paper provides the information about authorship pattern , state wise distribution pattern and subject wise distribution pattern.

Key words: Content analysis, Author , Authorship Pattern ,SAJLIS

Introduction -

Content analysis has been a widely used research method by social scientists to study the content of a communication. Now, it has also become an important research technique in the field of Library and Information Studies (LIS). This method can be performed in two ways: Quantitative, and Qualitative. The quantitative technique involves counting of occurrences of words and phrases. Whereas, qualitative analysis technique is used to analyze information resources to identify ideas behind a word. Content analysis is a hybrid approach to content analysis technique that uses co-occurrence of words or phrases to find out a relationship among ideas. This chapter summarizes the development, advantages, and disadvantages and discusses several practical issues related to content analysis.

Meaning of Content Analysis-

Content analysis refers to a research technique. It consists of two words viz. Content and Analysis. The term Content means a text which can be expressed, communicated and comprehended and the process, logic or a systematic way by which theme, ideas, and purpose of the content can be analyzed by quantitative and qualitative manner, and be explained is its Analysis. Thus, content analysis is a systematic process for a qualitative and quantitative description of content. Content analysts do not collect their data from physical event as many researchers do but collect data from text which are recorded for their purpose and analyzed with such in the mind. Here, text may be printed matter, articles, letters, communicated material, handwritten material, recorded speech, news, videos etc. These texts are recorded form of human interaction and medium of communication. To study this interaction content analysis is a good research technique which uses some inferences from content in context to some research purpose. This technique is used to identify a concept, word and phrases within the content. This tool is very useful to quantify and analyse the presence of meaning of words phrases, idea and concepts and identify relationship among them. In simple words, content analysis is a systematic way to provide a quantitative, numerical and qualitative description of written, spoken and visual communication.



Author - An author is the creator or originator of any written work such as a book or play, and is also considered a writer or poet. More broadly defined, an author is "the person who originated or gave existence to anything" and whose authorship determines responsibility for what was created

About The Journal

The South African Journal of Libraries and Information Science (SAJLIS) have been published as the official research journal of the Library and Information Association of South Africa was established in 1997, supported by an overwhelming majority of members of the LIS associations that had accommodated the interests of the South African library and information services (LIS) 1994. In 1998, as a planned consequence, the African Library Association of South Africa (ALASA), and the South African Institute for Librarianship and Information Science (SAJLIS) voted to dissolve this organization.

Objective of the study are

- 1) To study the research papers published in 2012-2015
- 2) To study the research papers publishing pattern
- 3) To find out the authorship pattern in research contribution

Review of literature :

A literature review introduces the problem, develops the background providing a history of scholarly work on the subject, and ends with the purpose and the rationale for the study. It constitutes an integral part of any research. The main goals are to situate the current study within the body of literature and to provide context for the research. Literatures review is an essential part of any research in an academic area. Anand (2011) studied the level of co-authorship of Spanish research in Library and Information Science (LIS) until 2009, the data were collected from Web of Knowledge. The chronological development that took place, and the level of local, domestic and international cooperation Akakandelwa (2009) contributed an informatics analysis of 220 paper published by academic faculty at the university of Zambia form 2002 to 2007, the data were downloaded from the Thomson Reuters Database and analysed authorship patterns and collaboration. It was found that the degree of collaboration varied form one discipline to another and collaboration was more intensified in the applied science Jain and Kumar (2011) made a measurement of research productivity of Indian scientists contributing to world soybean research between the years 1989 to 2008. The activity index of India decreased gradually. The growth rate was also decreased gradually and correspondingly doubling time has been increased Mittal, Sharma, and Singh (2006) analysed 536 published on Library and Information Science education during the period 1995 to 2004. The productivity of authors and core periodicals were determined and Lotka's and Bradford's law were tested. The study found the sample of data did not fit to Lotka's and Bradford's law that most of the papers (72.8%) were contributed by single authors, followed by two authors (20.69%). Ram (2011) analysed PubMed database for the period of 1996-2010 to study the growth of research on Artemisia that is used worldwide for Malaria treatment, including research distribution by country, type of publications, journal authorship patterns, and Indian publication activity on Artemisia. The study found that only 9% paper contributed by two authorship and rest most of the paper (90%) were written be more than two authors. Aswathy and Gopikuttan (2013) analyses the publication pattern of faculty member of three universities in Kerala. Authorship pattern, collaboration, the appropriateness of Lotka's



inverse Square Law and year wise and Designation wise distributions had been studied. The study found that multi- authorship dominates among university-teacher and there was no statistical significant difference between experience and productivity.

Methodology:

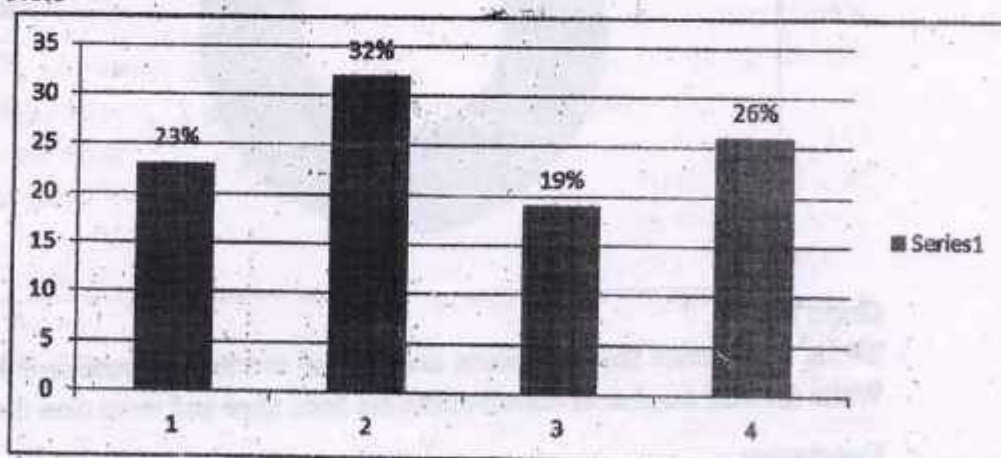
The bibliographic data pertaining the journals has been counted and analyzed fulfilling the objectives of the study. This research is based on the analysis of research papers published South African Journal of Libraries and Information Science (SAJLIS) which is analyzed by using various Bibliometric techniques.

Data Interpretation :

This research is based on the analysis of research papers published in journal of in South African Journal of Libraries and Information Science (SAJLIS)

S. No.	Year	Vol. No.	Number of Research articles	Percentage
1)	2012	78	16	23%
2)	2013	79	23	32%
3)	2014	80	13	19%
4)	2015	81	19	26%
Total			71	100

Table No.1



Graph No.1

SAJLIS is very popular research journal in the subject of library and information science above graph shows that the year wise percentage of published research papers in 2012 to 2015. Percentage of articles published in 2013 is 32% out total and rest of the years 26% in 2015, 23% in 2012 and less numbers of papers published in 2014 percentage is 19% as comparative to other years.

Authorship Contributions :

Authorship contribution means number of authors per paper. Minimum number of author is one while maximum is four. Following table shows the authorship pattern of papers published during year. Authorship pattern and collaboration is an important aspect of the bibliometric study. The study of authorship pattern deals with the number of authors of published article and

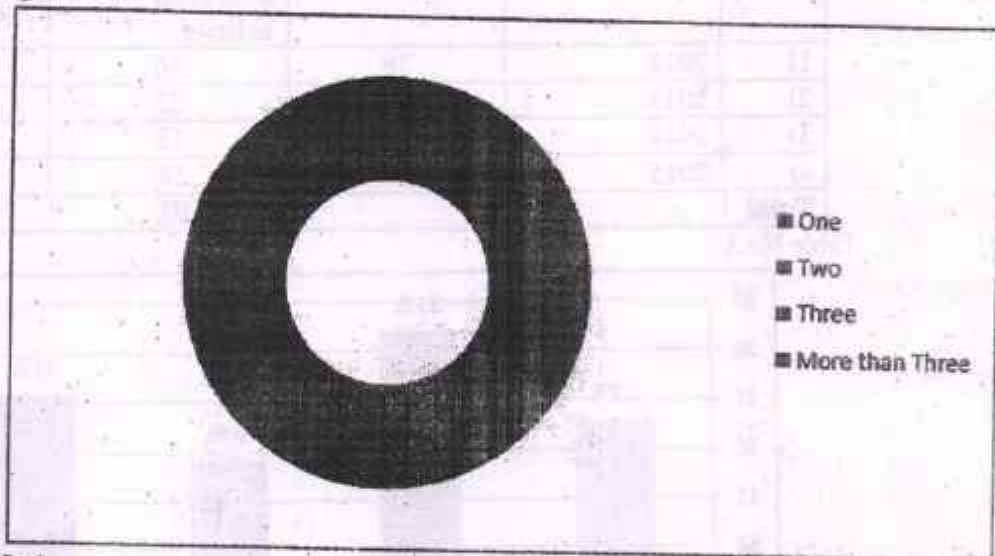


of collaboration identifies the nature and measures the degree of collaboration existing among the authors who contributed his/her work to a journal

S. No.	Author	Contribution of Numbers of Research Articles	Total Number of Authors	Percentage
1)	One	37	37	31%
2)	Two	18	36	29%
3)	Three	9	27	21%
4)	More than Three	6	24	19%
	Total	71	124	100

Table No.2

The table no.2 shows the detail of authors contribution. 31% is one and two authors contributed their research articles out of 29% articles contributed. 21% share their ideas and research contribution is three authors and more than three authors have contributed their articles and the percentage is 19%



Graph No.2

Tables Two reveals that maximum numbers of articles are published by one and two authors. While the least number of contributions are from three and more than three authors.

Conclusion -

The South African Journal of Libraries and Information Science is to devoted research journal for the library and information professionals. The authors are most of the from South Africa area and their knowledge and contribution and sharing the knowledge of library and information science is very useful to all over worldwide library professionals. The contribution ratio of the author is very high numbers. Authorship pattern also followed by research is to sharing ideas, new trends and techniques for the professionals of LIS very systemic manner authors are contributed solo author, dual and more than three authors that is good quality of research contribution.

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Aswathy



SWOT Analysis and Academic Libraries: Current perspective

Mrs. Raykar Durga Dr. Sontakke Shivaji

Abstract

In this paper SWOT Analysis and its relation to academic libraries are discussed. This study is a qualitative and descriptive study on SWOT. SWOT Analysis will be examined from a historical, theoretical, and time frame perspective as an efficient situation analysis tool that is used in marketing, public relations, advertising, and any other area that requires strategic planning. SWOT Analysis is a method of analyzing the 'strengths,' 'weaknesses,' 'opportunities,' and 'threats' that are present in an entity, a strategy, a project, an individual, or a business operation. Here the attempt is to describe What is SWOT Analysis, how to do SWOT Analysis, Its limitations and alternatives, and finally its relation with academic libraries with the help of related literature, etc.

Keywords: *SWOT Analysis, Academic Libraries, Strategic Planning*

Introduction

The majority of all sectors today participate in strategic planning. Strategic planning is a method of assisting all sectors. By assisting throughout the distribution of resources to accomplish goals, an institution may become more efficient. It's a component for successful management. It is, in other words, a component of strategic management. Strategic planning is, in reality, necessary for effective strategic management.

The research, decisions, and behaviour that an institution makes in order to build and maintain competitive advantages are referred to as strategic management. The strategic management method consists of a series of evaluations and decisions that can help an institution to select a "right plan," or one that creates competitive advantages.

Vision is the starting point. A vision of the future is a depiction of what might happen in the future. It is a description of an institution wants to achieve future position. Task will be the next step in the strategic management process. The long-term purpose of an institution is its mission. Mission statements define what an institution aspires to be in the long run as well as what it wants to avoid in the short term. The third step in the strategic management process is to set goals.

The external and internal review phases of the strategic management process, also known as SWOT. An Institution can identify the critical challenges and opportunities in its own environment by performing an external review. It also considers how competition is likely to evolve in this setting, as well as the consequences of that evolution for the challenges and opportunities that an organisation faces. Internal analysis helps an institution to determine its organisational strengths and weaknesses, while external analysis focuses on the environmental challenges and opportunities that an institution faces. It also aids an institution in determining which of its resources and capabilities are most valuable.

Objectives

1. To introduce SWOT Analysis
2. To review the status of Academic libraries
3. To identify SWOT of different Academic libraries

What is SWOT Analysis?

SWOT Stands for Strengths, Weaknesses, Opportunities and Threats. SWOT Analysis used to get best advantage and to reduce the chances of failure by understanding what are lacking and eliminating hazards.

This strategy is based on a business environmental study, which compares the company's strengths and weaknesses to opportunities and challenges in the market environment (external or market analysis) (internal or company analysis). It's achieved with the support of a SWOT matrix, which can aid in the development of strategies for maximizing current opportunities and identifying and containing potential threats in real time.

How to do SWOT Analysis?

SWOT Analysis can be done through its following matrix.

- 1.1. Strengths:
 - What do you do well?
 - What unique resources you can draw on?
 - What do others see as your Strengths?
- 1.2. Weaknesses:
 - What could you improve?
 - What do you have fewer resources than others?
 - What are others likely to see as Weakness?
- 1.3. Opportunities:
 - What opportunities are open to you?
 - What trends could you take advantages of?
 - How can you turn your strengths into your opportunities?
- 1.4. Threats:
 - What threats could harm you?
 - What is your competition doing?

What threats do your weaknesses expose to you?

Limitations and Alternatives of SWOT Analysis:

When conducting a SWOT analysis, keep in mind that it is just one step in the overall business planning process. To make decisions regarding complex issues, you'll usually need to conduct more in-depth analysis and research.

Remember that a SWOT analysis only considers issues that can be classified as a strength, weakness, opportunity, or threat. As a result, using a SWOT analysis to address uncertain or two-sided variables, such as factors which can be either a strength or a weakness or both, is difficult.

Limitations: It's possible that a SWOT analysis is limited because it:

- a. Things aren't prioritized
- b. Does not have alternatives or alternate options
- c. Can generate a lot of ideas but not help you choose the right one
- d. Can generate a large amount of data, but not all of it is useful.

2 Alternatives:

- a. SCORE Analysis (Strengths, Opportunities, Aspirations, Results)
 - b. NOISE Analysis (Needs, Opportunities, Improvements, Strengths, Exceptions)
 - c. Improvement Vein Diagram
 - d. Feedback from users
- c. Quarterly meetings to discussed progress

The SWOT review, on the other hand, has flaws. First and foremost, it necessitates extensive study because you would need a great deal of knowledge about your business and its market climate. Furthermore, both the selection of the evaluated categories as well as the subsequent assessment and weighting are subjective, which may lead to findings that are skewed. Keep in mind that the SWOT review outlines the current situation and allows you to derive future changes and interventions, but it does not constitute strategic planning in and of itself.

SWOT Analysis in Academic Libraries:

Jagtar Singh & Trishanjit Kaur (2009) discussed in their paper that academic libraries future is in our hand. Author discussed knowledge paradigm, present and future scenario, strategic response etc. In knowledge paradigm author wrote about NKC (National Knowledge Commission). NKC focused on access to knowledge, knowledge-concepts, knowledge-creation, knowledge application and development of better services means expansion, excellence and inclusion but it expect support from library. In present scenario regulatory bodies like UGC, AICTE, DTE formed for capacity building but without libraries it is not possible. Lack of good infrastructure is the weakest point in capacity building. ICT is the opportunity and challenge for libraries means paradigm shift from traditional to digital or virtual. Shared subscription, library consortia, institutional repositories, and open access archives are the outcome of our strategic response therefore SWOT Analysis and Gap Analysis are important factors. Generation, acquisition, processing, storage, dissemination, and use of knowledge and information are stages of information life cycle. Collection management, knowledge organization, digital preservation, online searching, content management, knowledge management, and promotion of library are the challenges. Finally author conclude knowledge base, pertinent skills and proactive positive mind set are essential factors for future academic libraries.

P.K. Suresh Kumar (2012) examined in their paper marketing of information products and services is an integral part of administrate. In knowledge paradigm author wrote about NKC (National Knowledge Commission). Access to knowledge, knowledge-concepts, knowledge-creation, knowledge application and development of better services are important factors in knowledge paradigm. Expansion, excellence and inclusion focused by NKC but need support of libraries. In present scenario library infrastructure is the weakness of libraries so libraries should build up their capacity. ICT is opportunity and Challenge in front of libraries. Shared subscription, library consortia, institutional repositories, and open access archives are the challenges therefore SWOT Analysis and Gap Analysis of libraries is important. knowledge base, pertinent skills and proactive positive mind set are the essential components of a competent library finally author conclude with our future library must be a hybrid library which must be user-centred and expert-assisted.

Kumar, P. K. S. (2012) describe in their paper about objective analysis of SWOT Analysis of four university libraries in Kerala named Kerala University Library (KUL), Mahatma Gandhi University Library (MGUL), Cochin University of Science and Technology Library (CUSATL) and CH Mohammed Koya Library of University of Calicut (CHMKL). Author studied Strengths and weakness in terms of the collection, staff strength, qualification of the staff and infrastructure. Also, author studied Strength and Weakness taken from the Chief of Each Library. Author studied SWOT on the ranking bases and found strengths like Experienced and qualified staff, Geographical position, Collection, Special Collections, Funds, Infrastructure, Membership, IT facilities, Information Products/Services Customer Care, etc. Weakness identified like Shortage of staff, Insufficient Investment, Space problem, Lack of infrastructure, Absence of Librarian, etc. Author discussed separately of each library. Opportunities and threats discussed by author Commonly new academic initiatives,

new sources of funds, Cooperation and Consortium, Technology, etc. Author conclude with all libraries has positive opinion towards marketing but no one library have specific funds for marketing of information products and services.

Miteshkumar Pandya (2012) represent in their paper about cloud computing and its use in library. With the help of SWOT Analysis author discussed advantages and disadvantages. Cloud computing (in context of library) means internet based soft copy of resources and managed by third person. Author describe application, storage and connectivity are main parts of it. Also, author discussed special features of cloud computing like Elasticity and Scalability, Multi-tenancy, Energy consumption, Reliability, Security, Consumption based billing, Data Management, Managing Cloud Activities, Self Service Model, etc. Ex Libris, Polaris Library Systems, Dura Cloud, etc. are Service providers of Cloud computing for libraries. Cost effective, Flexible and innovative, Round the clock access, Simplified Cost and Consumption Model, Enterprise Grade Services and Management, Faster Provisioning of Systems and Applications, Simplicity of Integration, Highly Secured Infrastructure, Compliant Facilities and Processes, Flexible and resilient in disaster recovery, reduces hardware and maintenance cost, etc. are strengths and opportunities of cloud computing-based libraries. Risk or data loss, Failure in compliance, Constant connectivity required, Dependency, Quality problems with cloud service provider, Time and Budget Constraints, etc. are weakness and threats found. Author conclude with in future the use of cloud base libraries may increase.

N.A, Hazidah and N.N, Edzan (2012) put on display the strategies used in marketing and promoting the University of Malaya Library (UML) effectively. The SWOT Analysis is used to generate strategies and actions. Identification of SWOTs is essential because subsequent steps in the process of planning for achieving the selected objective may be derived from SWOTs. Author also gave information on UML (University of Malaya Library) and explained why promotion is crucial by giving other authors' views. Collection, seating capacity, location, New technology such as QR code for mobile access, SMS, qualified staff, etc. Are strengths. Out-dated structures, Limited parking area, etc. Weakness. Different types of training and educating users program, active participation in research, Interlibrary loan and document delivery services, Library publications, outreach program, Introducing different reading areas for different purposes, etc. are opportunities. High subscription, lack of responsibility of borrow material, etc. are threats. Finally, author concluded with existence of resources, facilities and services that exceed users' expectations, it goes to show that the Library has effectively promoted its services.

Dharmaraj K. Veer and Santosh D. Kadam (2014) emphasizes in their paper on different facets of SWOT Analysis in context of libraries. To know the strengths of libraries should list out the positive things. To know weakness libraries should list out harmful things. To know opportunities in front of libraries, libraries should list out helpful things. To know threats in front of libraries, libraries should list out obstacles. Author selected engineering college libraries in this study. Author suggested ways & Means for quality services and facilities for engineering college libraries specially for Marathwada region. Qualified librarians, IT knowledge, training programmes, Separate Reference Section, good collection, proper administration, e-services, etc. are strengths. Lack of uniformity, lack of independent Library Building, Inadequate Technological Facilities, Finance, Not accredited by NBA, etc. are weakness. independent Library building, technological facilities, OPAC, Web-OPAC, e-consortia, Accreditation from, user Education, etc. are opportunities. Inadequate Library Finance, High Subscription rates of e-consortia, Increasing costs of publications, etc. are threats. Finally author conclude with SWOT Analysis lead automatically to useful changes in the structure or functioning of libraries.

V. Kadam (2017) exposed in his study about barcode-based library management systems. It's a case study. In this study, author chooses a library of Dr.BATU, Lonere. Also, the researcher used SWOT analysis for getting the actual picture after implementation of bar code. While studying researcher found Strengths like Mini tag size, Negligible data entry error rate, Low-cost tags, Low operating cost, Speedy check-in and check-out process, No queuing up at check out/check-in counters, Save time of the borrower and the staff, High-speed data entry, Supported by many suppliers, Reduces staff daily routine work, Improves efficiency of the management, proves information availability, Improves the image of the organization, Better for even Small business, Bar-coding facilities stock verification of books and journals, Simple process for stock verification, etc. Weakness like high cost of Scanner, Printer and overhead due to cost tags per volume. Unlike RFID (Radio Frequency Identification), it has no theft detection function, Scanning problems due to physically damaged label, CCD Scanner problems, Selecting the distance between the bar code and the CCD Scanner, Tallying borrower's signature every time at the circulation counter, Compare to successor technology like RFID, defective labels always lead to wrong/no reading of data, Laminated barcode library identity card are required, Less capacity, etc. Opportunities like prospect for development, Extending library opening hours, Implementation of this system in other departments of University e.g. student section, Account section, Starting new small Bookshop in the library, etc. Treats like Loss of employee jobs, Choose RFID or Barcode.

Pengfei Ji, Xiaozhu Zou and Zhi Li (2017) presented in their paper about Patent information service strategies of university libraries with the help of SWOT Analysis. University libraries have a lot of literature, comprehensive professional knowledge, enough funds for equipment, scientific research environment, etc.

which are important for patent information services means strengths, difficult to understand the details of patent technology, lack of market awareness, most, lack of professional training system, etc. are weaknesses. According to the principle of complementarity SO strategy, WO strategy, ST strategy and WT strategy are four countermeasure strategies. Author listed Integration of existing resources, Carry out a variety of promotional activities, Increase the degree of opening to the society under SO strategy. Establishing a patent information management system, Improve the quality and ability of librarians listed under WO Strategy. Establish patent database, Library cooperation with patent agency listed under ST strategy. Improving consciousness, increasing investment, improving rules and regulations, training professionals in libraries, novel and authoritative services listed under WT strategy.

Darandale, A. G. (2017) submitted in their paper National Digital Libraries SWOT. Author gave some examples of Digital Libraries like Nalanda Digital Library, Vidyamidhi Digital Library, ERNET, Indian Institute of Science, Banglore, Kalasampada, Electronic Thesis and Dissertation Digital Library, INFLIBNET, Librarian's Digital Library, Raman research Institute, National Library of India. The aim of this study is to find strengths and opportunities in comparison with other digital repositories. The advantages and disadvantages described by the author in this article are as follows: wider dissemination of information, global visibility, single location content, professional visibility, Open access, global search service, etc. Educational material from primary to post-graduation, more than 60 types of teaching resources, availability in more than 70 languages, Variety of reading material-video lectures, global classical books, journal articles, thesis and audio books, Free of charge and easy to register, Android mobile phone app availability, etc. are strengths. Not produce its own data, Sometimes time consuming, Current issues not available soon, Browsing start with Hindi, English and Bengali language, sometimes printing limitations, full text access sometimes required permissions, etc. are Weakness. Information access with democratic nature, without personal bias, info from worldwide, etc. are opportunities. Electricity, internet, may decrease the print format reading, etc. are threats.

Xiaofang Qiu (2017) discussed SWOT Analysis of private College libraries and its development strategy. Library works according to changes and requirements of the market, establishing a solid foundation for the development of skills, flexible and efficient management system, determine the features of libraries according to teachers, school funds, cultural and economic development in the place where the school locates, etc. are strengths of libraries. Development unstable, especially the teaching body, lacking mental preparation for the massive investment, the books and reference materials are insufficient. And the space in the library is narrow to develop further, etc. are Weakness. The national policies provide broad space for the development of private higher education, train academic, research-oriented and design talents, etc. are opportunities. Parents misunderstanding about education, faces fierce competition, etc. are a great threat. Author also suggested development Strategies like Expand Financing Channels to Guarantee, A Stable Capital Source Integrity Is Important to Create A Good Reputation of Libraries, The Government and the Society Support the Development.

Anna Kaushik (2018) gave aims to conduct a SWOT analysis of massive open online courses (MOOCs) in library and information science in order to identify and understand different insights and best practices. This paper is a review paper. Author put different opinion of different authors from a different point of view like SWOT Analysis of MOOCs library is useful to know professional needs & their potential, SWOT helps to note lack these tools to develop competencies and skills in library, SWOT analysis of MOOCs in connection to observe it is helpful to improve medical education or not, reputation was one of the main factors to engage in MOOC activities, etc. after study author found MOOCs provide great flexibility and reliable platform to upgrade their knowledge, it is helpful in promoting information literacy, etc, are the strength of MOOC. Drop rates of learners, lack of authority and quality, High development time and cost, Copyright issues, Language and cultural differences, etc. are weaknesses. Building reputation through networking, free access and Building professional development, etc. are opportunities. Fair use, Return on investment, Disruption in online and traditional courses, Sustainability, etc. are threats.

Kadecja Banu C V and Nusrath N (2018) analysed in their paper Farook College Library on the bases of SWOT and with the help of questionnaire and interviews. This library is one of the best libraries in the state of Kerala. From Questionnaire author realised basic facilities such as circulation counter, space, reading table and chairs, OPAC, drinking water, toilet also textbooks, reference books, newspapers, general periodicals, subject journals, books for competitive exams and question papers needed by users of such library. Also total analysis shows that users need services such as display of new arrivals, issue and return, newspaper clipping services, digital library, personalised information service, reprographic service, translation service and online information service, assistance of staffs, orientation programs. College library building construction, good collection, wide range of electronic resources, DDC classification, Koha software for house-keeping operation, many services, etc. are strengths of Farook College Library.

Roseline Bawack (2019) put forward in their paper about knowledge management in academic libraries with the help of SWOT. Misunderstanding of the concept of KM, lack of knowledge sharing culture, reluctance

of librarians to embrace change, lack of skilled and competent staff, lack of incentives for innovation and knowledge sharing, lack of commitment by management, lack of motivation for collaboration are the main reasons behind this study. Author used surveys, questionnaires, observation, focus groups and interviews with students, library staff and others. Hybrid and robust collection, electronic resources, qualified and competent library staff, presence of adequate state-of-the-art technologies and tools to drive KM processes, fluid communication, knowledge sharing culture, membership in a library consortium, cooperation ties with other university libraries and networking to share resources are strengths found. The weaknesses of a library includes lack of qualified, competent and adequate personnel, lack of digital and electronic resources, lack of digital space, lack of communication with management, inadequate and obsolete technologies and infrastructure. technological developments, changes in the external environment and operational changes may be opportunities or threats. giving formal training programs and demonstration on how to use selected library software to staff, open access movement, digitization of library collections, building and managing institutional repositories, availability of internet and effective usage by staff and students, library website, users' needs etc. opportunities found.

Conclusion:

The lot of studies examining the SWOT approach reveals that relying solely on SWOT in strategic planning is inadequate. According to academic studies on the topic, the efficacy of SWOT can be enhanced by combining qualitative and quantitative techniques. A variety of academics have introduced new analytical approaches to use in conjunction with SWOT analysis, and others have suggested alternative methodologies. Although there has been a huge amount of academic research on SWOT, little attention has been paid to understanding the method's historical emergence, benefits, and limitations. This article aims to reveal a simple understanding of the methodology, as well as recent methodological changes. SWOT studies of academic libraries may help for further progress of the libraries.

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ग्रंथसंग्रह निवड व्यवस्थापन : एक अभ्यास

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Research Paper - Library Science

प्रस्तावना :

ग्रंथ संग्रहाने व्यवस्थापन करीत असताना वाचकांच्या गरजा, आवडी निवडी लक्षात घेऊनच मागणी तसा पुरवठा करावा या न्यायाने ग्रंथांची निवड करावी. म्हणजे वाचकांना हवे ते ग्रंथ मिळतील, ज्या ग्रंथांना फारसे वाचक मिळण्याची शक्यता नाही असे ग्रंथ खरेदी करण्याचे टाळावे. कोणतेही ग्रंथालय सर्वेच प्रकाशित ग्रंथांचा संग्रह करू शकत नाही. त्यामुळे ग्रंथालयाच्या आर्थिक अंदाजपत्रकानुसार ग्रंथ निवडीमध्ये वाचकांच्या केंद्रस्थानी मानून महत्त्व द्यावे. काही विशिष्ट ग्रंथांची मागणी वाचकांकडून होते. त्यावेळी ते ग्रंथ आंतर ग्रंथालयीन देवनेबद्दल मिळून वाचकांना द्यावेत.

योग्य वाचनसाहित्याची निवड करण्यासाठी ग्रंथपालाकडे विशिष्ट प्रकारची मानसिक बैठक, वैचारिक धडण, विस्तरत दृष्टिकोण आणि व्यावसायिक अनुभव असणे आवश्यक आहे. तसेच त्याला वाचकांच्या वाचनसाहित्याविषयी गरजा माहित असणे आवश्यक आहे. तसेच त्याच्याकडे औदार्य व लक्ष्मीकला हेही गुण असणे आवश्यक आहे. कोणते वाचनसाहित्य कोणासाठी व का उपयुक्त आहे हे त्याला निपट्यासाठीचणे सांगता आले पाहिजे. तसेच ग्रंथालयाकडे उपलब्ध असलेल्या आर्थिक तरतुदी, मनुष्यबळ व जागा या साधनांची त्याला ज्ञान असणे आवश्यक आहे व या साधनांच्या अभावामुळे उदभवू शकणा-या अडचणीबाबत अंदाज करता आला पाहिजे. वाचनसाहित्याची निवड करणे हे एक शास्त्रही व कलाही आहे. वाचनसाहित्याची निवड करताना केवळ तत्वांचा विचार करून चालणार नाही तर वाचकांच्या पर्यायांची विचार कराय लागतो.

महाविद्यालय ग्रंथालयांच्या वाचकवर्गांमध्ये प्रामुख्याने विद्यार्थी व शिक्षक यांचा समावेश असतो. वाचकवर्ग ज्या महाविद्यालय ग्रंथालयाचा असतो त्या नुसार वाचनसाहित्य

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विद्यार्थी व शिक्षकांना पुरविले पाहिजे. म्हणून योग्य वाचनसाहित्य योग्य वाचकांच्या हाती मिळविण्याचे धोरण प्रत्येक ग्रंथालयाने ठेवले पाहिजे जेणेकरून ग्रंथालयामध्ये सामग्री निर्माण होणार नाहीत.

ग्रंथनिवडी साठी वाचकांनाही महत्त्व दिले जावे. वाचकांच्या दृष्टीकोणातून त्यांच्या मागणीनुसार ग्रंथ खरेदी व्हावी. तसेच ग्रंथांचे ग्रंथालयीन सर्वे खोपरस्कार लक्ष्य करून ते ग्रंथ वाचकांना लक्ष्यकरीत बनवून उपलब्ध करून द्यावेत. नवीन ग्रंथांविषयी वाचकांना, उपासकांना माहिती द्यावी. त्यामुळे त्यांचा वेळ वापा जात नाही. नवीन दाखल झालेले ग्रंथ वा त्याची वेळचे ग्रंथालयाच्या दर्शनी भागात प्रदर्शित करावी.

उद्दिष्टे :

1. ग्रंथालयासाठी वाचन साहित्य खरेदीच्या धोरणाची माहिती घेणे.
2. वाचन साहित्याच्या सूक्ष्मेची माहिती घेणे.
3. ग्रंथालयातील उपलब्ध नियतकालिकांची माहिती घेणे.
4. ग्रंथालयातील ग्रंथ संख्यांची माहिती घेणे.

प्राथमिक अनुमान / गृहितके :-

1. ग्रंथालयास वाचन साहित्या ग्रंथालय समितीच्या सुचने नुसार मार्गदर्शनात येते.
2. राष्ट्रीय नियतकालिकांचे प्रमाण कमी आहे.

संशोधनाची व्याप्ती व नव्यांदा :

अ) व्याप्ती :

प्रस्तुत संशोधनाची व्याप्ती स्वामी रामानंद तीर्थ मंडळाच्या विद्यार्थी नदिदरी संलग्नित नॉटिस, परभणी, हिंगोली व लातूर या चार जिल्हातील कला, वाणिज्य व विज्ञान अनुदानित महाविद्यालयांपुरतीच मर्यादित आहे.

संशोधन पध्दती :

प्रस्तुत संशोधनासाठी वर्णनात्मक संशोधन पध्दतीचा वापर केला जाणार असून तथ्य संकलनासाठी प्रश्नावलीचा अवलंब करण्यात आला आहे.

तथ्य संकलन :-

प्राथमिक आणि द्वितीय साधनांच्या साहाय्याने तथ्य संकलन करण्यात आले आहे. भारतीय तथ्यांच्या आधारे विरलेषण करण्यात आले आहे. विरलेषणाच्या उपाधारे निष्कर्ष काढण्यात आले आहे.

माहिती विरलेषण :

1. ग्रंथालयासाठी वाचन साहित्य खरेदीचे निकष दर्शविणारी सारणी



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ग्रंथालयामध्ये वाचनसाहित्य निवड निकर्षांचा शोध घेण्यात आला. याचे विश्लेषण पुढील प्रमाणे.

सारणी क्र. ०१

अ. क्र.	वाचन साहित्य खरेदी धोरण प्रकार	संख्या	प्रमाण %
१	ग्रंथालय समितीच्या सुचनेनुसार	५३	८०.३
२	स्वतः ग्रंथपाल	१०	२२.८
३	वाचकांची मागणी	२०	१८.३
४	विद्यापीठाने निर्धारित केलेले वाचन साहित्य	३५	३५.३
५	वाचनसाहित्याची किंमत	१०	१३.३
६	प्रचार्य	३०	३०.३
७	विभाग प्रमुख	४२	५६.०
८	ग्रंथ मागणीनुसार	३२	३२.३
९	कमिशनवर	२०	१३.३

सारणी क्र. १ चरून असे निदर्शनास येते की, ग्रंथालय समितीच्या सुचनेनुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण ७०.३ टक्के आहे. स्वतः ग्रंथपालांच्या सुचनेनुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण प्रमाण २२.७ टक्के आहे. वाचकांची मागणी नुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण प्रमाण १८.३ टक्के आहे. विद्यापीठाने निर्धारित केलेले वाचन साहित्यानुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण ३५.३ टक्के आहे. वाचनसाहित्याची किंमत नुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण १३.३ टक्के आहे. प्रचार्य यांच्या सुचनेनुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण ४० टक्के आहे. विभाग प्रमुखांच्या सुचनेनुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण ५६ टक्के आहे. ग्रंथ मागणीनुसार खरेदी करणा-या ग्रंथालयाचे प्रमाण ३२.७ टक्के आहे. कमिशनवर ग्रंथ खरेदी करणा-या ग्रंथालयाचे प्रमाण १३.३ टक्के आहे.

२. वाचन साहित्याच्या सुरक्षेसाठी उपाय योजना दर्शविणारी सारणी

ग्रंथालय व्यवस्थापनात ग्रंथालय सुरक्षेला एक विशेष स्थान आहे. ग्रंथालयाचे आपल्या सुरक्षेसाठी कोणकोणती उपाययोजना केली आहे.

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सारणी क्र. ०२

अ. क्र.	वाचन साहित्याचा सुरक्षेसाठी उपाय योजना प्रकार	संख्या	प्रमाण %
१	ग्रंथालयांच्या सर्व खिडक्यांना जाळ्या	३९	५२.००
२	सुरक्षा रक्षक	११	१४.६०
३	ग्रंथालय प्रवेश फक्त ओळखपत्र धारकांना	४६	६१.३३
४	आग प्रतिरोधक साधने	३०	४९.३३
५	CCTV ची सोय	३६	४८.०

सारणी क्र. २. चरून असे निदर्शनास येते की, महाविद्यालय ग्रंथालयात वाचन साहित्याचा सुरक्षेसाठी ग्रंथालयांच्या सर्व खिडक्यांना जाळ्या बसवणा-या ग्रंथालयाचे प्रमाण ५२ टक्के आहे. सुरक्षा रक्षक असणा-या ग्रंथालयाचे प्रमाण १४.६ टक्के आहे. ग्रंथालय प्रवेश फक्त ओळखपत्र धारकांना मिळत असणा-या ग्रंथालयाचे प्रमाण ६१.३ टक्के आहे. आग प्रतिरोधक साधने असणा-या ग्रंथालयाचे प्रमाण ४९.३ टक्के आहे. CCTV ची सोय असणा-या ग्रंथालयाचे प्रमाण ६४ टक्के आहे. वाचकून असे स्पष्ट होते की, ग्रंथालयात जास्त प्रमाणात उपयोगत असलेली पध्दती म्हणजे सर्व खिडक्यांना ओळखपत्र असणा-या विद्यार्थ्यांना ग्रंथालयात प्रवेश दिला जातो.

३. गहाळ झालेल्या वाचनसाहित्याविषयी कोणती कार्यवाही केली जाते याविषयी माहिती दर्शविणारी सारणी

प्रस्तुत संशोधनात महाविद्यालयात चालविल्या जाणा-या कला, वाणिज्य व विज्ञान अनुदानित विद्याशाखा असणा-या महाविद्यालय ग्रंथालयास गहाळ झालेल्या वाचनसाहित्याविषयी कोणती कार्यवाही केली जाते याचा शोध घेण्यात आलेला आहे.

सारणी क्र. ०३

अ. क्र.	गहाळ ग्रंथाविषयी कोणती कार्यवाही केली जाते	संख्या	प्रमाण %
१	ग्रंथपाल/ ग्रंथालय फर्माचारी याचेकडून भरपाई	१२	१६.००
२	संबंधीत वाचक	६३	८४.००
	एकूण	७५	१००

सारणी क्र. ३. चरून असे निदर्शनास येते की, महाविद्यालय ग्रंथालयात गहाळ

सारणी क. ०७

अ. क्र.	नियतकालिके	मराठी		इंग्रजी		हिंदी		उर्दू	
		संख्या	प्रमाण %	संख्या	प्रमाण %	संख्या	प्रमाण %	संख्या	प्रमाण %
१	दैनिके	७५	१००	१४	१८.७	१५	२०.०	१	१.३
२	साप्ताहिके	२९	३८.७	११	१४.७	९	१२.०	१	१.३
३	वारिके	१६	२१.३	४	५.३	४	५.३	०	०.०
४	मासिके	४०	५३.३	१२	१६.०	१२	१६.०	४	५.३
५	त्रैमासिके	२५	३३.३	३	४.०	३	४.०	०	०.०
६	अर्धवारिके	१२	१६.०	३	४.०	१	१.३	०	०.०
७	वार्षिके	१०	१३.३	३	४.०	१	१.३	०	०.०

सारणी क. ७. बरून निदर्शनात येते की, मराठी भाषेची दैनिके असलेल्या महाविद्यालय प्रबंधालाची संख्या ७५ असून त्याचे प्रमाण १०० टक्के आहे. तर सर्वात कमी वार्षिके संख्या १० आहे. त्याचे प्रमाण १३.३ टक्के आहे. इंग्रजी भाषेची दैनिके असलेले प्रबंधाले १४ असून त्याचे प्रमाण १८.७ टक्के आहे. मैसारीके संख्या ०३ असून त्याचे प्रमाण ४ टक्के आहे. हिंदी भाषेची दैनिके असलेले प्रबंधाले १५ असून त्याचे प्रमाण २० आहे तर सर्वात कमी अर्धमासिके मागविणा-या प्रबंधालाची संख्या ०१ आहे व वार्षिके मागविणा-या प्रबंधालाची संख्या ०१ असून त्याचे प्रमाण १.३ टक्के आहे. उर्दू भाषेची मासिके असलेल्या महाविद्यालय प्रबंधालाची संख्या ०४ आहे त्याच प्रमाण ५.३ टक्के आहे. तसेच साप्ताहिके मागविणा-या प्रबंधालाची संख्या ०९ आहे. पार्षिके ०१ आहे, मैसारीके ० आहे, अर्धमासिके संख्या ० आहे व वार्षिके संख्या ० आहे.

८. ग्रंथ पडताळणी कालावधी दर्शविणारी सारणी

प्रस्तुत संशोधनात महाविद्यालयात चालविल्या जाणा-या कला, वाणिज्य व विज्ञान अनुदानित विद्याशाखा अधणा-या महाविद्यालय प्रबंधालाच्या ग्रंथ पडताळणी कालावधीचा शोध घेण्यात आलेला आहे.

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अ. क्र.	प्रबंधालाच्या ग्रंथ पडताळणी कालावधी	संख्या	प्रमाण %
१	एक वर्ष	६	८.०
२	दोन वर्ष	५	८.०
३	तीन वर्ष	९	१२.०
४	चार वर्ष	२	२.७
५	पाच वर्ष	१८	२४.०
६	अद्याप काल्यात आली नाही	२०	२६.६

सारणी क. ८. बरून असे निदर्शनात येते की, प्रस्तुत विद्यापीठाअंतर्गत महाविद्यालय प्रबंधालाची एक वर्षाचा ग्रंथ पडताळणी करणा-या प्रबंधालाचे प्रमाण ८ टक्के आहे, दोन वर्षाचा ग्रंथ पडताळणी करणा-या प्रबंधालाचे प्रमाण ८ टक्के आहे, तीन वर्षाचा ग्रंथ पडताळणी करणा-या प्रबंधालाचे प्रमाण १२ टक्के आहे.

९. प्रबंधालातील वाचनसाहित्याचे व्यवस्थापन करीत असताना येणा-या समस्या दर्शविणारी सारणी

प्रस्तुत संशोधनात महाविद्यालयात चालविल्या जाणा-या कला, वाणिज्य व विज्ञान अनुदानित विद्याशाखा अधणा-या महाविद्यालय प्रबंधालातील वाचनसाहित्याचे नियोजन करीत असताना येणा-या समस्यांचा शोध घेण्यात आलेला आहे.

सारणी क. ०९

अ. क्र.	वाचनसाहित्याचे नियोजन करीत असताना येणा-या समस्या	प्रबंधालाची संख्या	प्रमाण %
१	वाचनसाहित्य खरेदी करीत असताना प्रबंधालाचे मत विचारात घेतले जात नाही	१५	२०.०
२	ग्रंथ हे जास्त कमीशन वर खरेदी केले जाताना	२६	३४.७
३	प्रबंधालात विद्यार्थी व शिक्षकांचे नोंदून घेत नाही	१२	१६.०
४	ग्रंथ पडताळ घेण्याचे प्रमाण जास्त आहे.	३६	४८.०

सारणी क. ९. बरून असे निदर्शनात येते की, प्रस्तुत विद्यापीठाअंतर्गत महाविद्यालय प्रबंधालात वाचनसाहित्य खरेदी करीत असताना प्रबंधालाचे मत विचारात घेतले जात नाही अशा प्रबंधालाचे प्रमाण २० टक्के आहे. ग्रंथ हे जास्त कमीशन वर खरेदी केले

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जागत असा ग्रंथालयाने प्रमाण ३४.७ टक्के आहे.

निष्कर्ष :

१. ७०.७ टक्के ग्रंथालयाने ग्रंथालय समितीच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
२. २२.७ टक्के ग्रंथालयांनी स्वतः ग्रंथपालांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
३. ५८.७ टक्के ग्रंथालयांनी वाचकांच्या मागणी नुसार वाचन साहित्य खरेदी केले आहे.
४. ४५.३ टक्के ग्रंथालयांनी विद्यार्थ्यांसाठी निघारित केलेले वाचन साहित्य खरेदी केले आहे.
५. १३.३ टक्के ग्रंथालयांनी वाचनसाहित्याच्या किंमतीनुसार वाचनसाहित्य खरेदी केले आहे.
६. ४०.०० टक्के ग्रंथालयांनी प्राध्यापकांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
७. ५१.०० टक्के ग्रंथालयांनी विभाग प्रमुखांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
८. ४२.७ टक्के ग्रंथालयांनी ग्रंथ मागणीनुसार वाचन साहित्य खरेदी केले आहे.
९. ५२ टक्के ग्रंथालयात वाचन साहित्याच्या सूर्येसाठी ग्रंथालयांच्या सर्व विद्यार्थ्यांना जाळ्या बसवण्यात आल्या आहेत.
१०. १४.७ टक्के ग्रंथालयात सुरक्षा रक्षक आहेत.
११. ६१.३ टक्के ग्रंथालयात प्रवेश फक्त ओळखपत्र धारकांना दिले जात आहे.
१२. ४९.३ टक्के ग्रंथालयात आग प्रतिरोधक साधने कापरली जात आहेत.
१३. ६४ टक्के ग्रंथालयात CCTV ची सोय आहे.
१४. १३.३ टक्के ग्रंथालयात पुस्तक गहाळ झाल्यास ग्रंथपाल/ ग्रंथालय कर्मचारी यांचेकडून भरपाई केली जाते.
१५. ८४ टक्के ग्रंथालयात संबंधीत वाचक यांचेकडून पुस्तक गहाळ झाल्यास भरपाई केली जात आहे.
१६. ७०.३ टक्के ग्रंथालयांनी वाचन साहित्याची पडताळणी केली आहे.
१७. १०.७ टक्के ग्रंथालयांनी बारकोड नुसार पडताळणी केली आहे.
१८. ६६.७ टक्के ग्रंथालयांनी वॅन्यूअल नुसार पडताळणी केली आहे.



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१९. २२.७ टक्के ग्रंथालयांनी अद्यापही पडताळणी करण्यात आली नाही.
२०. ५३.७३ टक्के ग्रंथालयांनी ई-बुक व ई-जर्नल वा वापर केला आहे.
२१. ४६.६७ टक्के ग्रंथालयांनी ई-बुक व ई-जर्नल वा वापर केला नाही.
२२. सर्वात जास्त म्हणजेच ११.२२ टक्के ग्रंथ संख्या सन २०१०-२०११ या वर्षात वाढली आहे.
२३. सर्वात कमी म्हणजेच ७.२८ टक्के ग्रंथ संख्या सन २०१५-२०१६ या वर्षाची आहे.
२४. १३.१८ टक्के सर्वात जास्त ग्रंथ खर्च सन २००९-२०१० या वर्षात आहे.
२५. ५.७० टक्के सर्वात कमी ग्रंथ खर्च सन २०१९-२०२० या वर्षात आहे.
२६. १.०० टक्के ग्रंथालयात मधारी भाषेची दैनिके आहेत.
२७. १३.३ टक्के ग्रंथालयात सर्वात कमी वार्षिके आहेत.
२८. १८.७ टक्के ग्रंथालयात इंग्रजी भाषेची दैनिके मागवले आहेत.
२९. ४ टक्के ग्रंथालयात ईभाषीचे मागवले आहेत.
३०. २० टक्के ग्रंथालयात हिंदी भाषेची दैनिके मागवले आहेत.
३१. १.३ टक्के ग्रंथालयात सर्वात कमी अर्धवार्षिके आहेत.
३२. १.३ टक्के ग्रंथालयात वार्षिके आहेत.
३३. ५.३ टक्के ग्रंथालयात उर्दू भाषेची मागणी आहेत.
३४. १४.७ टक्के ग्रंथालयात ग्रंथ गहाळ झाल्यास केंद्र मूळ किंमत व दंड वसूल केली आहे.
३५. ७४.७ टक्के ग्रंथालयात ग्रंथ गहाळ झाल्यास मूळ किंमत व दंड वसूल केला जातो.
३६. ३४.७ टक्के ग्रंथालयात ग्रंथ गहाळ झाल्यास पर्यायी प्रत दिवकारली जात आहे.
३७. ८ टक्के ग्रंथालयांनी एक वर्षात ग्रंथ पडताळणी केली जाते.
३८. ८ टक्के ग्रंथालयांनी दोन वर्षात ग्रंथ पडताळणी केली आहे.
३९. १२ टक्के ग्रंथालयांनी तीन वर्षात ग्रंथ पडताळणी केली आहे.
४०. २.७ टक्के ग्रंथालयांनी चार वर्षात ग्रंथ पडताळणी केली आहे.
४१. २४ टक्के ग्रंथालयांनी पाच वर्षात ग्रंथ पडताळणी केली आहे.
४२. ३६ टक्के ग्रंथालयांनी ग्रंथ पडताळणी अद्यापही करण्यात आली नाही.
४३. २० टक्के ग्रंथालयात वाचनसाहित्य खरेदी करताना ग्रंथपालांचे मात विचारात घेतले जात नाही.

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४४. ३४.७ टक्के ग्रंथालयांनी ग्रंथ हे भारत कमीशन वर खरेदी केले आहे.
४५. १६ टक्के महाविद्यालयातील कार्यालयांनी विद्यार्थी व शिक्षकांचे नोंदून घेतले नाहीत.
४६. ४८ टक्के ग्रंथालयांचे ग्रंथ गहाळ होण्याचे प्रमाण जास्त आहे.
- शिफारसी :
- महाविद्यालयातील ग्रंथालयात राष्ट्रीय व आंतरराष्ट्रीय स्तरावरील नियतकालिके उपलब्ध केले जावेत.
 - महाविद्यालयाच्या व्यवस्थापकांनी ग्रंथालयाची निगडित वाचनसाहित्य व इतर साहित्यांची खरेदी करताना वेळेवेळी ग्रंथपालांशी विचारविनिमय करूनच निर्णय घ्यावेत.
 - ग्रंथालयांनी वाचकांच्या मागणी नुसार वाचन साहित्य खरेदी करावेत.
 - ग्रंथालयांनी ई-बुक्स व ई-जर्नल्स चा वापर करावा.

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- महाजन, शांताराम, (२००१) ग्रंथालय संदर्भ सेवा, पुणे, विद्यार्थी प्रकाशन.

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CONTENT ANALYSIS AN OVERVIEW

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ABSTRACT- Content analysis is a method for analyzing the content of a variety of data, such as visual and verbal data. It enables the reduction of phenomena or events into defined categories so as to better analyze and interpret them. This paper provides an overview of content analysis from a marketing perspective. The basic concepts and techniques are presented for operational content analyses. As a methodology, it can be both qualitative, usually in developmental stages of research, and quantitative where it is applied to determine frequency of phenomena. Thus, it lends itself to the use of computers to analyze data and, therefore, some of the main packages currently available to researchers are mentioned. The benefits and limitations of adopting content analysis are discussed along with an introduction to sequential analysis, a complementary approach which may be used to enhance understanding and strengthen research design

Keywords: Content Analysis, Formulation of Content, Qualitative, Studies using content analysis

Introduction: Content Analysis is described as the scientific study of content of communication. It is the study of the content with reference to the meanings, contexts and intentions contained in messages. The term Content Analysis is 75 years old, and Webster's Dictionary of English language listed it since 1961. "Content analysis of the manifest and latent content of a body of communicated material (as a book or journal) through a classification, tabulation, and evaluation of its key symbols and themes in order to ascertain its meaning and probable effect." Content analysis is essentially a systematic analysis of the occurrence of words, phrases, concepts, and so on in books, films, and other kinds of materials. (ALA Glossary of Library and Information Science, 1983). Content analysis is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyze the presence, meanings and relationships of such words and concepts, then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language.

Review of Literature : In 1952, Bernard Berelson published Content analysis in Communication Research, which heralded recognition for the technique as a versatile tool for social science and media researchers. Some scholars adopted it for historical and political research as well (Holsti, 1968). However, the method achieved greater popularity among social science scholars as well as a method of communication research (Wimmer and Dominick, 1994:163). The development of content analysis as a full-fledged scientific method took place during World War II when the U.S. government sponsored a project under the directorship of Harold Lasswell to evaluate enemy propaganda. The resources made available for research and the methodological advances made in the context of the problems studied

under the project contributed significantly to the emergence of the methodology in content analysis. One of the outcomes of the project, the book entitled *Language of Politics* published in 1940s (Lasswell et. al. 1965), still remains a classic in the field of content analysis. Later on, the method spread to other disciplines (Woodrum, 1984).

1. Definition And Need of Content Analysis : Content denotes what is contained and content analysis is the analysis of what is contained in a message. Broadly content analysis may be seen as a method where the content of the message forms the basis for drawing inferences and conclusions about the content (Nachmias and Nachmias, 1976). Further, content analysis falls in the interface of observation and document analysis. It is defined as a method of observation in the sense that instead of asking people to respond to questions, it "takes the communications that people have produced and asks questions of communications" (Kerlinger, 1973). Therefore, it is also considered as an unobtrusive or non-reactive method of social research.

According to Berelson (1952) content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication. Holsti (1968) says that it is any technique for making inferences by systematically and objectively identifying specified characteristics of messages. Kerlinger (1986) defined content analysis as a method of studying and analyzing communication in a systematic, objective, and quantitative manner for the purpose of measuring variables.

Krippendorff (1980) defined content analysis as a research technique for making replicable and valid inferences from data to their context. As for Weber (1985) it is a research methodology that utilizes a set of procedures to make valid inferences from text. These inferences are about sender(s) of message, the message itself, or the audience of message. According to Stone, content analysis refers to any procedure for assessing the relative extent to which specified references, attitudes, or themes permeate a given message or document.

In short the content Analysis is if the method show emphasis placed on aspects such as system, objectivity, quantification, context and validity - with reference to the inferences drawn from the communication content about the sender, the message or the receiver of the message. Thus, content analysis is all about making valid of aspects.

Every human and relating to their work as well as in research criteria problem solving activities content analysis is used as method of Social Science Research replicable and objective inferences about the message on the basis of explicit rules. The material for the content analysis can be letters, diaries, newspaper content, folk songs, short stories, messages of Radio, Television, documents, texts or any symbols.

3. Basic Principles of Content Analysis :

3.1 . Objectivity: Which means that the analysis is pursued on the basis of explicit rules, which enable different researchers to obtain the same results from the same documents or messages.

3.2 Systematic: The inclusion or exclusion of content is done according to some consistently applied rules where by the possibility of including only materials which support the researcher's ideas – is eliminated.

3.3 Generalizability: The results obtained by the researcher can be applied to other similar situations.

4. Usefulness of Content Analysis: Though scholars from various disciplines such as social sciences, communications, psychology, political science, history, and language studies use content analysis, it is most widely used in social science and mass communication research. It has been used broadly to understand a wide range of themes such as social

change, cultural symbols, changing trends in the theoretical content of different disciplines, verification of authorship, changes in the mass media content, nature of news coverage of social issues or social problems such as atrocities against women, dowry harassment, social movements, ascertaining trends in propaganda, election issues as reflected in the mass media content, and so on.

One of its most important applications has been to study social phenomenon such as prejudice, discrimination or changing cultural symbols in the communication content. For example, Berelson and Salter (1948) in their classic content analysis study highlighted the media under-representation of minority groups. They studied prejudice – a consistent discrimination against minority groups of Americans - in popular magazine fiction. They content analyzed 198 short stories published in eight of the popular magazines during the period 1937-1943 and discussed their findings under the broad categories such as the distribution of characters, their role, appearance, status and their goals which the authors further classified as 'head' goals and 'heart' goals.

One of the most frequent uses of the content analysis is to study the changing trends in the theoretical content and methodological approaches by content analyzing the journal articles of the discipline (Loy, 1979). Using this approach, Vijayalakshmi et al. (1996) analyzed a stratified random sample of 194 research articles published in the Indian Journal of Social Work from 1971 to 1990 to identify characteristics of authors, and document the trends in empirical content, subject areas, and methodological characteristics such as source of data, research design, sampling, and statistical techniques used in the articles. Similarly, public attitude towards important issues such as civic amenities, unemployment and so on were assessed by analyzing the content of editorials or letters to the editor in newspapers (Devi Prasad 1992). As a known unobtrusive research method, content analysis is sometimes used to study sensitive topics to corroborate the findings arrived at by other methods.

Content analysis has also been used to ascertain trends in the communication content of dailies, weeklies, cartoons, and coverage of development news, political news and crime news. The news items, letters to the editor, and editorials of four selected dailies in India. Content Analysis use to study of the coverage of development news. Political science researches have used the method to analyze the propaganda devices also used. Other important applications of the method were systematic analyses of advertisements in newspapers and magazines to draw useful inference on national culture, as well as media preferences of advertisers). Similarly, television, radio, and movies offer rich sources of material for content analysis.

5. Importance Of Content Analysis :

- 5.1. It the impressionistic observations about the phenomena and can help in make a quantitative expression about the phenomenon
- 5.2. It is an unobtrusive research technique useful to study sensitive research topics.
- 5.3. It is context-sensitive and therefore can process symbolic meanings of data as a quantitative method and effectively qualitative content
- 5.4. It is a safe method in the sense that if the researcher found that a portion of the necessary information.
- 5.5. It can deal with large volumes of data.
- 5.6. It is a shoestring methodology,

6. More specifically usually involve the following six steps:

- 6.1. Formulation of the research question or objectives
- 6.2. Selection of communication content and sample
- 6.3. Developing content categories
- 6.4. Finalizing units of analysis
- 6.5. Preparing a coding schedule, pilot testing and checking inter coder reliabilities
- 6.6. Analyzing the collected data

7. Formulation of the research questions or objectives :

As mentioned earlier, by making a clear statement of the research question or objective, the researcher can ensure that the analysis focuses on those aspects of content, which are relevant for the research. Content analysis is a method for analyzing textual content. Therefore, the selection of topic should be one that can be answered by analyzing the appropriate communication content.

8. Content Analysis as a communication content : The next step would be to locate relevant communication content to answer the research question and to determine the time period to be covered. If the body of content is excessive, then a sample needs to be worked out. Though sampling in content analysis is not so much different from sampling in surveys, because of the unique nature of the source material used in this method, there developed some special sampling techniques for content analysis. Thus, depending upon the nature of the communication content – whether it is a new item, editorial, short story or a TV serial – the sampling techniques differ.

9. Developing Content Base Subject categories: Content Analysis defined as compartments or "pigeon holes" with explicitly stated boundaries into which the units of content are coded for analysis. It flow from the research question and should be anchored in a review of relevant literature and related studies. Content categories are constructed in response the first step in category construction is preliminary examination of the communications by the researcher on a small-scale or as a pilot study so that such examination will result in the identification of possible content categories into which material can be coded. Usually one experiments with several categories before finalizing a set of categories that can be used for the study.

10. Conclusion

Content analysis is a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyze the presence, meanings and relationships of such words and concepts, then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are a part. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language. Texts in a single study may also represent a variety of different types of occurrences

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कोरोना विषाणूचा भारतीय अर्थव्यवस्थेवर झालेला परिणाम

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कोणत्याही देशाची अर्थव्यवस्था मुख्यवस्थितपणे चालण्यासाठी अनेक घटक जबाबदार असतात. यापैकी कोणत्याही एका घटकामध्ये जरी बदल झाला तरी संपूर्ण अर्थव्यवस्थेवर त्याचा परिणाम पहावयास मिळतो. कोरोना विषाणू हा देखील त्यापैकी एक महत्त्वाचा आणि जबाबदार घटक आहे. कारण अचानक उदभवलेल्या या अवस्थेमुळे विकसनशील देशच नाही तर जगातील महाशक्तीशाली, आर्थिक महासत्तेत अग्रेसर असलेल्या देशावर देखील भीतीचे आणि मदिचे ताबट पसरलेले आहे. या विषाणूचा प्रभाव किती काळ राहणार आहे हे सांगणे अशक्य आहे. या शोधनिबंधाच्या माध्यमातून कोरोना विषाणूचा भारतीय अर्थव्यवस्थेवर काय परिणाम झाला आहे याचा अभ्यास करण्याचा प्रयत्न या शोधनिबंधाच्या माध्यमातून करण्यात आलेला आहे.

प्रस्तावना:

कोणत्याही देशाची अर्थव्यवस्था पूर्णपणे ठप्प झाल्यास त्या देशाला बऱ्याच संकटांना सामोरे जावे लागते. तसेच त्या देशाच्या अर्थव्यवस्थेवर आलेल्या संकटाचे विपरीत असे परिणाम त्या आणि इतर देशांच्या अर्थव्यवस्थेवर पहावयास मिळतात. अशा होणाऱ्या परिणामांचा अभ्यास तीन दृष्टीकोनातून करता येईल. तो म्हणजे सामाजिक, आर्थिक आणि राजकीय.

चीन देशातील वुहान प्रातांमधून ३१ डिसेंबर २०१९ ला पसरलेल्या या कोरोना महामारीने अवघ्या २ - ३ महिन्यामध्येच जागतिक अर्थव्यवस्था खिळखिळी केली आहे. या देशामधून पसरलेल्या विषाणूने १९० पेक्षाही जास्त देशांमध्ये श्रैमान मांडले आहे. अशा अचानक आणि अनपेक्षितपणे उद्भवलेल्या या संकटाचे जागतिक अर्थव्यवस्थेवर दूरगामी परिणाम झाल्याविना राहणार नाहीत. या विषाणूने जगभरातील आर्थिकदृष्ट्या प्रगत आणि सक्षम असलेल्या देशांची अर्थव्यवस्था पूर्णपणे ठप्प केली आहे. संपूर्ण जगभर या विषाणूची लागण झालेले रुग्ण दररोज सापडत आहेत व विषाणूमुळे बाधित रुग्णांची संख्या दिवसेंदिवस वाढतच चालली आहे. तसेच या विषाणूमुळे मृतांचा आकडाही सातत्याने वाढताना दिसत आहे.

या विषाणूच्या विळख्यामध्ये बरेच देश सापडलेले असतानाच संबंधित राष्ट्रांनी त्यांचे अंतर्गत आर्थिक हालचाली आणि इतर देशांशी असलेले आर्थिक व्यवहार पूर्णपणे थांबले आहेत. अंतर्गत दळणवळण, कंपन्यामधील उत्पादन प्रक्रिया, बँकांचे आर्थिक व्यवहार, या सर्वांवर परिणाम झाला आहे. तसेच राष्ट्रीय आणि

आंतरराष्ट्रीय स्तरावरील हवाई आणि जल वाहतूक पूर्णपणे ठप्प झालेली आहे. या सर्व बाबींचे जागतिक अर्थव्यवस्थेवर फार मोठे दीर्घकालीन आणि नकारात्मक परिणाम झालेले दिसून येत आहे.

कोरोना विषाणूचा भारतीय अर्थव्यवस्थेवर होणाऱ्या परिणामांचा अभ्यास तीन दृष्टिकोनातून करता येईल. तो म्हणजे आर्थिक परिणाम, सामाजिक परिणाम आणि राजकीय परिणाम. या शोधनिबंधाच्या माध्यमातून कोरोना विषाणूचा भारतीय अर्थव्यवस्थेवर काय परिणाम झाले आहेत आणि त्याचे प्रत्यक्ष आणि अप्रत्यक्ष परिणामांचा अभ्यास याठिकाणी केला जाणार आहे.

कोरोना महामारीमुळे भारतीय अर्थव्यवस्था ही मोठ्या प्रमाणावर प्रभावित झाली आहे. भारतीय सांख्यिकीय कार्यालयाच्या आकडेवारीनुसार आर्थिक वर्ष २०१९-२० मधील भारतातील राष्ट्रीय उत्पन्न - ५.७८% आहे,¹ जे कि गतवर्षाच्या तुलनेत ९.८७% ने कमी असून, देशांच्या इतिहासातील सर्वात खराब आर्थिक आकुंचन आहे. या आकडेवारीवरून आपल्या लक्षात येईल कि कोरोनामुळे भारत आर्थिकदृष्ट्या किमी मागे ढकलला गेला आहे. या रोगाचा प्राथमिक, दुय्यम आणि तृतीय क्षेत्रावर परिणाम झालेला दिसून येतो. खालील मुद्यांच्या आधारे कोरोनाचा भारतीय अर्थव्यवस्थेवर झालेल्या परिणामांचा अभ्यास करता येईल.

कोरोना विषाणूमुळे भारतीय अर्थव्यवस्थेवर झालेले परिणाम:

1. औद्योगिक उत्पादनामध्ये तात्पुरता खंड:

कोणत्याही वस्तू उत्पादित करणाऱ्या उद्योगामध्ये उत्पादनासाठी भूमी, मानव व कच्चा मालाचा वापर करावा लागतो. भारतात संपूर्ण लॉकडाउन लागू केल्यामुळे औद्योगिक वसाहतीत मानवी श्रमाची ये-जा बंद झाली. त्यामुळे ज्या कारखान्यात श्रमाच्या साहाय्याने उत्पादन होत होते त्यामध्ये खंड पडला. देशात अचानकपणे संपूर्ण लॉकडाउन लागल्यामुळे उत्पादन प्रक्रियेमध्ये असणारा अर्धपक्का माल व अंशतः प्रक्रिया झालेला माल हा उत्पादन साखळीत अडकला. त्यामुळे असा अर्धपक्का माल बाया गेला. असा अर्धपक्का माल जर नाशवंत होणारा असल्यास उत्पादन प्रक्रियेमध्ये त्या मालाचा परत उपयोग करून घेता येणार नाही. अशा मालाचे नुकसान उद्योग व्यवसायालाच सहन करावे लागले, आणि तसेच मर्यादित अशा नैसर्गिक साधनसामग्रीचा देखील नाश झाला.

2. मोठ्या प्रमाणावर बेरोजगारी आणि स्थलांतरितांची संख्या:

भारत स्वातंत्र्याच्या अगोदरपासूनच गरीबी, भ्रष्टाचार, रोजगारीचा कमी दर अशा अनेक समस्यांना तोंड देत आलेला आहे. स्वातंत्र्योत्तरकाळात भारताने बरीच प्रगती केली. बऱ्याच मोठ्या शहरांमध्ये औद्योगिक वसाहती, कारखाने स्थापन झाले. त्यामुळे कालांतराने बेरोजगारीचा प्रश्न बऱ्याच मोठ्या प्रमाणावर सुटला. पण वाढत्या लोकसंख्येला काम देणे सरकारला देखील शक्य झाले नाही. खाजगी कारखानदार आणि उद्योजकांनी वाढत्या लोकसंख्येला काम देऊन रोजगारीच्या दरात काही प्रमाणात सुधारणा केली.

पण कोरोना महामारीमुळे देशातील प्रत्येक प्रमुख मोठ्या व छोट्या शहरांमध्ये लॉकडाऊन लागल्यामुळे प्रत्येक क्षेत्रातील उत्पादन प्रक्रिया अचानक बंद पडली. याचा सर्वात मोठा फटका हा स्थलांतरित मजुरांना बसलेला आहे. २०११ च्या जनगणनेनुसार, शेवटचे निवासस्थान' निकषानुसार भारतात ४५० दशलक्ष देशांतर्गत स्थलांतरित होते, अशा प्रकारे एकूण लोकसंख्येच्या ३७.७ % संख्या ही फक्त स्थलांतरितांची

होती.³ आर्थिक सर्वेक्षण २०१६-१७ नुसार भारतात आंतरराज्य स्थलांतरितांची संख्या ६ कोटी आणि आंतर-जिल्हा स्थलांतरित लोकसंख्या ८ कोटी असल्याचा अंदाज आहे.⁴ २०२० मध्ये अंदाजे १० लक्ष स्थलांतरित मजुर आणि कामगारांच्या हाती असलेला रोजगार त्यांना गमवावा लागला आणि स्वतः च्या मूळगावी परत जावे लागले. ज्या ठिकाणी त्यांना दररोज मिळणारी मजुरी तर सोडाच पण एक वेळचे जेवण मिळणे देखील कठीण झाले. या ठिकाणी महत्वाची बाब म्हणजे राज्य किंवा केंद्र शासन यांच्याकडे कोरोना काळात स्थलांतरित झालेल्या मजुर आणि कामगारांसंबंधीचे आकडे देखील उपलब्ध नाहीत.

उद्योगामध्ये कोणत्याही स्वरूपाची हालचाल होत नसल्यामुळे औद्योगिक क्षेत्रामध्ये काम करणाऱ्या कर्मचाऱ्यांच्या उपजीविकेचा प्रश्न निर्माण झाला. कारण खाजगी व्यवसाय संस्था आणि उद्योजकांनी कामावरून कमी केलेल्या कर्मचारी वर्गास कोरोना काळात वेतन दिले नाही किंवा फारच कमी वेतन दिले. तसेच लॉकडाऊनच्या कालावधीमध्ये सातत्याने वाढ करण्यात आल्यामुळे कामावर रूजू असलेल्या कामगारांना परत त्यांच्या मुळ औद्योगिक संस्थेत कामवर घेतील किंवा नाही याची शाश्वती देखील नाही. त्यामुळे अशा अर्धकुशल कामगारांसमोर लॉकडाऊन नंतर रोजगारीचा गंभीर प्रश्न निर्माण होणार झाला यात काही शंका नाही.

3. वाहतूक व्यवस्था पूर्णपणे बंद:

कोणत्याही देशाच्या विकासामध्ये त्या देशात असणाऱ्या वाहतूक व्यवस्थेचा फार मोठा वाटा असतो. वाहतूक साधनामुळे कामगाराभिमुख उद्योगातील कच्च्या, पक्क्या मालाची आणि मजुरदारांची वाहतूक करण्याची जबाबदारी ही त्या उपलब्ध असणाऱ्या वाहतूक व्यवस्थेवर असते. देशात अचानकपणे लॉकडाऊन जाहिर केल्यामुळे मालाची वाहतूक करणारी वाहने ही आहे त्याच ठिकाणी थांबवण्यात आली. त्यामुळे त्या वाहनामध्ये असणारा कच्चा व पक्का माल त्याच ठिकाणी थांबविण्यात आला. नाशवंत माल हा आहे त्याच ठिकाणी खराब झाला. तसेच पक्का माल कालांतराने अंतिम ठिकाणी पोहचवण्यात आला.

4. वस्तुंचा काळाबाजार:

देशातील उत्पादन तात्पुरते बंद झाल्यामुळे व वाहतूक व्यवस्था ठप्प झाल्यामुळे जनतेला लागणाऱ्या अतिआवश्यक वस्तुंची माल वाहतूक करणे शक्य होत नाही. त्यामुळे जनतेला अतिआवश्यक वस्तुंची चणचण भासू लागली. यामध्ये बऱ्याच वेळेस व्यापारी, उद्योजक अतिआवश्यक व दैनंदिन लागणाऱ्या गरजेच्या वस्तुंची कृत्रिम टंचाई निर्माण करू लागले व त्यामुळे वस्तुंचा काळाबाजार होऊ लागल्याचे चित्र पाहावयाला मिळाले. तसेच देशात अचानक निर्माण झालेल्या परिस्थितीमध्ये अतिआवश्यक वस्तुंची मागणी वाढण्यास सुरुवात झाली. अशी अचानक वाढलेली मागणी कमी कालावधीत पूर्ण करणे उद्योगांना देखील शक्य हाईनासे झाले.

5. शेतीतील नाशवंत वस्तुंची गंभीर समस्या शेतकऱ्यांसमोर निर्माण झाली:

शेतीमधील फळे, फुले, पालेभाज्या यांचा कालावधी हा एक ते दोन दिवसांपासून एक आठवड्यापर्यंतच असतो. शेतामधील फळभाज्या, फुले हे देशात अचानक लॉकडाऊन जाहिर केल्यामुळे अशा नाशवंत वस्तु बाजारात ग्राहकापर्यंत पोहचू शकल्या नाही. कारण वाहतूक व्यवस्था हि पूर्णपणे थांबलेली होती. त्यामुळे शेतकऱ्याने बाजारातील भविष्यकालीन मागणीचा विचार करून नियोजनपूर्वक शेतमालाचे उत्पादन केले होते. पण लॉकडाऊन लागल्यामुळे शेती मालासाठी बाजारपेठ उपलब्ध न झाल्यामुळे शेतकऱ्याला असा माल

शेतामध्येच फेकून द्यावा लागला किंवा स्थानिक ठिकाणी कवडीमोल भावाने विकावा लागला. यामुळे शेतकऱ्यांना फार मोठ्या प्रमाणावर आर्थिक नुकसान सहन करावे लागले.

6. राष्ट्रीय उत्पानात घट:

कोणत्याही देशाची वर्षभरातील आर्थिक प्रगती मोजण्याचे एकक म्हणजे राष्ट्रीय उत्पन्न होय. राष्ट्रीय उत्पन्नावरून देशातील जनतेचे दरडोई उत्पन्न काढले जाते. पण कोरोना काळात देशातील जनतेचे उत्पन्न घटले, आणि पर्यायाने त्यांच्या खर्चांमध्ये देखील मोठी कपात पहावयास मिळाली. कारण जनतेला उत्पन्न मिळत नसल्यामुळे त्यांच्याकडे खर्च करण्यासाठी उत्पन्न शिल्लक राहत नव्हते. स्वातंत्र्यानंतरच्या काळात भारताच्या राष्ट्रीय उत्पन्नामध्ये चार वेळेस घट पहावयास मिळाली आणि यामधील सर्वात मोठी घट सन १९८० या वर्षांमध्ये पहावयास मिळाली.^१ तसेच देशाच्या इतिहासामधील दुसरी मोठी आर्थिक पडझड सन २०२०-२१ या वर्षात पहावयास मिळाली. या वर्षांमध्ये भारताचे राष्ट्रीय उत्पन्न - ५.७८% ने घटले आहे.^१ म्हणून या वर्षाला आर्थिक दृष्टिने बघितल्यास सर्वात खराब वर्ष म्हणावे लागेल.

7. जनता व मजुरदार वर्गावर उपासमारीची वेळ:

भारत हे एक विकसनशील राष्ट्र आहे. भारतात सध्या ८०% पेक्षा जास्त लोकसंख्या ही गरीब आहे. यामधील बरीच लोकसंख्या ही दारिद्र्य रेषेखालील जीवन जगत आहे. मोठ्या शहरातील औद्योगिक उत्पादन प्रक्रिया बंद झाल्यामुळे हातातील रोजगार गेला आणि उत्पन्न मिळणे बंद झाले. त्यामुळे बऱ्याच लोकसंख्येसमोर अशा परिस्थितीत रोजच्या दोन वेळच्या पोटाचा प्रश्न उभा राहिला. ज्या लोकांची उपजीविका दररोज मिळणाऱ्या उत्पन्नावर अवलंबून होती आता त्यांच्यावर उपासमारीची वेळ आली होती. याचे प्रमुख कारण हे औद्योगिक उत्पादन बंद पडणे, आर्थिक गतिविधी बंद पडणे, वाहतूक व्यवस्था कोलमडणे इ. आहेत. वाहतूक व्यवस्थेअभावी कामगारांना कामाच्या ठिकाणी ये जा देखील करता येत नाही.

8. गुन्हेगारीचे प्रमाण वाढले:

देशातील उद्योग तात्पुरते बंद पडल्यामुळे देशातील गोरगरीब मजुरदार वर्गासमोर रोजगारीचा मोठा प्रश्न निर्माण झाला. भारतात फार मोठ्या प्रमाणावर गरीब लोकसंख्या आहे आणि अशा लोकांच्या कुटुंबाची उपजीविका ही, दररोज मिळणारे काम व त्यापामून प्राप्त होणाऱ्या मजुरीवर अवलंबून आहे. बऱ्याच मजुरांना तर हंगामी काम मिळत असते आणि हंगाम संपल्यानंतर हे मजुर बेरोजगार होतात. अशा मजुरांना हाताला कामच मिळाले नाही तर हे लोक नाविलाजास्तव पोट भरण्यासाठी गुन्हेगारीच्या मार्गाचा अवलंब करू शकतात त्यामुळे देशांमध्ये गुन्हेगारीचे प्रमाण वाढण्याची शक्यता असते.

१५ सप्टेंबर २०२१ रोजी प्रकाशित नॅशनल क्राईम रेकॉर्ड ब्युरो (NCRB) च्या क्राइम इन इंडिया २०२० नुसार देशातील गुन्हांच्या एकूण संख्येत वर्षभरात २८% वाढ झाली आहे.^५ ही वाढ सार्वजनिक सेवकाने जारी केलेल्या आदेशाचे जनतेने पालन न केल्यामुळे झालेली आहे ही बाब देखील लक्षात घ्यावी लागेल. NCRB च्या अहवालानुसार २०२० मध्ये संपूर्ण भारतात एकूण ६१२,१७९ प्रकरणे नोंदवण्यात आली. गत वर्षाच्या तुलनेत यामध्ये २० पट वाढ झालेली आहे.

वरील सर्व बाबींचा विचार केल्यास असे जाणवते कि, भारतीय अर्थव्यवस्थेला या संकटामधून सावरण्यासाठी बराच अवधी लागणार आहे, अशी अचानक येणारी संकटे समाजासमोर, अर्थव्यवस्थेसमोर, देशासमोर अनेक आव्हाने उभी करतात. कोरोना महामारी, मजुरांचे स्थलांतर, उद्योगाचे कमी उत्पादन, यामुळे देशाची अर्थव्यवस्था ही १५ वर्षे मागे जाणार आहे, असे मत विद्यापीठातील संशोधक प्राध्यापकाने व्यक्त केले आहे.⁶ त्यामुळे येणाऱ्या काळात भारत देश कशाप्रकारे या संकटाला सामोरे जाईल हे एक आव्हान देशासमोर आहे.

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SEASONAL VARIATION STATUS OF HARSOOL DAM, AURANGABAD, (M.S.) INDIA.

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Abstract:

It is estimated that 20% of the world population would live in countries affected by chronic water shortage, about 75% of the Earth freshwater held in ice sheets and mountain glaciers. Glaciers serve as a natural regulator of regional water supplies. Analyses of Physico-chemical parameters of water are essential for irrigation, drinking, bathing, fishing, industrial processing, etc. The study of water quality deals with the physical, chemical, and biological characteristics that provide current information on various parameters directly linked with human welfare. Water analysis is essential to preserve and protect the natural ecosystem, which depends on the existing meteorological conditions of the area and the chemical properties of the water. The present study deals with assessing the water quality, seasonal variations, and Correlation between parameters of Harsool Dam at Aurangabad [M.S.] India. The Physico-chemical characteristics were studied and analyzed during July 2008 - June 2009. The results revealed that the condition of these dam in various seasons concerning the parameters.

Keywords: water quality, seasonal variations and Harsool Dam.

INTRODUCTION

Aquatic ecosystems are essential components of the global environment. Not only do they make a significant contribution to biodiversity and ecological productivity, but they also offer a variety of services for the human population. However, freshwater ecosystems are in crisis. They have been mined more than ever and remain as fast as terrestrial or marine ecosystems. Water is an essential resource for all types of life on earth and critical to the sustainability of the earth's ecosystem. Any chemical, biological or physical change in water quality that damages a living organism or renders the water unsuitable for its intended use is water contamination. Freshwater is essential for human health. Agriculture, natural ecosystem, and industry. Rapid population growth, rising living standards in urban areas, and industrialization have led to an increased demand for high-quality water. Water covers approximately 71% of the earth's surface. It is crucial to study the physicochemical factors that affect the biological productivity of the water body (Shinde et al, 2010).

Limnology is an interdisciplinary science that includes various specific areas and laboratory studies to understand the structural and functional aspects and problems of the freshwater environment from a holistic perspective (Adoni et al, 1985). Aquatic biodiversity is primarily threatened by human abuse and mismanagement of biological resources and the ecosystems that support them. Most of the reservoirs are contaminated by household waste, sewage, industrial and agricultural wastewater (Shiddamallayya and Pratima, 2008, Shekhar et al, 2008). The assessment of water quality generally includes an analysis of the physical-chemical and biological parameters and a reflection on the abiotic and biotic state of the ecosystem (IAAB, 1998, Kushrestha and Sharma, 2006 and Mulani et al, 2009).

The quality of the water depends on the extremes of the respective water. For example, water suitable for agriculture may not be ideal for recreational purposes. Drinking water may not suit some demanding industrial applications, such as in the chemical and pharmaceutical industries. Therefore, it is essential to maintain water quality based on the best-defined use of water (Shinde et al. 2011).

Climatic conditions are different in India summer from February to May, Monsoon from June to September and winter from October to January. In tropical countries, there may be a direct link between the duration of the sun and the temperature. The present study conducted to assess the water quality of the Harsool Dam at Aurangabad [M.S.] in India, which is essential for human use in this environment. Residents use the water for drinking, domestic, agricultural, and recreational purposes.

MATERIAL AND METHODS

Water samples were taken for physicochemical analysis at the Harsool Dam in Aurangabad [M.S.], India, early in the morning between 8:00 and 11:00 in the first week of each month from July 2008 - June 2009. Samples were collected in an acid-washed five-liter plastic container at a 5 to 10 cm depth below the water's surface. Separate samples were collected to dissolve the oxygen in 250 ml bottles, and the dissolved oxygen was fixed in the field by adding an alkaline iodide-azide solution immediately after collection. The samples were analyzed directly and returned to the laboratory.

The status of the Dam water quality has been determined seasonally, that is, summer, monsoon, and winter. Physicochemical properties such as Rainfall, Atmospheric and Water temperature, pH, dissolved oxygen (DO), Free Carbon Dioxide (CO₂), and Calcium have been seasonally determined in monthly variation in Site A. and B. using standard methods (APHA, 2005, Trivedi and Goel, 1987).

RESULT AND DISCUSSION

The water parameters were examined and recorded in three seasons: Summer, Monsoon, and Winter. The table shows seasonal data on the physicochemical parameters of the Harsool Dam in Aurangabad [M.S.] India. The present study deals with the physicochemical properties of the Harsool Dam at Aurangabad [M.S.] in India.

Rainfall

Table 1 and 2 shows that the rainfall values were ranged from 0 to 192mm. The average rainfall values were maximum in Monsoon 130.5±53.56 mm and minimum during winter 12.5±23.14 mm as recorded. In Harsool dam it was positively correlated with Calcium ($r=0.740$, $P<0.01$), Phosphates ($r=0.625$, $P<0.05$), Total dissolved solids ($r=0.602$, $P<0.05$).

The trophic, the amount of rainfall, plays a significant part in regulating the various seasonal biological rhythms. The change in the concentration of individual chemical constituents observed here consequent to the entrance of rainwater into the dams suggests its effects on them, which in turn influence and quality of plankton.

Atmospheric and Water temperature

Temperature is vital for its effects on specific chemical and biological activities in the organism attributing in aquatic media. The water temperature and air temperature were found to go more or less hand in hand. In the Indian subcontinent, most water bodies' temperature ranges between 7.8 °C - 38.5 °C (Singhal et al, 1986).

Table 1 and 2 shows that the atmospheric temperature values were ranged from 21°C to 33°C. The average atmospheric temperature values were maximum in summer 23±2.61 °C and minimum during winter 29±3.46 °C as recorded. The water temperature values ranged from 19 to 30 °C. The average water temperature values were maximum in summer 27±3.29 °C and minimum during winter 21.5±2.87 °C as recorded. In the Harsool dam, the water temperature was positively correlated to atmospheric temperature, while it was no negatively correlated.

The water temperature was always less than air temperature except during winter. Water temperature showed its maximum and minimum values in May and December. Similar trends in the benefits of atmospheric and water temperature noticed in the dam; further, the advocacy that water temperature closely follows the air temperature except for a short spell of winter when the water temperature is slightly higher than the air temperature is supported by Jayanti (1994) for the different water bodies studied by them.

pH

pH is the scale of intensity of acidity and alkalinity of water and measures the concentration of hydrogen ions. Most of the biological processes and biochemical reactions are pH-dependent. pH is considered as an indicator of overall productivity that causes habitat diversity (Minns, 1989).

Table 1 and 2 shows that the pH values ranged from 7.1 to 8.7. The average pH values were maximum in summer 8.05±0.42 and minimum during Monsoon 7.63±0.29 as recorded. In the Harsool dam, pH positively correlated with dissolved oxygen ($r=0.877$, $P<0.01$). No negative correlation was observed.

Barbieri et al. (1999) also observed the positive co-relation of pH with Calcium, magnesium, alkalinity, and negative co-relation with nitrates. Patil and Goudar, (1985) noticed the positive co-relation of pH with dissolved oxygen and conductivity and negative co-relation with phosphates. Zafar, (1966) observed that the pH of water appeared to be dependent upon the relative quantity of Calcium, carbonates, and bicarbonates. The water tended to be more alkaline when it possessed more significant amounts of these ions.

Dissolved Oxygen (DO)

Dissolved oxygen is one of the critical parameters for assessing water quality and reflects the biological and physical processes in the water. Its essential presence, the oxygen in the system in water to maintain a long natural life form, is mainly determined. Unpolluted surface water is usually saturated with dissolved oxygen.

Table 1 and 2 shows that the dissolved oxygen values were ranged from 9.9 to 12.8 mg/l. The average dissolved oxygen values were maximum in Monsoon 11.42±1.26 mg/l and minimum during summer 10.5±0.92 mg/l as recorded. In Harsool the dissolved oxygen has negative co-relation with carbon dioxide ($r=0.754$, $P<0.05$) and ($r=0.671$, $P<0.05$). The dissolved oxygen has positive correlation with pH ($r=0.877$, $P<0.01$).

Similar observations were also made by Patil and Goudar, (1985). They reported the existence of a positive correlation between DO and pH. Muragavel and Pandian, (2000) published a positive correlation between DO chlorides, Phosphates, and nitrates. These studies support our findings.

Free Carbon Dioxide (CO₂)

Carbon dioxide releases water and forms carbonic acid (H₂CO₃), which dissociates into H⁺ and HCO₃⁻ ions. It leads change pH water when the H⁺ ions are removed, and the HCO₃⁻ reacts with the calcium to form calcium carbonate, which is insoluble in water. If free carbon dioxide is not available, calcium carbonate is converted to insoluble calcium carbonate and lost to water.

Table 1 and 2 shows that the free carbon dioxide values were ranged from 4.2 to 9.7 mg/l. The average free carbon dioxide values were maximum in summer 8.42±0.98 mg/l and minimum during winter 6.07±1.57 mg/l as recorded. In Harsool

dam it showed positive correlation with water temperature ($r=0.610$, $P<0.05$), and negative co-relation with dissolved oxygen ($r=0.754$, $P<0.01$).

Calcium

Calcium is considered more critical because it is an integral part of plant tissue and increases the availability of other ions. The high calcium content in the lake sediments favors the growth of Mollusca. It is also required as a nutrient for various metabolic processes and helps in the correct translocation of carbohydrates and facilitates other ions. (Wetzel, 1975).

Table 1 and 2 shows that the Calcium values were ranged from 16.3 to 30.8 mg/l. The average Calcium values were maximum in winter 23.01 ± 2.97 mg/l and minimum during summer 17.11 ± 3.72 mg/l as recorded. In Harsool dam, calcium positively correlated with atmospheric temperature ($r=0.672$, $P<0.05$), and rainfall ($r=0.740$, $P<0.01$), with no negative Correlation observed.

Barbieri et al. (1999) reported that Calcium showed significant positive co-relation of Calcium with total hardness, TDS, and Magnesium. These studies support our findings.

CONCLUSIONS

The present study shows detailed research regarding the quality of water in Harsool Dam at Aurangabad [M.S] India. The summer, monsoon, and winter seasons show different seasonal fluctuations of the other physical-chemical parameters. During the present investigation, the observed interval is lower than the permitted limit values specified by the ISI, which indicates that the dam's water is suitable for consumption. Today dam water is helpful for drinking, irrigation, and fish farming. In the present study, it appears that the Correlation of the physicochemical parameters between them. To increase water quality, the level of contamination must be monitored continuously to maintain favorable conditions for the survival and reproduction of fish in the Harsool Dam in Aurangabad [M.S.], India.

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TABLE 1 SEASONAL VARIATIONS IN PHYSICO-CHEMICAL PARAMETERS OF HARSOOL DAM JULY 2008 - JUNE 2009.

Parameters	Rainfall (MM)	Atmospheric Temp. ($^{\circ}$ C)	Water Temp. ($^{\circ}$ C)	pH	(DO) mg/l	(CO ₂) mg/l	Calcium mg/l
Monsoon	130.5±53.56	24.5±1.77	23.5±1.19	7.63±0.29	11.42±1.26	8.8±0.52	22±4.34
Winter	12.5±23.14	23±2.61	21.5±2.87	7.27±0.20	11.3±0.46	6.07±1.57	23.01±2.97
Summer	17.5±32.40	29±3.46	27±3.29	8.05±0.42	10.5±0.92	8.42±0.98	17.11±3.72
Range	0-192	21-33	19-30	7.1-8.7	9.9-12.8	4.2-9.7	16.3-30.8

TABLE 2 CORRELATION COEFFICIENT OF THE PHYSICO-CHEMICAL VARIABLES OF HARSOOL DAM DURING JULY 2008 - JUNE 2009.

Parameters	At. Temp	Ca ²	CO ₂	DO	pH	Wt. Temp	Rainfall
At. Temp	1	0.672*	0.253	0.190	0-078	0.895**	0.541
Ca ²		1	-0.023	0.399	0.082	-0.451	0.740**
CO ₂			1	-0.754*	0.906	0.610*	-0.253
Do				1	0.877**	0.030	0.571
pH					1	-0.343	0.392
Wt. Temp						1	0.152
Rainfall							1

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

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२७. भारतातील पर्यटन व व्यावसायिक संधी

प्रा. डॉ. गोपाल विष्णूदास सोमानी

सहाय्यक प्राध्यापक, कै. रसिका महाविद्यालय, देवणी ता. देवणी जि लातूर.

प्रस्तावना

पर्यटन हा जगातील अनेक देशांचा उत्पन्नाचा प्रमुख स्रोत आहे. ज्या ठिकाणी देशातील अनेक उद्योग पर्यटनावर अधारीत असतात व त्या देशाची अर्थव्यवस्था विकसीत करण्यास मदत करतात. यामध्ये अनेक उद्योग व सेवा उद्योगाचा समावेश होतो. तसे की परिवहन, हॉटेल, लॉज, संग्रहालय, बगीचे असे उद्योग पर्यटनावर अधारीत असतात. पर्यटनामुळे या उद्योगाचा विकास होतो उद्योग विकासांमुळे रोजगार उपलब्ध होतात व उद्योगाच्या विकासांमुळे देशाच्या अर्थव्यवस्थेची वृद्धी होते. भारत देशाच्या बाबतीत विचार केला असता असे दिसून येईल की देशात अनेक धर्म, सांस्कृती, कला याचा समूह आहेच सोबतच देशातील प्राचीन स्थळ, सांस्कृती, हस्तकला हे अनेक पर्यटकांचे प्रमुख आकर्षण आहे. ज्यामुळे देश व विदेशातून अनेक पर्यटक या पर्यटन स्थानांकडे येतात. भारतासारख्या विकसनशील राष्ट्राला अर्थव्यवस्थेत विकासासाठी पर्यटन क्षेत्र प्रत्यक्ष व अप्रत्यक्ष मदत करते. कारण पर्यटन क्षेत्रामुळे विदेशी लोक आपल्या देशात येतात. या सोबतच देशातील लोक पर्यटनासाठी आपल्या देशातील प्रमुख पर्यटन स्थळाला जातात व तेथील सेवेचा व वस्तूचा उपभोग घेतात यामुळे सहाजीकच पर्यटन उद्योजकता विकसीत होते. भारतात पर्यटन उद्योग हा विकसीत होणारा मोठा सेवा उद्योग आहे. पर्यटन व्यवसायाचा जी.डी.पी. मध्ये 6.23 टक्के वाटा आहे. तर रोजगारात 8.78 टक्के वाटा आहे. भारतात विदेशातून 50 लाख पर्यटक वर्षभरात येतात. भारतातील समृद्ध सांस्कृती विशिष्ट परंपरा, नृत्य, प्राचीन किल्ले, धार्मिक स्थळे, निसर्गरम्य ठिकाणे हे पर्यटनाचे प्रमुख आकर्षण आहेत.

संशोधन पध्दती

• माहितीचे स्रोत

सदरील संशोधन लेखासाठी दुय्यम माहिती स्रोतद्वारे माहिती जमा करण्यात आली आहे. ज्यामध्ये इन्टरनेट व भारत पर्यटन संख्या 2021 याद्वारे माहिती घेण्यात आली आहे.

संशोधन उद्देश

1. भारतातील पर्यटन क्षेत्रातील विविध संधी अभ्यास करणे.
2. पर्यटनातील रोजगार विषयक मार्ग अभ्यासणे.
3. पर्यटन क्षेत्राला सहाय्यक उद्योग व त्यामधील विविध पर्याय अभ्यासणे.

पर्यटन क्षेत्राला सहाय्यक उद्योग व सेवा

1. हॉटेल - रिसोर्ट - लॉजींग

पर्यटन क्षेत्राला सहाय्यभूत व आवश्यक व्यवसाय म्हणून हॉटेल क्षेत्राला पहिले जाते. पर्यटनात आरोग्य व आरामदायी जीवनशैली टिकून राहण्यासाठी हॉटेलची भूमिका महत्त्वपूर्ण आहे. हॉटेलमध्ये नाष्टा, जेवण व पर्यटन क्षेत्रातील प्रसिद्ध व्यंजनाचा अस्वाद घेतो येतो. सोबतच अनेक हॉटेल्स अन्नपदार्थ व निवासाची उत्तम व्यवस्था देणारे असतात. यामुळे हॉटेल - लॉजींग हे सूत्र तयार झाले आहे. पर्यटनासाठी येणाऱ्या पर्यटकाला सर्व गोष्टी आरामदायी व यशस्वी पर्यटनासाठी हॉटेल्सची महत्वाची भूमिका आहे. 26 जून 2021 पर्यंत भारतात नोंदणीकृत 1423 तारांकीत हॉटेल आहेत व 105292 खोल्या उपलब्ध आहेत.

अ.क्र.	हॉटेलचा प्रकार	हॉटेलची संख्या
01	1 Star	10
02	2 Star	27
03	3 Star	533
04	4 Star	419
05	5 Star	226
06	5 Star Delux	149
07	Heritage Hotel	59
	Total	1423

(भारत पर्यटन संख्या एक इन्स्टीट्यूट - 2021)

या हॉटेल सोबत स्थानिक व्यवसायीकांचे लहान व मध्यम स्वरूपाचे हॉटेल उपलब्ध असतात. जे पर्यटकांच्या अर्थीक क्वतीनुसार सेवा देतात. पर्यटन क्षेत्रात हॉटेल व लॉजींग किंवा केवळ हॉटेल अथवा लॉजींग हा पर्याय उद्योगासाठी निवडता येतो कारण काही पर्यटकांना केवळ आरामदायी जीवनशैली टिकवून ठेवण्यासाठी चांगल्या लॉजींगची गरज असते. यासाठी हॉटेल, लॉजींग हा पर्यटनात नवीन व्यवसायीकाला एक चांगला उत्पन्न देणारा पर्याय म्हणून निवडता येतो.

2. ट्रॅव्हल एजंट व टूर ऑपरेटर

पर्यटक अभिकर्ता हा एक खाजगी व्यक्ती किंवा संस्था असते. जी पर्यटकाला पर्यटनासंबंधी आवश्यक सेवा पुरवते. पर्यटकाना पर्यटनात परिवहन, निवास, हॉटेलींग व इतर सेवा पुरवणाऱ्या व्यक्ती व संस्थेला ट्रॅव्हल एजंट संबोधले जाते. अनेक कंपन्या या टूर ऑपरेटर कंपनी म्हणून कार्य करतात. या कंपन्या आपले कार्य करीत असताना अनेक व्यक्तींची ट्रॅव्हल एजंट म्हणून नियुक्ती करतात व हा ट्रॅव्हल एजंट कंपनीद्वारे देण्यात येणाऱ्या सेवा पर्यटकांना पुरवतो यामध्ये ट्रॅव्हल एजंटाला आपले उत्पन्न मिळते

पर्यटक मार्गदर्शक, विशेष आवड मार्गदर्शक ज्या क्षेत्रामध्ये आवड आहे त्या क्षेत्रात पर्यटक मार्गदर्शक म्हणून कार्य करता येते. पर्यटक मार्गदर्शकांना आपल्या मार्गदर्शनाचा मोबदला पर्यटकाकडून मिळतोच पण या सोबतच हॉटेल, वहान काही वस्तू विक्रीची दूकाने यांच्याकडून कमीशन मिळू शकते. म्हणून पर्यटन क्षेत्रात आवड असणाऱ्यासाठी हा सुध्दा एक पर्यटन सेवा व्यवसाय म्हणून करता येतो.

4. पर्यटन व्यवसायाला सहाय्यक व्यवसाय

परिवहन व्यवस्था

पर्यटनाला जाण्यासाठी वहानाची गरज असते यामध्ये ॲटो पासून लक्झरी पर्यत अनेक वाहन आवश्यक असतात. पर्यटन स्थळावर आपले वहान व चालक असतील जर हा एक सेवा व्यवसाय उद्योजकांना करता येतो किंवा स्वतःचे वहान व पर्यटन मार्गदर्शक हे दोन्ही कार्य करता येऊ शकते.

मध्ये पर्यटकाला वेगळा मार्गदर्शक घेण्याची गरज नसते. पर्यटन स्थळावर वहान व्यवस्थेला विशेष महत्व असते. चांगले परिवहन कौशल्य व पर्यटकाच्या आवडीनुसार वहानाची व्यवस्था केली तर एक चांगला व्यवसाय करता येऊ शकतो.

बुकींग कॉउटर्स

पर्यटनात अनेक ठिकाणी वहान, हॉटेल्स व व्ही.आय.पी. दर्शन यासाठी पूर्व नोंदणी गरजेची असते जर पर्यटक ट्रॅव्हल एजन्सीमार्फत प्रवास करत असेल तर त्याची बुकींग एजन्सीद्वारे होते पण प्रवास खाजगी असेल तर बुकींग सेंटरची गरज पडते व बुकींग सेंटरला विविध व्यवसायाकडून कमीशन मिळू शकते.

हस्तकला व विशेष वस्तू विक्री

पर्यटन क्षेत्रात तयार होणारी विशेष वस्तू, हस्तकलेच्या वस्तू ज्या पर्यटकाला विशेष असतात अशा वस्तूची विक्री पर्यटन स्थळावर करता येते. या सोबत पर्यटन माहिती पुस्तके, धार्मिक ग्रंथ, विशेष लेखी वस्तू या पर्यटन स्थळावर विक्री करता येऊ शकतात व यातून एक चांगले उत्पन्न व्यवसायीकाला मिळू शकते.

विशिष्ट सेवा

पर्यटनात पर्यटकाला पर्यटन स्थळानुसार विशिष्ट सेवा गरजेच्या असतात. ज्यामध्ये रोप-वे पासून हेलीकॉप्टर पर्यंत सर्व बाबी समाविष्ट होतात. या विशिष्ट सेवा उपलब्ध करून देऊन सुध्दा उत्पन्न मिळवता येते. यामध्ये 1) वस्तू सुरक्षित ठेवण्याचे लॉकर 2) विशिष्ट ठिकाणी बोटिंग 3) सायकल टू-व्हीलर उपलब्ध करून देणे 4) पारंपारीक पोशाख व फोटोग्राफी 5) विशेष आवड असणाऱ्या पर्यटकाना वस्तू उपलब्ध करून देणे. ट्रॅकसूट, स्कूबींग अशा अनेक सेवा उपलब्ध करून सुध्दा पर्यटनात व्यवसाय करता येतो.

भारतात विदेशी व भारतीय पर्यटकाची विशिष्ट राज्याला भेट दिलेली

संख्या व प्रमाण

अ.क्र.	राज्य	2020 विदेशी पर्यटक		2020 देशातील पर्यटक	
		संख्या	प्रमाण %	संख्या	प्रमाण %
01	महाराष्ट्र	1262409	17.6	39234591	6.4
02	तामीळनाडू	1228323	17.1	140651241	23
03	उत्तर प्रदेश	890932	12.4	86122293	14.1
04	दिल्ली	681230	9.5	--	--
05	पश्चिम बंगाल	463285	6.5	28841732	4.7
06	राजस्थान	446457	6.2	--	--
07	पंजाब	359114	5.0	16692197	2.7
08	केरळ	340755	4.8	--	--
09	बिहार	308080	4.3	--	--
10	गोवा	302751	4.2	--	--
11	इतर राज्य	888433	12.4	298674103	49.1
	एकुण	7171769	100	610216157	100

(स्त्रोत : राज्य पर्यटन विभाग)

(भारत पर्यटन संख्या दृष्टीक्षेप - 2021)

भारताच्या बाबतीत विदेशी पर्यटक भेट देण्यामध्ये महाराष्ट्र अग्रस्थानी आहे. तर तामीळनाडू दूसऱ्या स्थानावर आहे. तर देशांतर्गत सर्वाधिक पर्यटक तामीळनाडूला भेट देतात. तर दूसऱ्या स्थानावर उत्तर प्रदेश आहे. 2020 या वर्षाचा विचार केला असता असे दिसून येईल की जवळपास 72 लाख विदेशी पर्यटक देशात येतात तर 61 कोटी देशातील पर्यटक विविध राज्यात पर्यटन करतात यावरून असे दिसून येईल की पर्यटन क्षेत्र हे किती मोठ्या प्रमाणात विस्तार घेत आहे. विदेशी पर्यटकाचे आकडेवारीमध्ये सातत्याने वाढ होत आहे. 2001 साली भारतात 5.44 मिलीयन विदेशी पर्यटकांनी भेट दिली होती. तीच 2019 साली 31.41 मिलीयन पर्यटकांनी भारताला भेट दिली. 2020 हे कोवीड महामारी वर्षामुळे व लॉकडाऊनमध्ये ही संख्या कमी झाल्याचे चित्र आहे. यामुळे निश्चितच भारतात पर्यटन क्षेत्र वाढल्याचे चित्र आहे.

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निष्कर्ष

वरील संख्या व आकडेवारी वरून लक्षात येते की भारतात 61 कोटी देशातील पर्यटक व 72 लाख विदेशी पर्यटक भारतात येतात हीच संख्या 2019 साली 31.41 मिलीयन विदेशी पर्यटक इतकी होती. यावरून पर्यटक संख्या ही वाढल्याचे चित्र आहे. पर्यटकाच्या संखयानुसार पर्यटनातील सोई व सेवा वाढणे गरजेचे आहे. यामुळे पर्यटनात अनेक उद्योगाला संधी आहे व एक नवीन क्षेत्र व नाविन्यता यासाठी निश्चितच उद्योजकांना यात उज्ज्वल भविष्य आहे.

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Globalisation and its Impact on Small Scale Industries in India

Dr. Balaji Shivraj Hokarne

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Abstract

Economic globalization is the increasing economic interdependence of national economies across the world through a rapid increase in cross-border movement of goods, service, technology and capital. Whereas globalization is centered on the rapid development of science and technology and increasing cross-border division of labour, economic globalization is propelled by the rapid growing significance of information in all types of productive activities and marketization; the advance of science and technologies. It provides several things to several people with removal of all trade barriers among countries. Globalization happens through three channels: trade in goods and services, movement of capital and flow of finance. Globalization in India is generally taken to mean 'integrating' the economy of the country with the world economy. The real thrust to the globalization process was provided by the new economic policy introduced by the Government of India in July 1991 at the behest of the IMF and the World Bank. The current paper is an attempt to critically analyze of the impact of globalization on Indian Small-Scale Industries. The main theme of the paper is to evaluate the performance of SSI, after globalization and to know the impact of Globalization on the performance of SSI. Keywords: Globalization, Small Scale Industries (SSI), Employment, etc.

Introduction

Globalization is the metamorphosis of the individual nations into an integrated entity by means of their interconnection on an economic, social and cultural level, fuelled by easy transport and communication among them. It is the modern renaissance that makes ideas, goods, services, trade, technology and culture permeate into the entire geography of the world thus turning it into a global village. While globalization is a large scale phenomenon, small scale enterprises are a local phenomenon but having effects of dimensions as large as it's global 'friend and foe'. Friend- because both globalization and small scale industries are the two wheels of the vehicle of economic growth and prosperity; foe- because some argue that given the developing nation that India is, Small Scale Industries(SSIs) can suffer and strangle to death by the fierce competition put up by globalization.

In order to impart more vitality and growth to small scale sector, a separate policy statement has been announced for small, tiny and village enterprises on 6th August, 1991. This policy statement was a leapforward because it was the first time that Government had issued a separate policy statement for the small and decentralized sector. This policy statement proposed some path-breaking measures to mitigate the handicaps that were faced up by small enterprises in respect. Government of India introduced a large number of innovative promotional measures to uplift the growth of small scale sector.

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scale enterprises are a local phenomenon but having effects of dimensions as large as it's global 'friend and foe'. Friend- because both globalization and small scale industries are the two wheels of the vehicle of economic growth and prosperity; foe- because some argue that given the developing nation that India is, Small Scale Industries(SSIs) can suffer and strangle to death by the fierce competition put up by globalization. Let us observe and decide. Micro and small scale enterprises have existed in India since ages in the form of traditional skills and knowledge based products made by people for the self sufficiency of rural India. Today as per the government definition, "An industrial undertaking in which the investment in fixed assets in plant and machinery whether held on ownership terms on lease or on hire purchase does not exceed Rs. 10 million, can be categorized as small scale undertaking". After independence, the Indian government made various laws to help revive and flourish the SSI because of the employment potential it had at a low capital cost. It needed mediocre technical knowledge and minimal infrastructure to set up. Thus it was and is the most ideal form of employment opportunity for both the urban and rural population. It not only encourages entrepreneurship among people but also makes them self-reliant. Govt. funding, support and intensive promotion has aided people to participate more in this successful phenomenon making SSI the second largest employment sector after agriculture. It forms about 45-50% of our exports. The products also form a large percentage of our domestic market too with SSI producing a number of products like confectionaries, spices, beverages, natural essence oils, dyes, sports goods, wooden furniture, glass, ceramic and earthen wares, cotton and woollen knitted products, silk and synthetic wear, leather shoes, bags, garments and novelty items, plastic items, survey instruments, auto parts, clocks and watches, musical instruments, lab chemicals, basic metallic and non-metallic mineral products. They are the dynamic sectors of our economy. It also leads to the preservation of many traditional and indigenous skills and products our country is famous for. It is the road to rural industrialization and 'rural urbanization' thus creating a regional balance.

India was self-reliant and self-sufficient but with the march of the world towards industrialization India found its closed policy of trade leading to an impending economic crisis. The main reason behind this was the focus of efforts on heavy industries and lack of it on the consumption goods. From 1991 India witnessed a major change as the govt. introduced liberalization, privatization and globalization reforms to pep up the economy. Soon the world realized what a big 1 billion-population-market India was. They brought their goods to India which were mass produced and therefore cheaper and of better quality than the local goods. They started challenging the SSI and thus posed an end to them. Further with the introduction of Special Economic Zones (SEZs), the MNCs were facilitated with areas with liberal economic and trade laws, round the clock facilities and concessions to enhance foreign investments and promote exports. This endangered the existence and survival of SSIs.

So it can be said that both globalization and SSIs are the essentials of Indian economy and India must make efforts to promote, sustain and aid both in a fair and unbiased way. A fruitful measure would be to reserve certain goods for production exclusively by the SSIs and their intelligent outsourcing by the govt. to ensure maximum benefits. Also the govt. should advertise the indigenous goods worldwide so that the foreign folk also go in for the ethnic items produced here like khadi, silk, wool, statues, gems, ornaments, etc. as these represent the traditional art form and culture of the region. As far as the financial aids are concerned, the govt. is doing good work to make things simple and possible for the interested individuals by funding and financial support. Also the setting up of institutes for technical training and skill

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'A Conceptual Framework of Entrepreneurship through Inclusion of ICT for Advancement of SHGs'

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Abstract:

Women confined almost every sector such as economic, political, and social, sports, education, corporate sector, etc. Women are crucial part of Indian Economy. The movement of Self-help Group (SHG) which was started in 1980s imprinted the marks of empowerment of Indian women. It is universally accepted that ICT offer immense opportunities for economic, social, educational development of the people. Inclusion of ICT enabled services given various new trends for the market such as E-commerce, E-learning, and E-governance. The present research work will highlight significance ICT for advancement of SHGs to remain competitive in the sense of Efficiency, Effectiveness, and Sustainability. With SHGs initiation government of India has taken lot of initiatives for women empowerment among them SHG is playing vital role. Through SHG movement women come together, share their problem and develop solution for survival and progress. This study initiated to place ICT for the real progress of SHGs.

Women's entrepreneurship in rural areas faces some problems applying the ICT for examples barriers to access and affordability of ICTs due to lack of infrastructure, high cost of hardware and software, concerning connectivity and illiteracy, including computer illiteracy. Other than this even access to and affordability of internet are met, another challenge arise in creating and maintaining effective websites with good content, clear presentation and easy accessibility. Thus 'There is great significance of ICT for advancement of SHGs to remain competitive in the sense of Efficiency, Effectiveness and Sustainability.'

(I) Introduction:

Women confined almost every sector such as economic, political, and social, sports, education, corporate sector, etc. Women are crucial part of Indian Economy. The movement of Self-help Group (SHG) which was started in 1980s imprinted the marks of empowerment of Indian women. It is rightly mentioned that the "Woman is the full circle, within her is the power to create, nurture and transform." Empowering women entrepreneurs is truly essential for achieving the goals of sustainable development of the nation in totality. Right efforts from all areas are required in the development of women entrepreneurs and their greater participation in the entrepreneurial activities. Government should extend better educational facilities, suitable financial schemes, training on technical and management skills and professional competence to women folk and on the part of the society, incessant support and recognition is equally essential. In this respect government initiative towards SHGs in the current situation is not extraordinarily brilliant paradigm shift but definitely the best alternative.

About approx.70% of the population lives in some 638,000 villages and rest 30% in towns and urban area. In 2013 male to female ratio is 940 female for every 1000 males. In 2012 in total female population was 591.4 million. Hence huge women population is leaving in India and women empowerment is most important challenge India. As women are the





From the market oriented point of view SHGs are working in isolation within a market that is restricted to their local area. Their limitation in promoting the sales of products has often been exploited by middlemen. E-business applications have great potential for such enterprises to sell their products on the local as well as global market. Women's empowerment in the knowledge society denotes that women possess the capacity, skill and resources to access, manage and produce information for their needs by means of ICT. Moreover the ICT inherently make possible flexibility in time and place, offering great possibilities for women in view of their multiple roles.

In this context SHGs needs to initiate the project on use of ICT. The present research study is initiated to empowerment of rural women through building capacity in entrepreneurship and ICT skills to enable them to produce and market their products in competitive market.

Rural women especially in developing countries are at the lowest strata in terms of ICT utilization owing to a general lack of resources and capacities.

ICT play a vital role in facilitating this change in the producer and consumer market. The transformative role ICTs have played in the marketing of specialized goods. It helps to cater to differentiated and specialized consumer tastes proved to be major barriers for producers; ICTs today are increasing making this economically and technically viable. Use of ICT enables entrepreneurs to analyze and develop highly targeted production and marketing plans which can respond to the variegated consumer demands of the market. Although basic ICT tools and knowledge may initially be costly for small or subsistence entrepreneurs but offer in helping to narrow the knowledge gap and are able to gain access to them. ICT include any communication device or application, encompassing radio, television, cellular phones, computers and network hardware and software and satellite systems as well as various services and applications associated with them. People are connected through an online database which helps them access required information in the local languages.

Internet in particular is a communication technology that has great potential to create and reach national and international markets. It is being effectively used for direct online sales, income distribution, marketing and public relations.

For SHGs utilizing ICTs can greatly strengthen the effectiveness of their entrepreneurship. The powerful marketing capacity of ICTs makes possible for women entrepreneur to widen their market from local to global. It helps to increase the capacity to deal directly with customers strengthens women's business position, bring them a sense of empowerment and increased exposure to the world of business and enhances women's entrepreneurial competitiveness in the local, regional and global market.

Further the Maharashtra state government has decided to create a four-tier network of Self- Help Groups (SHGs) in rural areas and provide those marketing facilities and finance to raise their income. According to a private survey "There are over two lakh SHGs operating across the state. Among them, 1.67 lakh SHGs are exclusively for women," said a senior official of the rural development department. "Of these, 53,465 SHGs have started economic activities to supplement the income of their members. Women SHGs lead in such activities with 45,449 groups being operational. They manufacture foodstuff and products for domestic use. The idea is to create a network of the SHGs, help them in their economic activities and thereby raise the income of individual members to at least Rs 2,000 per month."



Also, the state government has decided to form 'SevaSanghs' at village, revenue circle, taluka and district levels. The sanghs would monitor the flow of credit and coordinate with banks. The government would provide financial aid for the first four years for the administrative work. The government would finance the exercise with the funds available under the SwarnaJayanti Gram Swarojgar Yojana, which is funded by the Centre (75%) and the state government (25%).

The minister for rural development, Vijaysinh Mohite-Patil, said permanent marketing outlets would be provided for the SHGs in talukas and districts. The government would provide financial aid of Rs 25 lakh for creating an outlet in each taluka and Rs 50 lakh for each outlet in district headquarters. He said SHGs were being provided loans at four per cent interest.

To consider the use of ICT the present study will focus on various usages of information technology. The researcher highlights the importance of ICT with the help of self help groups. It is also focused on importance of internet for women empowerment especially with reference to women members of SHGs. Along with other technique the present study highlights role of ICT especially internet, computer, online bank, use of ATM by SHGs.

(VI) Implication of Project:

The members of the SHGs functioning well and the members belonged to different educational backgrounds, varied employment and income groups. But practically the members are not much aware of the ICT tools and its benefits. SHGs are the main beneficiaries of the project. ICT training institution has to keep in mind there is a large number of the stakeholders of the project initiation especially inclusion of ICT for the SHGs. The monitoring authorizes including finding banks, NGOs as well as the producers and service providers of SHGs has great deal with the research finding especially convenience of ICT for the efficiency, effectiveness and sustainability of SHGs. It may also deserve transparency and feasibility in day to days working. On government front the Maharashtra state government declared that in a bid to curb financial irregularities by SHGs and money lenders Govt. has decided to start e-banking facilities in 20,000 state gram Panchayats out of 28000. Clarity will be curbed and Gram Panchayats will become the centre of financial transactions. Due to ICT applications duping by money lenders SHGs and financial irregularities. Women's entrepreneurship in rural areas faces some problems applying the ICT for examples barriers to access and affordability of ICTs due to lack of infrastructure, high cost of hardware and software, concerning connectivity and illiteracy, including computer illiteracy. Other than this even access to and affordability of internet are met, another challenge arise in creating and maintaining effective websites with good content, clear presentation and easy accessibility. Thus 'There is great significance of ICT for advancement of

SHGs to remain competitive in the sense of Efficiency, Effectiveness and Sustainability.'

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मंगेश पाडगावकरांच्या 'जिप्सी' काव्यसंग्रहातील निसर्ग प्रतिमा

प्रा. डॉ. प्रशांत मंडे

मराठी विभाग प्रमुख,

कै. रसिका महाविद्यालय देवणी, जि. सातूर.

प्रस्तावना :

मंगेश पाडगावकरांच्या अंतरंगातील सौंदर्यशोधक वृत्ती, आशावाद, चोखंद जीवनदृष्टी, उत्कटता, रसिकता, संवेदनशीलता या वृत्तीचे दर्शन 'जिप्सी' मधील कवितेतून घडते. 'जिप्सी' ही प्रतिमा अखंड जीवनप्रवासाची ओढ, सौंदर्यशोधक वृत्ती यांची निदर्शक आहे. पाडगावकरांच्या संवेदनशील, चिंतनशील कविमनाचा प्रत्यय या संग्रहातील कवितेतून येतो. जीवन जगण्याच्या दुर्दम्य इच्छाशक्तीमुळे वाटयाला येणारे दुःख, उदासीनता यावर तितक्याच आत्मविश्वासाने मात करून "हासत दुःखाचा केला मी स्विकार, बर्षेले चांदणे पिऊन अंधार, प्रकाशाचे गाणे अवसेच्या रात्री, आनंदयात्री मी आनंदयात्री" असे म्हणून हा आनंदयात्री पराभवातून विजयाचा, अंधारातून प्रकाशाचा, दुःखातून आनंदाचा मार्ग स्वतः जोखाळतो म्हणून 'जिप्सी' मधील कविता ही जीवन जगण्याच्या अनिवार इच्छेतून निर्माण झालेली कविता वाटते.

प्रेम, विरह, आशा, निराशा, आनंद, दुःख या मानवी भावभावनांचे उत्कट चित्रण निसर्ग प्रतिमेतून 'जिप्सी' मधील कवितेतून झालेले आहे. निसर्ग हा पाडगावकरांच्या कवितेचा स्थायीभाव आहे. व कवीच्या बालजीवनापासून संवेदनशील कविमनावर निसर्गसौंदर्याचे झालेले संस्कार यामुळे 'निसर्ग' आणि 'जीवन' यांचे वेगळे अस्तित्व 'जिप्सी' मधील कवितेमध्ये शोधणे कठीण जाते. मानवी जीवनाचा भावार्थ, शारीरिक-मानसिक आंदोलने यांचे उत्कट चित्रण मंगेश पाडगावकर निसर्ग प्रतिमेच्या द्वारे करतात. आणि त्यांच्या कवितेतील निसर्ग काही वेळा मानवी देहरूपातून, भावभावनांतून अविच्छूत होतो. म्हणून मंगेश पाडगावकरांची निसर्ग कविता ही जीवन जाणीवव्यक्त करणारी कविता वाटते. तर कधी मानवी भावभावनांचे वर्णन करणाऱ्या कवितेतून निसर्गाचे आपसूक दर्शन घडते.

बा. म. बोरकर, भा. रा. तांबे यांच्या निसर्गविषयक व प्रेमविषयक कल्पनांचे संस्कार मंगेश पाडगावकरांच्या कवितेवर झालेले आढळतात. प्रेम भावनेच्या विविध छटांचे भावमधूर दर्शन मंगेश पाडगावकरांच्या कवितेतून घडते. 'मज नव्हते ठाऊक,' 'तुझी निराळीच तन्हा,' 'तू असतिम तर,' 'क्षणांत असल्या,' 'विस्मरणाचे दान तुझे ते' या उत्कट प्रेमकवितेतून प्रेम भावनेला एका उंचीवर नेण्याचे काम मंगेश पाडगावकरांनी केले आहे. 'निसर्ग' आणि 'प्रेम' यांचे सहअस्तित्व पाडगावकरांच्या कवितेत आहे. 'तू उधळावे, पाकळ्यांतले निर्मळ मार्दव, सदाफुलीपरि, सदा तुझे फुलणारे लाघव.' (क्षणांत असल्या) अशा ओळींतून निसर्गप्रतिमेच्या अधारे प्रेयसीच्या सौंदर्याचे वर्णन कवीने केले आहे.

"पाडगावकरांच्या सौंदर्यवादी मनाचा 'जिप्सी' पासून उत्सव पर्यंतचा प्रवास लक्षणीय आहे. पाडगावकर हे निसर्गात रमणारे व प्रेमानुभूतीची विविध रूपे शब्दांकित करणारे कवी आहेत. ते सामान्य माणसांच्या सुखाशी नादात्म्य पावतात. माणसा-माणसांमधील संबंध पडताळून त्यातील मानव्य शोधून ते व्यक्त करणे हे जणू त्यांच्या कवितेचे ध्येयच आहे. माणसावर प्रेम करत माणसांचे गाणे गाणे ही पाडगावकरांची कवीप्रवृत्ती आहे."

मंगेश पाडगावकरांच्या कवितेतून निसर्ग प्रतिमांतून प्रेमसंवेदना व्यक्त होतात. तर कधी ते निसर्गातून मानवाचा व ईश्वराचा शोध घेताना दिसतात. जीवनात आनंद निर्माण करणारा मांगल्याचे नूचक असणारा महा ऋतूंतून फुलून येणारा दिवसाच्या तिन्ही प्रहंगत बावणारा वेगवेगळ्या रूपांतून प्रकट होणारा निसर्ग

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पाडगावकरांच्या कवितेतून प्रकट होतो. निसर्गाच्या गाढ जवळीकतेतून प्रेयसीच्या होंषान्या प्रेमजाणीवेचे, प्रणयसंबंधाचे चित्रण अनेक निसर्ग प्रतिमांतून व्यक्त होते.

प्रीतीमधील श्रृंगार, हुरहूर, मीलन, तृप्ती, प्रेमभंग यासारख्या प्रेमाच्या प्रेमातील विविध छटा रंगविताना त्यांना समाज, रुढी, नीती किंवा काळवेळ यांची विविध छटा तसेच प्रेयसीचे स्वरूप पाडगावकरांनी निसर्ग प्रतिमेतून व्यक्त केले आहे. त्यांच्या कवितेतून सौंदर्यासक्त, प्रेमतृप्त पाडगावकर प्रतीत होतात. मानवी जीवनातील सौंदर्य आणि जीवनातील मूल्ये यांच्या विषयीचे प्रेम या काव्यसंग्रहात दिसून येते.

निसर्गाचा लोभस सहवास पाडगावकरांना लाभलेला आहे. पाडगावकरांनी निसर्गकविता विदेशीने लिहिलेली आहे. त्यातून त्यांनी निसर्गाशी हृदयसंवाद साधलेला आहे. निसर्गाच्या विविध यांचा अविष्कार व सूक्ष्म तरल भावसौंदर्याचा प्रत्यय त्यांच्या "ते किती लपविले तरीही, मज कळत कळते कळते, पाकळ्यांत दडले तरिही गंधातून गुड उकलते." या ओळींतून येतो त्यांच्या निसर्गाला मानवी भावनांचा ओला स्पर्श आहे. सुप्त रूपात असणाऱ्या निसर्गाच्या रंगाच्या व गंधाच्या सौंदर्याचा शोध पाडगावकर घेतात. कारण 'जिप्सी' हीच त्यांची भाववृत्ती आहे.

निसर्गप्रेम, वैयक्तिक भावानुभव, उत्कटता, एकात्मता या कवितेतून प्रकट झाली आहे. पाडगावकरांच्या कवितेतील निसर्ग मानवी भावनांचा वाहक आहे.

"ही उदास संध्याकाळ

खिन्नपणा पांघरून बसला झुरत दुरचा माळ

मनी आकारण कळवळे जळ

करीत सळसळ व्याकुळ पिंपळ आठवितो गतकाळ

ही उदास संध्याकाळ"

(ही उदास संध्याकाळ) पृष्ठ :

'शोधक' वृत्तीचे पाडगावकर निसर्गाच्या दर्शनाने कधी आनंदीत तर दुराव्याने 'उदास' होतात. निसर्गाशी ते एवढे एकजीव आहेत की, त्यांची गुळातच 'आनंदी', 'उदास' भाववृत्ती निसर्गप्रतिमांतूनच प्रकटते. 'अण पुष्पांच्या सरी', 'शांत किनारा', 'रात्र मिजली', 'खिन्न आंधळा अंधार', 'उदास रात्र', पर्णांत हसणारा वारा' या प्रतिमा खूप नूचक आहेत. "पाडगावकरांची वृत्ती संयत आणि निसर्गविडी असल्यामुळे कुठलीही उत्तानता आणि अतिरेकी मडकपणा त्यांच्या काव्यात अवतरत नाही. मुग्ध, विश्रब्ध, आर्त आणि किंचित विरक्त अशा प्रेमाची संयत उदास भावचित्रे त्यांच्या काव्यातून आढळतात. प्रेमाची हुरहूर, मिलनाची तृप्ती आणि त्या तृप्तीतील एक वेदना, त्यांच्या सूक्ष्म तरल भावानुभूती मोठ्या कोमलपणे त्यांच्या कवितातून रेखाटल्या गेल्या आहेत. या भावाची अभिव्यक्ती करताना त्यांचे शब्द रेशमाचे होतात."²

निसर्गाचे सूक्ष्म, तरल भावसौंदर्य पाडगावकरांच्या कवितेतून व्यक्त झाले आहे. आपले वैयक्तिक प्रेमजीवन, जीवनातील सुख, दुःख, प्रेम, विरह व निसर्गानुभवातून येणारे भावजीवन हेच पाडगावकरांच्या जीवनाचे व कवितेचे विषय आहेत. कवीचे स्वतःचे भावविश्व 'जिप्सी' मधील कवितांतून व्यक्त झाले आहे. कवीमन-प्रेम-निसर्ग यांची एकात्मता या कवितांतून प्रकट झाली आहे. निसर्गप्रतिमांच्या आधारे त्यांचे भावजीवन शब्दबद्ध झाले आहे.

"खिन्न आंधळा अंधार", "पर्णांत हसणारा वारा", "पानांमधून टिबकणारे ओले चांदणे, 'अबोल धुक', 'व्याकूळ लाटा', 'आर्त उदास रात्र', 'दवांत जडलेले रजजडीत गुपीत', 'शिशिरातल्या उत्तररात्री मनात झुरणारे आकाश', 'उदास संध्याकाळ', 'फिकट पांढरी चंद्रकोर उरी जपणारे आभाळ.' इ. प्रतिमांतून कवीचे भावजीवन व्यक्त झाले आहे. निसर्गाची बदलती रूपे अवलोकणे, त्यातील रंगाच्या रूपांच्या गंधाच्या, या सूक्ष्म-अतिमूळ हालचालींच्या विविध छटांतील सौंदर्य टिपून घेणे हा त्यांचा या सहजधर्म आहे. या प्रत्येक प्रतिमेतून प्रकट झालेले निसर्गाचे भावसौंदर्य हे कवीच्या अल्पनाशक्तीचे अविष्कार घडवितो.

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"मोहफुलांपरी तेव्हाचे ते क्षण दरवळले
गंभित उन्मद त्या अंधारी काही न कळले
नव्हती जाणीव होईल म्हणूनी शंखसाच हे मधु अलिंगन
इतुके आलो जवळ जवळ की जवळपणाचे झाले बंधन,"

(‘जवळपणाचे झाले बंधन’ पृष्ठ : ७६)

पाडगावकरांची दुःखी, उदाम, आनंदी भाववृत्ती निसर्गप्रतिमांतून व्यक्त होते. पाडगावकरांची भाववृत्ती निसर्गप्रतिमांनी संपन्न झालेली सृष्टी असून त्या सृष्टीचे अंतरंग या शब्दाशब्दातून उलगडते. नवा आशय, नव्या प्रतिमा, भावनातील नवेपणा व ताजेपणा हे कवितेचे वैशिष्ट्य आहे.

निष्कर्ष

1. बोरकर, भा.रा. तांबे यांच्या निसर्गविषयक व प्रेमविषयक कल्पनाये करणाऱ्या कवितेवर झालेले आढळतात.
2. वा आशय, नव्या प्रतिमा, भावनातील नवेपणा व ताजेपणा हे त्याच कविते
3. 'जिप्सी' ही प्रतिमा अखंड जीवन प्रवासाची ओढ, सौंदर्यशोधक वृत्ती यांची निदर्शक आहे.
4. पाडगावकर विरह, निराशा, वैफल्य किंवा प्रेमभंगामुळे हताश होताना दिसत नाहीत. वेदनेतून जीवनाला सामोरे जाण्याची वृत्ती त्यांच्या प्रेमानुभूतीतून व्यक्त होते.
5. हुरहुर, ओढ, तृप्ती, मुग्ध व विभूक्त प्रेमभाव, सहवासातील अलौकीक आनंद या जानीवा मंगेश पाडगावकरांच्या कवितेतून व्यक्त होतात.
6. 'जिप्सी' मधील कवितेतून आतुरता, दुरावा, हुरहुर, प्रतिक्रिया, तडफड, उलपल, मीलन असे विविध भाव अत्यंत उत्कटतेने साकारले आहेत.
7. कवीचे सौंदर्यवेधी मन आणि भावनाप्रधान भाववृत्ती पांचा संगम 'जिप्सी'मधील कवितेत आढळतो.
८. शब्द आणि कल्पना, भावना आणि प्रतिमा यांचे अमोखे दर्शन पाडगावकरांच्या न घडते.
९. 'जिप्सी' मधील कवितेतून कवीचे भावूक, हळवे संवेदनशील मन प्रकट होते.

संदर्भ

- १) सुलभा दुसाने, 'मंगेश पाडगावकरांची कविता: स्वरूप आणि अभिव्यक्ती', कैलास पब्लिकेशन, औरंगाबाद, पृष्ठ - ९०
- ४) वा. रा. कांत, 'जिप्सीचे अंतरंग' (युगवाणी - मासिक), नागपूर, पृष्ठ - २६-२७

Biochemical Alterations Due to dimethoate in fresh water fish, *Channa punctatus*K.T. Paithane¹, R.Y. Bhandare², S.E. Shinde³, P.R. More⁴ and *T.S.Pathan⁵¹Department of Zoology, Deogiri College,
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Received : 03.07.2021; **Revised** : 15.07.2021; **Accepted** : 02.08.2021**ABSTRACT**

Activity of a few biomarkers have been investigated on fresh water fish, *Channa punctatus* exposed to three sub – lethal concentrations of dimethoate (1/5, 1/10 and 1/15 of 96hrs LC₅₀ values). The alteration in protein contents of liver, gill and muscle were investigated. The protein levels were found to be depleted in all the tissues after exposure to dimethoate over the control. All the organs showed the significant difference between control and exposed groups in all the estimated parameters on long exposure. The present study considers biochemical parameters as important biomarkers in determining the level of toxicity caused by the pesticide Dimethoate. Therefore the detailed results and observations are summarized in the present investigations.

Figure : 01

References : 18

Table : 01

KEY WORDS : Biochemical, *Channa punctatus*, Dimethoate, Toxicity.**Introduction**

Dimethoate is a broadly used insecticide that rigorously causes toxic effects in various aquatic organisms especially in fish. The toxic effects of pesticides on biochemical parameters of fresh water fishes are well illustrated from the recent research in the field of toxicology. In the midst of the biochemical components proteins are of prime importance as they determine nutritive value of fresh water fishes.

Several environmental problems have arisen due to different forms of wastes created by our lifestyle and economic development. The industrial and automotive

emission create acid rain and breathing problems while industrial and commercial effluents create groundwater and surface water pollution.

Fish is an important commodity from the standpoint of human consumption. Aquatic pollution undoubtedly has direct effects on fish health, reproduction and survival. Pesticides are considered as serious pollutants of the aquatic environment because of their persistence in the environment and tendency to be concentrated in aquatic organisms.

Proteins are the important biopolymers of great interest and importance. They play not only a key role

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TABLE- 1: Effect of dimethoate on protein content in different tissues of freshwater fish, *Channa punctatus* after exposure to sublethal concentrations for 30 days.

S. No.	Tissue	Control	4.25 ppm (1/5)	% changes	2.12 ppm (1/10)	% changes	1.41 ppm (1/15)	% changes
1	Liver	24.5412 ± 0.2337	14.1504* ± 2.0242	42.3404	15.4998** ± 3.0920	36.8416	20.223* ± 2.0242	17.5960
2	Gill	17.0112 ± 0.7257	11.3165* ± 0.4048	33.4763	12.1262* ± 0.4048	28.7166	12.3960* ± 0.4674	27.1301
3	Muscle	16.1746 ± 0.4048	11.9912** ± 0.6184	25.8636	12.5985** ± 0.5094	22.1092	13.3407* ± 0.4048	17.5205

1. The values are expressed in mg/100 mg dry weight (mean ± S.D).
2. ± indicates S.D.
3. *P < 0.005, **P < 0.01, ***P < 0.001

informing and maintaining the structure of the cell but also as enzyme and hormones that catalyze numerous reactions and integrate the body functions.

The toxicity of pesticides, industrial effluent and heavy metals result in pathology of normal structure, physiology, biochemistry, cellular and molecular biology. The pesticides, industrial effluent and heavy metals are known to interfere with functional group of macromolecules, the presence of any pesticides, industrial effluent and heavy metals above threshold level result in the irrevocable alterations in the histopathological, physiological and biochemical changes are the reflections of these pollutant stress.

The major metabolites are namely protein, fat and carbohydrates etc. They are of prime importance to determine nutritive value of fish. Occurrence of polluted water bodies has exposed biota and particularly fish to an unlimited extent of danger. Industrial effluent affects fish to variable degree depending upon concentration of pollutants in the water and thereby makes fish unsuitable as food or a constant hazard posed knowingly or unknowingly if such fish are eaten by human population. Therefore, it is necessary to evaluate nature and extent of alterations in metabolites of fish.

In India, few efforts have been made to study the mode of action of pesticides, their involvement in physiological disturbances, biochemical changes and histopathological abnormalities. The protein level decreased in all the tested tissues whereas the free amino acid levels were increased in the fish *Labeo rohita* after exposed to cypermethrin².

The steady decrease observed in the protein

content in gill of *Clarias batrachus* to malathion exposure⁵. Decline in the lipid, protein and cholesterol content observed in ovaries of *Notopterus notopterus* to heavy metal exposure¹⁵.

The harmful biochemical effects of fenvalerate were observed at sublethal concentrations in fish, *Channa punctatus*¹⁴. The effects of fenvalerate on biochemical contents were observed in freshwater fish, *Cirrhinus mrigala*⁸. The effects of nuvan on protein contents were observed in gill, liver of the fish, *Rasbora daniconius*³. The toxic impact of dimethoate was observed on the protein, lipid and glycogen content in muscle, gill, liver and kidney of fish, *Arius dussumieri*¹³.

There was a paucity of information on effects of pesticides on biochemical constituents in fishes. In the present study, an attempt has been made to study the effects of pesticides on biochemical constituents such as protein in *Channa punctatus*.

Material and Methods

The live specimens of *Channa punctatus* were collected for biochemical study, from Shivana river near Dhoregaon, 26 km away from Aurangabad (M.S.) and brought to the laboratory. The fishes were maintained in glass aquaria and were acclimatized for four weeks. After acclimatization healthy fishes, showing normal activities were selected for biochemical estimations.

The test fishes, *Channa punctatus* were exposed to three sublethal concentrations of dimethoate for 30 days. Simultaneously, a control aquarium was also maintained. On 30th day's exposure, fishes from each experimental group were sacrificed, liver, gill and muscle were dried in oven at 75 °C to 80 °C till constant weight

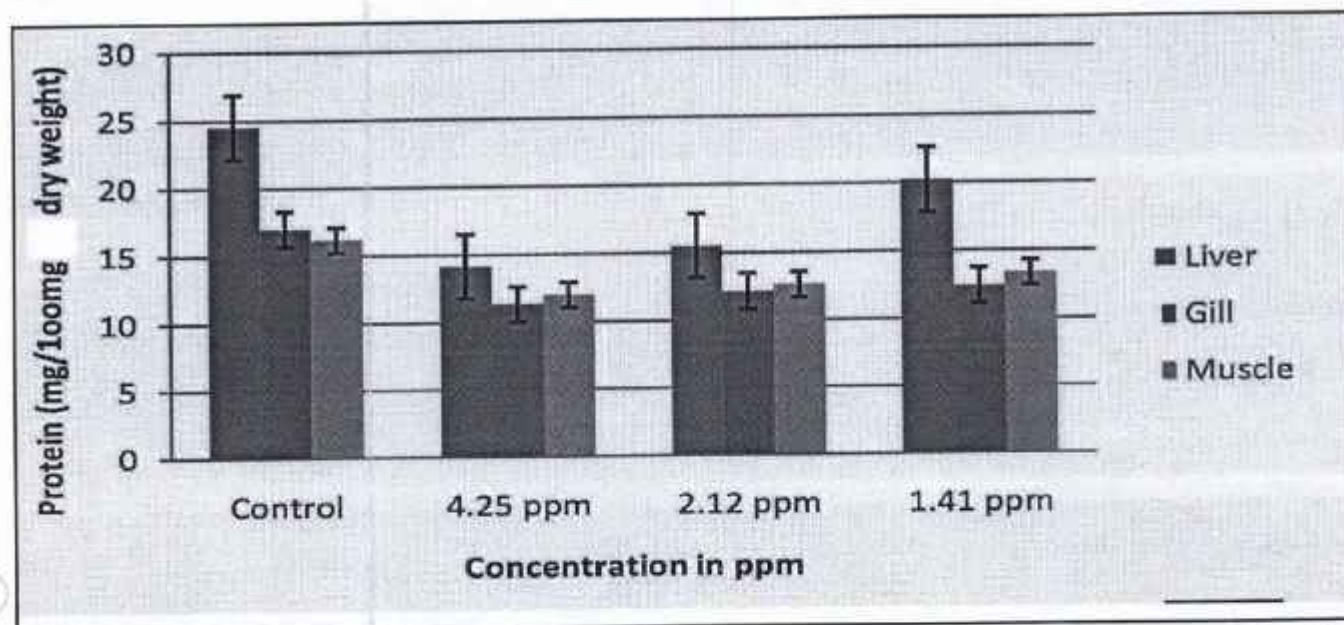


Fig. 1: Effect of dimethoate on protein content in different tissues of freshwater fish, *Channa punctatus* after exposure to sublethal concentrations for 30 days.

was obtained and blended into dry powder. These powders were used for the estimation of various biochemical components such as protein, lipid, glycogen and ascorbic acid. The methods applied for estimations are as follows.

Estimation of total protein:

100 mg of tissue was homogenized in 5 ml of cold distilled water. 5 ml of 30% TCA was immediately added to precipitate the protein. Precipitate was collected after centrifugation at 3000 rpm for 15 minutes. The supernatant was discarded. The pellet was repeatedly washed with distilled water to remove the traces of TCA. Precipitated protein was redissolved in 0.1 NaOH and estimated by using folin phenol reagent⁶. The protein was expressed in terms of mg/100 mg dry weight of the tissues.

Results

In the present investigation, changes in the biochemical constituents in body tissues of test fishes, *Channa punctatus* were exposed to dimethoate for long term (30 days) exposure at different sublethal concentrations have been recorded for protein. Dimethoate induced changes in biochemical constituents which have been represented in the form of percentage in alterations of biochemical constituent. The data were supported by various statistical analysis and the variance, standard deviation and standard error of the mean were calculated. Student's 't' test was used to find out the significance. The level of significance was used in the present study ($P < 0.1$, $P < 0.05$, $P < 0.01$, $P < 0.001$).

Protein:

Protein recorded in control group of fishes, *Channa punctatus* were 24.5412% mg in liver, 17.0112 mg in gill

and 16.1746 mg in muscle. The fishes, *Channa punctatus* exposed to three sublethal concentrations of dimethoate for long term (30 days) exposure, showed that there were significant decrease in level of protein content in liver, gill and muscle at 53.4 ppm, 26.6 ppm and 17.8 ppm dimethoate exposure. In liver decrease recorded were 42.3404 %, 36.8416 % and 17.5960 % as compared with control values. In gill decrease recorded were 33.4763 %, 28.7166 % and 27.1301 % as compared with their control values. In muscle decrease recorded were 25.8636 %, 22.1092 % and 17.5205 % as compared with their control values. These variations are recorded in Table No. 1 and Fig.1. Maximum depletion in protein content was observed in *Channa punctatus*. It was dose dependent effect.

Discussion

Complex composition and cumulative action of synthetic chemicals and industrial effluent from different sources of discharge cause enormous amount of stress on the recipient ecosystem⁷. During exposure, organism goes through a shift in all the metabolic process to overcome the toxic effects by undergoing all protective measures. Toxic effect of any pollutant leads to changes in biochemical and physiological mechanisms in the organisms. In order to investigate the physiological and biochemical changes have been studied during the course of the present study

During stress, an organism needs sufficient energy which can be supplied from reserve material *i.e.* glycogen protein cholesterol lipid *etc.* If the stress is mild, then only stored glycogen is as source of energy but when

stress is strong then energy stored in the form of lipid, protein cholesterol may be used. The toxicant also affects the metabolic or physiological activities in the animals particularly those organs in which phosphorylation, oxidation and hydrolization processes are carried out. The liver is the main spot for all the activities and also for detoxification of toxic materials. Metabolic products are broken down in liver cells due to which the liver cells may get damaged more severely than any other cells. This causes changes in biochemical composition. These changes were studied by earlier workers.

The total protein, glycogen and lipid content undergo a significant depletion in the tissue of the tannery effluent treated fish, *Cyprinus carpio*⁹. Decrease in total protein content of liver, muscle, brain and gill of monocrotophos exposed *Channa punctatus* at sublethal concentrations (0.46, 0.96, and 1.86 ppm) for 30 days¹.

The exposed fish *Clarias batrachus* to fenvalerate induced a significant decrease in protein contents of liver, brain and skeletal muscle¹⁷. The fish *Clarias batrachus*

exposed to sublethal concentration of malathion for 7, 15 and 30 days and protein content of gill was studied. They reported that gradual decrease in protein content was observed during the experimental period⁵.

In the present investigation protein content in different tissues showed decreased values in treated fishes *Channa punctatus*. Decrease in protein content may be attributed to the impairment to protein synthesis or increase in the rate of its degradation to amino acid. The fall in protein level during dimethoate exposure may be due to increased catabolism and decreased anabolism of protein⁴.

Similar results have been reported by number of researchers^{10,12,16,18}. The alteration in protein value may be due to some structural changes in the liver, the arrangement of hepatic cords leading to alteration of liver metabolism. Decrease in protein content could be possibly due to protein break down and suggests that decreased protein is due to damage of hepatic tissue and an intensive proteolysis¹¹.

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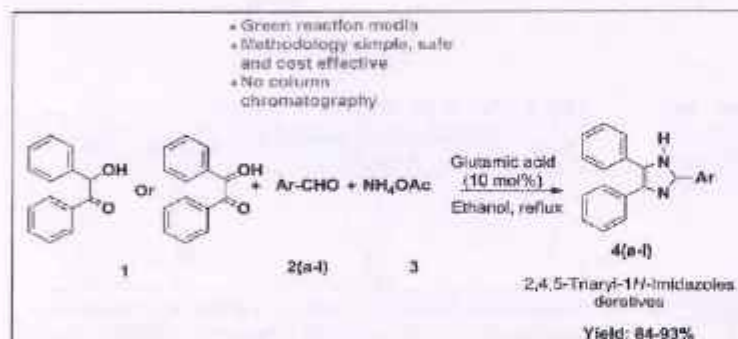
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One-Pot Synthesis of 2,4,5-Triaryl-1*H*-imidazoles Using Glutamic Acid as Catalyst

Bhaskar P. Ankush^a, Balasaheb V. Shitole^b, and Nana V. Shitole^{*c}

Glutamic acid has been found to be an efficient organocatalyst for one-pot synthesis of 2,4,5-triaryl substituted imidazole by using a mixture of an aromatic aldehyde, a benzil or benzoin and an ammonium acetate in ethanol as solvent. The cleaner reaction, and easy workup make this protocol practical and economically attractive.

Graphical abstract



Keywords

Benzil or benzoin
Glutamic acid
Multicomponent reactions
2,4,5-Triaryl-substituted imidazole

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1. Introduction

Multicomponent reactions (MCRs) refer to a reaction in which two or more ingredients are combined within a single process and the products they create, which is part of all the components are present [1]. 2,4,5-Triphenylimidazoles have widespread biological activities and their use in synthetic chemistry. The imidazole ring system is one of the most important substructures found in a large number of natural products and pharmacologically active compounds hence its can be used as fungicides, herbicides, plant growth regulators and inhibitors of some kinases [2], antibacterial [3], glucagon receptors [4], and antitumor [5]. In recent years, substituted imidazole are substantially used in ionic liquids [6] that has been given a new approach to 'Green Chemistry'. They are used in photography as photosensitive compound [7].

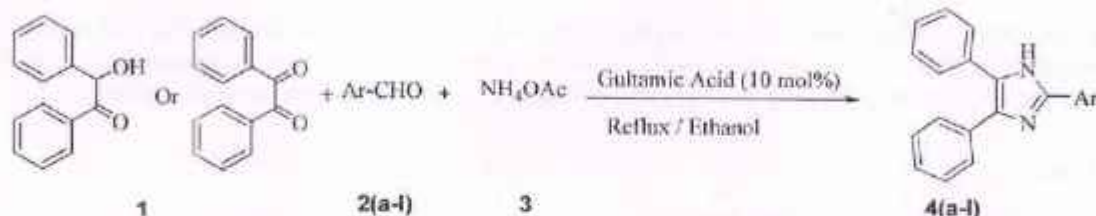
Due to their great importance, many synthesis strategies have been developed such as the hetero-cope rearrangement [8], and four-component condensation of arylglyoxals, primary

amines, carboxylic acids and isocyanides on Wang resin [9]. These are some following methods reported in the literature for the synthesis of 2,4,5-trisubstituted imidazole has been catalyzed by zeolite HY [10], ionic liquid [11], ytterbium triflate [12], silica sulfuric acid [13], InCl₃·3H₂O [14], L-proline [15], DABCO [16], InF₃ [17], SbCl₅ [18], Rochelle Salt [19], magnetic nanoparticle supported Lewis acidic [20]. However, most of the reported methodologies still have certain limitations such as expensive catalysts, toxicity of solvents, restrictions for large scale applications, critical product isolation procedures, difficulty in recovery of high boiling solvents, excessive amounts of catalysts. Thus, the development of a simple and efficient method for the synthesis of 2,4,5-triaryl-1*H* imidazole derivatives would be highly desirable.

Glutamic acid is an α -amino acid that is used by almost all living beings in the biosynthesis of proteins. It is non-essential in humans, meaning the body can synthesize it. In recent year,

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glutamic acid has received considerable attention as an efficient Corrosion Inhibitor for Aluminum in HCl Solution [21]. Glutamic acid occurs naturally in many foods, the flavor contributions made by glutamic acid and other amino acids were only scientifically identified early in the twentieth century. The substance was discovered and identified in the year 1866, by the German chemist Karl Heinrich Ritthausen [22]. When glutamic acid is dissolved in water, the amino group (-NH₂) may gain a proton (H⁺), and/or the carboxyl groups may lose protons, depending on the acidity of the medium [23-25]. By considering this activity of glutamic acid, we described an efficient method by employing glutamic acid as an efficient catalyst for the synthesis of 2,4,5-triaryl-1H-imidazoles.



Scheme 1. Synthesis of 2,4,5-triaryl-1H-imidazoles.

To evaluate the effect of solvent on model reaction was explored and obtained results are shown in Table 1. The we have screened different solvents such as acetonitrile, chloroform, dioxane, methanol, water, water: ethanol (1:1) and ethanol at reflux temperature.

Table 1. Screening of solvents for the synthesis of 4g^a.

Entry	Solvent	Time (hr)	Yield ^b
1	Acetonitrile,	6	27
2	Dioxane,	6	15
3	Chloroform	6	26
4	Methanol	6	76
5	Water	6	20
6	Water: ethanol (1:1)	6	55
7	Ethanol	6	93

^a Reaction conditions: **1** (1 mmol), **2a** (1 mmol), **3** (2 mmol), glutamic acid (10 mol %) at reflux temperature. ^bIsolated yields.

To determine the exact concentration of catalyst, we have investigated the model reaction at 2.5, 5, 7.5, 10, 12.5 mol% of glutamic acid in ethanol at reflux temperature. The product was obtained in 22, 47, 78, 93 and 93% of yield respectively. This indicates that the use of just 10 mol% of glutamic acid is sufficient to push the reaction forward (Table 2).

2. Results and Discussion

As part of our on-going investigation in developing a versatile and efficient method for synthesis of heterocyclic compounds, we report here an efficient synthetic method for the synthesis of 2,4,5-triaryl-imidazoles from benzil/benzoin, aldehydes, and ammonium acetate in the presence of glutamic acid (Scheme 1). We initially studied the reaction of 4-chlorobenzaldehyde (**2a**) as a representative aldehyde, compound **1** benzil and ammonium acetate (**3**) in the presence of glutamic acid in ethanol was considered as a standard model reaction for the optimization of reaction condition.

Table 2. Effect of concentration of catalyst.^a

Entry	Concentration of catalyst in Mole (%)	Time (hr)	Yield ^b
1	2.5	10	22
2	5	10	47
3	7.5	10	78
4	10	06	93
5	12.5	06	93

^aReaction conditions: **1** (1 mmol), **2a** (1 mmol), **3** (2 mmol) and glutamic acid (10 mol %) at reflux temperature. ^bIsolated yields.

With the optimized conditions in hand, to explore the scope of this procedure, we extended our study with wide range of aryl aldehydes containing either electron withdrawing or electron-donating substituent's (Table 3). However, the electronic nature of the aryl substituents in the aldehydes did not show strong effects in terms of yields. Thus, the electron withdrawing substituted aromatic aldehydes and the aromatic aldehydes bearing electron donating groups on the aromatic ring underwent clean conversion under the reaction conditions to produce the corresponding products in good yields. The reaction is equally good with heteroaromatic aldehyde (Table 3, entries 4k and 4l), resulting in good yields of 2,4,5-triaryl-1H-imidazoles.

Table 3. Glutamic acid catalyzed synthesis of 2,4,5, triaryl substituted imidazole (**4a-l**).

Entry	Ar-	Time (h)		Yield (%)		M.P. ^o C	
		Benzil	Benzoin	Benzil	Benzoin	Found	Literature
4a	C ₆ H ₅	6	8	90	89	274-276	272-273 [18]
4b	4-OHC ₆ H ₄	7	9	91	90	269-270	269-270 [19]
4c	3-OCH ₃ -4-OHC ₆ H ₄	6	7.5	91	90	253-255	255-256 [19]
4d	4-OCH ₃ C ₆ H ₄	5.5	8.5	85	84	226-227	227-228 [18]
4e	4-NO ₂ C ₆ H ₄	7.5	10	90	87	231-232	231-232 [19]
4f	4-CH ₃ C ₆ H ₄	6.5	7.5	91	88	228-229	226-227 [18]
4g	4-ClC ₆ H ₄	6	7	93	89	270-271	270-271 [19]
4h	4-(CH ₃) ₂ NC ₆ H ₄	5.5	6	90	88	258-259	260-261 [18]
4i	4-FC ₆ H ₄	4.5	6.5	92	91	191-192	189-190 [15]
4j	2-ClC ₆ H ₄	5.5	8	90	87	194-195	194-195 [15]
4k	C ₆ H ₅ O	6	8	91	89	199-200	198-200 [19]
4l	C ₆ H ₅ S	7.5	10	90	89	260-261	259-260 [19]

3. Material and Methods

The chemicals used, namely benzil or benzoin, aldehydes and ammonium acetate, were of analytical reagent grade. Melting points were determined in open capillary tubes in a paraffin bath. The progresses of the reactions were monitored by TLC (Thin Layer Chromatography). FT-IR spectra were recorded on Perkin-Elmer FT spectrophotometer in KBr discs. ¹H NMR spectra were recorded on a 400 MHz FT NMR spectrometer in DMSO-d₆ as a solvent and chemical shift values are recorded in units δ (ppm) relative to TMS as an internal standard.

General Procedure for the synthesis of 2,4,5-triarylimidazoles (4a-f)

A mixture of benzil or benzoin (1 mmol), aldehyde (1 mmol), ammonium acetate (2 mmol), and glutamic acid (10 mol%) in ethanol (15 ml) stirred at reflux temperature for 6 to 10h. The progress of the reaction was monitored by TLC. After completion of reaction conversion, the reaction mixture was cooled to room temperature and poured on crushed ice. The obtained crude solid product was filtered, dried and crystallized from ethanol to get the corresponding 2,4,5-triaryl-1H-imidazoles 4(a-f)

Spectroscopic data of synthesized some principal compounds

2,4,5-triphenyl-1H-imidazole (4a): IR (KBr, cm⁻¹): 3052, 1472, 1451, 1121, 697. ¹H-NMR (400 MHz, DMSO-d₆, δ ppm): 12.41 (brs, 1H, NH), 7.30–8.12 (m, 15H, Ar-H). EIMS (m/z, %): 297 (M+1). Elemental analysis. C₂₁H₁₅N₂: C, 85.11; H, 5.44; N, 9.45. Found: C, 85.02; H, 5.42; N, 9.42.

4-(4,5-diphenyl-1H-imidazol-2-yl) phenol (4b): IR (KBr, cm⁻¹): 3265, 3037, 1689, 1601, 1492, 687. ¹H NMR (400 MHz, DMSO-d₆, δ ppm): 12.38 (s, 1H, NH), 9.61 (s, 1H, OH), 7.87 (d, 2H, J = 8.4 Hz, Ar-H), 7.54 (d, 2H, J = 7.6 Hz, Ar-H), 7.66 (m, 10H, Ph), EIMS (m/z, %): 313 (M⁺). Elemental analysis. C₂₁H₁₅N₂O: C, 80.75; H, 5.16; N, 8.97. Found: C, 80.61; H, 5.17; N, 8.19.

2-(4-methoxyphenyl)-4,5-diphenyl-1H-imidazole (4d): IR (KBr, cm⁻¹): 3028, 1618, 1490, 1253, 1031, 692. ¹H-NMR (400 MHz, DMSO-d₆, δ ppm): 12.51 (brs, 1H, NH), 7.90 (d, 2H, J = 8.8 Hz, Ar), 7.31–7.82 (m, 10H, Ph), 3.71 (s, 3H, CH₃). EIMS (m/z, %): 327 (M⁺). Elemental analysis. C₂₂H₁₉N₂O: C, 80.96; H, 5.56; N, 8.58. Found: C, 80.89; H, 5.39; N, 8.42.

2-(4-Nitrophenyl)-4,5-diphenyl-1H-imidazole (4e): FTIR (KBr, cm⁻¹): 3396, 1582, 1561, 1334 cm⁻¹. ¹H NMR (400 MHz, DMSO-d₆, δ, ppm): 11.90 (brs N-H), 7.16–7.81 (m, 10H, Ph), 7.92–8.36 (d, 2H, J = 10 Hz, Ar) 7.61–8.11 (d, 2H, J = 10 Hz, Ar), EIMS (m/z, %): 342 (M⁺). Elemental analysis. C₂₁H₁₅N₂O: C, 73.89; H, 4.43; N, 12.31. Found: C, 73.19; H, 4.21; N, 12.01.

2-(4-chlorophenyl)-4,5-diphenyl-1H-imidazole (4g): IR (KBr, cm⁻¹): 3044, 1621, 1444, 1069, 760, 691. ¹H-NMR (400 MHz, DMSO-d₆, δ ppm): 12.69 (brs, 1H, NH), 8.05 (d, 2H, J = 8.4 Hz, Ar-H), 8.33 (d, 2H, J = 8.4 Hz, Ar-H), 7.21–7.50 (m, 10H, Ar-H). ES-MS (m/z): 331 (M + 1). Elemental analysis. C₂₁H₁₅N₂Cl: C, 76.24; H, 4.57; N, 8.47. Found: C, 76.10; H, 4.39; N, 8.46.

N,N-Dimethyl-4-(4,5-diphenyl-1H-imidazol-2-yl)benzene amine (4h): FTIR (KBr, cm⁻¹): 3441, 1623, 1557. ¹H NMR (400 MHz, DMSO-d₆, δ, ppm): 12.10 (1H, brs, NH), 7.71 (s 6H, CH₃), 2.31 (S H, OH), 7.51 (d, 2 H, J = 8.4 Hz, Ar-H), 7.12 (d, 2 H, J = 8.4 Hz, Ar-H) 7.51–7.82 (m, 10 H, Ar-H) ES-MS (m/z): 340 (M⁺). C₂₃H₂₁N₃: C, 81.38; H, 6.24; N, 12.38. Found: C, 81.18; H, 6.10; N, 12.11.

2-(4-fluorophenyl)-4,5-diphenyl-1H-imidazole (4i): IR (KBr, cm⁻¹): 3021, 1490, 1221, 827, 755, 685. ¹H-NMR (400 MHz, DMSO-d₆, δ ppm): 12.31 (brs, 1H, NH), 7.17–7.49 (m, 10H, Ph), 7.01 (d, 2H, J = 8.4 Hz, Ar), 7.17 (d, 2H, J = 8.4 Hz, Ar). EIMS (m/z, %): 315 (M+1). Elemental analysis. C₂₁H₁₅N₂F: C, 80.24; H, 4.81; N, 8.91. Found: C, 80.01; H, 4.19; N, 8.47.

2-(2-chlorophenyl)-4,5-diphenyl-1H-imidazole (4j): IR (KBr, cm⁻¹): 3423, 3032, 1619, 1512, 1496. ¹H-NMR (400 MHz, DMSO-d₆, δ ppm): 12.39 (brs, 1H, NH), 7.21–7.41 (m, 14H, Ar-H). ES-MS (m/z): 331 (M + 1). Elemental analysis. C₂₁H₁₅N₂Cl: C, 76.24; H, 4.57; N, 8.47. Found: C, 76.14; H, 4.42; N, 8.41.

2-(Furan-2-yl)-4,5-diphenyl-1H-imidazole (4k): FTIR (KBr, cm⁻¹): 3322, 2995, 1667, 1532, 1210. ¹H NMR (400 MHz, DMSO-d₆, δ, ppm): 12.11 (brs, 1H, NH), 7.61–7.70 (m, 3H, Ar), 7.21–8.12 (m, 10H, Ar). EIMS (m/z, %): 287 (M⁺). Elemental analysis. C₁₉H₁₄N₂O: C, 79.70; H, 4.93; N, 9.78. Found: C, 79.41; H, 4.26; N, 9.52.

4,5-Diphenyl-2-(thiophen-2-yl)-1H-imidazole (4l): FTIR (KBr, cm⁻¹): 3342, 2999, 1682, 1546. ¹H NMR (400 MHz, DMSO-d₆, δ, ppm): 12.11 (brs, 1H, NH), 7.62–7.73 (m, 3H, Ar), 7.11–8.12 (m, 10H, Ar). EIMS (m/z, %): 303 (M⁺). Elemental analysis. C₁₉H₁₄N₂S: C, 75.47; H, 4.67; N, 9.26. Found: C, 75.40; H, 4.19; N, 9.01.

4. Conclusions

In conclusion, glutamic acid can catalyze the one-pot synthesis of a large number of multisubstituted imidazoles under reflux conditions very efficiently. The reactions are environmentally benign methods, usually with improved selectivity, enhanced reaction rates, cleaner products, and manipulative simplicity. We expect that this method will find extensive applications in the fields of combinatorial chemistry, diversity-oriented synthesis, heterogeneous catalytic systems, and drug development.

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Author Contributions

Bhaskar B. Ankush: He performed reference work and all laboratory work. Balasaheb V. Shitole: He performed reference work and spectroscopic data analysis. Nana V. Shitole: He is research supervisor.

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Ankush

Effect of physical activity on physical fitness factor among first year college students

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Abstracts

The main purpose of the study was to examine the effects of physical activity on physical fitness factors among first year college student on the bend knee sit-ups variable. The study was being conducted on 250 first year college student. In the pre-post research design method use for study, the college student acted as their own control. Simple Systematic sampling was used for the collection of data. The data were anatomized using the students t- test. The position of significance was fixed at 0.05.

It was plant that the pre and post-intervention mean score of Bend knee sit up was 25.15 ± 5.17 and 30.11 ± 6.66 independently. T rate was plant to be 2.63 for fraudulent bend knees sit-ups, which was significant at .05 position. Thus, the null thesis that there won't be significant differences between pr and post-intervention fraudulent knee sit-ups was rejected.

Keywords: exercise, physical fitness, college students.

1. Introduction

Every existent is blessed with a body that is involved both in physical internal functions. These functions inclusively determine the character of an existent. They also prompt his geste and conduct. In a nutshell, they keep a person happy, energetic, content or make him sad lazy inactive or displeased. An energetic person, for illustration, can do internal and physical conditioning gormandize whereas an inactive can't. The capacity, therefore, depends upon the multiple factors that determine a particular existent. Thus, to develop and to ameliorate one's health and fitness physical education is essential.

Physical fitness is the capacity to eagerly, effectively, with interest and delectation. Also, his recovery must be briskly and hastily. Physical fitness is a veritably important moment. We say a person is a fit means a person is fit physically as well as mentally fit. If a person is fit in a factual sense also person is can perform each and every task efficiently. Suppose if work is demanded to be done this work can be done by both healthy and unhealthy person but the difference lies in timing as the work may be done by a healthy person in lower time but same work may be done by an unhealthy person in further time.

Physical fitness helps a person to fight with conditions and a physically fit person may get recovered fluently and snappily. While a person who isn't physically fit will

suffer from serious problems indeed by small illness. There are occasionally those situations where only physical fitness can be helpful. Though there are numerous physical fitness variables that can be used to determine overall strength fraudulent knee sit-ups are important for determining the core muscle strength.

2. Objective of the study

To study Effect of physical activity on bent knee sit up's ability among first Year college students.

3. Method

A sample of total 250 first year students was selected as a subject for present study. The variable selected in this study was. Only one trail was given. To analysis the data Mean, Standard deviation and t value was used at significance level of 0.05.

The subject is asked to lay down on ground on back side with knees bend, feet on the floor & heels not more than 12 inches from the buttocks. The angle at the knees should less than 90* angles the hands of the subject is on the back of the neck with the figures clasped & has to place the elbows squarely. On the mat the mat the subject's feet are to be held by assistant to keep them in touch with surface. The subject is asked to tighten the abdomen muscles & bring the head and elbows forward as he or she sit – ups. Finally, to touch the to the knees the entire above process constitutes one sit up. The subject is asked to return to the starting position & to do sit ups again.

4. Results and Discussion

Table 1:

Shows effect of physical activity on bent knee sit up's ability among first Year college students.

	Students No	Mean	S.D	S.ED	T-Value
Pre	250	25.15	5.17	1.79	2.63*
Post	250	30.11	6.66		

From the table-1, it is observed that that the Mean Value for Pre intervention Bend Knees Sit-Ups was 25.15 ± 5.17 , and Post intervention value was 30.11 ± 6.66 and S.Ed (1.79) Tt Value was 2.63* which is significant at 0.05 level of confidence. Thus, the null hypothesis was rejected.

4.1 Discussion and finding

The present study deals with the effects of physical activity on bend knee sit-up among first year college student and one variable was selected i.e. Bend knees sit ups. Association of physical fitness components and health-related quality of life in women with systemic lupus erythematosus with mild disease activity.

5. Conclusion

In the light of finding, it was concluded that there can be significant effect of exercise on bent knee sit up's ability among male college students of of age group from 20-24 in first year colleges.

6. Refrance

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Doctoral Dissertations Submitted to Swami Ramanand Teerth Marathwada
University Nanded: Bibliographic Analysis

Dr. Shivaji Narayanrao Sontakke

Vice - Principal and Librarian,
Kai.Rasika Mahavidyalaya, Deoni
Dist.Latur Maharashtra, India.

Preamble:

a) Origin of the research problem:

Libraries have played significant role in Indian education since ancient times. Universities, temples and monasteries had large collections for the benefit of their students, devotees and visitors. Accounts of the world famous Taxashila and Nalanda Universities and the rich collections in their Libraries can be found in historical records. In medieval India, Libraries were not given much attention and the result was their delay. When British rule came to India in the eighteenth century, there were only a few libraries in the country and even during the British time, Library development was very slow.

b) Interdisciplinary relevance:

Libraries were largely neglected until the beginning of the twentieth century. In 1917, Education Commission under the Chairmanship of Sir Michael Sader, then Vice Chancellor of the University of Leeds, mentioned unsatisfactory conditions and poor facilities in Indian Libraries in its report. Libraries in general at this time were quite inadequate for all types of researchers and readers. The Commission recommended that Libraries be strengthened and that conditions and facilities be improved. Despite these recommendations, very little progress was made up to 1947. It was only after independence that proper attention was given to the libraries and much needed changes and improvements were made.

c) Review of Research and development in the subject:

The Indian contribution to world librarianship has been great. Indian even produced a

genius in Dr.S.R.Rangnathan. Despite these accomplishments, little is known about Indian Libraries in the western world. The problems inherent in the creation of Library systems in developing countries are by their very nature overlooked by western scholars.

d) International/National Status:

Universities are always engaged in research especially applied research. India has invested cores of rupees in research. Swami Ramanand Teerth Marathwada University, Nanded is one of the most popular Universities in Maharashtra in general and Marathwada in particular. The researcher has Chosen the topic for present study is Doctoral Dissertations in Swami Ramanand Teerth Marathwada University, Nanded: Bibliographic Analysis

It is a unique work which contains the contributions of Swami Ramanand Teerth Marathwada University over the last 26 years in research leading to doctoral Degree. The work will analyze bibliometric ally. It will be compilation of information about intellectual assets spread across near about doctoral dissertations. Hence the research work will serve as an accurate base not only for the Teachers, Librarians but also for the research scholars on International/National level.

e) Significance of the study:

Man is an intelligent animal. Due to his greater curiosity, he always tries to discover new things, or to search the answers to unsolved problems. Man Concentrates on a concept and with the help of experiments and analysis come to a conclusion for prediction and ultimate control of events. Today, research has become an unending activity. Research consists of learning more and more about less and less until the researcher knows

everything about nothing. The researchers are actively engaged in discovering the cause- effect relationship to develop generalization, principles or theories. Researchers are the specialists engaged in analyzing limited aspects of broad problems, through careful observations and the application of rigorous logic. Research is essentially an intellectual and creative which continuously broaden the frontiers of knowledge. The result of every research should be communicated freely and expeditiously to everyone. In this regards, Doctoral Dissertations in Swami Ramanand Teerth Marathwada University, Nanded: Bibliographic Analysis will be a systematic analysis of doctoral dissertations awarded by University during the last 05/26 years. The researcher will scientifically analyze the theses by year, faculty, subject, guide and language wise etc. The researcher also provided the lists of recognized research centers and recognized research guides of the university with addresses. The researcher will prepare Rank -1 list of research guides in concern subjects. The Present study will be helpful to the researchers, teachers, librarians as well as policy makers as a research inventory tool.

Statement of Problem:

The statement of the problem of the present study is Doctoral Dissertations in Swami Ramanand Teerth Marathwada University, Nanded: Bibliographic Analysis

Operational Definitions:**(a) Research:**

Research is a systematic activity to reveal the truth. All around us, we notice that human advancement, inventions and discoveries are feasible because the researchers take pain to be curious and inquisitive. Kerlinger says, research is a Systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomenon. However, the Encyclopedia of Social Sciences defines research as the manipulation of generalizing, extending, correcting or verifying knowledge. That means research is a fact-finding process through the application of scientific methods.

(b) Study:

According to Illustrated Oxford Dictionary of English Language, (2007, p. 826) Study means

the devotion of time and attention to acquiring information or knowledge, especially from books, the pursuit of academic Knowledge (continued their studies abroad). A thing that is or deserves to be investigate or examine (a subject) (Bibliometric Study). According to concise Oxford English Dictionary, (2007b, p.1432) Study means, A detailed investigation and analysis of a subject or situation, a thing that is or deserves to be investigated, done with deliberate and carefully effort.

(c) Doctoral:

According to Illustrated Oxford Dictionary of English Language, (2007b, p.237) of or for a degree of doctor. Also noun of this is Doctorate: The highest University Degree in any faculty, sometimes, honorary. According to Concise English Dictionary (2007c, p.421), Doctoral means: Relating to a doctorate and doctorate is the highest degree awarded by university faculty or other approved educational organization.

(d) Theses:

Theses is a long piece of writing based on your own ideas and research that you do as part of a University degree especially a higher degree such as Ph.D. (Source: <http://www.Collinsdictionary.com>)

(e) Doctoral Dissertation:

The Doctoral Dissertations which are products of research activity form an important source of information because apart from giving the experimental evidences, it also records a thorough review of works that have already been done in a particular field to show that the proposed work is not done elsewhere.

(f) University:

According to Illustrated Oxford Dictionary of English Language (2007g.p.910) University means, An educational institution of Advanced learning and research conferring degrees. According to Concise Oxford English Dictionary, (2007h, p.1519) University means, a high - level educational institution in which students' study for degrees and academic research is done. (SRTMU: Swami Ramanand Teerth Marathwada University: A name of university).

(iii) Objectives:

1. To know the availability status of Doctoral dissertations in the Swami Ramanand Teerth

Marathwada University Library.

2. To trace the contribution of research in Swami Ramanand Teerth Marathwada University.
3. To Identify the subject wise analysis of research
4. To classify the doctoral dissertations by year, guide and Discipline.
5. To prepare rank list of top twenty Research guides in the University.
6. To know and identify the reasons behind the non-availability of doctoral dissertations in the University Library.
7. To prepare bibliography of doctoral dissertations accepted by SRTMUN.
8. To suggest ways and means to improve the availability status of doctoral dissertations in the University Library.

Hypothesis of the study:

1. Some Doctoral Dissertations are yet not available in the University Library which was accepted by the University.
2. Maximum theses are produced by the University in the discipline of Science.
3. The majority of the research guides guided to below ten researchers.
4. The maximum doctoral dissertations are accepted during the year 2000 onwards.

Scope and Limitations:

The University has established in 1994 and the study is for the period 1994 to 2020 (i.e.26 years). The SRTM University has compiled doctoral dissertations for the period 1994 to 2015 in a book form. The researcher will collect the data 2015 to 2020 and analyze the whole doctoral dissertations i.e. from 1994 to 2020 as per the objectives of the present study. The researcher will take the serious efforts about bibliographical information regarding the availability and non – availability status of doctoral dissertations in the University Library. The present study is limited to doctoral dissertations accepted by Swami Ramanand Teerth Marathwada University, Nanded only. The researcher will cover the contribution in the minor and major research projects sanctioned by UGC during the period Jan.2016 to Dec.2020. The researcher will also cover the contribution in the patents of teachers of Swami Ramanand Teerth Marathwada University Nanded.

(iv) Methodology:

Researcher will apply Bibliometric Research method for the present study.

Data Collection:

In any research work data collection is vital part of the research. For the present study the bibliographical descriptions of doctoral dissertations available in the disciplines of sciences, Social Sciences and languages in the Swami Ramanand Teerth Marathwada University, Nanded is used for a data collection.

Sources of Data Collection:

1. Ph. D. Section's Record of the University.
2. University website (i.e.www.srtmun.ac.in)
3. Compiled doctoral dissertations in book form 1994 to 2015 by the SRTM University.

Data Analysis:

The analysis of data will be presented in a systematic way with the help of graphs, charts, tables and other diagrams.

Outcome:

1. Bibliographical Details of Doctoral Dissertations accepted by SRTMUN.
2. Bibliographical Details of Doctoral Dissertations accepted by SRTMUN but not yet available in the SRTMUN Library.
3. Year wise Distribution of Doctoral Dissertations from 1994 to 2020.
4. Subject wise Productivity of Doctoral Dissertations.
5. Language wise Distribution of Doctoral Dissertations.
6. Quantum of Doctoral Dissertation by Discipline.
7. Guide wise Distribution of Doctoral Dissertations.
8. Quantum of Doctoral Dissertations by Decade.
9. Distribution of Research Guides Contributing Ph.D. work.
10. Rank List of Guides.
11. Subject wise Rank – 1 Guides in SRTMUN.
12. Subject wise distribution of Non-Available Doctoral Dissertations.
13. Contribution of teachers of SRTMUN in Major and Minor Research Projects in Science during the year 2019-20.

14. Contribution of teachers of SRTMUN in Major and Minor Research Projects in Social Science, Humanities and Languages during the year 2019-20.
- (v) Year-wise Plan of work and targets to be achieved:

Phase	Work	Duration
Phase I	Review of related literature	03 months
Phase II	Collection of Data	06 months
Phase III	Analysis & Interpretation	09 months
Phase IV	Project Compilation	06 months
	Total Project duration	24 months

Conspectus:

The present study will be divided in to the following chapters.

1. INTRODUCTION

- 1.1 Preamble
- 1.2 Statement of Problem.
- 1.3. Significance of Research.
- 1.4. Operational Definitions
 - 1.4.1 Research
 - 1.4.2. Study
 - 1.4.3. Doctoral
 - 1.4.4. Theses.
 - 1.4.5. Doctoral Dissertations.
 - 1.4.6. University.
- 1.5. Objectives.
- 1.6. Hypothesis of the study.
- 1.7. Scope and Limitations.
- 1.8. Research Methodology
 - Data Collection
 - Analysis of Data
- 1.9. Conspectus.

2. REVIEW OF RELATED LITERATURE**3. SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY LIBRARY: AT A GLANCE.****4. DATA COLLECTION, ANALYSIS AND INTERPRETATION.****5. CONCLUSION AND IMPLICATIONS.**

- References
- Appendices

ACKNOWLEDGEMENT

The above Minor Research Project entitled "Doctoral Dissertations in Swami Ramanand Teerth Marathwada University Nanded: Bibliographic Analysis" is Sanctioned by Swami Ramanand Teerth Marathwada University Nanded under the Scheme of Support for Minor Research Project.

I offer my Sincere thanks to Hon. Vice – Chancellor, Hon. Pro. Vice – Chancellor, The Director, Innovation, Incubation and Linkages, The Dy. Registrar, Academic Planning and Development Section and the Minor Research Project Sanctioning authority of Swami Ramanand Teerth Marathwada University Nanded for Sanctioning and giving the opportunity to work on this Minor Research Project.

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6

बंधसंग्रह निवड व्यवस्थापन : एक अभ्यास

डॉ. शिवाजी नारायणराव सोनटपळे

उपप्राध्यापक व प्रबंधक
के. सी.एस. महाविद्यालय,
देवली, जि. तासूर

राजू मारोती इंदोर

संशोधक प्रबंधक
मा. दीनानाथ चोपकर महाविद्यालय,
औरंग मंडळवली, जि. तासूर

Research Paper - Library Science

प्रस्तावना :

ग्रंथ संग्रहाचे व्यवस्थापन करीत असताना वाचकांच्या गरजा, आवडी निवडी लक्षात घेऊनच मागणी तसा पुरवठा करवा या न्यायाने ग्रंथांची निवड करावी. म्हणजे वाचकांना हजे ते ग्रंथ मिळतील, ज्या ग्रंथांना फारसे वाचक मिळण्याची सन्नयता नाही असे ग्रंथ खरेदी करण्याचे टाळावे. कोणतेही ग्रंथालय सर्वेच प्रकाशित ग्रंथांचा संग्रह करू शकत नाही. त्यामुळे ग्रंथालयाच्या आर्थिक अंदाजपत्रकानुसार ग्रंथ निवडीमध्ये वाचकांच्या वेदनांनी भावून महत्त्व द्यावे. काही विशिष्ट ग्रंथांची मागणी वाचकांकडून होते. त्यावेळी ते ग्रंथ अंतर ग्रंथालयीन देणेनद्वारा मिळवून वाचकांना द्यावेत.

योग्य वाचनसाहित्याची निवड करणाऱ्यासाठी ग्रंथालयाकडे विशिष्ट प्रकारची मानसिक बैठक, वैचारिक धारण, विस्तृत दृष्टिकोण आणि व्यावसायिक अनुभव असणे आवश्यक आहे. तसेच त्याच्या वाचकांच्या वाचनसाहित्याविषयी घटना माहित असणे आवश्यक आहे. तसेच त्यांच्याकडे अधीकार्य व लक्ष्यीकता हेही गुण असणे आवश्यक आहे. बरेचते वाचनसाहित्य कोणत्यासाठी व का उपयुक्त आहे हे त्याला निपट्यापत्रीपणे सांगता आले पाहिजे. तसेच ग्रंथालयाकडे उपलब्ध असलेल्या आर्थिक तरतुदी, मनुष्यबळ व जागा या साधनांची त्याला ज्ञान असणे आवश्यक आहे व या साधनांच्या अभावामुळे उपभू शकण-या अडचणीबाबत अंदाज करता आला पाहिजे. वाचनसाहित्याची निवड करणे हे एक शस्त्रही व कलाही आहे. वाचनसाहित्याची निवड करताना फेवडा तत्वाचा विचार करून घेतला पाटी वर वाचकांच्या गरजांसाठी विचार करावा लागतो.

महाविद्यालय ग्रंथालयाच्या वाचकांच्याकडे प्रामुख्याने शिक्षार्थी व शिक्षक यांचा समावेश असतो. वाचकांवर ज्या महाविद्यालय ग्रंथालयाक अवघेल त्या नुसार वाचनसाहित्य



विद्यार्थी व शिक्षकांना पुरविले पाहिजे. म्हणून योग्य वाचनसाहित्य योग्य वाचकांच्या हाती मिळविण्याचे धोरण प्रत्येक ग्रंथालयाने ठेवले पाहिजे जेणेकरून ग्रंथालयातले समस्या निर्माण होणार नाहीत.

ग्रंथनिवडी साठी वाचकांनाही महत्त्व दिले जावे. वाचकांच्या दृष्टीकोणातून त्यांच्या मागणीनुसार ग्रंथ खरेदी करावी. तसेच ग्रंथांचे ग्रंथालयीन सर्व सोपनकार लक्षात करून ते ग्रंथ वाचकांना लवकरच उपलब्ध करून द्यावेत. नवीन ग्रंथविषयी वाचकांना, अभ्यासकांना माहिती द्यावी. त्यामुळे त्यांचा वेळ बचावा जात नाही. नवीन दाखल झालेले ग्रंथ वा त्यांची वेधने ग्रंथालयाच्या दर्शनी भागात प्रदर्शित करावी.

उद्दिष्टे :

1. ग्रंथालयासाठी वाचन साहित्य खरेदीच्या बोरणांची माहिती घेणे.
2. वाचन साहित्याच्या सूक्ष्मी माहिती घेणे.
3. ग्रंथालयातील उपलब्ध निवडकालिकांची माहिती घेणे.
4. ग्रंथालयातील ग्रंथ सूक्ष्मी माहिती घेणे.

प्राथमिक अनुमान / गृहितके :-

1. ग्रंथालयास वाचन साहित्या ग्रंथालय समितीच्या सुचने नुसार मार्गविल्यात येते.
2. राष्ट्रीय निवडकालिकांचे प्रमाण कमी आहे.

संशोधनाची व्याप्ती व मर्यादा :

अ) व्याप्ती :-

प्रमाण संशोधनाची व्याप्ती दख्खी तामानंद तीर्थ महठानाडा विद्यापीठ नांदेडली संलग्नित नांदेड, परभणी, धिंगोली व तासूर या चार जिल्ह्यातील कला, वाणिज्य व विज्ञान अनुदानित महाविद्यालयापुरतीच मर्यादित आहे.

संशोधन पध्दती :

प्रस्तुत संशोधनासाठी वर्णनात्मक संशोधन पध्दतीचा वापर केला जाणार असून तथ्य संकलनासाठी प्रश्नांसाठी अवलंब करणारा आला आहे.

तथ्य संकलन :-

प्राथमिक आणि द्वितीय साधनांच्या साहाय्याने तथ्य संकलन करण्यात आले आहे. संकलित तथ्यांच्या आधारे विश्लेषण करण्यात आले आहे. विश्लेषणाच्या आधारे निष्कर्ष काढण्यात आले आहे.

माहिती विश्लेषण :

1. ग्रंथालयासाठी वाचन साहित्य खरेदीचे निवड दर्शिकांची मागणी

Table 2: Comparison of the results of the two studies.

Sl. No.	Parameter	Study 1	Study 2
1	Mean / Standard Deviation	12	15
2	Significance level	0.05	0.01
3	Sample size	100	150

Table 2: Comparison of the results of the two studies.

The results of the two studies are compared in Table 2. The mean and standard deviation of the two studies are compared. The significance level and sample size are also compared.

Table 3: Comparison of the results of the two studies.

The results of the two studies are compared in Table 3. The mean and standard deviation of the two studies are compared. The significance level and sample size are also compared.

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जागात अशा प्रचालकाचे प्रमाण ३४.७ टक्के आहे.

निष्कर्ष :

१. ७०.७ टक्के प्रचालकांचे प्रचालन समितीच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
२. २२.७ टक्के प्रचालकांनी स्वतः प्रचालकांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
३. ५८.७ टक्के प्रचालकांनी वाचकांच्या भागणी नुसार वाचन साहित्य खरेदी केले आहे.
४. ४५.३ टक्के प्रचालकांनी विद्यापीठाने निर्धारित केलेले वाचन साहित्य खरेदी केले आहे.
५. १३.३ टक्के प्रचालकांनी वाचनसाहित्याच्या किंमतीनुसार वाचनसाहित्य खरेदी केले आहे.
६. ४०.०० टक्के प्रचालकांनी प्राचार्यांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
७. ५६.०० टक्के प्रचालकांनी विभाग प्रमुखांच्या सुचनेनुसार वाचन साहित्य खरेदी केले आहे.
८. ४२.७ टक्के प्रचालकांनी ग्रंथ मागणीनुसार वाचन साहित्य खरेदी केली आहे.
९. ५२ टक्के प्रचालकांत वाचन साहित्याच्या सुरक्षेसाठी प्रचालकांच्या सर्व लिडकांना जाळ्या बसवण्यात आल्या आहेत.
१०. १४.७ टक्के प्रचालकांत सुरक्षा रक्षक आहेत.
११. ६१.३ टक्के प्रचालकांत प्रवेश फक्त ओळखपत्र धारकांना दिले जात आहे.
१२. ४९.३ टक्के प्रचालकांत आग प्रतिरोधक साधने वापरली जात आहेत.
१३. ६४ टक्के प्रचालकांत CCTV ची सोय आहे.
१४. १३.६ टक्के प्रचालकांत पुस्तक पहाळ झाल्यात प्रचालक/ प्रचालक कर्मचारी यांचेकडून भरपाई केली जाते.
१५. ८४ टक्के प्रचालकांत संबंधीत वाचक यांचेकडून पुस्तक पहाळ झाल्यास भरपाई केली जात आहे.
१६. ७७.३ टक्के प्रचालकांनी वाचन साहित्याची पडताळणी केली आहे.
१७. १०.७ टक्के प्रचालकांनी बायकोड नुसार पडताळणी केली आहे.
१८. ६६.७ टक्के प्रचालकांनी वॅन्यूअल नुसार पडताळणी केली आहे.

१९. २२.७ टक्के प्रचालकांची अद्यापही पडताळणी करण्यात आली नाही.
२०. ५३.३३ टक्के प्रचालकांनी ई-बुक व ई-जर्नलचा वापर केला आहे.
२१. ४६.६७ टक्के प्रचालकांनी ई-बुक व ई-जर्नलचा वापर केला नाही.
२२. सर्वांत जास्त म्हणजेच ११.२२ टक्के ग्रंथ संख्या सन २०१०-२०११ या वर्षात वाढली आहे.
२३. सर्वांत कमी म्हणजेच ७.२८ टक्के ग्रंथ संख्या सन २०१५-२०१६ या वर्षाची आहे.
२४. १३.१८ टक्के सर्वांत जास्त ग्रंथ खर्च सन २००९-२०१० या वर्षात आहे.
२५. ५.३० टक्के सर्वांत कमी ग्रंथ खर्च सन २०१९-२०२० या वर्षात आहे.
२६. १०० टक्के प्रचालकांत पठणी भाषेची टैनिके आहेत.
२७. १३.३ टक्के प्रचालकांत सर्वांत कमी वार्षिके आहेत.
२८. १८.७ टक्के प्रचालकांत इंग्रजी भाषेची टैनिके मागवले आहेत.
२९. ४ टक्के प्रचालकांत डेनालीके मागवले आहेत.
३०. २० टक्के प्रचालकांत हिंदी भाषेची टैनिके मागवले आहेत.
३१. १.३ टक्के प्रचालकांत सर्वांत कमी अर्धवार्षिके आहेत.
३२. १.३ टक्के प्रचालकांत वार्षिके आहेत.
३३. ५.३ टक्के प्रचालकांत उर्दू भाषेची टैनिके आहेत.
३४. १४.७ टक्के प्रचालकांत ग्रंथ पहाळ झाल्यास केवळ मूळ किंमत वटवून घेतली आहे.
३५. ७४.७ टक्के प्रचालकांत ग्रंथ पहाळ झाल्यास मूळ किंमत व टॅड वसूल केला जातो.
३६. ३४.७ टक्के प्रचालकांत ग्रंथ पहाळ झाल्यास पर्गांनी प्रत विकतारली जात आहे.
३७. ८ टक्के प्रचालकांची एका वर्षात ग्रंथ पडताळणी केली जाते.
३८. ८ टक्के प्रचालकांची दोन वर्षात ग्रंथ पडताळणी केली आहे.
३९. १२ टक्के प्रचालकांनी तीन वर्षात ग्रंथ पडताळणी केली आहे.
४०. २.७ टक्के प्रचालकांनी चार वर्षात ग्रंथ पडताळणी केली आहे.
४१. २४ टक्के प्रचालकांनी पाच वर्षात ग्रंथ पडताळणी केली आहे.
४२. ३६ टक्के प्रचालकांनी षेक वर्षात ग्रंथ पडताळणी करण्यात आली नाही.
४३. २० टक्के प्रचालकांत वाचनसाहित्य खरेदी करताना प्रचालकांचे गत विचारात घेतले जात नाही.

४४. ३४.७ टक्के ग्रंथालयांनी तंत्र हे ज्ञानत कमीशन वर खरेदी केले आहे.
४५. १६ टक्के महाविद्यालयातील कार्यालयांनी विद्यार्थी व शिक्षकांचे मोठे खेवले नाहीत.
४६. ४८ टक्के ग्रंथालयांचे ग्रंथ वाढाळ झोप्याचे प्रमाण जास्त आहे.
- शिफारसी :
1. महाविद्यालयातील ग्रंथालयात राष्ट्रीय व आंतरराष्ट्रीय स्तरावरील निवतकालिके उपलब्ध केले जावेत.
 2. महाविद्यालयाच्या व्यवस्थापकांनी ग्रंथालयाची निगडीत वाचनसाहित्य व इतर साहित्याची खरेदी करताना वेळोवेळी ग्रंथालयाची निवारविनिमय करूनच निर्णय घ्यावेत.
 3. ग्रंथालयांनी वाचकांच्या मागणी नुसार वाचन साहित्य खरेदी करवेत.
 4. ग्रंथालयांनी ई-बुक्का व ई-जर्नला या वरपर फाउंडा.

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10. महाजन, शशांक, (२००१) ग्रंथालय संदर्भ सेवा, पुणे, विद्यार्थी प्रकाशन.

Rimi Habir



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Calvin



Synthesis of 5-Arylidene-2, 4-thiazolidinediones by Knoevenagel Condensation Using Tannic Acid as Catalyst

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ABSTRACT

The synthetic work has been carried out by simple Knoevenagel condensation reaction between various substituted aromatic aldehydes and active methylene compound (Thiazolidine-2,4-dione) using tannic acid as an efficient catalyst in ethanol solvent under reflux condition.

Keywords: Tannic Acid; Thiazolidine-2,4-diones; 5-Arylidene-2,4-Thiazolidinediones, Knoevenagel condensation

I. INTRODUCTION

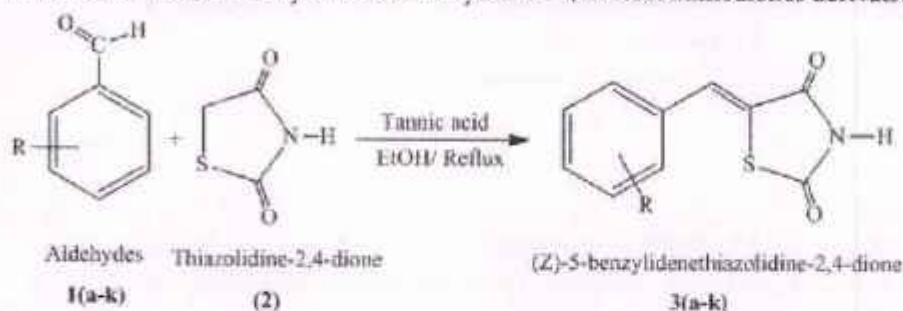
Tannic acid catalyzed Knoevenagel condensation of aromatic aldehydes and active methylene compounds (Thiazolidine-2,4-diones) has been performed. Knoevenagel condensation is multi-components reactions resulting in the formation of new C-C bonds. The reaction is applicable for the synthesis of substituted alkenes, α , β -unsaturated nitriles, esters, acids, dyes and polymers..[1-4]

The condensation of 2,4-thiazolidinediones with aldehydes has been a subject of considerable interest. The products 5-arylidene-2,4-thiazolidinediones are important structural elements in medicinal chemistry and are found to possess significant hypoglycemic,[5] anti-inflammatory,[6] antitumor,[7] antifungal, [8] antidiabetic, [9] and antimicrobial [10]activities.

There are several methods reported in the literature for the synthesis of benzylidenethiazolidine-2, 4-dione derivatives such as, baker's yeast,[11] piperidine in ethanol under reflux conditions [12], piperidinium acetate in DMF under microwave irradiation, [13] grinding with ammonium acetate in the absence of solvents, [14] sodium acetate in acetic acid under microwave irradiation [15] , KAl(SO₄)₂·12H₂O in H₂O at 90 C, [16] polyethylene glycol-300 at 100–120°C, [17] L-proline,[18] thiourea,[19] sodium acetate in acetic acid under reflux conditions [20] hydrochloric acid,[21] glycine/solvent free condition under microwave irradiation, [22] (DABCO) in aqueous media, [23] ethylenediamine diacetate, [24] catalyst free/water as green solvent under

microwave irradiation, [25] L-tyrosine/water [26] acidic ionic liquid,[27] calcium hydroxide, [28] tungstic acid, [29].

However, most of the reported methodologies still have certain limitations such as expensive catalysts, toxicity of solvents, restrictions for large scale applications, critical product isolation procedures, difficulty in recovery of high boiling solvents, excessive amounts of catalysts. Thus, the development of a simple and efficient method for the synthesis of 5-arylidene-2,4-thiazolidinediones derivatives would be highly desirable.



Scheme 1. Synthesis of substituted Benzyldenethiazolidine-2,4-dione derivatives.

Scheme 1: Synthesis of substituted Benzyldenethiazolidine-2,4-dione derivatives.

II. RESULTS AND DISCUSSION

During optimization of reaction conditions and solvent, it is obtained that reaction is not taking place at room temperature and not even at 50°C while at 100°C in ethanol reaction is faster and completed in less time as compared to other solvents such as water, DMF, DMSO, and mixture of ethanol : water.

Table1: Optimization of different solvents for the synthesis of 3c model product.

Entry	Solvent	Time (Hrs)	Yield (%)
1	EtOH	11	70
2	EtOH:H2O	30	60
3	Water	22	55
4	DMF	20	62
5	DMSO	19	62
6	Solvent less	25	64

Table 2: Tannic acid catalyzed synthesis of 5-arylidene-2,4-thiazolidinediones derivatives in ethanol

Entry	Product	Aldehyde	Time (Hours)	Yield(%)	M.P (°C)	M.P Lit. (°C)
1	3a	C ₆ H ₅ -	32	76	237	240-241 ^[26]
2	3b	2-(Cl)C ₆ H ₄ -	30	72	208	210-212 ^[29]
3	3c	4-(Cl)C ₆ H ₄ -	27	70	110	109 ^[23]
4	3d	3-(NO ₂)C ₆ H ₄ -	31	74	184	186-188 ^[26]

5	3e	4-(NO ₂)C ₆ H ₄ -	33	70	180	182-183 ^[26]
6	3f	3-(OH)C ₆ H ₄ -	28	68	116	118-120 ^[25]
7	3g	4-(OH)C ₆ H ₄ -	20	59	114	111-113 ^[23]
8	3h	4-(OCH ₃)C ₆ H ₄ -	21	61	236	235-237 ^[26]
9	3i	Furan-2-CHO	22	69	238	240-242 ^[29]
10	3j	Thiophene-2-CHO	21	68	223	-
11	3k	Pyridine-3-CHO	25	71	216	-

III. EXPERIMENTAL

All the chemicals used were obtained from commercial suppliers and used without further purification. Progress of the reaction was monitored by thin layer chromatography in ethyl acetate and n-hexane (3:7) mobile phase. Melting points were recorded on open capillary method and were uncorrected.

3.1. General procedure for the synthesis of Benzylidenethiazolidine-2,4-dione derivatives:

A mixture of substituted aromatic aldehydes (1mmol), active methylene compound (Thiazolidine-2,4-dione) (1mmol) and ethanol (10 ml) was stirred at reflux temperature in the presence of tannic acid catalyst for a given specific time. The progress of reaction was monitored by TLC. After completion of reaction the reaction mixture was cooled to room temperature and ice cold water is added to it. The solid product was filtered, washed with cold water and recrystallized from ethanol to obtain pure Benzylidenethiazolidine-2,4-dione derivatives.

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महाविद्यालय ग्रंथालयातील पायाभूत समस्या आणि उपाययोजना :

डॉ. शिवाजी नारायणराव सोनटक्के

एक अभ्यास

रजु भारती इंदीन

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प्रस्तावना :

महाविद्यालयाच्या ग्रंथालयाची इमारत ही स्वतंत्र व मध्यवर्ती ठिकाणी असणे आवश्यक आहे. कारण त्यामध्ये वाचकांच्या वेळे वेगळे जाणे सुलभ होते. तसेच विद्यार्थ्यांना परिश्रम आणि असह्यतांनंतर ग्रंथालयात येण्याच्या सोयीची असल्यामुळे त्यांचा वेळ सुध्दा वाचत असतो. त्या दृष्टीकोणतून ग्रंथालयाच्या इमारतीचे ठिकाण हे महाविद्यालयाच्या मजपसती ठिकाणी असणे आवश्यक आहे. तसेच ती इमारत मजबूत आणि छोट्या चांगल्या पासून दूर, वातावरण शांत असणे आवश्यक असते. व्यवहारात मात्र अशी आदर्श स्थिती स्वप्नित आढळते. सर्वस मोठ्या एखाद्या खोलीतच ग्रंथालयाची स्थापना केलेली असते. अनेक ग्रंथालयांच्या इमारती एखाद्या दनशूर व्याखीने घन केलेल्या असतात. तसेच अगर संस्थेने किंवा विद्यापीठ अनुदान आयोग चांग्या अनुदान निधीतून ग्रंथालय इमारतीचे बांधकाम केलेले असते. जर ग्रंथालय इमारतीचा आराखडा तयार करायचे वगन एखाद्याला सापडले तर त्यामध्ये ग्रंथालयाचे मत विचारत घेवून त्या जागेच्या बाबतीत कटाक्षाने ध्यान दिले पाहिजे. वाचकांच्या सोयीची पडेल अशीच जागा ग्रंथालया इमारतीस निवडणे आवश्यक आहे. पण सध्या संस्थेची याबाबत जबाबदार घेतले जात नाही. ग्रंथालयामध्ये अनेक विभाग असतात. एक ग्रंथालय इमारतीचे बांधकाम करत असताना त्यासाठी एक प्रमाण ठरवून दिलेले आहे. त्यानुसार त्याचे बांधकाम करणे आवश्यक आहे. पण प्राचार्य व संस्था त्या मध्ये दखल देत असतात. त्यामुळे ग्रंथालय इमारतीमध्ये अनेक समस्या निर्माण होत असतात.

ग्रंथालयाला इमारत नसते ती एखाद्या ग्रंथालयाच्या खोलीत त्याची व्यवस्था

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केलली असते. संशोधकांने विद्यापीठातील जवळपास सर्वत्र ग्रंथालयांना भेटी दिल्या असता असे आढळून आले, की संशोधकांच्या एकही ग्रंथालय चांगले सुसज्ज वाटले नाही. ग्रंथालय इमारत आहे, पण ती घुटपुंजी स्वरूपाची आहे. इमारतीबरोबरच ग्रंथालयात ज्या काही पौष्टिक सोयी असल्या पाहिजे त्या ठिकाणी नाहीत. त्याचे उदाहरण म्हणजे संशोधकांचे ग्रंथालय आहे या ग्रंथालयासाठी शासनाकडून ४० वर्षापूर्वी महाविद्यालयाची चार मजली इमारत बांधकाम होईल इतके अनुदान प्राप्त झाले होते, पण त्या ठिकाणी ग्रंथालयाचे मत विचारत न घेतल्यामुळे ग्रंथालय इमारत सुसज्ज स्थितीत नाही. त्यामध्ये अनेक समस्या आहेत. त्यामध्ये देवघेव विभाग, ग्रंथ दालन विभाग, नियतकालिक विभाग, संगणक विभाग यांची सोय व्यवस्थीत नाही. तसेच पिण्याच्या पाण्याची सोय नाही. फर्निचर व्यवस्थित नाही. स्वच्छतागृहाची सोय नाही. अशा अनेक समस्या ग्रंथालयांना भेडसावतात. त्यासाठी प्रशासन व्यवस्था जबाबदार आहे. यामध्ये जर दुरुस्ती करण्याची असेल तर विद्यापीठाने व शासनाने पात दखल घेवून त्यात बदल केला पाहिजे. त्यासाठी एक वेगळी कमीटी नेवून ग्रंथालय इमारतीची तपासणी करावी. तसेच यात काही सुधारणा होतील असे संशोधकांस वाटते.

उद्दिष्टे :

१. ग्रंथालयाच्या स्वतंत्र इमारतची माहिती घेणे.
२. ग्रंथालय इमारतीचे कोणत्या निधीतून बांधकाम करण्यात आले याची माहिती घेणे.
३. ग्रंथालयातील विविध विभागांची माहिती घेणे.
४. ग्रंथालयातील फर्निचरची माहिती घेणे.
५. ग्रंथालयातील समस्यांचा वेध घेणे.

प्राथमिक अनुमान/पुष्टितके :-

१. ग्रंथालयात स्वतंत्र इमारतीचे प्रमाण कमी आहे.
२. ग्रंथालयातील वेगवेगळ्या विभागांची संख्या कमी आहे.

संशोधनाची व्याप्ती व मर्यादा :

अ) व्याप्ती :

प्रस्तुत संशोधनाची व्याप्ती स्वामी समर्पद तीर्थ मराठवाडा विद्यापीठ उद्दिष्टशी संलग्न नॉटिड, परभणी, दिणोली व लतूर या चार जिल्हातील कल्ल, चाणिय्य व विज्ञान अनुदानित महाविद्यालयांपर्यंतच मर्यादित आहे.

संशोधन पध्दती :

प्रस्तुत संशोधनासाठी वर्णनात्मक संशोधन पध्दतीचा वापर केला असून तथ्य संकलनासाठी प्रश्नावलीचा अवलंब करण्यात आला आहे.

तथ्य संकलन :-

प्राथमिक आणि द्वितीय साधनांच्या साहाय्याने तथ्य संकलन करण्यात आले आहे. संकलीत तथ्यांच्या आधारे विश्लेषण करण्यात आले आहे. विश्लेषणाच्या आधारे निष्कर्ष व्हाण्यात आले आहेत.

माहिती विश्लेषण :

१. महाविद्यालय ग्रंथालयाची स्वतंत्र इमारत दर्शविणारी सारणी

प्रस्तुत विद्यापीठाअंतर्गत ग्रंथालयाची स्वतंत्र इमारत आहे किंवा नाही या विषयी माहिती पुढील प्रमाणे देण्यात आली आहे.

सारणी क्र. १

अ. क्र.	प्रकार	प्रतिशत	संख्या	प्रमाण %
१	ग्रंथालयाची स्वतंत्र इमारत	होय	21	४६.६%
		नाही	30	६६.६%
		एकूण	51	100
ग्रंथालय इमारत नसले तर				
१	महाविद्यालयाच्या एक खोलीत	30	६६.६%	
२	महाविद्यालयातील कोठळ्या जागेत	0	0	
		30	६६.६%	

सारणी क्र. १ वरून असे निदर्शनास येते की, प्रस्तुत विद्यापीठाअंतर्गत ग्रंथालयाची स्वतंत्र इमारत असलेल्या महाविद्यालयाचे प्रमाण ४६.६ टक्के आहे. तर ग्रंथालयाची स्वतंत्र इमारत नसलेल्या महाविद्यालयाचे प्रमाण सार्वत्रिक ६६.६ टक्के असून ही बाब चिंताजनक आहे. तसेच महाविद्यालयाच्या खोलीत ग्रंथालय असल्याचे प्रमाण ६६.६ टक्के आहे.

२. महाविद्यालय ग्रंथालय इमारत कोणत्या निधीतून बांधकाम करण्यात आले याविषयी माहिती दर्शविणारी सारणी

प्रस्तुत संशोधनात महाविद्यालयात घालविल्या जाणा-या कला, वाणिज्य व विज्ञान अनुदानित विद्याशाखा असलेल्या महाविद्यालय ग्रंथालय इमारत बांधकाम निधीचा शोध घेण्यात आलेला आहे. त्याबाबतचे विश्लेषण पुढील प्रमाणे.

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सारणी क्र. ०२

अ. क्र.	अनुदानाचा प्रकार	संख्या	प्रमाण %
१	युजीसी	१८	४२.९
२	महागुट्ट शासन	०	०.०
३	देगणी	१	२.४
४	संस्था	२३	५४.८
५	इतर	०	०
	एकूण	४२	१००

सारणी क्र. २ वरून असे निदर्शनास येते की, प्रस्तुत विद्यापीठाअंतर्गत महाविद्यालय महाविद्यालय ग्रंथालय इमारतीस युजीसीच्या निधीतून बांधण्यात आलेल्या ग्रंथालयाचे प्रमाण ४२.९ टक्के आहे. देगणीतून बांधण्यात आलेल्या ग्रंथालयाचे प्रमाण २.४ टक्के आहे. संस्थेच्या निधीतून बांधण्यात आलेल्या ग्रंथालयाचे प्रमाण ५४.८ टक्के. तर महागुट्ट शासनकडून कोणतेच अनुदान मिळाले नाही.

३. महाविद्यालय ग्रंथालयातील विविध विभागाची माहिती दर्शविणारी सारणी.

प्रस्तुत संशोधनात महाविद्यालयात घालविल्या जाणा-या कला, वाणिज्य व विज्ञान अनुदानित महाविद्यालय ग्रंथालयातकल विविध विभागाचा शोध घेण्यात आला आहे. याचे विश्लेषण पुढील प्रमाणे.

सारणी क्र. ०३

अ. क्र.	ग्रंथालयातील विभाग	संख्या	प्रमाण %
१	ग्रंथालय विभाग	०%	०%
२	सोपानरती विभाग	११	४२.३%
३	सोपानरती विभाग	११	४२.३%
४	सोपानरती विभाग	०%	०%
५	नियतबाहिक विभाग	१८	६६.६%
६	ग्रंथालय विभाग	१४	५२
७	सोपानरती विभाग	१०	३६
८	सोपानरती विभाग	१०	३६

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16. १०० टक्के ग्रंथालयात ग्रंथदालन व देवघवे विभाग आहे.
17. १०८० टक्के ग्रंथालयात टेबलांचा उपयोग कला आहे.
18. ६९.४३ टक्के ग्रंथालयात खुर्च्यांचा वापर केला आहे.
19. २०.६९ टक्के ग्रंथालयात रेंकचा वापर केला आहे.
20. ०.३६ टक्के ग्रंथालयात कॉटलॉग कॅबिनेटचा वापर केला आहे.
21. ५.६९ टक्के ग्रंथालयात पंख्यांचा वापर केला आहे.
22. ५३.० टक्के ग्रंथालयात डिसप्ले रेंकचा वापर केला आहे.
23. ०.५० टक्के ग्रंथालयात सुचना पेंटीचा वापर केला आहे.
24. ६४ टक्के ग्रंथालयात पायाभूत सेवा सुविधांचा अभाव आहे.
25. ३६ टक्के ग्रंथालयास स्वतंत्र कार्यालयानी व्यवस्था नाही.
26. ४४ टक्के ग्रंथालयात पिण्याच्या पाण्याची सोय नाही.
27. ४४ टक्के ग्रंथालयात पुरेसा प्रकाश न स्वच्छ हवा येत नाही.
28. ५३.३ टक्के ग्रंथालयात स्वच्छता गुहाची सोय नाही.
29. ४२.७ टक्के ग्रंथालयात पुरेसे फर्निचर उपलब्ध नाही.

शिफारसी :

१. महाविद्यालयातील ग्रंथालयास स्वतंत्र इमारतची आवश्यकता आहे.
 २. ग्रंथालयास स्वतंत्र कार्यालयानी व्यवस्था करण्यात यावी.
 ३. ग्रंथालयात स्वच्छ पिण्याच्या पाण्याची व्यवस्था करण्यात यावी.
 ४. ग्रंथालयात पुरेसा प्रकाश, स्वच्छ व मोकळ्या हवेची व्यवस्था करण्यात यावी.
 ५. ग्रंथालयात स्वच्छता गुहाची व्यवस्था करण्यात यावी.
 ६. ग्रंथालयात पुरेसे फर्निचर उपलब्ध करण्यात यावे.
- उपाय योजना :
१. ग्रंथालयात फर्निचर नसेल तर इतर विभागातील फर्निचरचा वापर करणे.
 २. ग्रंथालयात अपुरे वाचनकड असल्यास महाविद्यालयातील सभागृह वाचनकडासाठी वापरणे.

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संदर्भ सूची :-

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