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खेलों में भाग लेने वाले शहरी एवं ग्रामीण छात्रों के मनोवैज्ञानिक घटकों का अध्ययन
Rajender Parsad, Dr. Ramesh Kumar

INFLUENCE OF INFORMATION COMMUNICATION TECHNOLOGIES ON INDIAN LIBRARIES

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Abstract:

This paper discusses the different dimension of the ICTs. It gives an awareness of technology in library and why there is a need to understand the use of ICT in the library for rendering enhanced library services and information to users. The current study highlights the areas where ICT can be applied. Basically, the paper explains different technologies and their use in the library operation. How library services are prompted with the use of technology like RemoteXs, RFID Technology, QR Code, etc. have discussed in the study. The present study discusses various library operations using library automation. In this paper, the benefits of institutional repositories have been discussed for archiving the library resources. The very purpose of this study is to express the usefulness of the different ICT for quickest and approachable information dissemination.

Keywords: Information Communication Technology (ICT); Housekeeping Operation; Library Service; Library Automation; Library Operation; QR Code; RFID Technology; Social Media; Digital Libraries

INTRODUCTION

With the invention of Information and Communication Technology, libraries now use various types of technologies to aid the services they render. Everyday new technological advances affect the way information is handled in libraries and information centers. The impacts of new technologies are felt by libraries in every aspect. Computing technology, communication technology and mass storage technology are some of the areas of continuous development that reshape the way that libraries access, retrieve, store, manipulate and disseminate information to users. The academic library has been from its inception an integral part of institutions of higher learning, rather than an appendix or adjunct.

Oyedun (2007) defines academic libraries as those libraries that are mainly found in tertiary institutions, they are established to support learning, teaching and research processes. Over the past twenty seven years, academic libraries have been affected by changes in information and communication technology. The rate of changes is still accelerating in this area. The introduction of various information technology (ICT) trends has led to reorganization, change in work patterns, and demand for new skills, job retraining and reclassification positions. Technological advancement of the past twenty five years, such as the electronic database, online services, CD-ROMs and introduction of internet has radically transformed access to information. Rana (2009) opines that ICT holds the key to the success of modernizing information services. Applications of ICT are numerous but mainly it is used in converting the existing paper-print records in the entire process of storage, retrieval and dissemination.

ICT has impacted on every sphere of academic library activity especially in the form of the library collection development strategies, library building and consortia. ICT presents an opportunity to provide value-added information services and access to a wide variety of digital based information resources to their clients. Furthermore, academic libraries are also using modern ICTs to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, and digital libraries: and initiate ICT based capacity building programmes for library users.

Information and Communication Technology (ICT) has brought unprecedented changes and transformation to academic library and information services, conventional LIS such as OPAC, users services, reference services, bibliographic services, current awareness services, Document delivery, interlibrary loan, Audio visual services and customer relations can be provided more efficiently and effectively using ICT, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end users involvement in the library and information services process. The impact of ICT characterized on information services by changes in format, contents and method of production and contents and method of production and delivery of information products. Emergence of internet as the largest repository of information and knowledge, changed role of library and information science professionals from intermediary to facilitator, new tools for dissemination of information and shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based.

Literature Review

Recent advances in IT have not only increased tremendously the ability to access, store and process information within the library but also have brought significant changes in the concept, organisation, functioning and management of library and information systems (Peyala, 2011). The IT revolution has facilitated the processes of searching for and recovering information; ICT improves

the efficiency of organizational management processes and provides new ways of improving the capacity of response to its users (López, Peón, &Ordás, 2009). Use of ICT applications can assist in creating, storing, transferring and using tacit and explicit knowledge (Okumus, 2013). Buarki, Hepworth, & Murray (2011) have carried out a study on "ICT skills and employability needs at the LIS programme Kuwait: a literature review". In study, authors reviewed an enormous number of ICT related literature. They have concentrated on information and communication skills (ICT) of library and information science students in global LIS education and compare them with those skills needed by the job market in Kuwait. They found that, "ICT skills have been recognised as essential qualities for LIS graduates' employment". Therefore, at present days, ICTs skills have become the prerequisite and central attention to judge a candidate for the employment. Anunobi&Edoka (2010) have discussed how university library plays a pivotal role as an information providing system; it supports teaching, learning, and research with information materials of various types. Amongst the different information materials, serials or periodicals are most obligatory mainly for faculties and researchers. Earlier, the serials operation was manual; but with the development of ICT the acquisition of serials or periodicals became easy as well as its retrieval. In line with the above perspective, users' curiosity for seeking information changed from print to e-resources. Haneefa (2007) investigated the application of information and communication technologies (ICT) in special libraries in Kerala, India. In the study, it is found that the library catalogue was the utmost popular area for automation. The investigation revealed that, inadequate ICT infrastructure as the major cause of users' dissatisfaction. The study has recommended to enhance library automation and to focus on effective and efficient application of ICT. Chandrakar&Arora (2010) provided the Indian approach on the use of information technology on copy cataloguing from different trusted sources such as IndCat, and catalogue of Library of Congress. So, the overall review illustrate that, the appropriate use of ICT in library is much essential. It is also consider that the proper infrastructure and ICTenabled environment can provide better and faster services to users.

3. Objectives

The objectives of the present study are as follows:

- To provide an awareness of the transcendent use of ICT for quick library operation
- To guide the library professional regarding various workflow of housekeeping operation using ICT
- To provide a pathway on the different features of ICT for web cataloguing and classification
- To create consciousness among library professional and users on the use of OPAC and WebOPAC as a single search platform to library resources

4. Use of ICT Tools

The emergence of the information revolution as championed by information and communication technology (ICT) has enabled libraries to devise viable strategies for improved service delivery (Igwe, 2010). Library uses various technologies to provide information to its users. Followings are the some of the ICT tools which are basically used for different communication purposes:

4.1 Communication Technology:

Email is the most effective way of formal communication; it is the best system to exchange the messages and information in electronic format. Revolutionary changes have been seen in communication, because different types of information such as personal message, letter, article, computer programming files, pictures, sound, etc. are being possible to send or receive from any corner of the world within some fraction of second. At present, this is the most useful tool for different types of communication (personal, official communication, etc.). This tool can be used to provide the required information at the right time. At present, Libraries are using this live tool to serve the library users; through this, renewal or return (check-in) of library materials is basically asked. It can also be considered as a medium for faster information.

- Voice mail is the new and innovative emergence of mail technology. We can also say it as an alternative to email technology. It helps to send the mail immediately through the voice.
- Telephone is used for personal contact of the users. Generally, users ask their queries regarding the resources and availability of the reading room. Even, they use the telephone for advance booking of carrels for reading and research purpose.
- Fax (short for facsimile and sometimes called telecopying) is described by Rouse (2006) as "the telephonic transmission of scanned-in printed material (text or images), usually to a telephone number associated with a printer or other output device. The original document is scanned with a fax machine, which treats the contents (text or images) as a single fixed graphic image, converting it into a bitmap. In this digital form, the information is transmitted as electrical signals through the telephone system. The receiving fax machine reconverts the coded image and prints a paper copy of the document". This technology helps us for providing various services, such as to send official letter, communicate with the vendors, etc.
- Videoconferencing (or video conference) is explained as a "means to conduct a conference between two or more participants at different sites by using computer networks to transmit audio and video data. For example, a point-to-point (two-person) video conferencing system works much like a video telephone. Each participant has a video camera, microphone, and speakers mounted on his or her computer. As the two participants speak to one another, their voices are carried over the network and delivered to the other's speakers, and whatever images appear in front of the video camera appear in a window on the other participant's monitor (Beal, n.d.)". This tools is used for the various purpose of the library activities, such as to conduct user orientation for students

available at remote places. Basically, when students are out of the campus and they study in other universities under the student exchange programme, that time, it is essential to use this technology to guide them about the use of resources.

• Internet: This is the most important component of ICT. It is basically a network of networks that performs the connectivity among the computers. Internet provides the medium for communication using different online tools.

4.2 Remote Control Technology: Remote control provides a platform to work with a remotely located computer system. It is a great development in the field of technology. By using this technology, one can easily implement any kind of services sitting far away from the destination. This ICT is generally used for remote control, online meeting, desktop sharing, web conference and file transfer from one computer to others. One example of remote control software is TeamViewer.

• RemoteXs Technology: Eclat Engineering Pvt. Ltd. (n.d.) defined RemoteXs as a “single-window Platform to access all subscribed e-resources anytime anywhere. It has an ability to provide secure access to scattered e-Resources of the institution, bringing them under one umbrella, along with subscribed eJournals, eBooks, and all other e-Content. This technology has empowered institutions in systematically imbibing research values among faculty and students and take right steps in creating a knowledge-base of their own”. This technology is very much helpful, where students are outside the campus and wanted to use their institution’s resources for research and learning.

4.3. Social Media: Social media like Facebook, Twitter, Blogs, etc. have become the central focus for quickest information dissemination. Most of the libraries are using these social media for the promotion or marketing of their e-resources. Basically, Blogs are used to disseminate short communication of library, whereas Facebook has become most useful ICT tool for every kind of information dissemination. Now, Facebook live plays a very significant role for telecast the current ongoing programme.

5. Library Security: The technology has a great contribution in the security of library through computer after having been civilized various technological processes. It can provide great security for the reading material of the library. This security arrangement is provided by applying RFID technique.

5.1 RFID Tehnology: New technology has changed the way of library transaction (check-in and check-out). Libraries are providing ICT-based library services to increase the possible ways of fast and user-friendly services. One of the best invention of technology for library is the ‘Radio Frequency Identification’ (RFID). Nowadays, libraries are adopting RFID technology to provide enriched and efficient library services. This technology achieves the fourth law of library science, (i.e. ‘save the time of the users’) by providing quick and effective services (Ranganathan, 1931).

5.2 Closed-Circuit Television (CCTV): CCTV stands for Closed Circuit Television and also known as video surveillance (Kumar & Svensson, 2015). This technology plays an important role in the library management. Through the help of CCTV librarian can supervise the whole activities of libraries. It helps to look after the staffs as well as the users.

6. Quick Response (QR) Code Technology: Walsh (2009) has discussed as “QR codes can be used to encode various sorts of data when used for mobiles, most typically text; uniform resource locators (URLs); phone numbers (prompting your phone to call the number); text message and number (prompting your phone to text the number); and contact details (vcard). The QR readers most reliably work with the text and URL options, particularly as some of the providers of the software also provide hosting services. In hosted solutions, QR codes generated through their software link to a re-direction link on their site, providing data on traffic from a particular code to their customers”. Xu (2014) has described the method as “generating a single QR Code is simple. There are many free QR Code generators available online, such as Kaywa, Qrstuff, Goqr, Qurify, Delivr and Invx. Google offers two convenient tools to create an individual QR Code. Google URL Shortener allows one to shorten a long URL, and at the same time, it generates an accompanying QR Code for the shortened link. The accompanying QR Code can be downloaded by simply adding .qr at the end of the shortened link. Another tool is Google Chrome QR Code extension, which enables a user to create a QR Code while visiting a Web site. Many online QR Code tools, like Qrstuff, allow batch creating QR Codes, but they usually require users to pay subscription fee”. QR code is very simple to use; at present days, it is indispensable to use for quick retrieval of library materials.

7. Digital Library: The base of digital library is computer and computer network because the reading material cannot be processed in the digital material without the computer and even no published books can be modified to digital form. In digital libraries the entire reading material like PDF, HTML, Audio, video, and services etc. also depend on computer and network.

• Archiving, Preservation and Digital Repository: It is a very difficult task in the libraries to preserve and archive manuscripts and ancient write ups and make those secure for future use. This work is being carried out with the help of computer, scanners and storage device, with the help of computer published writes ups can be modified to digital form and then can be stored in the form of computer hard disk and other media like CDROM, DVD etc. Digital Repository software goals to provide a managed environment to store and retrieve digital objects, such as documents, images, audio/video clippings and their metadata. Repository software usually includes tools to allow curators and users to exploit the stored objects and their metadata. Variety kind of digital repositories are being created today to serve the different communities information needs. To create a digital repository one needs digital repository software (Sastrey & Reddy, 2010). There are many software to build digital repositories like Dspace, Eprints, Greenstone, etc. Dspace is much popular among the institutional repository software because of its simple workflow and consistency. It provides a best platform to archive the digital content. User community can be benefited using the institutional repository for research and learning.

8. Resource Sharing: ICT can be used for resource sharing among libraries and information centres. It provides a great prospect for sharing both the human and material resources of a library with others library. The role of technology is very much significant for cooperative acquisition, cooperative processing (cataloguing and classification), exchange of information materials (e-resources), joint publication, networking, joint training of personnel, interchange of staff for seminars, and workshops (Igwe, 2010).

9. Use of Library Automation Software: Library automation is the excellent way of reducing the human involvement for library services. The aims of the current automation technology is to provide maximum services in minimum time and lowest cost. Library automation is the application of ICTs to library operations and services. Many library automation softwares are available for library operation such as Libsys, Koha, SLIM21, etc. The functions of the software are to automate the library systems which covers acquisition, cataloguing, circulation, serials management, stock verification, etc. ICT is used in various library housekeeping operations as well as for different library activities and services. The details use of ICTs are as follows:

9.1 Acquisition: With the help of web, acquisition work has become very much simplified. Order placing, duplication checking, price checking etc. are done very effectively using ICT technique. Receiving suggestions or demands and placing the order for purchasing library materials have become easy through the online. As publishers and vendors are available through the website, such as Amazon, Flipkart, Infibeam, etc. the quantity of workload has reduced and due to this the time can be saved and make it applicable to the other services. Invoices can be downloaded from the Websites that make service faster and avoids postal delay. E-mail helps in sending reminders to the publishers, vendors and even to the borrowers of the books (Antherjanam & Sheeja, 2008).

9.2 Cataloguing: There has always been awareness among librarians that without cataloguing and classification, the goal of making materials and information resources available would have been difficult. The advent and use of ICT has made it possible for remote libraries to access the huge databases of big libraries in developed countries for the purpose of adopting or adapting their bibliographic data for their own library use; and indeed the online catalogues have transformed the landscape of cataloguing and classification (Adeleke & Olorunsola, 2010). With the help of Internet and different web-sources, the cataloguing and classification work has been stress-free. The organisation like Library of Congress has made the work possible to classify or catalogue a resources in the minimal time. The LC online catalogue is a database of records representing the vast collection of materials held by the Library of Congress.

The online catalogue provides cross-references, notes and circulation status, as well as information about library materials still in the acquisition stage. LC catalogue records’ information of different resources (books, serials, manuscripts, cartographic materials, computer files, sound recordings, music, etc.) are publicly available and it can be easily used for importing or copying data. All the functions of cataloguing have become possible through the use of library automation software. Importing bibliographic records from trusted online sites such as ‘OCLC World Cat’, ‘Trove - National Library of Australia’ have reduced a huge amount of time for cataloguing. Importing metadata through MARC format has made easy to the process of cataloguing and make it available as soon as possible to the users. Resources such as book, microfiche, audio, videocassettes, CDs, pamphlets, and theses etc. are catalogued through importing bibliographic records; required fields are edited manually as per the library requirement. Automation software gives update to the user about the progress of the library materials. After the processing of books or any requested materials, the automatic reminder is sent to the users about the availability of books.

9.3 Classification: With the technological development, the classification work has been possible through online tool. There are many online catalogue records available from where one can get the whole bibliographic record of the library resources. Along with the record, we can also get the classification number in the catalogue record. British Library catalogue, Trove-National Library of Australia’s catalogue, Library of Congress’s online catalogue can be used to search the catalogue record and data can be copied for own catalogue preparation. These libraries provide classification details in their catalogue record, but there are also some online resources where library resources/materials can be classified. OCLC classify, LOC classification web and WebDewey are the examples of online classification tools. 9.4 Serial Control: Serials or periodicals are the backbone of the library. Automated serials management gives quickest information access about the particular resources. Below mentioned tasks can be accomplished through the software for serial control:

- Current holdings status
- Tracing missing volume and issue
- Preparation of budget for periodical subscription
- Preparation of periodicals list and its verification
- Online Letters to publishers, vendors, etc.
- Processing of online electronic magazines and receiving copies of the periodicals
- Preparation of New arrivals

9.5 Circulation: The use of electronic gadgets such as computer, barcode scanner and the library management software helps to perform circulation routine operations in an easiest and quickest way. After the invention of barcode technology, library transaction has become faster. Nowadays, for any type of communication we depends on the internet, email, telephone, etc. These

technologies are also used in the library for the day to day activities of the circulation. Basically, the following duties are performed in the circulation by using ICT:

- Issue, returns
- Overdue reminder
- Renewal
- Reservation of books/documents
- Membership registration
- User guides
- Daily check-in and check-out statistics

9.6 Stock-taking/Verification:

The use of the computer in stock verification is the most important. The verification of the stock is carried out with the storage of library through the database in the computer. Stock available in the library is scanned through RFID reader/barcode scanner and data are collected. These collected data are compared with the available data in automation software. In this way, how many books have lost we can find out.

10. ICT and Library Services: The following library services can be rendered using information and communication technology (ICT):

10.1 On-Line Public Access Catalogue (OPAC): ICT has revolutionized the practice of cataloguing in the library. Using OPAC users can see the holdings of the library collections. It reduces the cost of maintaining a library catalogue. It also eliminates pen and paperwork, along with it helps in the preparation of union-catalogue. OPAC is the easiest way to get the information of collection, weekly new arrivals and other recent addition to the libraries.

10.2 Reference/ ILL Service: By using computer and internet technology, the reference service has become very simple. Various types of information resources like the encyclopedia, directories, dictionaries, databases, online library catalogues, maps, biographies, patents and online information resources are available on the internet which can be used to provide required information to the users. In the reference section, queries are answered through the telephone. For ready reference service, library staff uses Internet and E-mail facility. The computer has provided a great promptness to reference section. The role of technology in reference services are as follows:

- Library staffs fulfill the demands of the users through various electronic resources like database, library catalogue database, directories etc.
- In reference service, services are also provided to the users regarding information available on the internet after getting delivered through the computer.

10.3 Reprographic Service: Reprographic technology is used for the reproduction of the documents. Using technology, the photocopy and the reproduction of the documents has become very easy and accessible. In this technology, printed documents are converted into digital form, then photocopy is prepared. For the same, computer scanner and software is required. This service is provided to library users for photocopy of some pages of books, journal articles or other materials.

10.4 Selective Dissemination of Information (SDI) Services: Hensley (1963) stated "SDI involves the use of the computer to select from a flow of new documents, those of interest to each of a number of users. This process may be thought of as the inverse of information retrieval. In information retrieval, a user precipitates a search of a file of documents. In SDI a document precipitates the search of a standing file of user interests". Through the computer, the profile and document of user are prepared and aligned. As per the need of the users or area of interest, various online databases, electronic resources and other materials are viewed and selected; finally required information is sent to library users.

10.5 Document Delivery Service: It is difficult for the library to procure every type of resources published across the globe because of financial constraints. So, the exchange of library resources such as books, journals, etc. among the libraries are very much essential. To overcome these problems computer and the internet have got a great contribution in DDS. Through this medium first document are converted into digital form after that these can be received at any place by users through electronic mail. Besides, the storage reading material like electronic periodicals, documents etc. can be disseminated to users on demand.

10.6 Bibliographic Service: Through the computer, bibliographic services have become convenient. Nowadays, libraries and publishers are providing bibliographic service to the library users. Bibliographic software such as EndNote, RefWorks, Zotero and Mendely are very much helpful to compile the list of references for the research work.

10.7 Translation Service: Mechanical translation is carried out with the help of ICT. For this purpose, various online tools like Babelfish translator and Google translator can be used to make translation from foreign languages to English and vice-versa.

10.8 Database Search Guide: At present, databases have become the central focus for exploration of varieties of the research problem. Researchers are using databases hugely for their research work. Searching and retrieving the online resources or data

from the database has become very easy in the ICT environment. Generally, libraries provide the database searching guidance through the library website. The search guidance helps to researchers and faculties for their research and learning.

11. Conclusion

Effective application of information technology in library transmits users' satisfaction. The present scenario demands the updated technology for the faster and approachable library services. Gradually, new technologies are developed, consequently there is the need to develop our skills and capacity to provide enhanced library services. Library resources must be used at a large amount. The successfulness of a library and the library professional always depends on the quality of the service. The emergence of ICT is the new paradigm to extend the level of library operation and services. So, it is inevitable for the library professionals to be updated with the technology for the own existence.

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ANALYSIS OF TURBULANCE FLOW FOR MODERN CONSTRUCTION WITH ANTIENT VASTU SHASTRA

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Abstract

Presently there is challenge about how one can boost construction procedures to be able to lessen their damaging impact on the healthy ecosystem. The geographical influence of construction, have caught the focus of construction experts around the globe. A geographical construction evaluation approach shows the relevance of the principle of sustainability in the circumstance of construction layout and pursuing development task on site. The environmental structure analysis strategies bring considerably to the awareness of the association among structures and the ecosystem. Even so, the connection among setting up construction and so the natural environment is yet essentially unfamiliar. Paper presents the core turbulence flow significance which may responsible for scientific Vastu Dosh (Construction Problem). This paper also focuses on ancient construction methodologies for efficient construction.

Keywords: sustainable construction, Vastu shastra, ancient construction, turbulence study, green building, eco-friendly construction

Introduction

Construction is reproached of triggering geographical complications varying from abnormal intake of universal assets equally in relation to construction and construction procedure to the air pollution of the adjoining ecosystem, and study on green construction designing and utilizing construction resources to decrease geographical influence is pretty much ongoing [1,2]. Nevertheless, depending on the structure of a venture to obtain the target of ecological expansion, or to lower influences simply by relevant administration on site, is certainly not satisfactory to cope with the present-day challenge [3]. Ecological development [4,5] is aimed on a sociable corporation of a gaining knowledge of course of action, on the potential to use aspect and public assets i.e. the potential of updating the design way and embracing optional approaches, pondering the workable endangerment of the processing of characteristics and population or characteristics and lifestyle in the assortment of their whole plausible usage for human being [6].

The strategy of ecological evolution is close to everything that we find out from the Indian classic understanding, just like traditions and history. In the present day, Vastu Shastra [7] seems to have grown to be further focused for modern-day individuals as the ecosystem has attained great importance because of atmosphere, water and land contamination, and vibrant variations in environment, inhabitant's challenges and busy and congested metropolitan areas. It no much longer shows a logical impulse and appearance to its geographical circumstance. The scenario is attaining a turmoil level and a maintainable environmental association with developed form is lacking from latest townships. Accordingly, it may be fundamental to consider the classic understanding of Vastu for expanding individual's townships which include Indian mega-cities that can be converted by the support of critical guidelines of Vastu Shastra [8].

The terminology Vastu was actually produced from the origin phrase vas, meaning that to contemplate or a property space. The terminology Vastu means a human being agreement or a destination just where further than one place lives. It can comprise a community, village, important metropolis or city hub. Consequently, townships present the leading ecosystem for practically every citizen. Vastu Shastra, due to its typical beliefs, can perform a significant part in finding expansion plans, for illustration in reaching peoples' necessities for a safe housing and in enacting policies which usually defend individual's wellbeing and ecosystem from contaminants and pathogens [9].

Vastu Shastra, and constructional understanding, is necessary for organizing and producing the structure and solutions which usually are desired to underpin economical improvement and abundance. This means conjoining a priority for sustainability to accessible development plans [10].

Literature Review

Customary opinions are incredibly essential for a worked out modern day scientific refinement, for these emphasize everyone the adverse aspect of several accomplishments and grant valuable knowledge to generate equilibrium among human beings and

nature. The key approach of Vastu Shastra is to express the way the individual physique is associated with to the construction and to the world, i.e. it determines an association concerning mankind and nature.

In this case, mankind is the subject matter, target and the root cause of Vastu. They comprehend and so conceive Vastu in connection to their very own encounters considering the encompassing community. As tool-making they structure and influence their particular ecosystem. The series of the five normal components is utilized as 'the mediums' or 'the components of the Vastu', referred to as soil, water, atmosphere, sun and space. Vastu comes above planning and structures [11].

At a superior tier, it offers with the simple influence of the structure on the ecosystem. The Vedic practices of historic India often presented that the microcosm is a depiction of the macrocosm. A property is an environmental system, a microcosm which usually shows the macrocosm. The modern day intellect specifies ecology with characteristics. For Vastu Shastra, the five indispensable factors are the beginning areas for any pattern [12].

The recommendations and guidelines of Vastu Shastra are generally placed below certainly in several historical articles, but the guidelines about which usually they tend to be designed are rich profound in the Indian beliefs of Vedas. The great importance of Vastu Shastra fabricates in recognizing the primary concepts as it studies the method which inturn can provide to get a layout model [13].

Fundamentally ecosystem considering the initial indications of protection possesses often performed a critical part in the procedure of man's progression. Technological know-how of construction and the geometrical structures and religious signs are all extracted from nature and so its superior regulations.

The rules of nature are essentially above the corporal perceptible causes which usually employed to comprise the guidelines of traditional physics and then incorporate most of the intangible energy source areas released from the earth along with the various other divine systems, just like the Sun and the moon [14].

The key points of traditional savoir of construction incorporating Vastu Shastra and Feng Shui represent the impressive understanding of ancient cultures throughout the globe, its orders and its illustration to the human being physique that appears to be the quantity reviews of traditional communities through generations. Consequently, together the societal factors, a satisfactory amount of concepts in historical architectural structure were definitely results to the encompassing ecosystem [15].

Regarding the poor part, a number of prevalent features of vernacular structures might be the existence of geographical circumstance in which these are elevated, the usage of native components which produces a micro-climate adjustable with human being convenience and structural ways linked with the weather conditions points which in turn can likewise be employed to various other ethnicities by way of the matching environment [16]. In fact customary construction was altogether reliant on the cultural and financial conditions in the poor feature, and was primarily produced to provide several particular preferences with every social environment.

Scientific Significance of Turbulence Flows

During proposed research, we conducted turbulence study for 20 houses constructed without following scientific Vastu Shastra and 20 studies for houses which constructed as per scientific Vastu Shastra. It is noted that, people often believe in various myths (Andh Shradha) and blame the wrong construction. Hence, there is need of scientific studies responsible for problems such as illness, depression etc which in turn leads to lack of concentration on business and business failures etc.

This is a scientific report based on direction/flow of waves and can be considered as turbulence study. As you know every wind blow brings breeze or storm and you can feel whether it is a breeze or storm right! Similarly, entering wind flow has high impact and breeze has mild impact on our lives. The direction of Vastu wind flow can be realizes but outside premises of perimeter of 2 kilometers are responsible for good and bad waves. Everyone knows myth about- three clubbing roads are not auspicious and bring bad luck waves. The scientific reason is that bad energy wind wave is heavy and can stay at nearby Vastu within 2kilometers. Hence, good energy waves which flow with mild wind are light weight and flow through Vastu easily. The reason about eliminating all corners from Vastu is to avoid reflection of energy. The corners are permissible only for Vastu where there is no other home on North and South. You need to understand wind flow of your Vastu. If your entrance if offset of your East face then you need other door or gallery at west side offset. If there is door at East face middle, the waves will flow-in but good waves are light which turns back and heavy negative waves stuck inside Vastu.

If your Vastu is with more than 2 main Vastu doors (I am not talking about inside-doors) or one gallery and two main Vastu doors the positive and negative both energies are with different frequencies and in such Vastu, decision making capacity of karta-purush is always in dilemma. The solution is to close one door permanently especially facing South direction of Vastu.

Case Study

We presenting case study for client home for better understanding. Based on East facing central door information we mapped blocks of Vastu. This is a scientific impression and do not believe on any special rituals. No rituals can change the direction of good/bad energy other than scientific turbulence management which can be done by construction modifications only.

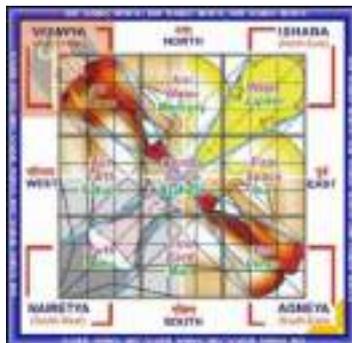


Figure 1: Vastu Purush Directions for your reference

As an action research, conduct a self analysis of the following figure-2 to understand your problems associated with your rooms/Vastu.

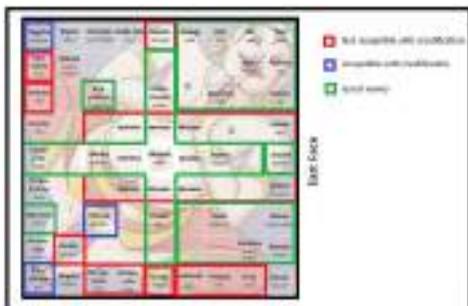


Figure 2: Waves representation for micro-spatiality

Main Door Way Cross-check

- **Don't have a principle entryway straightforwardly confronting the inverse home:**

Continuously recall that you don't place your fundamental avenue to the inverse home as it will be truly uncomfortable when both the entryways are open which can eventually bring about a look of both the homes.

- **Don't have the principle entryway confronting a deserted and abandoned building:**

Abstain from putting your fundamental entryway towards an abandoned and a rundown building as this can make negative vibes and you will have an unnerving and frosty sight each time you open the entryway.

- **Have the passageway entryway and the doorway entryway on the same side:**

Continuously have the doorway entryway and your door entryway on the same side as the Vastu standards don't think as of it favorable to have the passage entryway and the door entryway on the inverse heading. Likewise it is acknowledged as a detriment to the visitors.

- **Don't have an underground tank, septic tank under the fundamental doorway entryway:**

This is in light of the fact that if the tank must be opened and cleaned, it will be exceptionally awkward provided that it must be carried out directly before the principle entryway.

- **Don't have the fundamental doorway entryway in the corners of the home:**

It is fitting that you don't have the primary doorway entryway in the corners of the home as this can bring about a trouble while setting furniture at home. Corners in a home ought to be left empty for development.

- **Don't have a divider before the doorway entryway:**

Don't have a divider straightforwardly before the doorway entryway and rather have an entryway which opens in the following room. This will permit the outside air inside the home making it generally ventilated.

Negative/Bad Energy Analysis

- There should not be funeral place within perimeter of 2 kilometers of Vastu. The most negative/heavy waves are persist in such area which cannot be handled. (You can understand that Hindus funeral session is burning the body, but smoke never flows at upper layer of atmosphere and flows parallel to maximum height of fumes.) These waves flow in same height as a negative energy.
- In few religions people perform funeral near home to give spirit his home stay. This will be good energy for that home only if passed spirit is with no intension or passed away happily.
- The Vastu with no opposite ventilation door/gallery to main door (of course bit offset i.e. main door and opposite door should not be exactly opposite)
- If you never face natural breeze frequently, then your Vastu is with heavy negative energy and you need to improve ventilation.
- If you feel natural breeze all over your Vastu, the negative energy frequently replaced by good waves/breeze.

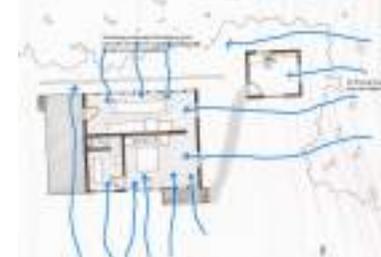


Figure 3: Representation of wind flow and turbulence direction changes in Vastu

Turbulence Analysis

- You can interpret turbulence of your Vastu. Here is a sample turbulence design is provided for your understanding.
- The red arrows depict the negative energy and blue arrows depict the positive/good energy.

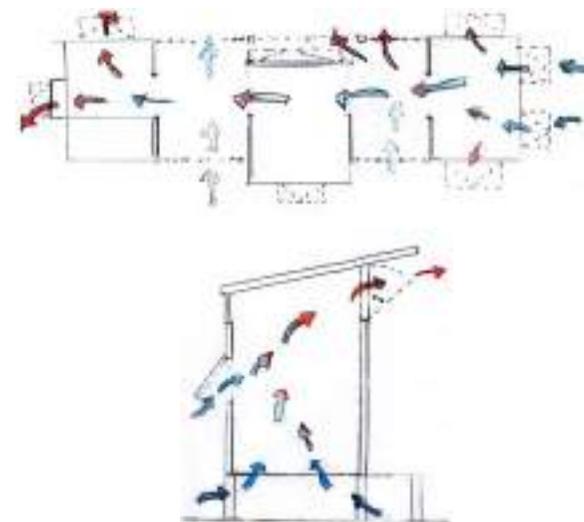


Figure 4: Significance of Turbulence design/wind loading of Vastu

- The simple way of identification of turbulence flow is "Rolling Ball" method. Take one ball and roll in from east face to first crossing wall of Vastu. The ball will change direction. Take three readings to find out standard mean ration. Similarly, follow this step for whole Vastu till West door or other door/gallery of your Vastu.
- If ball rolls and hits wall frequently, the west side of Vastu is holds negative energy and needs ventilation. At the end of this experimentation ball must head to direction of ventilation.

There can be various myths but for every myth there is a scientific reason. By any means we are not promoting any ritual or pooja-path. The good and bad energy is there as +ve and -ve electrons in environment. We believe that we can manage these free flowing electrons by scientific method. In fact we believe good and bad energy existence in the form of +ve and -ve energy around us which can be managed with pure science. This methodology is for only long-term problem facing Vastu and not for any new Vastu.

Conclusion

The key focus of this paper is to assist in a unified association among human beings, construction and the ecosystem, which in turn turns to advantageous development. Vaastu Shastra is becoming considerably more important for modern-day individuals since of the encircling ecosystem, which usually has attained great importance because of air pollution, weather transformation, inhabitant's challenges and congested metropolitan areas. We conducted and developed turbulence flow analysis which can be very important element to manage Vastu Shastra with scientific implementation if wind flow. Considering the reforming structures of way of living and progressed technological know-how, the main issue is regardless we can progress a new place of 'rituals' to sustain the metropolitan ecosystem. It requires development and so individual involvement in the normal system to the span of the holding potential of a region.

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AN EVALUATION OF INTERNET USAGE ON LIBRARY RESOURCES UTILIZATION IN UNIVERSITIES OF WEST BENGAL

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Abstract

This research is focused on the university library's use of the Internet. Library and internet literature were reviewed. To select the sample for analysis, the researcher adopted convenient sampling technique. Data were collected using questionnaires. The data gathered were statistically analyzed and interpreted using the Statistical Package for the Social Sciences. It also observed the homogeneity among researchers from different disciplines suggesting the need for research and use pattern is nearly similar in science, social science or humanities researchers, hence the Internet was the most preferred source of knowledge. It was proposed that the library be upgraded to meet recent research advancements.

Keyword: Internet, university libraries of West Bengal.

INTRODUCTION

The internet is one of the most popular examples of the advantages of consistent wear and dedication to R&D. It is a tool for disseminating information and a platform for interactive measurements between individuals and machines that are based on tuning and geographical barriers. Internet material varies from basic email addresses to complex documentation containing text, sound and pictures. The Web is an iterative, interactive, boundless and finite space for creation production and dissemination.

By disseminating the material to its users, academic libraries play a critical role in the educational system. Higher education is a method of studying, rather than of instruction. The value of libraries is felt more in higher education, as they are the sources of information for acquiring more knowledge apart from learning from schools, as the libraries hold the records that sustain the organisations main curriculum. Use ICT in developing countries and accessing those realistic stories again through ICT has often reduced library professionals to play with the same at their venue. This is considered important to regularly examine the usage of the internet by university library science scholars because there are no clear standards in library computerization. ICT strategies are missing from the government and higher educational authorities.

The researcher found that the absence of internet-based research study in West Bengal state was initiated by earlier researchers covering academic scholars from various disciplines in the universities network. The goal of this work is therefore to address the internet-based knowledge needs of humanities, social sciences and science researchers at universities in West Bengal in the changing ICT environment. However, it is important to recognize the strengths and shortcomings of university libraries in terms of the Internet knowledge infrastructure and facilities available and the services they offer, and it is therefore necessary to know the academic scholars' internet-based knowledge needs in order to devise policies and recommend steps that lead to improving university study in West Bengal state which could be applicable to India too. Therefore, there is a desperate need to examine various aspects of the knowledge needs of research scholars in the universities for which the author has taken up the present study.

The researcher undertook the present work in order to resolve the internet related issues in university libraries in West Bengal

Miller (2000) described the use of electronic resources in academic libraries and how collection has to be developed in an electronic environment. Over the past twenty years, academic collection development specialists have dealt with dramatic changes, a decrease in purchasing of print resources and more importance has been given to acquire the electronic resources. Rao and Babe (2001) stated the transition of traditional library collections to digital or virtual collections presented the librarian with new opportunities. The internet, web environment and associated sophisticated tools have been given to librarian; a new dynamic role has to be played to serve the new information based society in better ways than hitherto.

Fatima (2002) study investigates the effect of the internet on reference services, the user to access internet and training in usage of the library resources. Ireneus and Julia (2004) study explore the purpose to use internet by the students of the University of Dares Salaam, to determine if students were using the internet for academic purposes. The study also investigated the level of students' access to the internet, as well as the problems faced for using internet. Rebecca and Lorraine (2004) explore in the research project to determine the uniqueness of internet subject guides among association of research libraries and academic libraries. The authors examined the guide's in four subject areas viz philosophy, journalism and mass communication, astronomy and chemistry at the web sites of 112 libraries.

Devi and Singh (2009) the study has been undertaken to assess the attitude of internet users, taking into account the use of internet by research scholars of Manipur University library, India. The major objectives were to identify if internet is not a substitute for

the library and to find out the use of internet resources by research scholars for their research work. Maharana, Sethi and Behera (2010) described that the internet and electronic resources have become most popular sources of formation for the researchers, scholars, teachers, professionals and students. The study has been designed to find out the necessity and the usage of internet and e-resources by the students undertaking the master's course in Business Administration, at Jabalpur University, Orissa, India.

Objectives of The Study

The key aim of the analysis is critical evaluation of internet usage on library resources utilization in universities of West Bengal, India. The study's specific objectives are:

- To understand the importance of university libraries' e-resources, Internet facilities and other services in West Bengal;
- To understand the library habits & use of the Internet in university libraries;
- To Identify and assess the constraints and problems faced by academic scholars when using the resources and services offered by university libraries on the Internet;
- To evaluate the perceptions of scholars about the effect of the Internet on academic performance and library resources and facilities in university libraries;

METHODOLOGY

The current study is exploratory in nature and as mentioned above and adopted survey research method for conducting the study. The sampling units have been identified based on specific logic and researchers of the sample libraries have been considered as target population. The 'questionnaire instrument' has been followed for collection of data from the university libraries in West Bengal. Same the research evolved in collection of some technical data, librarians and select users were interviewed for clarification on specific aspects.

- Universities in West Bengal State
- Library Users
- Sample Universities (i.e. Selection of University Libraries)
 - University of Calcutta
 - University of Kalyani
 - University of Burdwan
 - Vidyasagar University
 - University of North Bengal
 - Jadavpur University

Data Collection

As discussed earlier the study used questionnaire as main instrument to gather primary data from respondent's in the current research study the final version of modified questionnaire contained four sections with 50 questions.

The first section consisted of 16 statements realm to users' demographic features, stages of research, preference of channels, purpose and frequency of library visit as well as internet use, time spent in the internet access, means of communication and frequency of visit to other libraries. The second section contained 11 statements describing the internet facilities and services like internet connection, speed, access points, type, UGC-infonet, and other services. The users were requested to rate to what extent they agreed with the stated the facilities and services available in their university libraries. The features of a good library, and respondents were asked to indicate the extent to which they agreed with the statement on a five-point scale ranging from 1 for not at all important to 5 for most important. The third section contained 5 statements describing the user education like computer, internet knowledge and training etc. In the last section, four statements related to internet access problems, users satisfaction were clouded on 5 pot scale ranging from thoroughly disported to highly satisfied and absolutely 'no' to absolutely 'yes'.

Distribution of Questionnaires and Response Pattern

In all 1468 printed questionnaires were administered to all the full time research scholars of six respondent universities. The questionnaires were self-administered staying in the respective university campus. A few questionnaires were mailed to research scholars whom the investigator could not contact in person. The follow up was made through repeat visits to the urn versifies. Out of 1468, we got total of 1077 responses.

Hypotheses Of The Study

Below are the theories proposed for the present analysis.

1. Researchers prefer using the Internet as compared with libraries or other information sources.
2. The key aim of researchers' use of the internet is to locate research-related information and e-joules.
3. The design of the network facility for internet access between university libraries is significantly different.

DATA ANALYSIS AND FINDINGS

In the present study, the responses received from 1077 respondents constituted the primary data put analysis and interpretation. The responses were codified and a database was fed to the computer using Excel spreadsheets. For the purpose of analysis, the respondents were classified to three subject disciplines namely sciences, social sciences and humanities.

The data input was analysed through the Statistical Package for Social Sciences (SPSS) package Experts' help was sought for applying the tests for data analysis. Techniques like Frequency distribution, Cross tabulation, Compare means, Correlation, chi-square were used in the study. The tests were applied to understand the distribution pattern of responses, comparison of mean values among customer groups, consistency in response pattern and the features that influence internet usage.

Findings

The study's research findings and interpretations based on the analysed data. The researcher collected valuable feedback from research scholars of humanities, social sciences and science disciplines from six UGC-funded universities in West Bengal in order to assess the effect of the internet on library use. Here are the results and the hypotheses proposed formulated for this study are also discussed.

Respondent Researchers' Brief Profile and Demographic Characteristics Of 1468 research scholars spread across three broad disciplines namely Science, social science and humanities in six universities, the study received 1077 responses resulting in 73.36% response rate. The 1077 response population includes 731 from science followed by social sciences 228 and 118 humanities disciplines. The similar ratio was noticed in target population too. About 80.00% of respondents are in the age group of 20-30 years.

It is noticed that 42.15% of the research scholars were in the initial stage of their research followed by 32.49% of them in the advance stage and 25.36% in the completion stage of research. It is also observed that researchers in initial stage are more in science discipline (43.77%) as compared to Humanities discipline (33.89%). The spread is even in advanced and final stages of research across three disciplines. (Tables 3.1).

Table 3.1 : Stage of Research by Discipline

Stage of Research	Discipline			Total
	Humanities	Social Sciences	Sciences	
Initial stage	40(33.89)	94(41.24)	320(43.77)	454(42.15)
Middle stage	43(36.44)	72(31.57)	235(32.15)	350(32.49)
Completion stage	35(29.67)	62(27.19)	176(24.08)	273(25.36)
Total	118(100.00)	228(100.00)	731(100.00)	1077(100.0)

Preference of Information Channels: It is observed that Internet has emerged as primary channel of information search followed by university library, friends and colleagues, teachers and experts, own collection and visit to other library in that order of importance.

Hypotheses 1: Researchers prefer using the Internet as compared with libraries or other information sources.

The Hypothesis is sustained in this study as it ranked first in the preferences indicated by research scholars. The rankings of various channels of information preferred by research scholars clearly shows internet as primary channel of information as compared to other channels of information like library, friends and colleagues.

Further, it is observed that the percentage of internet users is very high (89.19%) as compared to the same in Humanities (55.93%). The library as main channel is preferred more by social science researchers (62.71%) as compared to their counterpart in Science discipline (51.29%). The preference to have own collection is high in humanities (44.91%) as compared to science discipline (30.64%).

Stages of Research: It is observed that 3/4th of the researchers are in the initial and advanced stages of their research (42.15% and 32.49% respectively). The remaining 1/4th of them are in the final stages of their research. Further, it may be observed from

Table 6.1 that the science researchers are more in initial stages of research (43.77%) as compared to researchers in Humanities (33.89%). The reverse is found to be true in final stages of research.

Frequency of Library Visit: it is highlight that about 31.00% of the researchers are daily visitors followed by another 28.88% who visit the library once in 2-3 days. It is interesting to note that about 1/4th of respondents are occasional visitors.

It's observed that the daily visitors segment contains more social science researchers (39.04%) as compared to science researchers (28.04%). The reverse is true for occasional visitors group to the library that is the occasional visitors' segment consists more of science researchers than social science researchers this could be due to the need for their presence in laboratory or field for conduct of experiments related for science research but they are heavy users of internet.

Frequency of Internet Usage: It is observed that all the respondents use internet for their research activity. Further, it is observed that a majority of them use internet on daily basis (76.79%). It is shows that the order of usage is almost uniform across three disciplines. It is noted that the daily internet users are found slightly more in science discipline (78.50%) as compared to other disciplines.

Location of Access to Internet: It is observed that 69.46% of the respondents' access internet through their respective department in the University followed by access in University library (37.51%), private cyber cafe (19.60%), hostels/homes (18.95%) and computer/internet center's (18.29%). There is no significant difference in user communities of three disciplines the provision of internet access beyond library premises indicates the research promotion efforts done by authorities and network capabilities. This also reinforces that accessing internet enabled resources is not limited to the geographical bondages of libraries or organizations.

Time Spent on Access to Internet: It is observed from Figure 6.8 that in a day, nearly half of the respondents (48.30%) use internet for about 1-2 hours and nearly 1/3 of them (31.60%) use internet for about Vs. an hour to 1 hour About 11.50% of them use internet beyond three hours and about 08.40% of them use for less than 30 minutes. Among researchers who use internet for 1-2 hours, the 66.00% of them are from science discipline followed by 24.00% of them from social science and 10.00% from humanities disciplines.

- **Research Scholars' Skills and Knowledge for Using Internet**

Computer Literacy: It is very interesting to note that almost all researchers in response population (96.40%) are aware of know-how of using computers. The trend is found similar across all the disciplines. In other word, almost all research scholars are computer literates.

Familiarity and Mode of Training for Computer Usage: It is observed that 60.40% of respondents have undergone some taming program for using computer either formally or informally. The respondents who stated they have not undergone any training program expressed that they got familiar with use of computer through their friends and colleagues followed by online tutorials, library manuals and library staff. Friends and colleagues are the major source of guidance for obtaining inputs for computer usage.

Internet Training: Unlike computer training where 60.40% have claimed that they have to gone some training programmers for using computers, it is interesting to note that only 16.40% of respondents claimed that they have undergone some training programs and the remaining 83.60% of them have not undergone any training for using internet. In other words, a majority of them have not undergone any training programmer to use internet nor felt any need for the same.

It is observed that more than half of them (52.36%) have banked on their friends and colleagues for leaning the tools and techniques of internet usage about 44.00% of them do venture to learn by trial and error method and about 36.00% try to learn through online tutorials. It is also interesting to note that about 14.00% of them did undergo formal taming programs for effective usage.

- **Familiarity with Internet Tools and Techniques**

Unlike print materials, use of electronic resources requires some electronic devices like desktops, laptops, mobiles etc. and some skills on using them. It also necessitates users to be aware of some search engines, different formats of information accessible in internet.

Computing Devices: It is found that about 90% of the respondents use desktops for their internet search either in library or departments. Besides, about 30.00% of them are observed using laptops too. Since universities have provided desktops in their departments and library these laptops must have been owned by individual research scholars. The percentage of laptop holders is spread evenly across all the three disciplines.

Awareness of Operating Systems: Familiarity with any system depends on the nature of system prevailing in the host organization. It is found that all the universities are working in windows environment and five of six universities have Linux

server too. It is observed that almost all respondents (98.70%) are working in windows environment. This could be due to monopolistic, ease of maintenance, self-learning and menu driven features embedded in windows platform. Linux focuses on text based messages and mainly of use for mail servers. However, about 9% of respondents are aware of Linux operating system.

Awareness and Use of Internet Browsers: Browsing on net requires understanding of some web browsers like Internet Explorer, Netscape Navigator, Opera and Mozilla. The response discussed highlights that about 92.00% of respondents use IE (Internet Explorer) as their mam web browser. It is interesting to note that about 50.00% of them are using Mozilla browser too. A small percentage of researchers use other browsers also like Netscape navigator (4.30%) and Opera (11.60%). However, there was mention of use of Google chrome and safari browsers but the number is negligible.

- **Free or Paid Internet Access**

It is observed that about 60.00% of respondents are accessing internet free of cost at university library or department. There are about 40% of researchers who are accessing fee-based internet the locations could hostels, residences or cyber cafe the cost varies from one service provider to another and from one location to another.

- **Purpose of Internet Access**

Purpose of Using Internet: The results of this study shows the mam purpose of using internet is to 1) search for research related information, 2) e-joules and databases, 3) finding literature for self-publication, 4) to keep abreast of current trends in the field, 5) communicating with friends and experts, 6) to know about seminars/conferences in their field Reading of e-books, advertisements, career opportunities and newspapers are not in their priority.

It is also found that the ranking order of purposes of internet search appears to be almost similar across all the disciplines indicating a homogeneity in priorities of researchers' community.

Hypotheses 2: The key aim of researchers' use of the internet is to locate research-related information and e-joules.

At the outset the hypothesis is sustained. It is very clear that among many purposes, the researcher considers their primary purpose of internet as to search for literature related to their field of research and look for e-joules or journal articles in their research area. Related literature and journal articles are invaluable resources available to researchers during their initial and advanced stage of research. Even while writing the thesis, the researchers do refer to journal articles for support of their arguments.

Kind of Electronic Information Resources: The mean values above 3.4 computed on 5-point scale reveals that the popular specific resources preferred to be searched by research scholars are e-joules/full text articles, online encyclopedias and electronic theses/dissertations, websites of organizations, e-Books and online library catalogues. There are many other specific resources like blogs, maps, newspapers etc. but the response is not encouraging to quote them as popular resources. The infant nature and inadequacy of availability of relevant information in these resources could be one of the factors for less usage.

Usage of UGC-info net: The UGC through Monet is trying to create awareness and promote e-resources among the university teachers and research community. All the six university libraries considered for the current study are the members of Monet consortia. It is observed that while 53.20% of the respondents expressed their awareness about the existence of the service in their library, the other 46.80% expressed their ignorance about the same. The response pattern is almost similar across all the disciplines.

It is interesting to note that 51% of respondents are utilizing the services of Monet provided to them. The usage pattern is almost similar among the researchers of different disciplines. The ignorance of the facility signals lack of promotional efforts to reach the users or lack of resources with the facility provided. It is observed that the info net has more science related databases as compared to other disciplines. There is need for increasing the resources on social science and humanities disciplines.

- **Access Based Problems While Using the Internet**

Perception of Adequacy of Internet Facilities: It is observed that 65.46% of respondents do express their happiness about the nature of connectivity in their university library and department. The remaining 34.54% have express that the current system is not adequate enough to cater to their needs. The results reveal the homogeneity among research scholars' perception of adequacy of internet connectivity in their university. In other words, the percentage of adequacy and inadequacy expressed by total respondents is almost same across all the disciplines highlighting the insignificant difference that exist among user researchers, community.

Hypothesis 3 : The design of the network facility for internet access between university libraries is significantly different

The hypothesis is not sustained by this study as about 2/3rd of researchers opined that the internet connectivity in their university is good. However, the remaining 1/3rd of respondents expressed the existing inadequacy, which cannot be ignored. On examination of infrastructural facilities provided by individual universities it is observed that while five universities have lumps internet connectivity in their campus, one university has upgraded it to 20 mbps connectivity. Further, the equipment's used for networking also have some effect on connectivity. It is observed that four universities are still using switches for LAN

connectivity and two universities are using Hub for the same. Normally networks connected through hub work faster as compared to switch technology.

Though the hypothesis is supported in this study, it signals to the authorities to focus on interneting the needs of significant number of dissatisfied respondents.

Access based Problems: Though the adequacy impression is placed on internet connectivity by researchers, they indicated several problems while accessing the internet.

It is observed that about 2/3rd of respondents (63.70%) have encountered problems while accessing internet and the remaining 1/3rd (36.30%) of them said they did not have such problems the humanities segment experience more problems as compared to science segment. This might indicate the nature of infrastructure or e-resources available to Humanities discipline as compared to science discipline. Among the 1/3rd of respondents (36.30%) who stated that they don't have any problem, the science discipline (38.45%) takes a bigger share as compared to humanities discipline (25.42%).

Problems of Internet Access: The specific problems encountered by researchers. It is observed from figure that 1) delay in display of web pages due to network clogging or traffic jam, 2) difficulty in finding relevant information from the large number of hit results, 3) frequent power failures causing disruption in connectivity, breakdowns, 4) security 5) non compatible software, 6) hardware related problems, and 7) time restrictions are the frequently encountered problems in that order.

• Effect of Internet on Information Resource and Services

The advancements in technology particularly ICT have changed the academic world drastically. They are changing constantly and will continue to change in future too. It is a challenge and opportunity for all library professionals to adopt and adapting to the new technologies. The effect of technology, in particular internet, is clearly visible in all functions of library. The technology intervention is clearly visible through library automation, digitization, storage media and the mode of providing access to resources in digital media. The most common functions/areas that are effected by ICT are automated library transactions, creation of digital library, transformation from physical access to online/remote access, revolution in storage devices, diminishing geographical barriers and time zones, enhanced professional capabilities, changing formats of information resources, changing needs of customers and great pressure on financial allocations.

As described in previous chapters, assessing the effect of any process or technology involves the study situations pre and post introduction of any product or service in organizations like libraries. This type of study generally requires respondents who have experienced or witnessed both pre and post introduction of any new service in library. But in academic institutions like universities, the pre and post study including same respondents is difficult due to the nature of courses and users' departure after the completion of the same. Hence, the current study attempts to obtain the respondents' perceptions on effect of internet on library resources and services and its effect on their academic efficiency and quality of research.

Users' Perception of Effect on Internet on Academic Efficiency: It is a welcome feature that a majority of respondents do acknowledge that they are using internet regularly for their research activities. From Table 3.2 it is observed that about 65% of researchers state that the internet has influenced their overall academic activities, their reading habits (61.93%) and time spent on internet (58.77%). Nearly half of them (48.9%) express that it has influenced their professional competency.

Table 3.2: Users' Perception of Effect of Internet on Academic Efficiency

Effect of internet	Frequency	Percentage	Ranking
Academic activities	700	64.99	1
Proficiency of reading	667	61.93	2
More time for internet usage	633	58.77	3
Professional competence	525	48.9	4
Number of publication	501	46.5	5
Proficiency of writing	463	43	6
Language communication	401	37.2	7
Expediency in result progress	328	30.5	8

Less than half of them have express that it has affected their writing skills (43%) and publications (46.5%). The "no" (negative reply) from more than half of them might indicate the difficulty in judging the effect on writing skills. The opinion about less effect on publication could reveal that their internet usage has not resulted in publications. This could be attributed to the fact that 42.15% and 32.49% of respondents (Table 6.2) are in the initial and middle stages of their research.

The respondents are not very sure about the effect of internet on their communication skills (37.20%) and to what extent it has effected in expediting the result of their research (30.50%).

In other words, while acknowledging the effect of internet on reading, professional efficiency and overall academic activities, the researchers are not very sure about the nature of effect on their communication skills and speedy outcome of result of research

output.

Users' Preferences towards Print and Electronic Resources: it is observed that more than 2/3rd of respondents (68.62%) prefer to use electronic resources and other 1/3rd of them (31.38%) express their choice towards print resources.

To sum up, the major findings of the study derived from data analysis earned out in previous chapters. The major findings related to respondent's characteristics, different facets of internet and its usage have been presented here. The study unearthed many interesting facts and identified some areas which needs further probing. It also witnessed the homogeneity among researchers of different disciplines indicating the research need and usage pattern is almost similar in researchers of science, social science or humanities. Here also explains the library products and services that have been effected by internet and technology as perceived by researchers. It also mentions the key library functions that are effected by technology as opined by university librarians.

CONCLUSION

To sum up, researchers have a propensity to use more and more e-resources over the internet, and have reported access and technical concerns when accessing the internet. Researchers and librarians suggested the different places where apparent IT and internet impact on library goods and services have been observed. Use of UGC-info net tool and co-operation of library personnel are the areas of concern that university administrations need to consider as priorities. The research revealed a number of fascinating information and identified areas that need to be further explored. It also witnessed the homogeneity among researchers from different disciplines, suggesting the need for research and usage pattern is almost similar in researchers of science, social science or humanities.

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SOLVING SOME SPECIFIC INTEGRO-DIFFERENTIAL DIFFERENCE EQUATIONS

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ABSTRACT

In this paper, we show that the methods are applicable to solve linear and non-linear differential-difference equations with the differential first order and difference first order and with differential second order and difference second order. Three examples are selected to describe the applicability of methods. The examples describes that the fact that the Laplace decomposition method demonstrates flexibility and provides convenience for both linear and nonlinear problems in the calculation of analytical solutions

KEYWORD: integro-differential-difference equation, Laplace decomposition approach, Adomian polynomial.

INTRODUCTION

So many research scholars have researched various types of integro-differential equations that have applications such as heat transfer, neutron diffusion, two or more species coexistence ecology, and so forth. These types of equations with or without terms of differentiation can also be used in other applications in science and engineering that act as models associated with advanced integral equations.

In recent times, many researchers have also been interested in solving a singularly disturbed second-order integro-differential-differential equation with one interval condition [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13] that included the left extreme point of the boundary and another boundary condition at the right extreme. The unique parameter of perturbation and the parameter of delay and the delay parameter are selected as small as possible. Such concerns play a significant role in a number of physical problems such as microscale heat transfer, polymer diffusion, chaotic system regulation, and so on (relevant sources cited in [14]).

We are formulating a different problem in this chapter, namely an integrodifferential-differential equation with differential order one or two and order difference one or two with initial interval condition. This can be determined by analyzing the following order-equation for integro-differential-difference (2,2):

$$\epsilon u''(t) = cu'(t) - [f(t) + F_1(u(t-\omega), u'(t-\omega))] + \int_0^t G(u(t_1-\omega_k))dt_1$$

where we allow either $\epsilon = 0$ or $\epsilon = 1$ and $\omega_k = \omega$ or 2ω . Then in general, it will be a differential-difference equation of order (2,2). Further, we work with the following initial interval condition:

$$u(t) = \lambda, \quad t \in (0, 2\omega).$$

Following the studies of previous chapters with a common purpose of demonstrating the fact that the Laplace decomposition method shows flexibility and provides convenience in the calculation of analytical solutions for both linear and nonlinear problems, the following types of integrodifferential differential equations are regarded for more study in this chapter:

1. First order differential and integro-differential-difference equation of the following simple type:

$$u''(t) = a u'(t-\omega) + b f(t-\omega) + c g(u(t-\omega)) + c \int_0^t h(u(t_1-\omega))dt_1, \quad t > 2\omega \quad \dots 1.1$$

$$u(t) = \lambda, \quad 0 \leq t \leq \omega. \quad \dots 1.2$$

In the above equations (1.1)-(1.2), a, b, c, λ and $c \neq 0$ are known constants, $f(t), g(u(t))$ and $h(u(t))$ are given linear or nonlinear functions depending upon the particular problem discussed.

2. Second order differential and integro-differential-difference equation of the following simple type:

$$u''(t) = a f(t-\omega) + b g(u(t-\omega)) + c \int_0^t h(u(t_1-2\omega))dt_1, \quad t > 2\omega, \quad (1.3)$$

$$u(t) = \lambda, \quad 0 \leq t \leq 2\omega. \quad (1.4)$$

In the above equations (1.3)-(1.4), $a, b \neq 0, c \neq 0$ and λ are known constants, $f(t), g(u(t))$ and $h(u(t))$ are given linear or nonlinear functions depending upon the particular problem discussed.

The Laplace decomposition method for the problem is defined in the next section (1.1) and (1.2). A series of three definitions are carried out in the following section. The final section contains concluding remarks.

ILLUSTRATION OF THE LAPLACE DECOMPOSITION

METHOD APPLICABLE FOR SOLUTION OF SPECIFIC INTEGRO DIFFERENTIAL-DIFFERENCE EQUATIONS

Let us consider the Integro-differential-differential equation with differential arguments of order one given in following:

$$u'(t) = k u'(t-\omega) + a f(t-\omega) + b g(u(t-\omega)) + c \int_0^t h(u(t_1-\omega))dt_1, \quad t > \omega \quad (2.1)$$

and the following initial interval condition:

$$u(t) = \lambda, \quad 0 \leq t \leq \omega. \quad \dots 2.2$$

In the above equations (2.1)-(2.2), a, b, k, γ and $c \neq 0$ are known constants, $f(t), g(u(t))$ and $h(u(t))$ are assigned linear or nonlinear functions based on the particular question addressed. In order to implement the Laplace decomposition procedure, they are further sorted in such a way that they can be estimated by Adomian polynomial[15] appropriate for the Laplace transform iterative computation as well as inverse Laplace transform for $u(t)$.

First we note that,

$$\int_0^\omega u'(t) e^{-st} dt = 0 \text{ and as a result } \int_\omega^\infty u'(t) e^{-st} dt = L\{u'(t)\}$$

Now let us multiply both sides of (2.1) by $e^{-st}, s > 1$ and integrate between ω and ∞ , to obtain

$$\int_\omega^\infty u'(t) e^{-st} dt = k \int_\omega^\infty u'(t-\omega) e^{-st} dt + a \int_\omega^\infty f(t-\omega) e^{-st} dt + b \int_\omega^\infty g(u(t-\omega)) e^{-st} dt + c \int_\omega^\infty \left[\int_0^t h(u(t_1-\omega))dt_1 \right] e^{-st} dt.$$

Let us apply initial interval condition and suitable shifting of variables to obtain

$$\int_0^\infty u'(t) e^{-st} dt = k e^{-\omega s} \int_0^\infty u'(t) e^{-st} dt + a e^{-\omega s} \int_0^\infty f(t) e^{-st} dt + b e^{-\omega s} \int_0^\infty g(u(t)) e^{-st} dt + c e^{-\omega s} \int_0^\infty \left[\int_0^t h(u(t_1))dt_1 \right] e^{-st} dt$$

$$L\{u'(t)\} = k e^{-\omega s} L\{u'(t)\} + a e^{-\omega s} L\{f(t)\} + b e^{-\omega s} L\{g(u(t))\} + c e^{-\omega s} L\left\{ \int_0^t h(u(t_1))dt_1 \right\}$$

After applying formula of Laplace transform for first order derivative, finally, we obtain

$$L\{u(t)\} = \frac{\lambda}{s} - \lambda k \frac{e^{-\omega s}}{s} + k e^{-\omega s} L\{u(t)\} + a \frac{e^{-\omega s}}{s} L\{f(t)\} + b \frac{e^{-\omega s}}{s} L\{g(u(t))\} + c \frac{e^{-\omega s}}{s^2} L\{h(u(t))\}. \tag{2.3}$$

Now we seek the following type of decomposition for $L\{u(t)\}$:

$$L\{u(t)\} = \sum_{n=0}^{\infty} e^{-n\omega s} L\{u_n(t)\} \tag{2.4}$$

On applying Laplace transformation for $g(u(t))$ and $h(u(t))$, we obtain the following Laplace decompositions:

$$L\{g(u(t))\} = \sum_{n=0}^{\infty} e^{-n\omega s} L\{A_n(t)\}.$$

$$L\{h(u(t))\} = \sum_{n=0}^{\infty} e^{-n\omega s} L\{B_n(t)\}.$$

Now the main idea of Laplace decomposition is to set an iteration as follows:

$$\begin{aligned} \sum_{n=0}^{\infty} e^{-n\omega s} L\{u_n(t)\} &= \frac{\lambda}{s} - \lambda k \frac{e^{-\omega s}}{s} + a \frac{e^{-\omega s}}{s} L\{f(t)\} \\ &+ k e^{-\omega s} \sum_{n=0}^{\infty} e^{-n\omega s} L\{u_n(t)\} \\ &+ b \frac{e^{-\omega s}}{s} \sum_{n=0}^{\infty} e^{-n\omega s} L\{A_n(t)\} \\ &+ c \frac{e^{-\omega s}}{s^2} \sum_{n=0}^{\infty} e^{-n\omega s} L\{B_n(t)\} \\ &= \frac{\lambda}{s} \\ &+ \left(\frac{-\lambda k}{s} + a \frac{L\{f(t)\}}{s} + k L\{u_0(t)\} + \frac{b L\{A_0(t)\}}{s} + \frac{c L\{B_0(t)\}}{s^2} \right) e^{-\omega s} \\ &+ \sum_{n=1}^{\infty} \left(k L\{u_{n-1}(t)\} + \frac{b L\{A_{n-1}(t)\}}{s} + \frac{c L\{B_{n-1}(t)\}}{s^2} \right) e^{-n\omega s}. \end{aligned} \tag{2.5}$$

where A_n and B_n are n^{th} Adomian Polynomials [15] of $g(u(t))$ and $h(u(t))$ respectively.

One may compute $L\{u_n(t)\}$ iteratively as follows:

$$L\{u_0(t)\} = \frac{\lambda}{s}, \quad \Rightarrow \quad u_0(t) = \lambda.$$

$$L\{u_1(t)\} = -\frac{\lambda k}{s} + a \frac{L\{f(t)\}}{s} + k L\{u_0(t)\} + \frac{b}{s} L\{A_0(t)\} + \frac{c}{s^2} L\{B_0(t)\}.$$

$$L\{u_n(t)\} = k L\{u_{n-1}(t)\} + \frac{b L\{A_{n-1}(t)\}}{s} + \frac{c L\{B_{n-1}(t)\}}{s^2}, \quad n = 2, 3, 4, \dots$$

By applying inverse Laplace transform for the Laplace decomposition series (2.4), we get

$$u(t) = \sum_{n=0}^{\infty} u_n(t - n\omega) e(t - n\omega), \tag{2.6}$$

where $e(t - n\omega)$ is a unit step function given by,

$$e(t - n\omega) = \begin{cases} 0 & t < n\omega, \\ 1, & t > n\omega, \end{cases}$$

Therefore, by using (2.6), the exact or approximate solution for each interval is given by,

$$u(t) = \sum_{n=0}^N u_n(t - n\omega), \quad N\omega \leq t \leq (N + 1)\omega, \quad N = 0, 1, 2, \dots \tag{2.7}$$

For the integro-differential-difference equation of order (2,2) the definition of the system is exactly the same except for the application of Laplace transform to $u''(t)$ and the equation $u(t - 2\omega)$ (1.3).

ILLUSTRATIVE EXAMPLES

Example - 1

Let us consider the following linear integro-differential-difference equation with both differential and difference of order one.

$$u'(t) - u'(t - \omega) = 1 - \omega + t + u(t - \omega) + \int_{\omega}^t u(t_1 - \omega) dt_1, \quad t > \omega, \tag{3.1}$$

with the initial interval condition

$$u(t) = u_0(t), \quad 0 \leq t \leq \omega. \tag{3.2}$$

Note that when $\omega \rightarrow 0$ in (3.1)-(3.2), the Integro-differential-difference equation becomes,

$$\begin{aligned} 1 + u(t) + \int_0^t u(t_1) dt_1 &= 0, \quad u(0) = 1 \\ \Leftrightarrow u'(t) + u(t) &= -1, \quad u(0) = 1 \\ \Leftrightarrow u(t) &= 2e^{-t} - 1. \end{aligned}$$

Let us consider the following simpler problem with $\omega = 1$:

$$u'(t) - u'(t - 1) = 1 + (t - 1) + u(t - 1) + \int_1^t u(t_1 - 1) dt_1, \quad t > 1. \tag{3.3}$$

Motivated by the exact solution of the corresponding differential equation, suppose

$$\text{we choose } u(t) = 1 - 2t + t^2, \quad 0 \leq t \leq 1.$$

Then it satisfies the (3.3) at $t = 1$, because $u^0(1) - u^0(0) = 1 + 0 + u(0) + 0$ or $0 - (-2) = 1 + 0 + 1 + 0$. Therefore, we solve the following problem with the initial interval condition

$$u(t) = 1 - 2t + t^2, \quad 0 \leq t \leq 1. \tag{3.4}$$

Following the initial step of the method for (3.3) - (3.4), first we multiply both sides of (3.3) by e^{-st} , $s > 1$ and integrate between 1 and ∞ . After doing some simplification, finally we arrive at

$$\begin{aligned}
 L\{\sin(u(t))\} &= L\{\sin(u_0(t))\} + e^{-\omega s} L\{u_1(t) \cos(u_0(t))\} \\
 &+ e^{-2\omega s} L\left\{u_2(t) \cos(u_0(t)) - \frac{1}{2}u_1^2(t) \sin(u_0(t))\right\} \\
 &+ e^{-3\omega s} L\left\{u_3(t) \cos(u_0(t)) - u_1(t)u_2(t) \sin(u_0(t))\right. \\
 &\quad \left. - \frac{1}{6}u_1^3(t) \cos(u_0(t))\right\} \\
 &+ \dots \\
 &= \sum_{n=0}^{\infty} e^{-n\omega s} L\{A_n(t)\}
 \end{aligned}$$

(3.12)

where A_i 's are Adomian Polynomials given below,

$$\begin{aligned}
 A_0(t) &= \sin(u_0(t)), \\
 A_1(t) &= u_1(t) \cos(u_0(t)), \\
 A_2(t) &= u_2(t) \cos(u_0(t)) - \frac{1}{2}u_1^2(t) \sin(u_0(t)), \\
 A_3(t) &= u_3(t) \cos(u_0(t)) - u_1(t)u_2(t) \sin(u_0(t)) - \frac{1}{6}u_1^3(t) \cos(u_0(t))
 \end{aligned}$$

and so on.

Again let us expanding $L\{u^2(t)\}$, by using Laplace decomposition as follows

$$\begin{aligned}
 L\{u^2(t)\} &= L\{u_0^2(t)\} \\
 &+ e^{-\omega s} L\{2u_0(t)u_1(t)\} \\
 &+ e^{-2\omega s} L\{2u_0(t)u_2(t) + u_1^2(t)\} \\
 &+ e^{-3\omega s} L\{2u_0(t)u_3(t) + 2u_1(t)u_2(t)\} \\
 &\vdots \\
 &+ e^{-n\omega s} L\{u_0(t)u_n(t) + u_1(t)u_{n-1}(t) + \dots + u_n(t)u_0(t)\} \\
 &\vdots \\
 &= \sum_{n=0}^{\infty} e^{-n\omega s} L\{B_n(t)\},
 \end{aligned}$$

(3.13)

where B_i 's are Adomian Polynomials [15],

$$\begin{aligned}
 B_0(t) &= u_0^2(t), \\
 B_n(t) &= u_0(t)u_n(t) + u_1(t)u_{n-1}(t) + \dots + u_n(t)u_0(t),
 \end{aligned}$$

for $n \geq 1$.

Now the main idea of Laplace decomposition is to set an iteration as follows:

$$\begin{aligned}
 \sum_{n=0}^{\infty} e^{-n\omega s} L\{u_n(t)\} &= \frac{1}{s} + \left(-\frac{1}{s} + L\{u_0(t)\} + \frac{1}{s}L\{A_0(t)\} + \frac{1}{s^2}L\{B_0(t)\}\right) e^{-\omega s} \\
 &+ \sum_{n=2}^{\infty} \left(L\{u_{n-1}(t)\} + \frac{1}{s}L\{A_{n-1}(t)\} + \frac{1}{s^2}L\{B_{n-1}(t)\}\right) e^{-n\omega s}.
 \end{aligned}$$

.....(3.14)

For $n = 0, 1, 2, \dots$, equate the co-efficient of $e^{-n\omega s}$ on both sides of (3.14) to get $L\{u_n(t)\}$ and apply inverse Laplace transform to obtain $u_n(t)$.

$$\begin{aligned}
 \text{For } n=0, \quad L\{u_0(t)\} &= \frac{1}{s} \Rightarrow u_0(t) = 1. \\
 \text{For } n=1, \quad L\{u_1(t)\} &= -\frac{1}{s} + L\{u_0(t)\} + \frac{1}{s}L\{A_0(t)\} + \frac{1}{s^2}L\{B_0(t)\} \\
 &= -\frac{1}{s} + L\{u_0(t)\} + \frac{1}{s}L\{\sin(u_0(t))\} + \frac{1}{s^2}L\{u_0^2(t)\} \\
 &= -\frac{\sin(1)}{s^2} + \frac{1}{s^2} \\
 &\Rightarrow u_1(t) = \frac{\sin(1)}{1!} + \frac{t^2}{2!}.
 \end{aligned}$$

$$\begin{aligned} \text{For } n = 2, \quad L\{u_2(t)\} &= L\{u_1(t)\} + \frac{1}{s}L\{A_2(t)\} + \frac{1}{s^2}L\{B_2(t)\} \\ &= L\{u_1(t)\} + \frac{1}{s}L\{u_1(t)\cos(\omega_0(t))\} + \frac{1}{s^2}L\{2u_0(t)u_1(t)\} \\ &= \frac{\sin(1)}{s^2} + (1 + \sin(1)\cos(1))\frac{1}{s^3} \\ &\quad + (\cos(1) + 2\sin(1))\frac{1}{s^4} + \frac{2}{s^5} \\ \Rightarrow u_2(t) &= \frac{\sin(1)t}{1!} + [1 + \sin(1)\cos(1)]\frac{t^2}{2!} \\ &\quad + [\cos(1) + 2\sin(1)]\frac{t^3}{3!} + 2\frac{t^4}{4!} \end{aligned}$$

$$\begin{aligned} \text{For } n = 3, \quad L\{u_3(t)\} &= L\{u_2(t)\} + \frac{1}{s}L\{A_3(t)\} + \frac{1}{s^2}L\{B_3(t)\} \\ &= L\{u_2(t)\} + \frac{1}{s}L\left\{u_2(t)\cos(\omega_0(t)) - \frac{1}{2}u_2^2(t)\sin(\omega_0(t))\right\} \\ &\quad + \frac{1}{s^2}L\{2u_0(t)u_2(t) + u_1^2(t)\} \\ &= \frac{\sin(1)}{s^2} + [1 + 2\sin(1)\cos(1)]\frac{1}{s^3} \\ &\quad + [4\sin(1) + 2\cos(1) - \sin^3(1) + \sin(1)\cos(1)]\frac{1}{s^4} \\ &\quad + [4 + \cos^2(1) - \sin^2(1) + 4\sin(1)\cos(1)]\frac{1}{s^5} \\ &\quad + [4\cos(1) + 7\sin(1)]\frac{1}{s^6} + \frac{10}{s^7} \\ \Rightarrow u_3(t) &= \frac{\sin(1)t}{1!} + [1 + 2\sin(1)\cos(1)]\frac{t^2}{2!} \\ &\quad + [4\sin(1) + 2\cos(1) - \sin^3(1) + \sin(1)\cos(1)]\frac{t^3}{3!} \\ &\quad + [4 + \cos^2(1) - \sin^2(1) + 4\sin(1)\cos(1)]\frac{t^4}{4!} \\ &\quad + [4\cos(1) + 7\sin(1)]\frac{t^5}{5!} + 10\frac{t^6}{6!} \end{aligned}$$

By using (2.6), we obtain an approximate solution of $u(t)$, for $t > 0$.

For $3\omega \leq t \leq 4\omega$, the approximate solution is

$$\begin{aligned} u(t) &\approx \sum_{n=0}^3 u_n(t - n\omega) \\ &= 1 + \sin(1)\frac{(t - \omega)}{1!} + \frac{(t - \omega)^2}{2!} \\ &\quad + \sin(1)\frac{(t - 2\omega)}{1!} + [1 + \sin(1)\cos(1)]\frac{(t - 2\omega)^2}{2!} \\ &\quad + [\cos(1) + 2\sin(1)]\frac{(t - 2\omega)^3}{3!} + 2\frac{(t - 2\omega)^4}{4!} \\ &\quad + \sin(1)\frac{(t - 3\omega)}{1!} + [1 + 2\sin(1)\cos(1)]\frac{(t - 3\omega)^2}{2!} \\ &\quad + [4\sin(1) + 2\cos(1) - \sin^3(1) + \sin(1)\cos(1)]\frac{(t - 3\omega)^3}{3!} \\ &\quad + [4 + \cos^2(1) - \sin^2(1) + 4\sin(1)\cos(1)]\frac{(t - 3\omega)^4}{4!} \\ &\quad + [4\cos(1) + 7\sin(1)]\frac{(t - 3\omega)^5}{5!} + 10\frac{(t - 3\omega)^6}{6!} \end{aligned} \tag{3.15}$$

In this way, we can continue and workout higher level approximate solutions.

RESULTS AND DISCUSSION

The first example chosen an initial interval state indicatively, namely, $u_0(t) = (t-1)^2$ with the direction of the exact solution of the related differential equation. Once more Laplace decomposition method has generated an exact solution with smooth computation at every interval. The second example explicitly illustrate once more the smooth computation of the approximate solution in each interval. Consequently, the above examples illustrate the fact that the Laplace decomposition method demonstrates flexibility and provides convenience for both linear and nonlinear problems in the calculation of analytical solutions.

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A ZOOLOGICAL EVALUATION AND DYNAMICS OF ANTS ON PLANTS

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ABSTRACT

Ants are abundant insects and are considered significant in the functioning of the ecosystem as they have a diverse ecological role including dispersal of seeds through nutrient cycling. This work will be performed between November 2017 and October 2018. Samples of ant from the two ecological habitats were collected during this work. In this discovery of Ants about 32 species.

KEYWORDS: Ant, diversity, species, ecological habitats

INTRODUCTION

“Ants portray the grandeur of insect evolution in the same way that humans represent the height of vertebrate evolution. They use the most complex methods of chemical communication and their social organization provides an enlightening correlation with that of humans, but only one biologist in one hundred can illustrate the life cycle of any animal in detail (Hölldobler and Wilson, 19).

Ants are numerous, abundant, easily discoverable and can be accurately sampled and visually monitored. They are relatively sedentary, most of them wingless in a group, with restricted ranges but sensitive to small-scale ecological changes in both space and time (Ward, 2000). (Ward, 2000). Since ants can be a source of information for communication behaviour, foraging behaviour, reproduction, development, division of labor and control of different castes etc., many have used ants as model organisms for their studies, as they can be easily cultivated and managed in the laboratory (Stadler and Dixon, 1998). To summarize, ants exhibit impressive adaptive strategies and specializations; increasing fungal crops, harvesting of seeds, herding and milking of other invertebrates, weaving of communal nests, packing cooperatives, social parasitism and slave-making (Hölldobler and Wilson, 2009; Lach et al., 2010).

These are a difficult group to classify, given the high number of species and the great importance of the bees. Our knowledge of their taxonomy, patterns of distribution, evolution and ecology is far from complete and so undermines their possible usefulness in land management and conservation. The lack of ants in science and natural history is a void that needs to be remedied (Hölldobler and Wilson, 1990). Losing ants' biodiversity will be a matchless, regional ecological experiment (Brown, 2000). An almost immediate need is to consider the ants' complex relationships with their environment that include their dynamics, plant interactions, interspecific interactions and abiotic impacts on them.

Effective preservation of this taxon is important considering the ecological value of ants. Particular efforts to protect ants based on interactions with other species are required (Alonso, 2009). This work aimed at studying the ecology, interconnections and dynamics of ants on selected horticultural plants with regard to different abiotic factors is a small step in this direction with the following objectives:

Given the ecological importance of ants, effective conservation of this taxon is critical. Particular efforts are needed to protect ants that are dependent on associations with other organisms (Alonso, 2009). This main aim of the study is a zoological evaluation and dynamics of ants on plants with the following objectives:

- To document ant speci
- To determine the frequency
- To investigate -hemipteran interactions.
- To understand the effec

METHODOLOGY

To familiarize with the occurring organisms, the present work included a faunistic analysis and survey of ants. Therefore a pilot survey was carried out in and around the peri-urban regions of the district of Pune , Maharashtra. Three methods were used to collect Ants, viz. Picking by hand, pitfall traps and baitlure methods

Maharashtra was surveyed to study the diversity of ants in various peri-urban fields, gardens, and parks in and around Pune district. Based on their vertical heights / life span / habitats, the horticultural plants in Biodiversity Park were classified into four categories-herbs, shrubs, climbers and trees. Of these, 58 medicinal, ornamental and horticultural plant species have been selected as plants.

The study began with a faunistic pilot survey to familiarize and study the species composition of ants in and around the peri-urban regions of Pune district, Maharashtra, India). This force contributed to the basic taxonomic studies of the Formicidae family under the order Hymenoptera of the Insecta class of phylum Arthropoda..

The study areas chosen for the investigation were a park / garden for biodiversity (site 1) surrounded by grasslands (site 2) located in Periurban Bengaluru (13 ° 06'50"N 77 ° 35'54"E). For the study 58 species of horticultural plants were selected in the park. The selected plants were primarily medicinal / commercial, or aesthetically important, underutilized horticultural plants. Unlike fruit and vegetable crops, these provided no insecticidal sprays. Ant fauna was sampled from November 2017 to October 2018 on 58 selected horticultural plants, through systematized random sampling.

The plants varied by their seasonality of gradient and flowering and thus were divided into four groups, namely the climbers, herbs, shrubs and trees, to facilitate grouping and faunal evaluation. The sampling plan was formed by ten units / plant / species. Of the 10 sampling units (n) per plant species sampled on each alternate day of the week, 67,280 units were sampled to clarify the dynamics and plant preferences of the ants. Also during the study time the adjacent meadow areas were analyzed for ant faunal diversity by transect sampling.

There were 32 ant species reported in both of these study sites which considered a fairly rich diversity to be a peri-urban ecosystem. This work was also an approach to the survival of ants as otherwise urbanization and pesticide contamination causes species to disappear locally, as seen in many parts of the world. Of the 32 species of ant recorded in the study area and surrounding grassland, 12 species of ant namely *Tapinoma melanocephalum*, *Technomyrmex albipes*, *Camponotus compressus*, *Camponotus sericeus*, *Camponotus parvus*, *Paratrechina longicornis*, *Crematogaster ranssoneti*, *Monomorium pharaonis*, *Myrmecaria brunnea*, *Pheidole watsoni*, *Solenopsis geminata* and *Tetramorium sp* were associated with the horticultural plants.

Fourteen species namely *Lepisiota frauenfeldi*, *Polyrachis rastellata*, *Polyrachis sp*, *Anoplolepis gracilipes*, *Plagiolepis jerdonii*, *Aphaenogaster beccari*, *Cataulacus taprobanae*, *Crematogaster subnuda*, *Meranoplus bicolor*, *Monomorium criniceps*, *Tetramorium walshi*, *Leptogenys chinensis*,

The Biodiversity Park reported *Leptogenys processionalis* and *Pachycondyla luteipes* but not in close association with the selected subject plants as they had different food and niche preferences. The surrounding grasslands were rich in ant biodiversity with 23 species recorded in them. Except those above, including six other ant species *Camponotus irritans*, *Oecophylla smaragdina*, *Harpegnathos saltator*, *Tetraponera allaborans*, *Tetraponera rufonigra* and *Diacamma ceylonense* were recorded.

Diversity indices

The calculation of diversity (alpha diversity) offers valuable information on the degree of uncertainty / diversity, species abundance, and species evenness at different locations. Therefore six analyzes of the diversity were measured.

Following measures (indices) were used to work the abundance of ants on the selected plants: Shannon-Weiner index, Simpson-Yule index and Species richness.

➤ To Study the Ants -Plants Interaction

The regular occurrences of ants on the selected 58 plants of the garden will be taken regularly and the ant occurrence index will be calculated assessing the extent of plant-ant interaction (modified from Gotia and Jaffe, 2009)

➤ To study selected Ant- Hemipteran Interaction

Interactions of ants and hemipterans on two plants were assessed. In the open fields, ant-plant-aphid-predator interactions among *Aphis nerii*, *Cheilomenes sexmaculata* and the observed ant species on *Calotropis gigantea* will be studied. To study the associations of ants and aphids in the absence of a predator, interactions of *Aphis gossypii* and the tending ant species on brinjal, *Solanum melongena* var. *esculentum*. Will also be studied under glass house conditions.

➤ To understand the effect of abiotic factors on ants

To study the influence of abiotic factors and considering that reliability of samples in an extensive survey may be particularly sensitive to the weather conditions (Harris, 1957), data of abiotic factors like average temperature, humidity, wind speed and rainfall will be collected.

The following statistical methods will be used for data analysis.

Statistical methods and their test criterion Method	Test criterion
Correlation	'r' (correlation coefficient)
Regression	'R' (coefficient of determination)
a) Multiple	"R"
b) Linear polynomial	"R"

RESULT AND DISCUSSION

Ant faunal data assessment based on species richness dismissed the first hypothesis that said 'all plants draw ants to them.' The occurrence frequencies of the ants on the 58 plants were measured using Occurrence Indices (OI) and supported by chi square tests, which showed that the second hypothesis that ants were distributed equally to plants was not accurate.

Frequency of occurrence of ants on plants

It was studied in the sense of studying the occurrence of ants on plants and the interrelationship between them and ant occurrence index on the plant. Since the estimation of species wealth is a fundamental objective of many field studies conducted in community ecology and is also of crucial concern when dealing with the conservation and management of biodiversity wealth of species on all 58 subject plants were recorded. The chi square analyzes and the incidence indices measured for all the ants occurring on the plants showed that indices up to 0.1 could be regarded as low visitation or vagrancy s these were not significant, while values above 0.18 could be attributed to ecologically defined ant-plant relationships which were important (χ^2 at $p=0.05$).

The diversity indices demonstrated that plants with high diversity (low Simpson-Yule index) and ant-occurrence certainty (low Shannon-Weiner index) were the perfect ant-plants. Hence, from Fig. 1 it could be inferred that A. nervosa, G. sylvestre, I. mauritiana, I. pes capre, J. violaceae and V. solanaceae had certainty of ant occurrence.

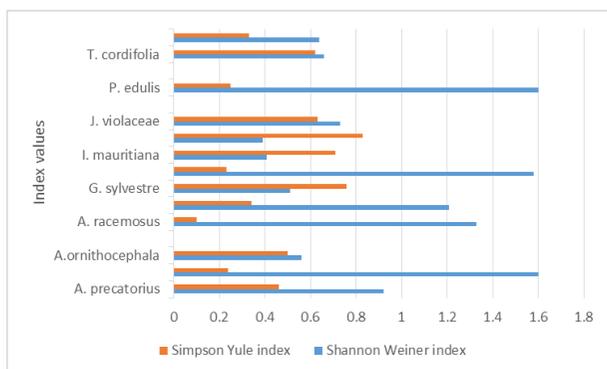


Fig. 1: Diversity indices for climbers.

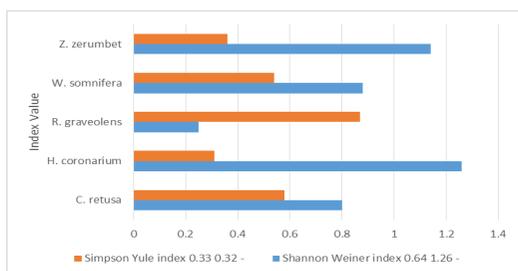


Fig. 2: Diversity indices for herbs

Among the herbs, only C. retusa and W. somnifera showed certainty of the ant occurrence probably due to the floral nectaries.

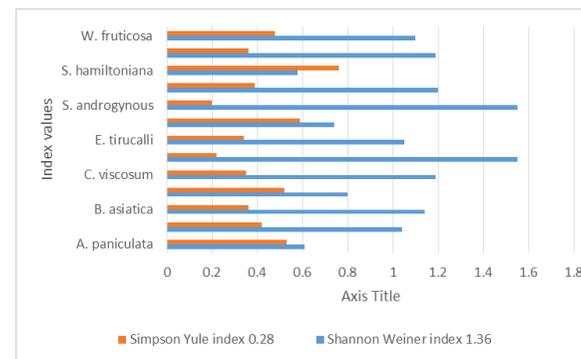


Fig. 3: Diversity indices for shrubs

The species richness seen in the four groups of plants varied. The shrubs and trees showed the highest ant diversity followed by climbers and herbs. It was also interesting that among the groups, twenty plants attracted many species of ants to them while six had just one itinerant ant species or none recorded on them.

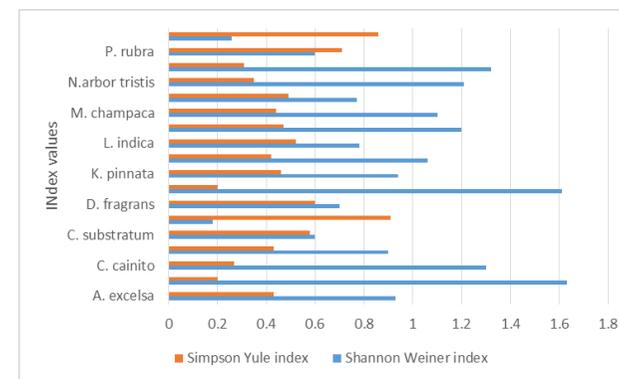


Fig. 4: Diversity indices for trees

Of all the observed 58 larvae, tree M. Longifolia supported eight species of ant with the highest species richness. The indices of occurrence (OI) were not important for all the eight species of ant reported on it.

Only 20 plants were found to be significant in attracting different ants to them. Among the climbers, Abrus precatarius, Argyreia nervosa, Ipomoea pes capre, Hiptage benghalensis, Jaquemontia violaceae, Passiflora edulis, Gymnema sylvestre; among the herbs, Crotalaria retusa and Withania somnifera; among the shrubs Bambusa vulgaris, Cleodendrum viscosum, Eleocarpus floribundus, Strobilanthes hamiltoniana, Tecoma capensis and Woodfordia fruticosa and among the trees, Kigelia pinnata, Madhuca longifolia, Magnolia champaca, Muntingia calabura and Nycanthes arbor tristis are essential to be grown to support ants. Sauropus androgynous, Plumeria rubra, Plumeria pudica, Kalanchoe pinnata, Cannanga odorata and Garcinia gummi gutta are a few other favourable ant-plants recorded in the study.

Observations and literature have described the various myrmecophilous plant sections, such as extra floral nectaries, floral nectaries, fruits , and flowers, which clarified the reasons for the relationship between ants and plants. These myrmecophilous

plants are important in terms of conservation of ant diversity, and will certainly help to increase ant populations and diversity in peri-urban ecosystems. Thus, horticultural experts should take note of these plants while planning urban landscapes.

Study of ant hemipteran Interaction

The first case of ant-hemipteran associations on *Calotropis gigantea* work in the field showed fascinating aspects of the tri-trophic interactions between the aphids (*A. nerii*), ants (*C. parius*, *T. melanocephalum* and *M. brunnea*) and the predator (*C. sexmaculata*).

The association between *A. nerii* and *C. sexmaculata* was not important and the small niche variance of 0.39 represented this. Because of the presence of ants the predator did not completely kill the aphid. Aggregated predators (> 1.0 V / M ratio) were reported on the leaves thus explaining the aphidophagy. The predators and ants may have aggregated to stay close to exploit a common resource. Positive spatial correlation did not imply exclusion between any of the components of the tri-trophic biota, because there was no dearth or room for resource competition..

As the foraging of other species has an unambiguous impact on the ants, it has studied the interspecific correlations found between the significantly occurring ants. It was found that, as the abundant resources provided by plants were exploited by spatial and temporal partitioning, these interspecific associations between ants were not always robust. At the same time the ant-aphid relationship was recognized in the presence and absence of an aphidophagous predator *Chilomenes sexmaculata*. The degrees of overlap between both the ants and the aphids, the ants and the predator and the ant species were determined and it was concluded that, in the absence of a pre, the spatial overlap between the ants and the aphids and with other ant species was greater .

There has been evidence of coexistence between predator and ant on a common resource aphid only by a small overlap. The probability of finding a predator was less where ants were reported. This goal helped explain ants' relationship with hemipterans and the extent of their ability to collect resources in the presence of intruders (aphidophagous predators).

Effects of Abiotic factors on ants

Population as per number of *C. compressus* in the Biodiversity Park was associated with abiotic parameters across plant species. Noted the relationships with ants showing importance (at $p=0.05$). Ant biodiversity is a common determinant of abiotic causes. The effect of abiotic parameters on the foraging ants dynamics in the biodiversity park was important for six ant species namely *C. compressus*, *C. sericeus*, *C. parius*, *P. longicornis*, *M. pharoanis* and *T. melanocephalum*.

Weather parameters such as maximum temperature and relative humidity (forenoon) and wind speed positively influenced the *C. compressus* study. The other six ant species namely *S. geminata*, *C. ransonneti*, *M. brunnea*, *P. watsoni*, *T. albipes*, *Tetramorium* sp did not show significance in their foraging activity with the abiotic parameters considered. It has been important to note that among the six myrmicines recorded in the study, only *M. pharoanis* was influenced by a single weather parameter and the other five namely *C. ransonneti*, *S. geminata*, *M. brunnea*, *P. watsoni*, *Tetramorium* sp and the others were all non-significant.

Many of the myrmicines that are ground foragers are probably less sensitive to the weather parameters and more receptive to the edaphic components that did not form part of this study's objectives. The *dolichoderin*, *T. albipes*, also an opportunist like the *T. melanocephalum* might have mixed influences apropos to its feeding habits on all arboreal, plant and ground niches and influenced by a multiple factors. An analysis that gives a better understanding of the same will be an excellent tool for deciphering the depths of equally significant non-weather factors. Abiotic conditions can have beneficial and deleterious effects on insect growth and survival. The dynamics of six ant species seemed to be greatly affected by abiotic weather parameters, while the Formicines like *C. compressus*, *C. sericeus*, *C. parius* and *P. longicornis*, showed significant temporal trends with weather parameters, Myrmicines were least affected among which, *M. pharoanis* was significant in occurrence to wind speed. The dynamics of the *Dolichoderin*, *T. melanocephalum* showed significant correlation with the abiotic parameters. Therefore it was deduced that the Myrmicines, being mainly general foragers and granivores, were perhaps more evidently sensitive to edaphic parameters than the environment parameter. Weathers which negatively impact a species, like maximum temperature on *C. compressus* have to be taken cognizance of, to adequately prevent species displacement or mitigation to suitable regimes due to global warming. In such case, suitable ant plants can buffer in to mitigate ill effects of global warming with respect to ant species. Understanding the sensitivity of ants to abiotic parameters, therefore, is as important as taking measures to conserve them, in the context of changes in climate

All of these results open up room for evaluating, debating and predicting ants' future role in horticultural environments using the ecological models built in this work. Twenty out of the 58 economically important plants that were shortlisted in the study attracted ants for one cause or another. This plants had a high frequency rate, major interactions with the host plants and a high diversity of species.

CONCLUSION

Therefore, this study serves as an excellent basis for improving ant biodiversity security. Whereas the study also pointed to a new role in the conservation of underused horticultural crops, integrating economic advantages with increased ant species diversity.

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APPLICATION OF MEDICINAL PLANTS FOR DIABETIC WOUND HEALING

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ABSTRACT

Medicinal plants played a pivotal role as origin for drug lead compounds. Human beings are driven by their instinct, taste, and experience, treated their illnesses by applying plants; hence, the history of medicinal plants is very much significant in this context. This research paper is related to the application of medicinal plants for diabetic wound healing.

Keywords : medicinal , abnormalities, wound , diabetic

INTRODUCTION

The diabetes can produce molecular and cellular abnormalities like connective tissue abnormality including loss of integrity, weak tensile strength and decreased elasticity. In diabetic patient decrease in collagen content of cutaneous layer of skin can generate impaired, delayed and non healing abnormalities in wound area (Diegelmann et al. 1975). Abnormal cellular functions related to diabetic wounds include delayed inflammation, altered repair and regeneration of blood vessels, decreased collagen synthesis and defective macrophage function.

Diabetic wounds are also prone to infections due to altered granulocytic function and cellular chemotaxis. According to the American diabetes association, 25% of people with diabetes will suffer from a wound problem during their life time and it has been estimated that lower limb amputation in diabetic patient accounts for more than 60% of all amputations performed (WHO global health estimate, 2014).

The effect of hyperglycemia on wound healing is a very complex issue that continues to leave many questions unanswered. An important point about diabetic wound is that it heals slowly and worsens rapidly thereby requiring close monitoring. Diabetes affects the wound healing by slowing down the process or prolonging the healing process. There are mainly three factors, viz. poor circulation, peripheral neuropathy and dysfunctional immune system that influences wound healing in diabetic patients.

REVIEW OF LITERATURE

Research is now being done to identify the active constituents and mode of action of various medicinal plants. Several herbs and medicinal plants known to be effective in wound healing were identified and formulated for the treatment and management of diabetic wounds. These wounds take a long time to heal and their management has been a challenging task in diabetics.

WOUND HEALING ACTIVITY-APPLICATION OF MEDICINAL PLANTS

Medicinal plants used in this study have been enlisted and described (Ambasta et al. 1986) as follow

i) Centella asiatica

Common name: - Gotu kola (In hindi), Indian pennywort (In English)

Family: Apiaceae

Habitat: - Centella asiatica is native to India, Japan, China, South Africa grows in low wet area.

Plant part used:- Leaves.

Traditional medicinal usage:- Centella asiatica is also known as —fountain of life herb because it supposedly increases longevity. It is considered to be antibacterial, antifungal, and antioxidant. It can help reduce swelling, repair connective tissues and improve circulation. Centella asiatica promotes skin cells and connective tissue generation since it contains saponin, a substance that stimulates collagen formation. It also helps in keratinization and appears to be helpful in the treatment of sores and ulcers. It has a revitalizing effect on nerves and brain cells has been recommended traditionally for improving memory and concentration and has an overall rejuvenating effect on the human body. It enhances metabolic processes. Centella asiatica contains triterpenoids that appear to speed up wound healing, strengthen skin and increase blood supply to the wound area.

Phytochemical constituents: Asiaticoside (mainly responsible for wound healing) Madecassoside, Madecassic acid, Asiatic acid.

Antimicrobial activity studies:- Ullah et al. (2009) have observed that n-hexane, carbon tetrachloride and chloroform soluble fractions of methanol extract of the leaves from the plant, Centella asiatica showed antibacterial activity against five Gram

positive bacteria (Bacillus cereus, Bacillus megatherium, Bacillus subtilis, Staphylococcus aureus and Sarcina lutes) and eight Gram negative bacteria (Escherichia coli, Pseudomonas aeruginosa, Salmonella paratyphi, Salmonella typhi, Shigella boydii, Shigella dysenteriae, Vibrio mimicus, Vibrio parahaemolyticus). A study was carried out to study the antimicrobial activity of petroleum ether, ethanol, chloroform, n-hexane and water extracts of Centella asiatica herb by agar well diffusion assay. The tested bacterial strains were Proteus vulgaris, Staphylococcus aureus, Bacillus subtilis and E. coli and fungal strains were Aspergillus niger and Candida albicans (Dash, 2011)

ii) Azadirachta indica

Common name – Neem (In Hindi), Indian liliac, Margosa tree (In English) Family – Meliaceae

Habitat – Grows throughout India. E

Plant part used – Flower, leaves, oilseed, root, bark

Traditional medicinal usage: - Neem tree is an important part of Indian herbal medicine due to its extraordinary properties. Its bark, leaves, flowers, seed, and fruit pulp have traditionally been used to treat a wide range of diseases and health complaints ranging from leprosy, diabetes, ulcers to skin disorders. Neem leaves and roots are good for blood circulation and blood purification. Neem contains a vast array of biologically active compounds that have been isolated from its different parts. Neem has been used extensively in Ayurveda, Unani and Homeopathic medicine and has become cynosure of modern medicine. All parts of Neem tree viz. leaves, flowers, seeds, fruits, root and bark have been used traditionally for the treatment of inflammation, wound infection, skin diseases. Scientists from developed world are working extensively in exploring Neem tree and its properties to formulate new antimicrobial drugs.

Phytochemical constituents of neem leaf- Azadirachtin, Nimbin, Nimbinene, Nimbandiol, Nimocinol, Quercetin.

Antimicrobial activity studies: - The aqueous extract of the leaf, bark and seeds of Azadirachta indica were screened for antimicrobial activity by agar well diffusion method against Gram positive and Gram-negative bacterial strains and two fungi. (Reddy et al. 2013). Antimicrobial effect of Neem oil from the leaves, seed and bark exhibits a wide spectrum of antibacterial action against Gram +ve and Gram –ve microorganism, including M.tuberculosis and streptomycin resistant strains (Susmita et al. 2013)

iii) Terminalia bellerica

Common name: - Baheda (In Hindi), Belleric myrobalan (In English) Family – Combretaceae

Plant part used – Fruits

Habitat – Grows throughout India

Traditional medicinal uses: - Terminalia bellerica has been used for a huge variety of ailments. It is commonly used in treatment of various gastrointestinal complaints. Fruits are laxative, astringent useful in cough, hoarseness of voice etc., pulp of the fruits is useful in diarrhoea. Its ability to treat digestive complaints has resulted in general acceptance of Terminalia bellerica as an antibacterial agent.

Phytochemical constituents: - Bellericanin, Beta-sitosterol, Chebulinic acid, Gallic acid, Gallactotannic acid, tannins, ellagic acid, lignans (Terminolignan) Vitamin A, B, and C.

III MATERIALS

3.1 MATERIALS

3.1.1 CONSUMABLES

All essential chemicals were procured from recognized suppliers. All the chemicals were of highly quality (AR grade). The glass ware used are of, Trio etc. plasticware of Tupperware and micropipette of CE etc. were used.

PROCUREMENT OF PLANT MATERIAL

The plants applied in this study includes Centella asiatica, Azadirachta indica, Curcuma longa, Terminalia bellerica, Terminalia chebula, Phyllanthus emblica and, Aloe vera were collected and purchased commercially from recognized Ayurvedic shop and Leaves, Leaf gel of plants were used for experimental purpose.

RESULTS

PLANT MATERIAL- ETHANOLIC EXTRACTION

All the selected plants viz. Azadirachta Indica, Curcuma longa, Centella asiatica, Terminalia bellerica, Terminalia chebula, Phyllanthus emblica and Aloe vera leaf gel used in this research work were extracted with 95% ethanol by using Soxhlet extraction method. The highest extractive yield was obtained from ethanolic fruit extract of Phyllanthus emblica (18.7%) whereas the lowest extractive yield was from Azadirachta indica (2.29%). Results of extraction process are presented in Table 4.1

Table 4.1 Percentage yield (w/w) of 95% ethanolic extracts of plants for formulations.

SL. No.	Name of Plant	Plant part used	% Extractive value*	Color of extract
1	Azadirachta indica	Leaves	2.29	Dark blackish green
2	Curcuma longa	Rhizomes	12.46	Orange brown
3	Centella asiatica	Leaves	6.87	Green
4	Terminalia bellerica	Fruits	11.6	Dark brown
5	Terminalia chebula	Fruits	8.2	Brown
6.	Phyllanthus emblica	Fruits	18.7	Dark green
7.	Aloe vera gel	Leaf gel	2.53	Dark brown

PHYTOCHEMICAL ANALYSES-QUALITATIVE

The ethanolic extracts of plant parts engaged in designing formulations were applied to qualitative analysis. Outcome of phytochemical investigation of selected plant were extracted.

The ethanolic fruit extract of Terminalia bellerica includes tannins, flavonoids, and terpenoids, while alkaloids and saponins were not present.

Ethanolic leaf extract of Azadirachta indica, contained saponins, flavonoids, tannins, and alkaloids but terpenoids were not present.

Ethanolic fruit extract of Terminalia chebula have tannins, flavonoids, and terpenoids while alkaloids and saponins were not present.

Ethanolic leaves extract of Centella asiatica have saponins, alkaloids, flavonoids, tannins, and terpenoids were present.

Ethanolic fruit extract of Phyllanthus emblica have saponins, tannins, flavonoids, alkaloids and terpenoids were present.

Ethanolic extract of Aloe vera leaf gel, reflected not presence of saponins, alkaloids, flavonoids, tannins and terpenoids.

CONCLUSION

1.The extraction of plant material is the first step in the scientific investigation of herbal medicines. A variety of solvents and methods were applied to extract/concentrate specific phytochemicals from raw plant material. Previous studies have proven the efficacy of ethanol as the most efficient solvent for extracting broad spectrum of antimicrobial compounds from plants (phenolic compounds and terpenoids). Major antimicrobial phytochemicals, (such as tannins and flavonoids) that were found in plants are soluble in ethanol. Hence all the selected plants applied in this research work were extracted with 95% ethanol by using Soxhlet extraction method.

2. The antimicrobial efficacy of bioactive compounds in plants depends on their chemical nature and their concentration. Phytochemical analysis of plants therefore is of paramount importance in identifying new sources of therapeutically valuable compounds.

Phytochemical analysis of plant parts/extracts used in the study revealed common presence of tannins and flavonoids. Phenolic compounds such as tannins and flavonoids are considered the main components in plants with antimicrobial activity. Terpenoids present in almost all plant parts screened, with the exception of A. Indica, are also known to possess antimicrobial activities as well as antihyperglycemic, anti-inflammatory and immunomodulatory properties.

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STUDY OF RELIGION IN INDIAN RURAL SOCIETY

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ABSTRACT

Religion occupies a significant place in the society of rural India but the changes in economic and political environment is destroying gradually this importance. Rationalistic and materialistic outlook among urban people in regard to religion, which is not present in the rural population. This paper reflects study of religion in Indian rural society.

KEYWORDS: Mankind, religion, society, rural, population

INTRODUCTION

Mankind history has proved that man is not only a social animal but also a spiritual being. From time immemorial religion is a major concern of human thought. Religion, the oldest universal permanent and perennial interests of man. Beside Biological, economic and social needs man have religious needs. Religious quest has made man to become restless even beyond the satisfaction of his basic physical needs. It is worth to note the Biblical saying "Man cannot live by bread alone". It is also that man from the earliest times has been "incurably religious".

DEFINITION OF RELIGION

Durkheim in his book the Elementary forms of Religious life defines religion as a unified system of beliefs and practices relative to sacred things "that is to say things set apart and for bidden".

Ogburn defined "Religion is an attitude towards super human powers".

Mac Iver and page have defined religion "as a relationship not merely between man and man but also between man some higher power".

In simple words we can define religion is a system of beliefs, rituals and values concerned with the sacred or divine forces.

CHARACTERISTICS OF RELIGION**a) Religion is not a phenomenon of recent emergence.**

The institution of religion is universal and dateless. Its beginning is unknown. Religious is found in all the societies past and present.

b) Religion is a powerful instrument of social control.

Laws, customs, conventions and fashions are not the only means of social control. Over-riding those all are religion and morality. Which formulate and shape all of them? They are not only the most influential forces of social control but also the most effective guides of human behaviour.

c) Religion represents one of the main social facts of man.

The social life of man is highly eclipsed with economic, political, philosophical, scientifically and other aspects of human life. Religious aspect is considered more important and influential in human social life. A society like our religious dogmas have influenced and conditioned economic endeavours political movements property dealings, educational tasks and ideological favours. Religion which is based on the cultural needs of men has added new dimensions to human life and human development.

d) Religion and man's faith in super natural forces

Religion is a concrete experience which is associated with emotions, especially with fear. Many societies have a wide range of institutions connected with religion and a body of special official forms of worships, ceremonies and sacred objects and like. In modern civilized societies, religious, leaders have developed elaborated theories to explain man's place in the universe. Well established religion. Christianity, Islam, Hinduism etc. are really centers of elaborate cultural systems that have dominated whole societies for centuries religious groups in India.

e) Religion minded rural India

Thinkers in all times and at all places have agreed in regarding Indians as a religious- minded people. In the words of Sir Harcourt Butler, "The Indians are essentially as Europeans are essentially secular. Religion is still the alpha and the omega of Indian's life" Besides being religions Indians are also professed to be of a philosophical propensity. Many people have looked upon Sankara's *Mayavada* as representative of Indian thought. Most thinkers conceive of Indian's as a people who contemplate interminably upon religion and philosophy the after - world heaven, hell and salvation

FEATURES OF RURAL RELIGION

a) **Gods and Goddesses:** - In general the following classes of Gods and Goddesses are worshipped in Indian villages:

b) **Gods and Goddess of Hindu**

The rural Hindus everywhere worship the Gods and Goddesses of Hindu Religion. The most important among them is Shiva, who is worshipped in different forms and under different names. Hanumana is also worshipped in the villages. People of all castes in India worship Shiva and Hanumana. Besides these two the other deities worshipped in the villages of India are Vishnu, Rama, Krishna, Agni, Valmiki, Jagannath and sun God etc.

c) **Non-Hindu Gods and Goddesses**

The credulous Indian Villager does not rest satisfied with worshipping this formidable repertoire of Hindu Gods and Goddesses but extends his respect and reverence to many other deities which cannot be called Hindu by Tradition.

d) **Rural Gods and Goddesses.**

Besides the above-mentioned Gods and Goddesses every village has its own rural Gods and Goddesses which are essentially local often the place of worship of such a deity is outside the village and it is worshipped from time to time.

e) **Worship of Plants, Trees and Animals.**

In the villages of India, many trees, plants and Animals are considered divine. The banyan, neem, and pipal are treated as divine and worshipped. The worship of Tulsi in particular is considered important everywhere in India. The cow is called *Gowmata* and is considered to be divine.

f) **Beliefs in Ghosts and Witches**

Besides the numerous Gods and Goddesses worshipped in the Indian Villages, the rural populace credit the existence of ghosts, instituting different kinds of activities designed to appeased them, please them or get rid of them.

g) **Belief in Good and bad Souls.**

The inhabitants of the villages do not confine their credulity to a belief only in wicked souls but they extend to it belief in some good soul as well. These souls do not suffer from any discrimination on account of sex, being either feminine or masculine.

h) **Faith in Dreams.**

Besides a belief in these invisible souls, rural religion also includes faith in dreams. The faith in the importance of dreams is almost universal but their explanation is different places do not correspond. Generally, when a person dreams after four 'o' clock in the morning it is believed to be prophetic either for good or bad.

i) **Ideas of Auspicious and Inauspicious**

Many kinds of superstitions concerning good and evil are to be found in rural people. For a particular activity some particular days and months are considered auspicious and as having a good portent. In the case of important works and rituals the local pundits make calculations and advise the interested parties in respect of the auspicious day and hour.

j) **Religious consideration in Dietary Habits.**

Besides travel another aspect of human life to be influenced by the auspiciousness of the various days in weeks is the food taking. The morning meal to be taken after a bath, consists of different ingredients on different days so is ordained.

k) **Consideration of Good and Bad Omens**

Along with the thought of the auspicious rural religion devotes attention to considerations of good and bad omens. Especially it is considered very detrimental if some bad omens bodes ill when some new activity is being initiated.

l) **Superstitions in Natural phenomenon.**

The villagers attach all kinds of superstitions to natural phenomenon. For e.g.:- The Solar and the lunar eclipses are believed to be the causes of the catastrophes of *Rahu* and *Ketu*.

m) **Assumptions concerning the supernatural**

In Rural religion where there is superstition, ignorance, unnecessary ritualism etc. on the one hand there are also a considerable No. of assumptions pertaining to the super natural on the other.

n) **Moral Beliefs**

In this way many moral beliefs are also conjoined to rural religion. A good person is a soul superior to all and sundry and get all people do not agree as to the elements which are characteristic of these superior.

CONCLUSION

Religiosity is the major part of culture and play significant role in rural society. Religion is identified with traditional, institutionally-related practices and behaviors, occurring both within and separate from religious institutions. Though religious has great significance & impact in rural society but changes in political and economic environment, it has been diluted and has resulted changes in rural society.

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QUALITY OF HIGHER EDUCATION IN ENGINEERING AND MANAGEMENT INSTITUTIONS IN MAHARASHTRA

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ABSTRACT

Higher education in general and professional and technical education in particular plays pivotal role in the preparation of human resources, which are later gets converted into human capital. In this light, government of India also included education in the list of high priority areas of its planned development programs. This research paper reflects Quality of higher education in engineering and management institutions in Maharashtra.

INTRODUCTION

Education system of a country plays very important role in its economic growth and development. Education system comprises different levels, structures and types of education. International growth experience of the past has shown that human capital is as important as physical capital for development.

At the time of independence, there were only 40 universities and 42 institutes of higher technical and professional education. Modern technical education started in India in 1847 at Roorkee and the number reached only to 42 institutes of higher and technical education till 1947. This means that 42 institutes were established in 100 years; approximately 0.42 institutes were established every year. Relative to population and geographical area of India, the growth of institutes was highly inadequate. This sluggish development may be explained by nominal economic growth and very little industrialization.

After independence, phenomenal growth has been witnessed as there was demand for higher educated professionals and technocrats for economic development. The biggest problem, which confronted the Indian government, was expansion of education in general and converting the British system of education of elites into a system of education of the masses (Prakash, 1976). Only 0.01% population at the time of independence has access to higher education including technical education and only 5% of population was having access to school education which was negligible. Both central and state governments made consistent efforts for expansion of education through investment and the objective of expansion has been realized to some extent but at the cost of quality, which is a major concern across the layers and types of education system.

Expansion of education was in priority list of government of India. Despite continuous shifting of target dates of universal elementary education, finally government achieved the goal in 2011-12. Along with school education, higher education also expanded exponentially after 1970s. However, till the end of 1970's, higher technical and professional education lagged behind the growth of the rest of the system. Since 1980's, rate of expansion accelerated. Major concern with the quantitative expansion of higher technical and professional education pushed quality behind curtains.

REVIEW OF LITERATURE

OVERVIEW

Review of literature is a summarized and evaluative report of studies done by scholars found in literature related to selected topic of research work. The purpose of review of literature is to identify knowledge gap and provide relevance to the topic selected. Review of literature facilitates the highlighting of the theoretical, policy, conceptual and methodological framework of analysis (Sharma, 2011).

Reviewing the existing literature is a systematic investigation for highlighting new concepts and it is an art of connecting already existing information with the present and generating scope and paving path for future work. It is essential part of all research investigations as no research can be done without background context and relevance. Each topic of research investigation has some antecedent, context and background.

There can be several aspects on the basis of which review may be done. Many problems happen to have been investigated by a number of researchers. Each investigation highlights,

- Several gaps in knowledge,
- Unsatisfactory state in some areas/aspects of the problem emerge in the light of new knowledge or understanding of the problem from different investigation,
- Methods used in earlier investigations may not be satisfactory,

- Interpretations offered by earlier studies may not be convincing,
- Empirical evidence may be inadequate, or new evidence might have been unearthed,
- New theoretical paradigm(s) may be found more appropriate for the understanding of the problem, and finally
- Social change and economic growth lead to the emergence of new challenges and issues. Anyone or a combination of these may prompt the reinvestigation of an already researched problem. It is, therefore, not necessary that one always pick up totally new problem/topic for investigation.

STUDIES ON HUMAN RESOURCE AND ITS DEVELOPMENT OF EDUCATION

People are the greatest resources and agents of development. Recognition of human resources as pivots of development was accounted in the West much later than in India. Since times immemorial even the illiterate and uneducated parents considered their children to be the most precious wealth and future security. The role of human resources in the modern knowledge economy has acquired even much greater importance than before. Human or intellectual capital was recognized as the basic factor of production and growth. Human resource development basically takes place at the household level initially. Right from the day of conception to the bearing and rearing of children, lot of investment is made in the children's upliftment and growth by the family.

Alfred Marshall (Hageman, 2010) estimated that £88 million were spent by Britons in 1888 in the child rearing and bearing. This includes both public and private investments. The £88 million of 1888 will amount to billions today. This may give an idea about the foundation on which human resources are developed and accumulated. Off course, the quantum of investment will vary among the households and between the years according to income.

In a heuristic and holistic sense, output of educational processes may be defined as "Difference between the stock of knowledge with which learner leave the institution on the completion of particular programme and the stock of knowledge with which she/he entered the programme/institution (Prakash, 1994). However, this concept is difficult to administer empirically which requires information about the stock of knowledge both at entry and exit time of learner's growth. The basic purpose behind attaining education is to acquire and accumulate human capital, which can be used in future production to fulfill wants and generate income over a period of time.

Ricardo (Ricardo, 2014) considered difference in earnings as the rent for the acquired abilities and skills and not as gifts of nature given to human beings. Education develops direct and indirect components of individuals, knowledge and skills through training and developing skills and knowledge which are the reward in the form of human capital accumulated by the individuals.

Malthus (Malthus 1993) considered "Education as an instrument of population control and enhancement of quality of life through better nutrition and health". Less number of individuals in family leads to better fulfillment of needs per individual. Overall expenditure increases with increases on education expenditure also. Better education means betterment of men by raising their standard of living and consequently growth in national income.

According to Marshall (Groenewegen, 2012), "Good education, even if it is of little use in the production of wealth, confers great benefits upon its recipient". Education no doubt plays pivotal role in the development of human capital but besides education, health, child bearing and rearing and migration also contribute to human capital accumulation. Accumulation of human capital plays a crucial role in organizational decision making also.

Human capital concept attracted many researchers and many researchers took it as their topic of research. In the Presidential address to American Economic Association, Theodore W. Schultz (Schultz, 1959) stated that "Economics of education is a discipline in its own right". The period after this can be called as "Renaissance of Educational Research" as many researchers took education as important topic to study and worked on mathematical and econometric models' analysis of education and its development.

Prakash and Balakrishnan (Prakash and Balakrishna, 2005) reported that human capital plays a pertinent role in growth. They analyzed that the growth of productivity in 5 sectors of economy was due to education. Out of 5, growth of productivity in four sectors was accounted by human capital. Sectors used in the study included primary, secondary and tertiary sectors, but in the manufacturing, construction and like sectors, growth may also be propelled by the advancement in technology, leading to enhancement in productivity. However, authors supported their view that human capital is pivotal and plays crucial role in growth, as development and exploitation of technology is also done by humans. Using structural approach, they decomposed productivity growth into its human capital and technology components

According to an article in IIASA (IIASA, 2011), human capital formation plays an important role in economic growth which is developed by education. Education leads to higher income thus investment in secondary education provides a clear boost. Both primary and secondary education requires a boost in developing countries. Better education empowers policy makers. Article has clearly focused that more years of schooling leads to better income. In India, half of the population is uneducated, 5% have tertiary, 15% secondary and only 30% have primary education. Education matters in economic growth and thus countries are aiming for universalization of primary education by 2015.

STUDIES ON DEVELOPMENT OF EDUCATION IN INDIA**Development of Education**

Indians started recognizing the importance of Western education in colonial era. Swami Vivekananda was probably first to recognize the importance of education. He said 'A nation is advanced in proportion as education and intelligence spread among the masses'. Mahatma Gandhi stressed on family based education. He stressed that apart from school education, family oriented education should also be given for economic development.

Netaji Subhash Chandra Bose favored education by giving knowledge through warfare, and use of modern weapons. M. Visvesvaraya (Visvesvaraya, 2007), however, highlighted the relationship between education and economic welfare. Swami Dayanand Saraswati and his followers established huge network of D.A.V. institutions.

After independence, education was considered to be one of the most important sectors and it received lot of attention, it was considered to be the most important tool for the development of modern India. Several commissions were set up to improve the condition of primary and secondary education. There was appointment of Radha Krishnan Commission (RK Comm, 1948), who submitted their report in 1948. Tara Chand Commission (T C Commision, 1949), on secondary education was most important among them. Mudaliar Commission, 1952(Mudaliar, 1952-53) dwelt on ways and means of financing education; it was also a landmark. Kothari Commission of 1964, under the chairmanship of Dr.S.Kothari was considered crucial in bringing changes and improvement in education system. Several other educationists, economists and researchers worked on education and all of them emphasized the role of education in economic development. In every five year plan, due importance was given to education and funds were allocated accordingly.

Neetu Saini and Usha Sharma (Saini and Sharma, 2010) have described the importance of various schemes initiated by the government of India for improvement in primary education with the aim to lead to universal elementary education. Primary education is no doubt fundamental and basic step for higher education, it lay down the beam for social and intellectual development of the child. The number of schools has increased remarkably in both public and private sectors to fulfill this need. Various schemes have been formulated and steps have been taken by the government for the improvement of primary education, such as free excise duty on publication, operation blackboard for basic infrastructure, education guarantee scheme, school meal programme, district primary education project, Sarv Shiksha Abhiyan' and many more.

No doubt enrollments in education at primary level have increased but low percentages of children in the age group of 6-14 years are receiving education. The efforts at primary level will only be useful and appreciable if they show scope for future higher education. Dropout rates are still high, gender bias still prevails. Though the efforts at school level are remarkable yet sudden blockage is seen at higher and technical education. To maintain self-sufficiency and increase in economic status we need to increase the education years which are directly related to productivity (Sharma et al, 2012). Thus, emphasis need to be laid on the issue how to motivate students for senior secondary and higher education after attaining basic education. Thus, framing and reframing of policies is required for higher education.

RESEARCH METHODOLOGY**INTRODUCTION**

Data collection is a process of gathering of information from all the sources to find out solution to the research problem, test the hypothesis if required and evaluate the outcomes. Data collection methods can be classified into two categories: secondary methods of data collection and primary methods of data collection.

SOURCES OF DATA-PRIMARY AND SECONDARY

Data has been collected from both primary and secondary sources. These sources are as follows.

SOURCES OF SECONDARY DATA

The primary and secondary education also influences higher professional and technical education. So secondary data of college education has also been collected from various sources to find the correlation between different levels of education and analyze the present situation. Sources from which secondary data has been collected are as follows.

3.2.1.1

i) Report of the Steering Committee on Science and Technology

ii) Reports of Ministry of Human Resource Development (MHRD) (Department of higher education) planning and monitoring unit

a) *Annual Reports of Analysis of Budgeted Expenditure*

b) *Statistics of School Education (Bureau of Planning, Monitoring and Statistics)*

3.2.1.2 Annual Reports of Universities of Maharashtra

3.2.1.3 Annual Status of Higher Education of States and Union Territories in India 2012 (Summary Report)

3.2.2 All India Council for Technical Education (AICTE) is responsible for planning and coordinated development of the technical education and management education system in India. The AICTE accredits postgraduate and graduate programs under specific categories at Indian institutions as per its charter. Data regarding enrollments in various streams have been taken from the Sources of Primary Data

Primary data has been collected from two regions, Paschim Maharashtra region and Vidarbha region. Both these regions have emerged as major educational hubs in last two decades. Collected data has helped in doing comparative study between these regions.

PATTERN OF PRIMARY DATA

This questionnaire was used to collect data from various institutes of Paschim Maharashtra and Vidarbha region .

Data has been represented on following bases,

1. Geographical location i.e. Paschim Maharashtra region and Vidarbha region.
2. Number of questionnaires collected from faculty and students from each region.
3. Faculty questionnaire collected stream wise i.e. engineering and management.

CONCLUSION

This study has been conducted in Paschim Maharashtra and Vidarbha region of Maharashtra state and survey was conducted in selected engineering and management colleges of these two regions. Survey analysis reflected that:

1. Most of the faculties of engineering have teaching experience, more than 10 years and even few of them have more than 25 years' experience. Hence faculty profiles are very strong.
2. The focus of faculty members is more on research and has number of publications to their credit. Faculties are also associated with Journals as editors and consultants. They are good in developmental activities and faculty gets good institutional support also.
3. Also, infrastructure of Engineering and Management colleges which ensures and part of quality education, very much supportive for student education
4. Also, apart of teaching experience, faculties are highly qualified, ensures mor knowledge resulted better output .

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SPECTRAL CHARACTERIZATION OF COBALT (II) COMPLEXES

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ABSTRACT

The current research explains the synthesis, spectral on the complexes of few Cobalt (II) complexes. Synthesis of complex was performed by microwave process. The complexes were characterized based on study of infrared, elementary analysis, electronic spectra and magnetic susceptibility. The complexes synthesized by the novel green method are in line with conventional synthesis and the yield was found to be higher than conventional synthesis in many cases. There are two complexes found to exist in supramolecular structure as a result of which this synthesis, observation, and study has become special. Microwave method of synthesis was found to be simpler, more efficient and more environmentally friendly.

Key Words: Cobalt (II), microwave, amide ligands

INTRODUCTION

Cobalt is a trace mineral which the human body only requires in small quantities. This leads to health issues when trace metals are absent in a diet. Animals use trace minerals to form essential enzymes that act as catalysts. These enzymes promote transition occurring in the human body. Enzymes are required for the proper functioning of living cells, for example cobalt is required for natural production of B₁₂ vitamins. B₁₂ vitamins guarantee the human body produces enough red blood cells. Cobalt is also impacting other species due to its lack of visibility in the environment. In Australia, for example, sheep get infected with a disease called Coast disease, caused by cobalt deficiency. Often, excess cobalt can cause health problems. Persons working around cobalt can inhale the powder that causes vomiting, diarrhea or breathing problems. If there is cobalt on the skin this can lead to irritation and rash. Cobalt salts can be given in limited doses to some animals to remedy mineral deficiencies. The cobalt is carcinogenic in large doses. Cobalt compounds are widely used for the manufacture of colored glass, glazes, paints, rubber, inks, cosmetics, and pottery products.

Cobalt is a silver-white material which is lustrous and brittle. It is chemically active, and many compounds are formed. Cobalt is air-stable and water-stainless. Unlike iron, it can also magnetize cobalt and transform it to a permanent magnet.

Cobalt is used as a catalyst for the petroleum and chemical industries in several alloys (super alloys for parts of gas turbine aircraft engines, corrosion resistant alloys, high speed steels, cemented carbides), magnetic recording devices. Cobalt blue is a crucial component of the artist's palette and is used in porcelain, pottery, stained glass, enamel jewellery, pigments by craftsmen. Cobalt carbonates are used in ceramics, and in small quantities as an animal feed substitute. Cobalt chloride is used as an indicator of humidity and water, in electroplating, in producing vitamin B₁₂, as a fertilizer, and in trace amounts as a feed additive. Cobalt oxide is used in ceramic and glass pigments, in fast drying paints and varnishes, in semiconductors, in stainless steel enamel coating and again in trace amounts as an animal feed additive. Cobalt sulphate is used as a drying agent in inks and varnishes, in enamels, and in ceramics in electroplating, in batteries (1).

Co-60 has multiple uses as a source of γ -rays (radiotherapy, radiation treatment of sterilization foods) and in industrial x-rays to detect structural flaws in metal parts. Most of the cobalt on Earth lies in its heart. Cobalt in the Earth's crust and natural waters is in relatively low quality, from which it is precipitated as the extremely insoluble cobalt sulfide. Cobalt is an element that exists in air, water, soil, rocks, plants and animals, naturally in the environment. It can also enter air and water, and settle through wind-blown dust on land, and enter surface water through run-off when rainwater runs through cobalt-containing soil and rock.

Small amounts of cobalt are important to many living organisms including humans. This is a central compound of B₁₂ (cobalamin), that has two main coenzyme roles in the body, first of methylcobalamin promotes synthesis of methionine, (Methionine supply ultimately influence DNA synthesis) and second Deoxyadenosylcobalmin performs a key role in the energy metabolism precursor of glucose in ruminants. Vitamin B₁₂ is also important for the formation of myelin (an isolating layer found around nerves to help the development of red blood cells), and is also important for the metabolism of fats, carbohydrates and protein synthesis..

Because cobalt is widely distributed in the environment by humans it may be revealed to cobalt-containing food by breathing air, drinking water, and eating. Exposure may also be increased by skin contact with soil or water that contains cobalt. When cobalt particles are not bound to, or sediment particles, plant and animal uptake is higher and plant and animal accumulation may occur. Cobalt is used to cure pregnant women with anaemia, as it increases red blood cell development. The total daily intake of cobalt is variable and could be as much as 1 mg, but it will almost pass unabsorbed through the body, except for that except that in vitamin B₁₂.

Deficiency of cobalt or vitamins B₁₂ may result from malfunction or surgical removal of sections of the stomach or small

intestine, celiac disease, parasites, or other disorders of malabsorption.

Cobalt deficiency (called "pining" in livestock) include loss of appetite; thiamine (vitamin B₁₂) deficiency, reduced plasma levels of ascorbate, glucose and alkaline phosphates, elevated plasma levels of pyruvate, pyruvate kinase, serum formiminol-glutamic acid and thyroxine, which affect the functioning of the hypothalamus. Cobalt deficiency is associated with the incidence of Johnne's disease (paratuberculosis) the ruminant analog of Crohn's disease in humans (2).

Cobalt (II) complexes with N-acetyl-N'-phenyl thiocarbamide have been studied by R.K. Patel et al.(3), they have reported that the lower magnetic moment (4.2-4.7 BM) of these complexes may arise either due to electron pairing for a strong covalent bond involving the 3d-electron of Co(II) ions or spin-spin interaction.

K.C. Satapathy et al. (4) have synthesized and characterized the cobalt (II) complexes with N-Benzoyl- N'-(1, 3, 4-thiodiazole-2-yl) thiocarbamide ligand based on the elemental analysis, conductivity, magnetic and spectral data. Ligand field parameters were also calculated for those complexes.

Co (II) complexes were prepared and characterized by P with di-N-phenyl pyromellitic d3mide and di-N- pyridyl pyromellitic d3mide. Venugopal et al. (5), based on the electronic spectra, proposed the geometries of these complexes, and specific bonding parameters were determined from the spectral data of the ESR.

Formation of polymeric network arrays by complexes of cobalt (II) with alkane chain linked Bis (amide) ligands of biological relevance have been reported by David M.L. Goodgame et al. (6).

Based on the thermal analysis, Aubrey N. Nelwamondo et al. (7) has investigated the impact of the structure and the existence of the different amide ligands on the thermal stability of the cobalt (II) complexes. We also stated that steric factor plays a greater role in deciding the magnitude of enthalpies, peak temperature and temperature decomposition onset temperatures of the themes.

E.J. Baran (8) has described the biochemical behavior of mixed metal complexes of dipeptide (Camosine). He has reported that the properties and biological activities of these complexes depend on the participation of certain metal cations and he also reported that in the absence of camosinase, camosine, alone or participates with Co (II) and subsequently binds oxygen.

EXPERIMENTAL

For the synthesis of Cobalt (II) complexes with amide group incorporating ligands, a solution of Cobalt Chloride (0.001 mole in 30 ml ethanol) has been taken in a 250 ml round bottom flask, in this solution respective amide ligand (i.e. N2PB, N2PA, N46DM2PB, N46DM2PA, N6H2MC4PB, N6H2MC4PA, N26DH4PB, N26DH4PA) (0.003 mole) was added slowly with constant stirring. The reaction mixture was kept on a magnetic stirrer with constant stirring for 6-7 hours at room temperature.

Additionally, a novel method of synthesis was developed in accordance with the principles of green chemistry, in which either the reaction mixture was irradiated in a 600 W domestic microwave for 2-10 minutes on the alumina bed or the reaction mixture in the solvent or the reaction mixture slurry was exposed in a 600 W microwave reactor, maintaining specific time intervals in relation to the occasional and or definite inspection of TLC data. The solid precipitate that was produced was isolated and crystallized in both methods. Crystals were purified and alcohol extracted, then vacuum-dried.

➤ Materials and Methods

In the present research work following amide group incorporating ligands have been synthesized. All 8 ligands have been characterized after purification with the help of physical data, UV-Visible spectra, elemental analysis, TLC, NMR and IR spectra.

➤ Instruments Used During Investigations

- (i) EC Double Beam UV-VIS Spectrophotometer (UV 5704SS), with quartz cell of 10 mm light path was used for Electronic spectral measurement
- (ii) IR spectra were recorded on Bruker Optic Model Alpha (FT-IR) (Zn-Se Optics, ATR) (4000-400 cm⁻¹) using KBr disc.
- (iii) ¹H-NMR spectra of the ligands at room temperature were recorded on a Bruker DRX-300(300MHz) FT NMR with low and high temperature facility (-90°C to 80°C) .
- (iv) TLC (Thin layer chromatography) of all compounds (ligands and complexes) measured by using Silica Gel.
- (v) Microwave synthesis was conducted in a microwave oven KENSTAR-OM20ACF, 2450MHz, 800W and GMBR (Green Microwave Biochemical Reactor)
- (vi) All biological activities have been carried out with horizontal laminar. Melting point of all compounds was recorded in a Suphuric acid bath or by using Beckmann M.pt. apparatus.
- (vii) Melting point of all compounds was recorded in a Suphuric acid bath or by using Beckmann M.pt. apparatus

RESULTS AND DISCUSSION

The amide group incorporating ligands reacted with various cobalt (II) salts at room temperature. The colours of complexes varied from pink to blood red. These were found to be crystalline and stable under normal laboratory conditions over a longer period, however, were decomposed by dilute mineral acids, insoluble in common non-polar solvents, the complexes had appreciable solubility in DMSO. The physicochemical and analytical data of complexes are given in Table 3.1. The Amax values show that the complexes are of a non-electrolytic nature. The measured analytically estimated values of C, H, N and cobalt are well in line with determined values.

Vibrational Spectra

The characteristic IR bands of the complexes are shown in Table 3.3 and spectra are shown in figure 3.1 to 3.8. The bands attributable to amide ν(N-H) mode at 3163-3418 cm⁻¹ for the free amide group incorporating ligands are transferred to higher frequencies while ν(C=O) (amide -I) frequency undergoes negative changes in the cobalt complexes suggesting amide group carbonyl oxygen atom involvement in combination with metal ion and amide nitrogen non-involvement.

This is illustrated by the diminution of the double bond character of C = O and the subsequent increase of the double bond character of C-N (9,10). In several words, the lengthening of C = O bond length and the shortening of C-N bond causes the frequencies to decrease and increase in the IR spectrum respectively. Amide bands 3 and 3I arising out of ν(C-N) as well as 8 (N-H) modes (coupled to one another), shift towards higher frequencies further confirming the coordination via carbonyl oxygen. The decrease in C=O stretching frequency in complexes complexes [Co-(N26DH4PB)₃].Cl₂ and [Co-(N26DH4PA)₃].Cl₂ is far lower than all other complexes, which indicates poor coordination through carbonyl O, even though complex is stable and its stability can be associated with supramolecule formation due to intramolecular hydrogen bonding among -OH of second position and carbonyl oxygen, which is recorded at a peak of 3647 cm⁻¹. The complexes structure has showed in figure 3.7 to figure 3.8.

In complexes Figure 3.1 to 3.8 pyrimidinyl nitrogen participates in bonding, which was confirmed by the negative 16-87 cm⁻¹ change of pyrimidinyl ring peak in complexes relative to ligand comparison. These results are uncertain and help the complexes' final structural findings and the manner in which they bond.

Measurements of Magnetic Susceptibility

The measurements of magnetic susceptibility were done in solid state at 298 ° k and the results are presented in Table 3.2

The magnetic moments of the complexes lie in the range 4.58-5.10 BM, which related to three unpaired electrons. This indicates a quartet ground state term ⁴F (S = 3/2) which is the case of Co (II) (d⁷) and it may be obtained either in weak field octahedral configuration or in tetrahedral configuration. For an octahedral field, the ground state is triply degenerated orbitally, and will add angular momentum to the magnetic moment. The moment, therefore, would be between the limits of [4S(S+1)] 1/2 (=3.8BM) and [4S(S+1) + L(L+1)] 1/2 (=5.2 BM) depending upon the L-term remaining correlated with the ground state orbital triplet. The experimental moments reported in literature in the range 4.2-5.2 BM for octahedral high spin Co (II) complexes.

In such cases the experimental moments reported in the literature lie in the range of 4.4 - 4.7 BM and these values of various octahedral and tetrahedral complexes overlap considerably. Therefore, the general stereochemical interaction based on magnetic data alone is unlikely to be convincing. The complexes under the present study showed magnetic moment values greater than the spin only value (3.87 BM) and this may be due to orbital contribution. Through examining the electronic spectra, the octahedral structure of the cobalt complexes is further determined.

Electronic Spectra

The Co (II) ion has the 3d⁷ electronic configuration which in octahedral fields may give rise to either high spin t_{2g} e_g or low spin t_{2g}⁵ e_g², complex xes rather high values of the ligand field splitting parameter (Dq >150 cm⁻¹) are in fact required to cause spin pairing with cobalt (II). Therefore, it will be assumed that the weak crystal field is in good approximation for complexes containing metal ions. Based on the fact that cobalt (II) metal ion has ground state term ⁴F and the higher state having the same spin multiplicity in ⁴P. Thus, in octahedral complexes, three bands corresponding to the following transitions should be expected.

$$\% (F) \rightarrow {}^4T_{2g} (F) (v_1)$$

$${}^4T_{1g}(F) \rightarrow {}^4A_{2g}(F)(v_2)$$

$${}^4T_{1g}(F) \rightarrow {}^4T_{1g}(P)(v_3)$$

These transitions occur around 8000, 17000 and 20,000 cm⁻¹ respectively. The V2 transition is very weak and often appears as a shoulder. The solution spectral data of cobalt (II) complexes are presented in Tables 3.1 to 3.3 and shown in Fig. 3.1 to 3.8. The complexes of cobalt (II) under the current study show two bands centered at 8000-11000 cm⁻¹, 13000-16800 cm⁻¹ and 20000-23000 cm⁻¹. These bands are typical of high spin octahedral complexes and may be assigned to ⁴T_g(F) -> ⁴T_g(F) (v₁), ⁴T_g(F) -> ⁴A_{2g}(F) (v₂) and % (F) -> ⁴T_{1g}(P) (V₃) respectively.

Thermal Studies

The complexes of Co (II) with the amide group incorporating ligands show first order kinetics in their thermal decomposition

reaction. This is based on a straight line plot of Coats and Redfern (for n = 1). Activation energy (E_a) has been calculated by the linearisation method of Coats and Redfern.

The thermal studies give the description about the thermal stability of the complexes. It was noted that no decomposition occurs at room temperature and complexes are fairly stable well above the room temperature. The initial decomposition started above 500K.

Table 3.1. Physico-chemical Data of Co(II) Metal Complexes

(C.M. = Conventional method, M.M. = Microwave method)

S. No.	Complexes	Colour	Yield (%)	Elemental analysis (Calcd.)	Elemental analysis (Found)
1	[Co(N26DH4PB) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
2	[Co(N26DH4PA) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
3	[Co(N26DH4PB) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
4	[Co(N26DH4PA) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
5	[Co(N26DH4PB) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
6	[Co(N26DH4PA) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
7	[Co(N26DH4PB) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4
8	[Co(N26DH4PA) ₃].Cl ₂	White	390	C: 55.5, H: 5.5, N: 3.5	C: 55.2, H: 5.4, N: 3.4

Table 3.2. Magnetic moments and electronic Spectral data of ligands and Co (II) metal complex

Ligand and Complex	λ _{max} (nm)	ε _{max} (L mol ⁻¹ cm ⁻¹)	Electronic Spectral Bands (nm ⁻¹)	Transition assignments	Geometry
[Co(N26DH4PB) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PA) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PB) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PA) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PB) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PA) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PB) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral
[Co(N26DH4PA) ₃].Cl ₂	441	430	1483, 1680, 2000	⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F), ⁴ T _{1g} (F) → ⁴ T _{1g} (F)	Octahedral

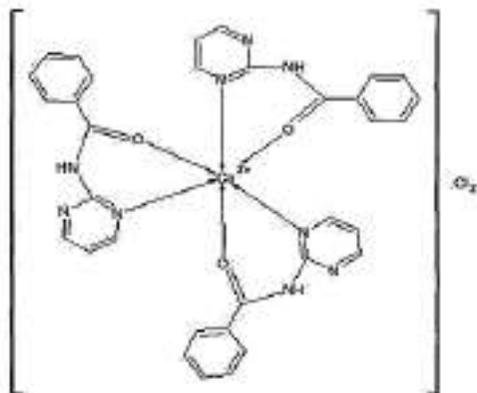
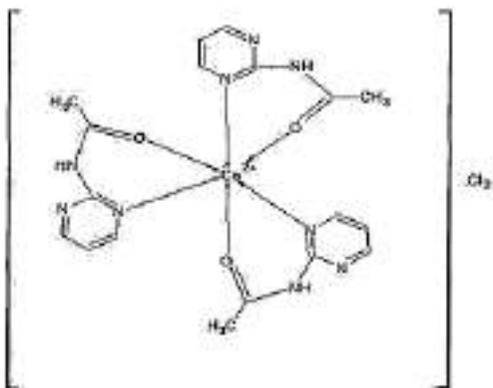
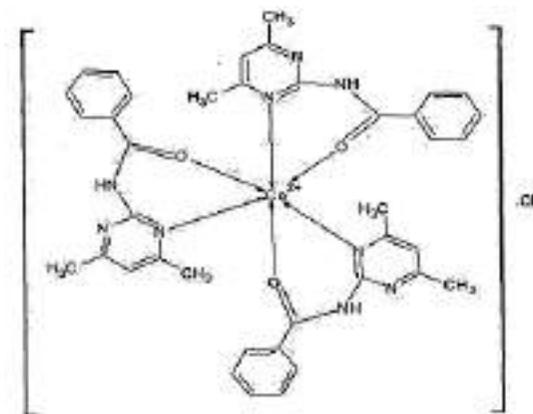
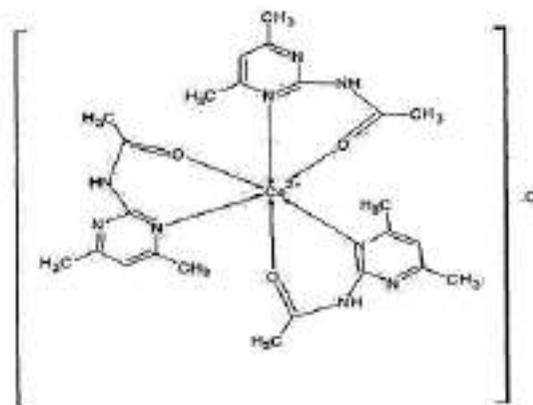
Table 3.3. IR Vibrational frequencies of Co(II) transition metal complexes

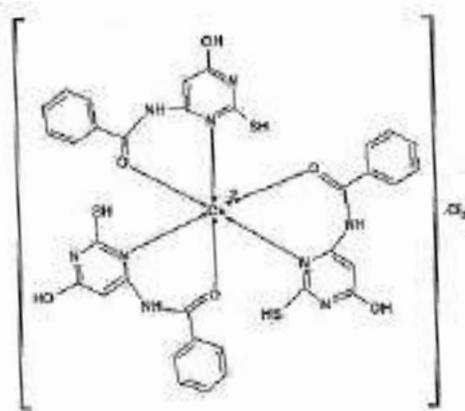
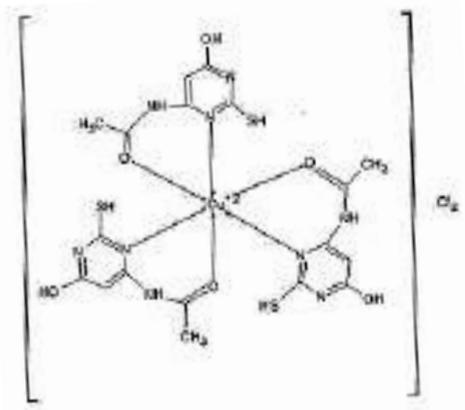
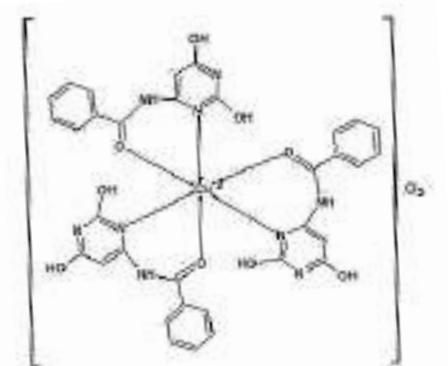
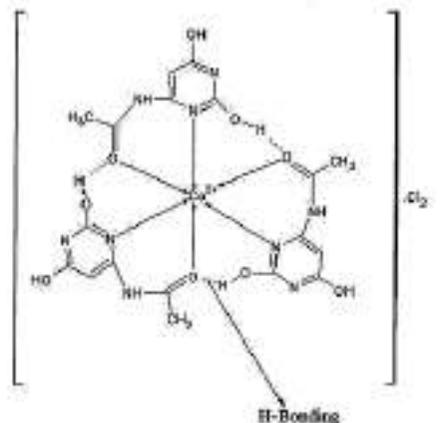
S. No.	Complex	ν _{max} (cm ⁻¹)					
1	N26DH4PB	3281	1674	1490	1388	1021	—
2	[Co(N26DH4PB) ₃].Cl ₂	3281	1674	1491	1388	1021	471, 479
3	N26DH4PA	3478	1770	1499	1388	1018	—
4	[Co(N26DH4PA) ₃].Cl ₂	3478	1770	1499	1388	1018	480, 488
5	N26DH4PB	3179	1673	1489	1379	1020	—
6	[Co(N26DH4PB) ₃].Cl ₂	3179	1673	1489	1379	1020	480, 488
7	N26DH4PA	3178	1672	1488	1378	1019	—
8	[Co(N26DH4PA) ₃].Cl ₂	3178	1672	1488	1378	1019	480, 488

CONCLUSIONS

Based on the above findings, the following points for the solid, cobalt complexes structure of the amide group

incorporating Ligands can be concluded. It is evident from magnetic susceptibility measurements that cobalt (II) has a magnetic moment value in the range 4.9-5.2 BM (higher than spin value only 3.87 BM due to an orbital contribution suggesting the existence of three unpaired electrons contributing to strong octahedral spin complexes). On the basis of different characteristic absorption bands, electronic spectral studies further support the octahedral configuration embraced by the cobalt complexes. The complexes synthesized by the novel green method are in line with conventional synthesis and the yield was found to be higher than conventional synthesis in many cases. There are two complexes found to exist in supramolecular structure as a result of which this synthesis, observation, and study has become special and there is scope for further research

Fig. 3.1 Tentative Structure of $[Co-(N2PB)3]Cl_2$ Fig. 3.2 Tentative Structure of $[Co-(N2PA)3]Cl_2$ Fig. 3.3 Tentative Structure of $[Co-(N46DM2PB)3]Cl_2$ Fig. 3.4 Tentative Structure of $[Co-(N46DM2PA)3]Cl_2$

Fig. 3.5. Tentative Structure of $[Co-(N6H2MC4PB)_3]Cl_2$ Fig. 3.6. Tentative Structure of $[Co-(N6H2MC4PA)_3]Cl_2$ Fig. 3.7 Tentative Structure of $[Co-(N26DH4PB)_3]Cl_2$ Fig. 3.8 Tentative Structure of $[Co-(N26DH4PA)_3]Cl_2$

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INDUSTRIAL POLLUTION IN INDIA: ISSUES AND CHALLENGES

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ABSTRACT

The environmental awareness needs to be cultivated in any society to be an ideal society, or rather to be more precise, in other words, an ideal society means, the society which has the environmental awareness. The dictionary meaning of the word 'environmental' is surrounding objects, region or circumstances and the phrase environmental awareness' will mean that one should be aware of his surrounding so that this surrounding is not disturbed. This relation of the environment with the human life has in recent years developed into an independent branch of scientific inquiry, which goes by the name environmental science. As per the literature, the human-environment interaction goes back to the remotest possible times in the history of humanity. Sometimes, it is seen as a manifestation of a struggle between the two. There have also been times when this relationship took the form of respectable coexistence. While the history of humanity of the last several millennia is noted for its constant and/or consistent progress in different walks of life, the mysteries of nature have often proved to be quite tempting to be solved by human thinking and actions. The key-theme of which is that the natural balance between human life and the surroundings should not be lost. This is the basic requirement for any life to flourish especially for human life In the name of Industrial Development. The major contribution of this paper is focused upon the causes and effects of pollution, especially of Industrial pollution and various issues and challenges for the prevention of Industrial pollution in India.

Keywords: Environment Protection, Industrial Pollution, prevention of Industrial pollution environmental science environmental awareness

Introduction

The earth's expanding human population and industrial growth have been known to cause serious environmental disasters. At the end of 2011, India's population reached 1.21 billion and its economy is growing at 8.5%, the fastest after China¹. Due to the population pressure, India pushes ahead with aggressive industrial development. Consequently, thousands of industrial clusters nationwide produce enormous amounts of untreated toxic waste that often end up in rivers, lakes, forests, and landfills². Even though India has sufficient environmental laws, weak enforcement and the lack of funds and manpower are most often the stumbling blocks for the pollution control boards³. The issues of environment are the effect from the human's activities that have no civic conscious and only think the profit without concern about the impact towards the environment and their future of life. The long term effect from the environmental pollution can be seen when the ecosystem is not able to endure the pollution. According to the relevant literature, the major cause of this ecological crisis is regarding the value and belief in shaping human's relation with the surrounding and the lifestyle itself⁴.

Present India is facing many important environmental challenges which currently threaten both the development of India and the outlook for its future⁵. The state of India's environment is in upset at the hands of uncontrolled human activities, and these ecological ailments are affecting social growth potential. Decrease of land quantity, increasing air pollution, depletion of water resources, loss of indigenous species of flora and fauna and the background of overwhelming poverty are depicted in the report to detract from the positive growth of Indian people and the country as a whole⁶. Thus, India's rapid growth is driving equally rapid environmental destruction.

An argument often put forth in developing countries is that it is unfair to ask people to make environmental sacrifices during a period of growth and industrialization when Western countries did not have to make the same choices. Yet, as we get a glimpse of above, India, as a dense country of 1 billion people, faces unique challenges that need unique responses⁷.

Here arises the need for environmental regulations and for confirming compliances of these regulations. The Government of India has established an environmental legal and institutional system to meet these challenges within the overall framework of India's development agenda and international principles and norms. In the constitution of India it is clearly stated that it is the duty of the state to 'protect and improve the environment and to safeguard the forests and wildlife of the country'⁸. It imposes a duty on every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife¹.

¹ Govindasamy A., India's Pollution Nightmare: Can It Be Tackled?, *Environ. Sci. Technol.*, **46**, 1305–1306(2012)

² Bajaj R., CITES and the wildlife trade in India, New Delhi: Centre for Environmental Law, WWF – India, 182 (1996)

³ Divan S. and Rosencranz A., Environmental law and policy in India, cases, materials and status, 2nd edition, New York, Oxford University Press(2001)

⁴ Geetanjoy S., Implications of Indian Supreme Court's Innovations for Environmental Jurisprudence, *Law, Environment and Development Journal*, **4**(1), 1–19(2008)

⁵ Government of India (Department of Science and Technology), Report of the (Tiwari) Committee for Recommending Administrative Measures and Legislative Machinery for Ensuring Environmental Protection, New Delhi(1980)

⁶ Milind K. and Gurumurthy R., The Causes and Consequences of Particulate Air Pollution in Urban India: A Synthesis of the Science, *Annual Review of Energy and the Environment*, **25**, 629–684(2000)

Bhopal Gas Tragedy and Legal Issues

Industrial disaster, the Bhopal gas tragedy is, till date, the world's worst industrial disaster. In the February of 1985, the Government of India filed a case in the U.S Court for a claim of \$3.3 billions against the Union Carbide Corporation (UCC). But by 1986 all of these litigations in the U.S District were transferred to India on the grounds of forum non conveniens. It means that the case should be transferred to a more convenient forum so that the trial proceeds smoothly. Meanwhile in March 1985, the Bhopal Gas Leak Disaster (Processing of Claims) Act was passed which empowered the Central Government to become the sole representative of all the victims in all kinds of litigations so that interests of the victims of the disaster are fully protected and the claims for compensation are pursued speedily. In the year 1987, cases were filed in the Bhopal District Court which ordered the Union Carbide Corporation to pay 350 crores as interim compensation.

Environment Protection-From Indian Constitution Perspective

- The State's responsibility with regard to environmental protection has been laid down under Article 48-A of our constitution, which reads as follows: "The State shall Endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country".
- Environmental protection is a fundamental duty of every citizen of this country under Article 51-A (g) of our constitution which reads as follows: "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures."
- Article 21 of the Constitution is a fundamental right which reads as follows: "No person shall be deprived of his life or personal liberty except according to procedure established by law."
- Article 48-A of the constitution comes under directive principles of State policy and Article 51 A(g) of the constitution comes under fundamental duties.

Legal Framework: Environmental Protection

India has an elaborate legal framework with over two hundred laws relating to environmental protection². Key national laws for the prevention and control of industrial and urban pollution include the following:

Water (Prevention and Control of Pollution) Act, 1974: Prohibits the discharge of pollutants into water bodies beyond a given standard, and lays down penalties for non-compliance. . The act was amended in 1988 to conform closely to the provisions of the EPA, 1986. It set up the CPCB (Central Pollution Control Board) which lays down standards for the prevention and control of water pollution. At the state level, the SPCBs (State Pollution Control Board) function under the direction of the CPCB and the state government.⁷

Water (Prevention and Control of Pollution) Cess Act, 1977: Provides for a levy and collection of a cess on water consumed by industries and local authorities. It aims at augmenting the resources of the central and state boards for prevention and control of water pollution. the water (prevention and control of pollution) cess rules were formulated in 1978 for defining standards and indications for the kind of and location of meters that every consumer of water is required to install.

Air (Prevention and Control of Pollution) Act, 1981: Ambient air quality standards, means for the control and abatement of air pollution, prohibits the use of polluting fuels and substances and regulates appliances that give rise to air pollution. To empower the central and state pollution boards to meet grave emergencies, the air (prevention and control of pollution) amendment act, 1987, was enacted. The boards were authorized to take immediate measures to tackle such emergencies and recover the expenses incurred from the offenders. The power to cancel consent for non-fulfilment of the conditions prescribed has also been emphasized in the air act amendment.

The Air (Prevention and Control of Pollution) Rules, 1982: Defines the procedures for conducting meetings of the boards, the powers of the presiding officers, decision-making, the quorum; manner in which the records of the meeting were to be set etc.

The Wildlife (Protection) Act, 1972: The WPA (Wildlife Protection Act), 1972: provides for protection to listed species of flora and fauna and establishes a network of ecologically- important protected areas. The WPA empowers the central and state governments to declare any area a wildlife sanctuary, national park or closed area.

The Forest (Conservation) Act, 1980: restricts the powers of the state in respect of de-reservation of forests and use of forestland for non-forest purposes.

Environment (Protection) Act, 1986 (EPA): An Act to provide for the protection and improvement of environment and for matters connected therewith. It provide a framework for the co-ordination of central and state authorities established under the water (prevention and control) act, 1974 and air (prevention and control) act, 1981 and the central government is empowered to take measures necessary to protect and improve the quality of the environment by setting standards for emissions and discharges; regulating the location of industries; management of hazardous wastes, and protection of public health and welfare.

¹. ⁷National Forest Commission Report, Chapters 1-8". Ministry of Environment and Forests, Government of India (2006)

The National Environment Appellate Authority Act, 1997

Establishment of a national environment appellate authority to hear appeals with respect to restriction of areas in which any industry operation or process or class of industries, operations or processes could not carry out or would be allowed to carry out subject to certain safeguards under the environment (Protection) Act, 1986.

Factories Act, 1948 and its Amendment in 1987: The Act contains a comprehensive list of 29 categories of industries involving hazardous processes, which are defined as a process or activity where unless special care is taken, raw materials used therein or the intermediate or the finished products, by-products, wastes or effluents would: i. Cause material impairment to health of the persons engaged. ii. Result in the pollution of the general environment.

Public Liability Insurance Act (PLIA), 1991: The PLIA was amended in 1992, and the central government was authorized to establish the environmental relief fund, for making relief payments.

National Environment Tribunal Act, 1995: The act provided strict liability for damages arising out of any accident occurring while handling any hazardous substance and for the establishment of a national environment tribunal for effective and expeditious disposal of cases arising from such accident, with a view to give relief and compensation for damages to persons, property and the environment and for the matters connected therewith or incidental thereto.

Penalty for contravention of the provisions of the act and the rules, orders and directions: Whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued thereunder, shall, in respect of each such failure or contravention, be punishable with imprisonment for a term which may extend to five years with fine which may extend to one lakh rupees, or with both, and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues after the conviction for the first such failure or contravention, ii. If the failure or contravention referred to in sub-section (1) continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years.

Offences by companies

Where any offence under this Act has been committed by a company, every person who, at the time the offence was committed, was directly in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly⁸ Provided that nothing contained in this sub-section shall render any such person liable to any punishment provided in this Act, if he proves that the offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence⁹.

Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

The Supreme Court responded with equal anxiety and raised the issue to come within the mandate of the Constitution¹⁰ Through these cases the courts have evolved the following doctrines for enforcing mandatory compliance of environmental regulations:

- i. **Public Trust Doctrine:** M.C. Mehta v. Kamal Nath,¹¹
- ii. **Precautionary Principle:** Vellore Citizens Welfare Forum v. UOI, AIR & Narmada Bachao Andolan v. UOI¹²,
- iii. **Polluter Pays Principle:** Vellore Citizens Welfare Forum v. UOI, AIR¹³
- iv. **Absolute Liability Principle:** M. C. Mehta v. UOI, & Narmada Bacho Andolan¹⁴
- v. **Sustainable Development:** M.C. Mehta v. UOI,¹⁵

Conclusion & Suggestions

In India, environmental statute though impressive in range and coverage are more often observed in breach than practice. Environmental law enforcement, being a highly specialized area of implementation, entrusted to different agencies under

⁸Environmental Issues, Law and Technology - An Indian Perspective. Ramesha Chandrappa and Ravi D.R., Research India Publication, Delhi, ISBN 978-81-904362-5-0 (2009)

⁹Milind Kandlikar, Gurumurthy Ramachandran, "2000: India: The Causes and Consequences of Particulate Air Pollution in Urban India: A Synthesis of the Science", *Annual Review of Energy and the Environment*, 25, 629-684 (2000)

¹⁰Soli J., Sorabjee (Ed), Law and Justice - An anthology, Universal Law Publishing Company, New Delhi, 345 (2003) Environmental Protection Law and Policy in India: Kailash Thakur; Edition; Deep and Deep Publication Pvt. Ltd (2007)

¹¹1996) 1 SCC 38, MI Builders Pvt. Ltd. v. Radhey Shyam Sahu, AIR 1996 SC 2468,

¹²AIR 2000 SC 375

¹³1996 SC 2718,

¹⁴UOI,¹⁴ AIR 2000 SC 375,

¹⁵AIR 1997 SC 734

different laws, presents a none-too-happy-a picture. Lack or inadequacy of skill; less than satisfactory infrastructural facilities; poor and unimaginative understanding of the law; jurisdictional conflicts and lack of coordination, among different agencies of implementation, appear to contribute to poor and in effective implementation of the laws. Ability of some of the more resourceful industries in either camouflaging their violations and non-compliance and in exerting undue pressure on the enforcement agencies, also has contributed to the inefficiency of the enforcement apparatus²². The deterrent theory of punishment employed under strict and absolute liability principle has achieved some degree of success. Nevertheless, the search for better alternative principles of liability hardly needs an elaboration. Hence it is time to harmonize the developmental activities with environment because development is also a very important aspect of life. For which the environmental regime has to be accounted and strengthened with more expert mechanism to deal with the longer spectrum of problems hitherto unattended by the law. Primarily meant as guiding principle for the administrative process to prevent adverse effects on the environment, the precautionary approach warrants formulation of expert environmental agencies at the initial decision making as well as at the appellate and reviewing levels⁷. Such a step will be undoubtedly a leap forwards towards sustainable development and augmentation of a strong environmental regime.

The existing principles, laws, case law, regulations, standards, resolutions and so on, already constitute a vast and complicated apparatus of paper and of powers conferred upon certain bodies or persons. When it is considered that the existing law is, however, also seemingly quite inadequate to the problem and that much more may be needed, one is bound to ask questions about how much of the India's resources, wealth, energy and intellect is to be spent on this task of regulation and control. Pollution resulting from an excess of the complication and sheer number of laws, regulations and officials is by no means the least of the threats to our living environment. Another matter of concern is the need to keep laws and regulations in this area reasonably flexible and open when necessary to changes of direction. Good laws on the environment are driven, or should be driven, by the lessons to be learned from the natural sciences and from technology. But scientists are not by any means always in agreement. It is reasonable to assume, moreover, that the enormous sums spent upon further scientific and technological research imply that the scene of scientific 'fact' is liable to change importantly and even suddenly; for, if not, it is difficult to see what this expensive endeavour is about. Awareness of environmental laws in society plays a vital role in prevention and control of pollution in industrial as well as at community levels. Moreover, awareness is essential for the action.

RURAL EMPLOYMENT GENERATION THROUGH MGNREGA IN UTTARAKHAND

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Abstract

The Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA) was formed with the main objective of providing 100 days guaranteed employment to rural households whose adult members are willing to do unskilled manual work. MGNREGA is the world's largest poverty alleviation and employment generation programme. Ministry of Rural Development Government of India is the primary key agency for the policies formulation of MGNREGA. The present study is based on two pillars, first role examination of MGNREGA in rural employment generation, and second economic empowerment of MGNREGA beneficiaries. The findings of the study show that employment generation which is one of the primary objectives of MGNREGA seems to be accomplished in Uttarakhand India, because around 237 lakhs persons per day was generated in Uttarakhand in the financial year 2016-17. On the other hand, MGNREGA beneficiaries are not so much economically empowered in Uttarakhand. Although MGNREGA is quite helpful in alleviating poverty in Uttarakhand, the approved labour budget has also increased from 175 lakhs in 2015-16 to 215 lakhs in 2018-19. It is suggested that Government of India should make a considerable increment in the wages of beneficiaries and also ensure timely payment of wages so that they will get motivated, and ultimately their standard of living will also get better.

Keywords: Employment generation, Rural, Economic empowerment, Wages.

Introduction

The Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA) is a life changing rural poverty eradication programme of Government of India. Since independence the poverty and unemployment were the major problem faced by the Indian Government. Many poverty eradication programmes launched, but the deeper roots of the poverty and unemployment in India are still in existence. In this way with multi-prolonged and panacea effect National Rural Employment Guarantee Act, 2005 (NREGA) launched which later renamed as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on 2nd October 2008. The mandate of this programme is to provide 100 days of guaranteed wage employment in a financial year (FY) to every rural household (a household is defined as members of a family related to each other by blood, marriage or adoption, and normally residing together and sharing meals) whose adult members volunteer to do unskilled manual work. The main objectives behind launching of Mahatma Gandhi National Rural Employment Guarantee Act, 2005 is ensuring social protection for the most vulnerable people living in rural India through providing employment opportunities, ensuring livelihood security for the poor through creation of durable assets, improved water security, soil conservation and higher land productivity, strengthening drought-proofing and flood management in rural India, empowerment of the marginalized communities, especially women, Scheduled Castes (SCs) and Scheduled Tribes (STs), through the processes of a rights-based legislation, strengthening decentralized, participatory planning through convergence of various anti-poverty and livelihoods initiatives, deepening democracy at the grass-roots by strengthening the Panchayati Raj Institutions (PRIs) (Panchayati Raj Institutions (PRIs) are systems of local governance in rural India at three levels of administration: village, block and district) effecting greater transparency and accountability in governance. Uttarakhand is a spatially populated hilly state of Government of India. The geographical condition of the state makes it quite different from other states of India. As per census 2011 out of total population of Uttarakhand, 30.23% people lived in urban regions while 69.77% in rural areas. The total figure of population of urban population was 3,049,338 out of which 1,618,731 were males while remaining 1,430,607 were females. In rural areas of Uttarakhand, male population was 3,519,042 while female population was 3,517,912. As per data entry published by Ministry of Rural development Government of India in MGNREGA website, there are 10.70 lakh job cards holders in Uttarakhand. This programme has a wide coverage in Uttarakhand. Employment generation through MGNREGA is question under the mark. Employment guarantee is one of the primary objectives of this programme.

Review of Literature

2017 Pandey Roshni "MGNREGA and Its Role in Rural Development" This paper is based on three objectives first, to study the role of MGNREGA in economic development of rural India, second to study the impact of MGNREGA in employment generation of rural India and last but not the least, to study the role of MGNREGA in asset creation and infrastructural development of rural India. The finding of this study clearly indicates that the MGNREGA is playing a key role in employment generation and providing livelihood security to all rural households.

2017 Sharma Disha, Dr. Karim Abdul, and Dr. Khanuja S.S. "MGNREGA: A Tool for Generation of Employment & Poverty Alleviation" This paper outlines the role of MGNREGA in enhancing the livelihood of poor rural people through twin incorporation of work with skill. Also, the researcher asserted that there is the need to overcome the hectic procedure of payment.

2018 Mishra Anil Kumar, Singh Madhulika, "Manrega and Employment Generation in India" The finding of the study reveals that MGNREGA plays a significant role in employment generation in rural India. It not only providing food security but also promoting rural development. The rural population is getting the advantage of this scheme. The 100 days guaranteed wage employment makes the rural household feel financially secure.

Objectives

1. To examine the role of MGNREGA in rural employment generation.
2. To assess the economic empowerment of beneficiaries through MGNREGA.

Hypothesis

On the basis of the framed objectives the following hypothesis formed.

1. There is no relationship among MGNREGA and the economic empowerment of beneficiaries.

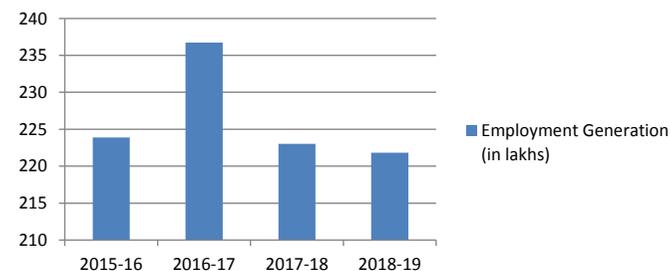
Research Methodology

The present study is based on both primary and the secondary data. The primary data has been through the telephone interview. The secondary data collected through various research papers, magazines, books, and the website of MGNREGA Ministry of Rural Development Government of India. The area of study is the Uttarakhand State of India. Uttarakhand is divided into 02 divisions namely Garhwal and Kumaun division. In Garhwal division there are 07 districts namely, Chamoli, Dehradun, Haridwar, Pauri Garhwal, Rudrapur, Tehri Garhwal, and Uttarkashi. On the other hand, in Kumaun division there are 06 districts, namely Almora, Bageshwar, Champawat, Nainital, Pithoragarh, Udham Singh Nagar. Three districts each selected from each division using random sampling. These are Chamoli, Haridwar, and Uttarkashi from the Garhwal region and Nainital, Pithoragarh and Udham Singh Nagar from Kumaun region. From the each selected 06 districts 30 respondents selected using random sampling has been enquired. Hence, the total sample size for the present study is 180 beneficiary respondents. The data has been analyzed with the help of tables and graphs. Further the hypothesis has been tested using the Pearson's Chi-square (non-parametric test) and conclusion drawn accordingly by the researcher. The veracity of the outcome will be tested using the SPSS.

MGNREGA and Rural Employment Generation

Employment generation is one of the main objectives of MGNREGA. As far as the rural population of Uttarakhand concerned, MGNREGA's 100 days guaranteed wage employment is availed by each and every household member who is willing to do unskilled manual work. Majority of the rural population of Uttarakhand is getting them registered with their respective Gram Sabha under MGNREGA. After the registration at Gram Sabha, the person willing to do unskilled manual work asks for the work by the means of application either in written or orally. After receiving the applications for the work, the Gram Panchayat shall ensure that the work should be provided within 15 days of the application. Otherwise, unemployment allowance shall be provided to the beneficiaries. There is also an operational provision MGNREGA that, the work shall be provided within the radius of 05 kilometer of the beneficiary's house. Beyond which the beneficiary shall be provided with the 10% extra wages. Shelters, restrooms etc., will also be provided to the beneficiary at the work site. Grievance redresses mechanisms another major provision of MGNREGA, which was created to safeguard the interests of the beneficiaries.

Chart 1.1
MGNREGA Employment Generation persons per day in Uttarakhand (in lakhs)



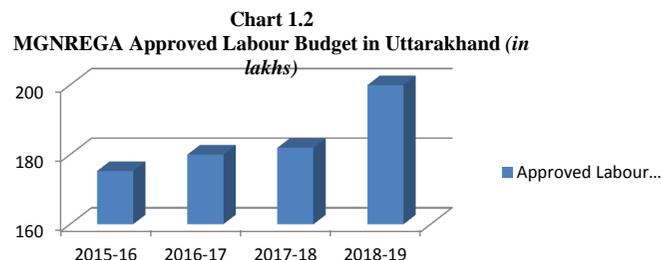
Source: https://nrega.nic.in/netnrega/homestciti.aspx?state_code=35&state_name=UTTRANCHAL [MGNREGA Employment Generation persons per day in Uttarakhand (in lakhs)]

The above Chart 1.1 shows that in Uttarakhand, in the financial year 2015-16 around 224 lakhs, persons per day generated, in 2016-17 around 237 lakhs, persons per day generated, in 2017-18 around 223 lakhs, persons per day generated, and in 2018-19 around 223 lakhs persons per day generated. Highest employment generation recorded in the year 2016-17 i.e. 237 lakhs persons per day. This shows that MGNREGA is performing well in Uttarakhand. It is not only accomplishing its prime objectives of employment generation but also have a contribution in poverty alleviation. As employment guarantee feature of MGNREGA provides the financial security to the beneficiaries, so by far it is also contributing towards alleviation of poverty in Uttarakhand. Although MGNREGA is a limited provision of employment to the rural poor, but it itself works a driving force to fight against the poverty and unemployment.

MGNREGA and Economic Empowerment of Beneficiaries

Economic empowerment is the state of transformation in power, agency, and economic advancement .As far as the status of MGNREGA beneficiaries is concerned, economic advancement could be clearly seen. The purchasing power got increased. Now from each household, a member who at the age of 18 years wants to do unskilled manual work can contact the Gram Pradhan or Gram Sarpanch. The amount of work done in the form of wages on a daily basis will be directly credited to the Bank account of the beneficiaries. For the identification of fake beneficiary, now each and every beneficiary's Job card linked with the unique identification number i.e. Aadhar Number. This move of Government of India; Ministry of Rural Development is quite commendable.

The below Chart 1.2 shows the approved labour budget of MGNREGA in Uttarakhand. In the financial year 2015-16 around 175 lakhs labour budget provided, in 2016-17 around 180 lakhs labour budget provided, in 2017-18 around 182 lakhs labour budget provided, and in 2018-19 around 215 lakhs labour budget provided. There is a positive upward trend in the labour budget allocation of MGNREGA. Such increase in the labour budget will definitely provide motivation to the beneficiaries who are working for the guaranteed 100 days in a financial year. It is suggested that Government of India, Ministry of Rural Development should make a considerable increment in the wage rate of the beneficiaries, so that the work efficiency would get increased.



Source: https://nrega.nic.in/netnrega/homestciti.aspx?state_code=35&state_name=UTTTRANCHAL [MGNREGA Approved Labour Budget in Uttarakhand (in lakhs)]

Analysis and Discussion

The economic empowerment assessment of the MGNREGA beneficiaries done by the researcher. The hypothesis was formed as there is no relationship among MGNREGA and the economic empowerment of beneficiaries.

The following table 1.1 clearly indicates that in district Pithoragarh out of the total 30 respondents 10 are highly agreed that MGNREGA is contributing to their livelihood. In district Udham Singh Nagar 21 respondents are moderately agreed that MGNREGA is contributing to their livelihood. Last but not the least, in district Chamoli 17 respondents are least agreed that MGNREGA is contributing to their livelihood.

The following Table 1.2 clearly indicates that the results obtained after Pearson chi-square test. The result shows that the test statistics is 23.871 and the significance level p-value is 0.008 which is lower than the industry standard of 0.05. This means that there is enough evidence to suggest a relationship between MGNREGA and economic empowerment of beneficiaries in Uttarakhand. Hence null hypothesis stands untrue.

Table 1.1

Economic empowerment assessment of beneficiaries

Areas	MGNREGA contribution in livelihood		
	High	Moderate	Low
	Count	Count	Count
01 Chamoli	4	9	17
02 Haridwar	3	16	11
03 Uttarkashi	5	18	7
04 Nainital	5	15	10
05 Pithoragarh	10	16	4
06 Udham Singh Nagar	2	21	7

Source: The data is collected from the Primary data source.

Table 1.2

Pearson Chi-Square Tests	
	MGNREGA contribution in livelihood
Chi-square	23.871
df	10
Sig.	.008

Df: degree of freedom

Sig.: significance

Conclusion

MGNREGA acts a ray of hope for the rural India. Now, it became the matter of expectations of each and every rural household's beneficiary, who gets paid in the form of Bank Account Transfer under Direct Benefits Transfer Scheme (DBTS) of Government of India. It has reduced the chance of misappropriation of wages of illiterate wage beneficiary. In the financial year 2016-17 around 237 lakhs, persons per day generated, which clearly indicates that the MGNREGA is by far successful in achieving one of its primary objectives i.e. employment generation. It is suggested that Government of India, Ministry of Rural Development should ensure the timely payment of wages to the beneficiaries. On the other hand, Economic empowerment objective of MGNREGA has also been achieved. Since the financial year 2015-16 the labour budget got increased from 175 lakhs to 215 lakhs in 2018-19. This increase in the labour budget of MGNREGA in Uttarakhand state is a big indicator of its economic advancement and ultimately the economic empowerment. It is suggested that Government of India, Ministry of Rural Development should make a considerable increase in the wage rates of the MGNREGA beneficiaries in Uttarakhand.

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LAW RELATING TO MANUAL SCAVENGING IN INDIA: ISSUES AND CHALLENGES

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Abstract

Manual scavenging refers to the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines and sewers. It often involves using the most basic of tools such as buckets, brooms and baskets. The practice of manual scavenging is linked to India's caste system where so-called lower castes were expected to perform this job. Manual scavengers are amongst the poorest and most disadvantaged communities in India. In 1993, India banned the employment of people as manual scavengers. In 2013, landmark new legislation in the form of the Manual Scavengers Act was passed which seeks to reinforce this ban by prohibiting manual scavenging in all forms and ensures the rehabilitation of manual scavengers to be identified through a mandatory survey. Despite progress, manual scavenging persists in India. According to the India Census 2011, there are more than 2.6 million dry latrines in the country. There are 13,14,652 toilets where human excreta is flushed in open drains, 7,94,390 dry latrines where the human excreta is cleaned manually.⁷³ percent of these are in rural areas and 27 percent are in urban areas. According to the House Listing and Housing Census 2011, states such as Andhra Pradesh, Assam, Jammu and Kashmir, Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal account for more than 72 percent of the insanitary latrines in India.¹

Keywords: Manual Scavenging, Honey wagons, Employment, Rehabilitation

Definition

"Manual scavenging" refers to the unsafe and manual removal of raw (fresh and untreated) human excreta from buckets or other containers that are used as toilets or from the pits of simple pit latrines. The safe and controlled emptying of pit latrines, on the other hand, is one component of fecal sludge management.²

"Manual scavenger" means a person engaged or employed, at the commencement of this Act or at any time thereafter, by an individual or a local authority or an agency or a contractor, for manually cleaning, carrying, disposing of, or otherwise handling in any manner, human excreta in an insanitary latrine or in an open drain or pit into which the human excreta from the insanitary latrines is disposed of, or railway track or in such other spaces or premises, as the Central Government or a State Government may notify, before the excreta fully decomposes in such manner as may be prescribed, and the expression "manual scavenging" shall be construed accordingly. Not all forms of dry toilets involve "manual scavenging" to empty them, but only those that require unsafe handling of raw excreta. If on the other hand the excreta is already treated or pre-treated in the dry toilet itself, as is the case for composting toilets and urine-diverting dry toilets for example, then emptying these types of toilets is not classified as "manual scavenging". Container-based sanitation is another system that does not require manual scavenging to function even though it does involve the emptying of excreta from containers. Also, emptying the pits of twin-pit pour-flush toilets is not classified as manual scavenging in India, as the excreta is already partly treated and degraded in those pits.

The International Labour Organization describes three forms of manual scavenging in India:

Removal of human excrement from public streets and "dry latrines" (meaning simple pit latrines without a water seal, but not dry toilets in general):

1. Cleaning septic tanks
2. Cleaning gutters and sewers.
3. Manual cleaning of railway lines of excreta dropped from toilets of trains is another form of manual scavenging in India.

History

There is evidence of the existence of toilets with a water seal in the civilizations of Harappa and Mohenjo-Daro. These cities had toilets which were connected to an underground drainage system lined with burnt clay bricks. The practice of manual scavenging in India dates back to ancient times. According to the contents of sacred scriptures and other literature, scavenging by some specific castes of India has existed since the beginning of civilization. One of the fifteen duties of slaves enumerated in Naradiya Samhita was of manual scavenging. This continues during the Buddhist and Maurya period also. Jahangir built a public toilet at Alwar 120 km away from Delhi, for 100 families in 1556 AD. Not much documentary evidence exists about its maintenance. Scholars have suggested that the Mughal women with purdah required enclosed toilets that needed to be scavenged. It is pointed

¹ <https://in.one.un.org/page/breaking-free-rehabilitating-manual-scavengers/>

² "Human rights and manual scavenging" (PDF). Know Your Rights Series. National Human Rights Commission. Retrieved September 16, 2013.

out that the bhangis (Chuhra) share some of the clan names with Rajputs, and propose that the bhangis are descendants of those captured in wars. There are many legends about the origin of bhangis, who have traditionally served as manual scavengers. One of them, associated with Lal Begi bhangis, describes the origin of bhangis from Mehtar.^[29] Municipal records from 1870 show that the British organized municipalities in India which built roads, parks, public toilets etc. The British administrators organized systems for removing the fecal sludge and employed bhangis.

Other countries

Manual scavenging also took place in Europe but not specifically linked to a caste-based occupation and not called "manual scavenging": In European history the terms "nightsoil collectors" or "nightmen" and gong farmers were used. The contemporary term for safe nightsoil collection is fecal sludge management. Towns with sanitation systems based on pail closets (bucket toilets in outhouses) relied on frequent emptying, performed by workers driving "honeywagons", a precursor to the vacuum truck now used to pump out septage from septic tanks. The municipal emptying of pail toilets continued in Australia into the second half of the twentieth century; these were known as dunnies and the workers were dunnymen. In Haiti, this type of occupation is called bayakou.³

Initiatives for eradication

Legislation

The Indian constitution abolishes "untouchability." It also prohibits caste-based discrimination in employment. The specific prohibitions on untouchability are set out in the Protection of Civil Rights Act, 1955, and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989. In 1949, soon after independence, the Indian government began appointing committees to address manual scavenging. The 1955 Protection of Civil Rights Act made it an offense to compel any person to practice scavenging.

In the late 1950s, freedom fighter G. S. Lakshman Iyer banned manual scavenging when he was the chairman of Gobichettipalayam Municipality, which became the first local body to ban it officially. Sanitation is a State subject as per entry 6 of list seven of the Constitution of India 1950. Under this, in February 2013 Delhi announced that they are banning manual scavenging, making them the first state in India to do so. District magistrates are responsible for ensuring that there are no manual scavengers working in their district. Within 3 years time municipalities, railways and cantonments must make sufficient sanitary latrines available. The government of the state of Maharashtra has planned to abolish the menace of manual scavenging completely from the state soon. However by using Article 252 of the constitution which empowers Parliament to legislate for two or more States by consent and adoption of such legislation by any other State, the Government of India has enacted various laws. The continuance of such discriminatory practice is violation of ILO's Convention 111 (Discrimination in Employment and Occupation) The United Nations human rights chief welcomed in 2013 the movement in India to eradicate manual scavenging.

The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993

After six states passed resolutions requesting the Central Government to frame a law, The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993, drafted by the Ministry of Urban Development under the Narasimha Rao government, was passed by Parliament in 1993.

The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 punishes the employment of scavengers or the construction of dry (non-flush) latrines with imprisonment for up to one year and/or a fine of Rs 2,000. No convictions were obtained under the law during the 20 years it was in force.

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013 or M.S. Act 2013

Government has passed the new legislation in September 2013 and issued Government notification for the same. In December, 2013 Government has also formulated Rules-2013 called as "The Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules 2013" or "M.S. Rules 2013". The details about Act and Rules are available on the website of Ministry of Social Justice and Empowerment, GOI. Further, the hearing on 27 March 2014 was held on Manual Scavenging of writ petition number 583 of 2003, and Supreme Court has issued final orders and case is disposed of with various directions to the Government.

The broad objectives of the act are to eliminate unsanitary latrines, prohibit the employment of manual scavengers and the hazardous manual cleaning of sewer and septic tanks, and to maintain a survey of manual scavengers and their rehabilitation. The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, which is wider in scope and importantly, acknowledged the urgency of rehabilitating manual scavengers.

Key features of the M.S Act 2013

1. Prohibits the construction or maintenance of insanitary toilets

³ https://en.wikipedia.org/wiki/Manual_scavenging

- ii. Prohibits the engagement or employment of anyone as a manual scavenger
- iii. Violations could result in a years' imprisonment or a fine of INR 50,000 or both
- iv. Prohibits a person from being engaged or employed for hazardous cleaning of a sewer or a septic tank
- v. Offences under the Act are cognizable and non-bailable
- vi. Calls for a survey of manual scavengers in urban and rural areas within a time bound framework
- vii. There remain several challenges in implementing the legislation to ensure that manual scavengers can work and live with dignity.
- viii. Time frame within which land is to be allotted as part of the rehabilitation package for former manual scavengers as provided for in the 2013 Act
- ix. Correct and timely identification of insanitary latrines and manual scavengers
- x. Implementation of provision regarding prohibiting 'hazardous cleaning' of sewers and septic tanks

While the Act is encouraging in that it focuses on the responsibility of officials to ensure its implementation, it does not outline administrative measures beyond conduct rules that can be imposed if officials do not implement the Act.

Towards comprehensive rehabilitation: Manual scavengers are at a double disadvantage. They are members of lower castes and as such, face enormous discrimination in society, and second, are disadvantaged because they are manual scavengers who clean human excreta. The challenge of rehabilitation is urgent, and requires a comprehensive approach that moves beyond expanding income generation or providing loans, to focus on various aspects crucial to secure the future of the next generation of liberated manual scavengers. Ensure discrimination-free and alternate livelihoods by providing skill development and livelihoods training to women, linking them to government employment schemes and entitlements as well as ensuring their land rights. Vocational training linked to employment for young people, and support to liberated manual scavengers in building alternate livelihoods could go a long way in ensuring steady, stable livelihoods for the future. Create a favourable environment through community awareness and sensitization of local administration. Build the capacity of the community to promote rehabilitation efforts and self-reliance and also build leadership in the community with a particular focus on Dalit women.

Activism

In India in 1970s, **Dr. Bindeshwar Pathak** introduced his "Sulabh" concept for building and managing public toilets in India, which has introduced hygienic and well-managed public toilet systems. Activist **Bezwa Wilson** founded a group in 1994, Safai Karmachari Andolan, to campaign for the demolition of then newly illegal 'dry latrines' (pit latrines) and the abolition of manual scavenging. Despite the efforts of Wilson and other activists, the practice persists two decades later. In July 2008 "Mission Sanitation" was a fashion show held by the United Nations as part of its International Year of Sanitation. On the runway were 36 previous workers, called scavengers, and top models to help bring awareness of the issue of manual scavenging.

The Movement for Scavenger Community (MSC) is an NGO founded in 2009 by **Vimal Kumar** with young people, social activists, and like-minded people from the scavenger community. MSC is committed to working towards the social and economic empowerment of the scavenger community through the medium of education.

Jan Sahas in Dewas, Madhya Pradesh in India has also done some pioneering work through Garima Abhiyan or Campaign for Dignity. It has freed more than 20,000 women from manual scavenging.⁴

Current prevalence

Manual scavenging still survives in parts of India without proper sewage systems or safe fecal sludge management practices. It is thought to be most prevalent in Maharashtra, Gujarat, Madhya Pradesh, Uttar Pradesh, and Rajasthan. Manual scavenging is a caste-based occupation, with the vast majority of workers involved being women. An estimate in 2018 put the number of "sanitation workers" in India at 5 million, and 50% of them being women.

The biggest violator of this law in India is the Indian Railways where many train carriages have toilets dropping the excreta from trains on the tracks and who employ scavengers to clean the tracks manually. The situation is being improved in 2019 by the addition of on-train treatment systems for the toilet waste. Manual scavenging is traditionally a role determined by the outcast caste system in India for members of the Dalit caste, usually from the Balmiki (or Valmiki) or Hela subcaste. In March 2014, the Supreme Court of India declared that there were 96 lakh (9.6 million) dry latrines being manually emptied but the exact number of manual scavengers is disputed – official figures put it at less than 700,000. Manual scavenging is done with basic tools like thin boards and either buckets or baskets lined with sacking and carried on the head. Due to the nature of the job, many of the workers have related health problems.

⁴Bindeshwar Pathak, "Waste Toilet History", 18 The Vacuum, available at: <http://www.thevacuum.org.uk/issues/issues0120/issue18/is18arttoihis.html> (last visited on Oct. 10, 2014). Bindeshwar Pathak, Action Sociology and Development, 128 (Concept Publishing Company, New Delhi).

The present government, which spends more than Rs 18,000 crore every year on the Swachh Bharat Abhiyan, allocated only Rs 47 crore for rehabilitating manual scavengers in 2014-2015, which was 1 percent of the total funds allocated by the previous UPA-II government. In the three subsequent years, the NDA government spent Rs 10.01 crore (2015-2016), Rs 1 crore (2016-2017) and Rs 5 crore (2017-2018). Ironically, a response to an RTI query found that the government had spent Rs 530 crore on publicity for Swachh Bharat Abhiyan on TV and print media during the same years.

The message here is clear. The government has no intention of rehabilitating these workers but is only interested in trapping them in the web of manual scavenging. As proof, the marathon drive to construct lakhs of latrines in both rural and urban areas will certainly demand the reinvention of manual scavenging as an occupation. Whether to clean septic tanks or dry latrines, the job will continue.

Toothless law

In 2013, the 'Prohibition of Employment as Manual Scavengers and their Rehabilitation Act' came into force. However, according to Bezwa Wilson, this law leaves people "helpless". "In the earlier Act, the district magistrate had the power to solve all the cases, but that's not the case with the current one. If the assigned public official isn't doing his duty of identifying manual scavengers and processing their rehabilitation, there is no mechanism to pull them up," media had quoted him saying. "The Act does not address critical aspects of provisions like the rehabilitation of those who were liberated from manual scavenging before passing the law in 2013. Liberated manual scavengers regularly face brutal atrocity and violence. Therefore, ensuring protection for these families is crucial," Wilson had observed.

Endorsing these rehabilitative elements, the 2014 Supreme Court Judgment in **Safai Karmachari Andolan v. Union of India**⁵ directs that all persons included in the final list of manual scavengers be rehabilitated "when the Supreme Court delivered its verdict by expanding the contours of the 2013 law, it also realised that the manual cleaning of sewers, septic tanks and manholes is hazardous and puts the workers' lives at risk. Considering the dangers involved in this occupation, declaring Rs 10 lakh an appropriate compensation in case of their death is unfortunate and does nothing but condone their death. Rather than following the Supreme Court's orders of ensuring that manual scavengers are provided with safety gear and that the sanitation infrastructure is restructured, municipalities chose the compensation route as they mostly outsource the unsanitary sanitation work.

Adopting technology to end manual scavenging

"It is not going to be possible to eliminate manual scavenging unless we create the right technologies," Wilson told media last week. There are reportedly about 15 innovations developed across the country to replace manual scavenging. According to reports, the Hyderabad Metropolitan Water Supply and Sewerage Board is using 70 mini jetting machines that can access narrow lanes and smaller colonies to clear the choked sewer pipes. In Thiruvananthapuram, a group of engineers has designed a spider-shaped robot that cleans manholes and sewers with precision.

While technology is considered essential to end this scourge, Ashif Shaikh, the founder of Jan Sahas social development society, is of the opinion that focusing only on technological fixes to end manual scavenging may not work. "It is a social and gender issue and can be eradicated by sensitising people about its ills. In 2012-13, we launched a nationwide march covering 200 districts across 18 states. Our objective was to make women aware of their right to live with dignity. We managed to liberate some 6,000 women during that yatra, and so far, we have liberated about 30,000 scavengers," Shaikh tells Down To Earth.

"Our job does not end at liberating these women. To assure them of 'sustainable freedom', they need to be provided with an alternative livelihood option, which is difficult in many parts of the country as people belonging to this community are still looked down upon and refused jobs," Shaikh rues. He urges the government to turn its attention away from toilet construction and explore ways to empty pits without human intervention.

A Representational image

Since January 2019, more than 25 sewer workers have died of asphyxiation across the country, including in densely populated cities. Prime Minister Narendra Modi, who paid tribute to the sanitation workers of Varanasi by washing their feet during his visit to the Kumbh Mela, had tweeted soon after that he would "cherish these moments" his entire life. A fierce campaigner of the Swachh Bharat Abhiyan, Modi has yet to launch any radical approach to end manual scavenging in India. Instead, he has observed a cryptic silence by never once mentioning the deaths of manual scavengers. If the prime minister acknowledges the work of these sanitation workers by washing their feet, it is hard to comprehend the future trajectory of their welfare and rehabilitation.

Year after year, the pervasiveness of the deaths of manual scavengers has become prosaic reality. It is hardly surprising that the battle against the monster of manual scavenging is mostly fought by organisations, activists and manual scavengers and their families themselves. However, lack of resources and other constraints make it difficult for them to sustain their efforts. Such is the state of affairs despite a law being in place to put an end to the practice, albeit in a country where legislation flourish a lot on paper.

⁵Safai Karmachari Andolan And Ors vs Union Of India And Ors on 27 March, 2014 Bench: P Sathasivam, Ranjan Gogoi, N.V. Ramana

The same goes for the process to disburse compensation, which is not as straightforward as directed by the Supreme Court. Not all families who lose their breadwinner receive this compensation. The eligibility criteria for deaths in sewers are haphazard and up to the government to decide, with families being forced to overcome bureaucratic hurdles. The perils of manual scavenging will stay unaddressed till the casteist attitude of washing their feet or trying to fix this problem from an economic perspective alone remain. By not acknowledging how embedded the caste factor is in the practice of manual scavenging, we, as a society, are being nothing but silent witnesses to State-sponsored crimes.

International Human Rights Efforts:

In order to raise awareness of the impact of caste-based discrimination, Dalit rights activists have sought to generate international pressure on the Indian government. Beginning in the early 1980s, Dalit activists have articulated caste-based discrimination and violence as human rights issues. In 1996, despite vociferous opposition from the Indian government, the UN Committee on the Elimination of Racial Discrimination (CERD) recognized caste-based discrimination as a form of racial discrimination. Linking race and caste-based discrimination has catalyzed further attention by the United Nations and facilitated ties with other populations worldwide suffering similar forms of discrimination.

In March 2014 the Supreme Court ruled that the practice of manual scavenging was prohibited in India under various international instruments, including the Universal Declaration of Human Rights (UDHR), the International Convention on Elimination of Racial Discrimination (ICERD), and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).

India is also a party to other international conventions that reinforce obligations to end manual scavenging, including the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR), and the Convention on the Rights of the Child (CRC). During India's most recent review for compliance with the ICESCR, ICERD, and the CRC, the Committee on Economic, Social and Cultural Rights (ESCR Committee), Committee on the Elimination of Racial Discrimination (CERD Committee), and the Committee on the Rights of the Child (CRC Committee) all issued concluding observations calling upon India to end manual scavenging.

Various other United Nations agencies and international human rights bodies have also addressed manual scavenging: UNICEF has approached manual scavenging as a water and sanitation issue; the World Health Organization (WHO) has taken up manual scavenging as a health issue; UNDP has a special task force on the issue of Scheduled Castes and Scheduled Tribes; UN Women addresses manual scavenging based upon that fact that 95 percent of manual scavengers who clean dry toilets and open defecation are women; and the ILO focuses on ending manual scavenging by supporting implementation of relevant government policies in Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, and Gujarat.

On January 31, 2013, the UN High Commissioner on Human Rights, Navi Pillay, appealed to the Indian government to take action to end manual scavenging. The key to the new law will be effective accountability and enforcement. It is also crucial that adequate resources are provided to enable the comprehensive rehabilitation of liberated manual scavengers. This is the only way these grossly exploited people will be able to successfully reintegrate into a healthier and much more dignified work environment, and finally have a real opportunity to improve the quality of their own lives and those of their children and subsequent generations.

Stinking legacy of suffocation and stigma:

Feudal Caste-Based Customs

In accordance with the traditional jajmani system, in which service and artisan caste households serve upper caste households or jajmans in the village, women who clean toilets in private households generally "inherit" this practice when they get married, joining their mothers-in-law in the daily rounds of collecting excrement and carrying it in baskets to the outskirts of the settlement. Human Rights Watch found that manual scavenging communities, consistent with traditional housing arrangements, continue to reside in separate enclaves in villages, and even in some urban areas.

Women who clean dry toilets in rural areas sometimes receive little or no cash wages, reflecting long-established customary practices, but instead receive daily rations of leftover food, grain during harvest, old clothes during festival times, and access to community and upper caste land for grazing livestock and collecting firewood. All given at the discretion of the households they serve. After collecting and disposing excrement from each household, they still return to each home to collect leftover chapatis or rotis (unleavened bread) as compensation. In areas where untouchability practices are intact, food is dropped into their hands or thrown in front of them. Rekhabai, from Devgarh village, Dewas district, Madhya Pradesh, described her "wage" to Human Rights Watch.

Social and Economic Pressure

Women engaged as manual scavengers face pressure from the community and family to continue this practice because their households have few other options for livelihoods. These are often the poorest and most marginalized communities in India, where even food security is a serious challenge. While men from manual scavenger communities may work as day laborers, their income is unreliable

Government appointed committees and commissions

Since manual scavenging involves undignified and degrading occupation carried out by the most backward class of the Indian society it has received considerable attention since independence. Government of India from time to time has appointed several committees and commissions suggesting practical recommendation for scavenging communities' rehabilitation and social inclusion.

Brave committee

The erstwhile Government of Bombay, appointed a committee known as the Scavengers' Living Conditions Enquiry Committee in 1949 with V.N. Barve as chairman to study and enquire into the living conditions of the scavengers in the State of Bombay and to suggest ways and means to improve their conditions of work and to fix their minimum wages. The Committee submitted its report to the Government of Bombay in 1952.

Kaka Kalekar commission

Appointed in 1953 as the first backward class commission under the chairmanship of Kaka Kalekar. The committee submitted its report in 1955. Committee in its report described the condition of manual scavengers as sub-humans and highlighted the outdated techniques of night soil removal and sanitation which included manual removal of human waste by scavenging communities. The committee also pulled up the municipal corporations for being the biggest sinners.

Central harijan welfare board (CHWB)

Was established by the Ministry of Home Affairs in 1956 under the chairmanship of Pandit Govind Ballabh Pant. The board reviewed the working and standard of living of sweepers and scavengers in India and recommended the enactment of centrally sponsored schemes for manual scavengers.

Malkani committee

CHWB in its October 12, 1957 meeting resolved to constitute a high level committee to make an in-depth study of scavenging menace in the country. Subsequently, the scavenging conditions enquiry committee was set up under the chairmanship of Professor N.R. Malkani. The committee submitted its report in 1960. The committee in its report blamed the existence of dry latrines as a major impediment to the abolition of manual scavenging in India.

Committee on customary rights

The Central Department of Social Welfare appointed a committee in 1965 under the chairmanship of Prof. N. R. Malkani, to examine the question of the abolition of customary rights of the scavengers. The committee which submitted its report in 1966 found that where scavenging is not municipalized the latrines were cleaned privately and one particular scavenger acquired hereditary right to clean such latrine as against another scavenger by an understanding and agreement.²⁶ A customary relationship also develops with the householder and the scavenger receives payments in some form or the other.

Problem issues and challenges

- i. Identify the families of all persons who have died in sewerage work:
- ii. Difficulties in accessing the criminal justice system:
- iii. Threats and harassment from community employers:
- iv. Lack of accountability for failing to end manual scavenging:
- v. Lack of alternative employment opportunities:
- vi. Inadequate surveys and failure to identify people still engaged in manual scavenging:

Conclusion and suggestions

On the basis of foregoing discussion it can be concluded that despite several governmental initiatives the plight of manual has not shown much improvement. Though policy makers have initiated several social welfare reforms directed towards manual scavengers, but have considerably failed to ensure their success on ground. Actual satisfaction of basic needs and amelioration of the scavenging community has not only been ignored by the policy makers but even the organized schedule caste movements have failed to address the cause of manual scavengers. Manual scavenging remains a serious concern with regard to the issues related to human rights. Even though legislations, considerable budgetary allocation, and economic assistance programmes for the scavenging communities has been put in place. But the most vital pre requisites which is required is the rigorous enforcement and scrutiny measures required to ensure proper implementation of laws and effective use of budgetary allocation. Lastly, awareness among the public to discourage degrading occupations like that of manual scavenging is inevitable.

Some of the constructive recommendations in this regard can be adopted

- i. Linking MNREGA and other social security schemes with the Scavenging Act of 2013:
- ii. Effective coordination among public and private authorities:
- iii. Community initiatives:
- iv. Sanitation programmes and awareness
- v. National level monitoring system and social audit:
- vii. Legislative and executive will:

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A STUDY OF TEACHERS PROFESSIONAL COMPETENCE ON STUDENT ACHIEVEMENT IN HARYANA

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ABSTRACT

The requirement for instructor competency emerges in light of the fact that the able educator has the capacity to accommodate and by and by use more encouraging feedback and the end of strain inside the study hall and to encourage the advancement of more good inclination inside the kids. The capacity to give expanded chances to kids to introduce spontaneous realities, data and sentiments during the instructional cycle. Specialist felt that skill of educators turning into a reason for explosion of the norm of training thus the capabilities of instructors ought to be improved at auxiliary level. The capability of educators at optional level needs assessment. The scientist will focus on the assessment of skills of instructors of optional schools in Haryana covering all parts of an educator. Specialist felt that assessment of educator's skills is basic for better outcomes and for development of understudy's conduct towards instructors. It is likewise vital for inside and outer advancement of an understudy and an educator. The nature of training is straightforwardly identified with the nature of guidance in the study halls. The instructor is viewed as the most urgent factor in executing every instructive change at the grassroots level. The scholarly capabilities, information on the topic, fitness and abilities of instructing and the dedication of the educator have successful effect on the instructing learning measure.

KEYWORDS: Teachers, Professional Competence, Student Achievement, education, Haryana, teaching and learning, education system

INTRODUCTION

Numerous elements are liable for molding the nature of educator training in the nation. These components territory from philosophical and financial necessities to the current structure of instruction framework just as badly characterized speculations and practices of educating and learning. Capability is a concentric association of an individual's qualities and conduct. These trademark are affected by work requests hierarchical ecological and expert culture. It thinks about that the parts are intentions, attributes, mental self portraits, social jobs, abilities and information. Ability can be separated into two classes. First are those including the educator's psychological capacities, abilities and comprehension. Second sorts of capabilities are character of the educator, intrigue, mentality, conviction, conduct and working relationship with understudies and others. Instruction assumes a significant job in the life of an individual. It is a ceaseless cycle of improvement from outset to development. It incorporates the impact of everything which impacts human character. It is a cycle of obtaining new information and aptitudes through both formal and casual presentation to data, thoughts, and encounters. It is third eye which raise cognizance and the repercussion nature of an individual towards his condition as well as. Training is measure just as item. As item, it is entirety of all that is gotten through learning for example procurement of information, abilities, mentality and qualities, transmission of culture, improvement of character and freedom or self-realization. As cycle it includes the demonstration of building up these items in another person or in oneself. The cycle requires an individual for example instructor, who assumes a vital job in training framework.

Skill has been utilized for assessment at various stages; understudy educators, starting instructors and experienced educators. These assessments are led by various gatherings including instructor teachers, analyst and the legislature. As the open interest for responsibility expands, institute of training are compelled to distinguish the characteristics of powerful educators and arranged educational plans to guarantee that planned instructors show those characteristics preceding confirmation. Skill is typically perceived as quality execution. It isn't as single and direct acts, for example, specific mentalities, propensities or explicit information. It is as summation of certain practices as grouped exercises. Further, skill is a unique example of execution. It stays a gauge except if really exhibited genuine execution circumstance. The instructor's competency will mean educator's forces, abilities, means or ability to play out his capacities sufficiently as an instructor. Educator skill varies from "instructor execution" and "instructor adequacy". Instructor fitness taint, is a steady quality of the educator that doesn't change materially when instructor moves starting with one circumstance then onto the next. Instructor competency alludes to intellectual information on the educator, which involves consequences for understudies learning. Conversely execution falls between these ideas signifying the capacity to perform as per a model of instructor.

TEACHING AS A PROFESSION

A calling depends on specific scholarly examination and preparing, the primary reason for which is to gracefully talented help and guidance to others for an unmistakable expense or administration. To cite Cogan, "the calling, serving the essential needs of man, believes its first moral basic to be charitable support of the customer." A calling requires a serious extent of a general and

concentrated information alongside it a specific scholarly preparing to offer an interesting social assistance. Calling can be separated from work as Profession is Job+ while work is calling - (short). Proficient is one who stretches out his picked interest to profit individual creatures and his work is set apart by humanistic qualities and dedication to human turn of events and government assistance.

A calling is described by the nature and estimations of the administrations its individuals render to the general public. Callings like medication, building, law and so on are restricted their support of specific side of human life. However, the most noteworthy great comprises in all round advancement of individual physical, social, scholarly, good, profound and stylish perspectives. Hughes says that experts pronounce. They pronounce that they know better than others concerning the idea of specific issues and to know better than their customers what upsets them or their undertakings. This is the substance of the possibility of experts' case. From it streams numerous consequences.⁵ It is showing calling which helps a person for his development completely, in his body, brain and soul. Consequently, most likely it delivers considerably more to society than every other calling. Educating is a calling as it fits well with the meanings of calling, we have talked about. Instructing as a calling requires educator's master information and particular aptitudes, kept up through thorough and constant investigation; it requires a feeling of individual and corporate/proficient duty regarding training, advancement and government assistance of the students. The calling of instructing ought not be decreased to an exchange, it ought to be restricted to continue consuming the light of development since it has extraordinary obligations. Indeed, even the incredible vanquisher, Alexander once said that he is obligated to his dad for living, however his instructor for living great. That is the significance of educator in each individual's life. Educators ought to do endeavors to keep up this nobility of their calling in light of the fact that no instructor can instruct outstandingly if not cherishing his assignment.

PROFESSIONAL COMPETENCE AMONG TEACHERS IN HIGHER EDUCATION

As indicated by the masterminds in old India 'Vidya' or training was viewed as the third eye of man, which gives him an understanding into all affairs and shows him the proper behavior. It has a principal task to carry out in close to home and social turn of events. An individual who doesn't have the light of training might be truly portrayed as visually impaired. The incomparable Indian rationalist Sri Aurobindo says that the main rule of genuine instructing is that nothing can be educated. The educator isn't a teacher or undertaking creator yet he is facilitator, assistant and a guide for the student. He as opposed to conferring information to his understudies just tells them the best way to secure information themselves. For the educating of youthful or grown-up minds, there is just one sound standard of instructing. Contrast old enough of the students just serves to increment or lessening the measure of help and direction to be given, it doesn't change its nature.⁶ The current need of the day is to give nature of contributions to instruction which would fundamentally acquire a subjective change the learning situations. The advancement of the nation lays on the shoulders of instructors since they shape the young in the study halls of schools and universities. In this manner the nature of instructors is legitimately reliant on the nature of their expert training and preparing.

Educating is an exceptionally talented activity and is impossible sufficiently without a sound groundwork for it. Educators are to be ceaselessly situated to the adjustments in the instructive framework required by the changing social request. Educators are to be completely set up to relate training to the changing examples of life, needs and goals of the individuals. As instructors' fundamental point is to cause understudies to adapt adequately and productively and to do as such, an educator needs to complete a few exercises, for example, plan appropriately, give powerful guidance and assess the getting the hang of utilizing fitting strategies and procedures. That implies an educator needs to play out a great deal of exercises inside and outside the study hall. As we realize that viability or inadequacy of educating is firmly connected with instructors' fitness. Skilled educator would make such study hall conditions and atmosphere which are favorable for understudies' learning. The essential prerequisite for worldwide guidelines of instruction is the prepared and expertly skillful instructors. The advancement of a nation relies on the nature of its educators and thus instructing is considered as the noblest among all the callings. Educator manages the people as well as the fate of the country. A country's advancement generally relies on the estimations of its instructors. There have been difficulties to instruction at more elevated level previously, these latest calls for change may incite an essential change in advanced education. This change may not happen simple because of straightforwardness and responsibility but since of the chance to ponder the motivation behind advanced education, the job of schools and colleges in the new time, and creative logical exploration on how individuals learn. Educators are good examples. From them, understudies get the capabilities (information, abilities and qualities) that they convey in their lives. Nonetheless, the calling of Teacher is seen contrastingly in various nations, and even inside a similar nation or a similar organization.

The various components of polished skill among instructors can be helpfully tended to inside six measurements:-

- 1. Knowledge:-** An instructor as an expert is required to have specific information about the subject he needs to educated, academic information that implies he should realize how to educate and general information.
- 2. Education and Training:-** He ought to have the essential instructive and expert capabilities, useful experience and astuteness.
- 3. Skills:-** Instructor is required to have competency, viability, task multifaceted nature, judgment, correspondence, introduction and assessment as expert abilities.
- 4. Autonomy:-** Proficient Autonomy incorporates Entry necessity, self-guidelines and principles, Discretionary judgment and voice in instructive approach.

5. Ethics and values:- A Professional instructor is required to follow Code of direct, to have the estimations of good respectability, privacy, dependability, duty, belief system, trustworthiness, benevolence, commitment and administration direction.

6. Reward:- It incorporates what a Professional instructor receives consequently of his social help for example renown, expense or pay for administration, Influence and so forth.

Demonstrable skill is the main issue and cash is its magnificent side-effect. Polished skill requests an engaged methodology, self-pride in what is being done, self-assurance, capability and inspiration to accomplish, regard, duty, responsibility and command over close to home feelings. Since educating is basically a social capacity and multi-feature movement, it is socially important for an instructor to perform well in the study hall. Instructors ought to be administration arranged and not benefit situated proficient. Today calling of training positions low among different callings. The instructor scarcely gets regard from the general public he lives in. Incongruity of the destiny is that educating is esteemed to be the most ugly calling. Diminish F. Drucker stated, "Instructing is the main control of man for which we have not yet evolved devices that make a normal individual equipped for ability and execution. In encouraging we depend on the 'naturals' the ones who by one way or another realizes how to educate." Merely the information on subject isn't adequate to be a decent and expert instructor, yet it requires a ton for example abilities of educating, morals and qualities, self-sufficiency to work, duty, energy and excitement to make others learnt. As C.E.M Joad says, "The great educator must illuminate by his model, show astuteness in his talk and defeat the hard-headed with a patient assurance and check the hotshot with a sensible scorn."

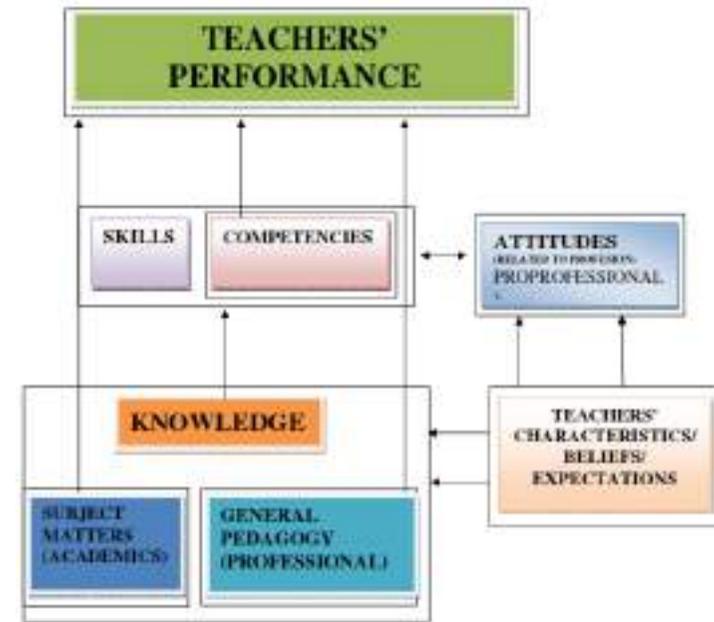


Figure 1

It is assumed that if educator gain proficient skills and duty, it will bring about sound instructor execution. When contemplating capabilities, ideas, for example, execution and viability are included in light of the fact that fitness is legitimately connected with compelling execution in complex circumstances as it is suspected to fill in as an easygoing variable for progress in light of the fact that "Able execution presumes ability" consequently, three applied components of instructor quality that are generally utilized in causing decisions about educator's work, to incorporate educator skill and educator execution. Capability guidelines are worried about utilization of expert information and abilities inside the working environment and are supported by educators' expert qualities. Instructor execution is the primary significant contribution to the field of training. Instructor training and skill, inspiration and states of work encroach straightforwardly on educator's exhibition. Execution evaluation is intermittent term in the writing of training and instructive exploration. There is a need to consider proficient capability and showing execution which decides educator impact in student progress towards characterized instructive objectives. Educators are liable for working instructive framework and they need solid and effective expert skills. Educators' abilities must be looked into so instructors' skills ought to be reclassified relying upon the improvement of the entire existence of human and training.

SCENARIO OF EDUCATION SECTOR IN HARYANA

Haryana has seen a colossal change in most recent couple of decades. Government has done a great deal with the goal that an ever increasing number of youngsters can approach the training. When contrasted and its neighboring states and India in general, Haryana has demonstrated a blended picture. In certain zones, it has beaten India and different states while it has likewise lagged behind them in specific territories which will be more clear from the accompanying relative tables, in view of various markers of instruction framework.

GROSS ENROLMENT RATIO

The Gross Enrollment Ratio is a factual measure utilized in the instruction division to decide the quantity of understudies joined up with school at a few diverse evaluation levels (like basic, center school and secondary school). A basic equation utilized by most nations to figure the Gross Enrollment Ratio is that, the nation partitions the quantity of people who are really taken on schools by the quantity of kids who are of the relating school enlistment age. The accompanying table shows the GER of various states in 2009-10 in various classes:

TABLE NO. 1

States/UTs	Classes I-V (6-11 years)			Classes VI-VIII (11-14 yrs)			Classes I-VIII (6-14 yrs)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Haryana	98.56	92.00	90.30	77.54	80.64	76.86	84.31	87.59	85.76
Himachal Pradesh	107.71	107.62	107.69	114.62	112.00	113.41	110.27	109.28	109.90
Punjab	108.79	107.92	108.09	93.89	89.73	91.84	102.84	100.00	101.83
Rajasthan	119.10	115.03	117.19	92.03	72.75	84.38	109.87	98.71	104.63
Uttar Pradesh	106.79	114.70	110.42	74.29	65.80	70.23	84.62	86.27	85.42
Delhi	119.86	122.54	121.10	116.82	106.95	109.01	116.31	116.35	116.23
India	115.59	118.90	115.47	84.83	78.90	81.82	103.78	101.09	102.47

In the age gathering of 6-11 years and in 6-14 years, Delhi is at the top. In the age gathering of 11-14 years, HP is demonstrating most elevated GER. Delhi and Rajasthan are far superior in the Gross enrolment proportion in each class gathering. Among all the states under the investigation, Haryana is at the base in all the three age gatherings. This suggests all the offspring of this age bunch are not getting selected the schools. This might be because of the accompanying reasons:

1. Either the guardians are not as yet mindful of the instruction programs in the state, or
2. They are not keen on sending their wards to the schools.

However, undoubtedly, it is more than that of young men in all the classes, particularly if there should arise an occurrence of Haryana dissimilar to Punjab Rajasthan and HP. The GER, higher than 100, may suggest that an ever increasing number of understudies are originating from outside the state for getting instruction there. With the end goal of comprehensive instruction, this issue must be tended to by the concerned specialists. Some urgent advances should be taken by the legislature since this circumstance may prompt a fall in proficiency rate in the coming years.

DROP-OUT RATES

Drop-out rate is the extent of youngsters which stop to remain selected the tutoring framework. There are various strategies for assessing dropout rate. One of them, followed in the Selected Education Statistics (SES) of the Ministry of Human Resource Development, is as per the following:

Net dropout rates for classes (I-V) = {1-(Enrolment in Class V during the reference year isolated by the enrolment in Class I four years ago)} X 100.

Net dropout rates for classes (I-VIII) = {1-(Enrolment in Class VIII during the reference year isolated by the enrolment in Class I seven years ago)} X 100.

The accompanying table shows the distinctive drop-out paces of understudies in the states under examination in the year 2009-10.

TABLE NO. 2

States	Classes I-V (6-11 years)			Classes VI-VIII (11-14 yrs)			Classes I-VIII (6-14 yrs)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Haryana	-1.13	-2.24	-1.64	19.59	8.19	14.37	20.17	19.40	19.84
Himachal Pradesh	0.35	1.27	0.74	3.42	3.41	3.38	32.28	18.95	20.65
Punjab	-24.99	-10.87	-18.07	-24.04	-13.43	-19.12	-41.23	39.45	40.42
Rajasthan	40.11	52.11	56.51	47.19	59.68	36.32	36.32	73.42	71.84
Uttar Pradesh	42.38	41.39	42.00	39.00	55.23	32.78	29.19	13.09	23.83
India	9.82	17.07	13.30	-32.61	-21.13	-27.10	-5.22	9.13	1.97
India	30.28	27.28	28.86	48.89	44.99	42.99	83.98	81.97	82.76

Here, Himachal Pradesh is on number one as the drop-out rate in class VI-VIII (age gathering of 11-14 years) is the least in this state. In the age gathering of 11-14 years, the drop-out rate is most minimal in HP followed by Haryana. In Haryana and Punjab, drop-out rate even comes out negative which is generally a result of the conflicting enrolment information or a few mistakes in the information. Rajasthan and UP are again awful entertainers in this classification. Drop-out pace of young ladies in this classification is not as much as that of young men of a similar gathering in Haryana, while it is converse if there should be an occurrence of HP, Rajasthan and UP. When contrasted with India in general, Haryana has demonstrated better execution in all the classes. Also, in class I-VIII, its drop-out rate is lower than Punjab, Rajasthan and Uttar Pradesh. This shows once understudies get entrance into the schools, the propensity to leave schools is low in contrast with different states just as India overall. In the age gathering of 6-11 years, HP is discovered to be the best entertainer as its drop-out rate is the most minimal. Drop-out rate is high in the event of Rajasthan and UP, in this classification.

OTHER ACTIVITIES TO DEVELOP TEACHER PROFESSIONALISM

Institute Level Activities

Establishment ought to give an amicable situation to educators to develop as experts. Enough self-rule ought to be given to educators to lead explore different avenues regarding understudies and to do research to tackle issues identified with instructing. They ought to be inspired to compose books and articles; go to courses, meetings, and workshops and present papers. There ought to be persistent association among educator, the executives and guardians to know each other's challenges and issues. The educator ought to get an average compensation so as to keep up standard personal satisfaction in the general public. They ought to likewise be given impetuses occasionally for planning showing helps, directing trials and activity research. Alongside showing another fundamental area of his/her duty is doing explore. Instructors could utilize get-away an ideal opportunity to introspect and include themselves in research exercises and gather data and truth based information to compose articles and examination papers identified with their control or to receive between disciplinary methodology in educating.

Community Participation

Support in public activity is additionally should, at exactly that point the instructor would not exclusively be acquainted with the network issues however would likewise put forth attempts for tackling those issues. Social authority is normal from the educators. Network investment builds up the social attention to the educators and furthermore expands their social esteem. Educating as calling is under investigation in light of a few reasons. With the changing requests of progression and globalization, an instructor should be sufficiently sure to cultivate basic qualities among understudies. He ought to likewise build up those skills among understudies which will help them in contending in a market-situated economy. Proficient Development Programs should be fortified to satisfy the developing need of expertly able enough to fulfill such developing needs. There should adequate chances to instructor teachers to get presentation to in-administration training, going to gatherings, classes, workshops and so on. Inspiration ought to likewise be given for directing examination exercises, composing research papers, spreading the exploration results through distributions, and so on. At that point no one but, instructors could be expertly skilled.

CONCLUSION

Optional teachers and understudies were discovered happy with the social competency of Sr. Optional teachers. Social conduct incorporates educators relationship with their partners, thoughtful relationship with guardians of understudies, direct understudies to improve their character as a productive member of society and so on such competency expands the inclusion of guardians in school undertakings and they become more worry about their kids. School being a social foundation ought to advance the interest of the network in school the board for upliftment of society and understudies. A board training can make it workable for an educator satisfies her commitment to be a partner with individual instructors and the regulatory staff in the complete instructional

improvement program of the school. A decent auxiliary school needs employees who are prepared in exceptional fields as well as in assisting with developing the absolute program of the school. A similar mentality we found from this investigation that the optional teachers have great connection with their partners. Such sort of conduct of auxiliary teachers causes them in turning into a good example for understudies. In the other hand it likewise improves understudy's conduct towards their companions and classmates. Contrast of feeling was seen among optional school heads, educators and understudies. In certain zones of skills, for example, educators give singular consideration towards understudies. The assessment of the heads of optional schools may not be substantial as the majority of the heads don't visit the classes routinely, however when 40% the auxiliary teachers themselves acknowledge it turns out to be extremely disturbing exercises to day by day life and the instructors preparing organizations should design the preparation programs in a positive way to eliminate such lacks. Utilization of right language was brought up as another powerless zone of arranging educational program and instructional of correspondence. In the event that an instructor doesn't have the foggiest idea about the right utilization of language it imperils the entire showing learning measure. 32 percent of understudies feels issue in understanding the language utilized by their educators. Thus, such necessities need to be consolidated later on preparing program. Powerful correspondence necessitates that educators have an intensive information on their topics and their understudies. Great correspondence assists with building an extension among understudies and educators, empowering instructors to make the topic justifiable to their understudies.

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A STUDY ON SYNTHESIS OF NEW TECHNIQUES FOR LEARNING ELEVATION: WITH SPECIAL REFERENCE TO KARNATAKA

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ABSTRACT

Today, technology is being used for distance education programs in elementary education in attempt to improve teaching-learning processes in classrooms. Governments and international agencies are collaborating to develop and implement technology based educational tools across regions. These are aimed at complementing the regular teaching-learning processes in school education for improving the learning outcomes of students. The premise of utilizing technology based solutions to provide quality education at low cost is supported by research evidence. The range of technology in education has evolved steadily. It comprises use of computers, radio, multimedia players, and a range of wireless devices that can be used across regions by providing both audio and visual facilities for exchange of instructions. The role of the worldwide web/internet has grown immensely as it helps minimize the costs in reaching millions of students across geographical regions. In the context of Indian education system, states that the choice of a particular technology—be it television, radio, computers, or others— must be guided not merely by its availability or wide accessibility, but by the innate characteristics that make it appropriate for the educational goals, curricular objectives and pedagogical styles we want to promote on a large scale, in keeping with our National Curricular Framework. In elementary education, the use of high quality radio programs have been found to be successful for expanding access and quality of elementary education and teacher training in Karnataka. The radio interventions are used for both conventional school settings and also for children who are out of the schooling system. Radio is used to teach children who are not in school, who are affected by conflict, who are orphans, who live in countries where most social systems have broken down or never existed—the poorest, least supported and most remote learners to whom access to education has traditionally been denied. It is also used in systems of huge scale, such as the 20+ million learners in Karnataka in India.

KEYWORDS: Learning Resources, India, technology, education programs, Karnataka, teacher training, India

INTRODUCTION

India has more than 1.6 million schools, of which more than 70% are public (i.e. government) institutions. These government schools typically cater to children from the most marginalised sectors of Indian society as they offer free tuition as well as a range of support services, such as free textbooks, free school uniforms, lunch, bicycles and scholarships. Government schools face serious challenges in terms of the quality of education offered. The Annual Status of Education Report, a nationwide study conducted by the non-governmental organisation Pratham, concludes that an unacceptably large percentage of children are unable to undertake even basic reading, writing and arithmetic. Moreover, the study also claims that around 70% of children in India do not pass Grade, and many of those who do, lack basic life skills and competencies. Some reasons for the poor quality of learning in India are sociocultural. India has the largest population of illiterate adults in the world; hence, many of the children who are currently attending school are first-generation school who receive little or no support at home. Other factors impacting upon the quality of learning are pedagogical and structural, such as the limited availability of curricular resources, inadequate school infrastructure and inadequate teacher professional development (TPD), all of which create an impoverished learning environment. When assessing the current state of Indian education, it is also important to consider the fact that universalisation of school education only received serious attention in India following the 1986 National Policy on Education.

India operates on a federal government system, with the federal (central) government functioning at the national level and provincial (state) governments operating in each of the country's 29 states. To support schools, the Indian education system has institutions established at central, state, district and block levels. Education is a "concurrent subject", meaning that both central and state governments can legislate and implement education policy and programmes. However, in practice, the central government role is restricted to macro-policy aspects such as curricular frameworks, and actual implementation is undertaken by state governments. Within the central government, the Ministry of Human Resources Development (MHRD) is responsible for education. The MHRD has different departments responsible for basic and higher education, which work with their corresponding departments in state governments. The state of Karnataka is the focus of this study. Its education structure is similar to other states and it has a Department of Education, which has structures/institutions at the state, district and block levels. Table 1 provides an overview of education administration and academic support structures in India.

Table 1: Overview of Indian education administration and academic support structures

Level of administration	Name of the administrative/ governing authority	Name of academic support institution	Number of institutions in India	Number in Karnataka
National	Ministry of Human Resource Development, Government of India	National Council of Educational Research and Training (NCERT)	1	N.A.
State	Department of School Education, Government of Karnataka	State Council of Educational Research and Training	29	1
District	District Education Office	District Institute of Education and Training (DIET)	Roughly 683	30
Block (Taluka)	Block Education Office	Block Resource Centre	Roughly 6 000	176

Academic support institutions, such as DIET and the Block Resource Centre, are distinct from the administration institutions at each of these levels, and high levels of collaboration across institutions are required for coherent functioning. The size and complexity of the system makes coordination amongst the actors within the education system (teachers, teacher educators and education administrators) quite challenging, which has an influence on the efficiency of its overall function. Table 2 provides information on the number of schools, teachers and students in India and Karnataka in order to provide a sense of scale and the relative positioning of Karnataka in the national system.

Table 2: Number of teachers, schools and students in India and Karnataka state

	India			Karnataka state		
	Government	Private	Total	Government	Private	Total
Schools	1 180 622	488 643	1 679 267	30 654	25 780	76 714
Teachers	5 340 263	4 047 855	9 388 118	226 146	187 120	423 277
Students	135 887 328	100 089 586	235 968 588	9 083 375	9 047 563	18 132 738

REVIEW OF LITERATURE

Ho and Thukral (2015) found that exposure to Interactive Radio Instruction (IRI) is associated with higher levels of student achievement, consistently producing learning gains among its participants of diverse ages and in diverse settings. In Haiti, Zambia and Sudan, IRI mathematics instruction has shown positive results with respect to pre- to post-test gains. Even for early learners, IRI has proved to improve not only increase in access to education, but more importantly, improve student achievement.

Kurrien (2017) brings out the findings of the radio program, “We Learn English”. It was a bilingual radio program for teaching spoken English in urban and rural schools across various parts of India. The initiative was by the Center for Learning Resources, Pune, for the period 2000–2008. The program had a substantial impact on large numbers of urban and rural students studying in government schools, helping them to start speaking and expressing themselves in basic English. And this was possible despite the fact that their teachers themselves could not speak English. Neither were these students—a large proportion coming from poor families—exposed to any English at all in their homes or in their neighborhoods. Furthermore, improved oral ability indirectly influenced improvements in writing skills. Kurrien further highlights that it is important to note that in the Center for Learning Resources (CLR’s) radio projects for teaching English, it was not classroom teachers’ competence in subject matter but their professional commitment to students that determined the significant gains in learning.

Ho and Thukral (2014) mention that the most remarkable result in primary learning was seen in an English-language program in Pakistan, where the average student outperformed all or almost all of his or her peers in non-IRI classes. The Centre for Budget and Policy Studies (CBPS) has not conducted a sample study in English for the 30 schools that it observed in Karnataka. Hence, it would be logical to rely on evidence to suggest that performance of students in English could be a possible area of future research.

LINGUISTIC DIVERSITY

The 2001 India census data indicate that 13 languages are spoken by more than 10 million native speakers, 30 languages are spoken by more than a million native speakers, and 122 languages are spoken by more than 10 000 people in the country. India is

organised into states based on the language spoken and the Indian education system is also linguistically diverse. Typically, each state has one main language, spoken by the majority or at least a large percentage of its population. Invariably, many people in the border districts of any state also speak the major language of the neighbouring state. Indian education policy (Ministry of Law and Justice, 2009) requires that the state offer education with the first language of the learner as the medium of instruction. The state education system typically offers instruction in at least two languages – the official state language and English. In border areas, schools also offer the language of the neighbouring state as a medium of instruction. In Karnataka, apart from Kannada (the state language of Karnataka) and English, government schools offer instruction in Urdu, Telugu, Tamil and Marathi languages; these are also the languages spoken in Telangana, Andhra Pradesh, Tamil Nadu and Maharashtra, respectively, which border on Karnataka state.⁷ The multilingual nature of Indian society (and of the Indian education system) therefore provides a compelling context for OER adoption in multiple languages.

TECHNO-SOCIAL FACTORS

The term “techno” in this context refers to digital technologies, including infrastructure, devices, connectivity and software. The design and uptake of digital technologies is influenced by the social contexts in which they are utilised. At the same time, digital technologies also influence social contexts. Vespignani (2009) states: “We live in an increasingly interconnected world of technological systems, in which infrastructures composed of different technological layers are inter-operating within the social component that drives their use and development.” The term “techno-social” in this study therefore refers to the interrelationship between digital technologies and teachers’ use thereof in OER adoption. Reports from the International Telecommunications Union, the United Nations body responsible for global communications, reveal the poor availability of information and communication technologies (ICT) in the Global South in terms of physical access to ICT infrastructure, capacity-building for access and use, and maintenance of ICT infrastructure to enable continued access. The “Individuals Using the Internet 2005 to 2014” report⁸ suggests that there is a large gap between developed and developing countries with regard to key ICT indicators. The availability of digital technologies is poor in Indian households and schools, and the lack of ICT infrastructure is a defining feature of the Indian education system.

OUTSOURCED ICT IMPLEMENTATION

The ICT Schools programme of the government of India⁹ aims to provide ICT infrastructure to all high schools in the country and has been outsourced to vendors in most states, including Karnataka. In this outsourcing model, the programme is implemented and managed by a private company which supplies the computers, sets up the labs, appoints and manages the ICT teachers, and provides the content for the ICT classes. The state of Kerala is an exception in this context, in that it chose to implement its ICT programme through the teachers in the education system. The outsourcing model of implementation is widely regarded as a failure and state governments are open to exploring alternative models where ICT education is delivered by regular teachers. A study by the Central Institute of Educational Technology suggests that ICT use may not simply follow its provisioning. ICT integration processes therefore need to be carefully designed in order to encourage teacher use and participation (CIET, 2015).

TEACHER NETWORKING FOR PROFESSIONAL DEVELOPMENT

In India, the provision of a school within or close to every habitation is a policy requirement. The SarvaShikshanaAbhiyaan (MHRD, 2008) (or “universal education”) programme of the central government, adopted by all provincial governments, requires that lower primary education facilities (grades 1–5) and upper primary schools (grades 6–8) be located within 1km and 3km of every habitation, respectively. This has resulted in the public school system being vast and dispersed. Teachers therefore seldom have contact with their peers in other schools or with other educational institutions. It has been recommended that spaces for sharing teaching experiences be recognised as an important principle of in-service teacher education (NCFTE, 2010). There is therefore a need to study how a technology-enabled professional learning community (PLC) where teachers network virtually can support OER adoption and teacher development by reducing teacher isolation and enabling peer learning. In other words, there is a need to understand in what ways collaborative, “bottom-up” approaches by teachers working together to adopt resources can provide an effective OER adoption model, and whether such collaboration can influence TPD and teaching practices.

LOW LEVEL LEARNING OUTCOMES AT ELEMENTARY STAGE IN STATE RUN SCHOOLS IN KARNATAKA

India faces the biggest challenge of providing quality elementary education to all children. The issue of quality has many dimensions: academic development and related learning outcomes along with the development of creativity, life skills, confidence, and the desire to learn and negotiate, all of which are part of the quality of education. Assessing these dimensions of quality is equally a challenge. The most easily available indicator to measure quality is learning outcomes. Karnataka, one of the better performing states in India with respect to Gross State Domestic Product, still faces challenges in providing quality elementary education. In 2008–09, the state stood 16th in the overall ranking of the Education Development Index (EDI).¹ Looking at the performance of the students in the elementary schools of the state in the period 2005–08, the Karnataka State Quality Assessment Organization (KSQAO) shows that average state performance has improved from 50 percent to 72 percent. But the Assessment Survey Evaluation Research (ASER) survey shows a lower level of performance at 36.8 percent in 2005–06, which rose to 60.6 percent in 2008.

Table 3: Overall Learning Achievement (%) at Elementary Stage in Karnataka (2005–2008)

Year	KSQAQ	Pratham/ ASER
2005–06	50	36.8
2006–07	63.8	41.5
2007–08	71.2	57.2
2008	71.74	60.6

In 2007–08, 16 of the 32 districts of the state fell in the high performing range while the remaining 16 districts were categorized as low performing districts by the (Report, 2007– 08). Similarly, the ASER 2005–08 reports categorize 14 districts as low performing.

The Economic Survey 2010–11(Government of Karnataka) mentions that: While the state needs to be commended for its improved rank position both in access and infrastructure at the upper primary stage, it is teacher index and outcome index of the EDI which show considerable decline at this stage. In lower Primary Education, the performance in access, infrastructure and Teacher is appreciable but the outcome is not satisfactory. This clearly suggests that the state needs to consolidate the gains of primary education with focus on quality to sustain improvements in upper primary education. The latest survey by the National Council of Educational Research and Training (NCERT) for Class V students in government schools was undertaken in 2010. While Karnataka scores better than average for the states that were included at the same point of time, the scores are low by international standards. Gender differences in all subjects—reading comprehension, mathematics and environmental science (EVS)—are insignificant and rural–urban differences are notable for reading, which is better for rural areas as compared to urban areas. However, the ASER survey, which is not as rigorous as NCERT as it is based on a very limited number of test items and administered at home rather than the school, gives a slightly different picture.

Table 4: Learning Achievements in all Elementary Grades, Karnataka

Reading Results	Nothing	Letter	Word	Para	Story
2006	7%	14%	16%	24%	39%
2008	5%	13%	17%	19%	46%
2011	5%	15%	17%	19%	45%
Arithmetic Results	Nothing	Number Recognition_1	Number Recognition_11	Subtraction	Division
2007	6%	13%	31%	26%	24%
2008	5%	13%	32%	27%	23%
2011	4%	13%	28%	28%	26%

According to ASER (2011) data, 59.7 percent children in Karnataka “can read standard one text and more” in Classes three to five, and 47.5 percent children enrolled in the same Classes “can subtract and more”. This is slightly higher than the national average of 57.5 and 46.5, respectively, for the same Classes. As per the ASER, reading as well as numerical competencies in rural Karnataka are worse than in urban areas, a conclusion contrary to the NCERT survey. However, at the same time, rural Karnataka is better than the all-India average for rural areas. What is evident, however, is that although there are variations in data from different sources, and Karnataka is slightly above the national average in most cases, the learning outcome levels are generally low and therefore no cause for celebration. Table 2 shows that there has been no significant change over the years. In reading results, the state has witnessed only marginal changes over the period 2006–11 in both language and arithmetic results.

The state has been taking a number of steps to strengthen the capacities of teachers in handling classroom transactions in an effective manner and improve the outcomes. In-service training, audio and visual technology aids, and a host of innovative techniques have been introduced under the Sarva Shiksha Abhiyan (SSA), the main flagship scheme for achieving universal basic education in India. Karnataka has been one of the pioneer states to adopt technology based solutions in teaching and learning processes at the school level by introducing radio and audio based interventions in elementary schools in 2004–05.

INTERACTIVE RADIO/AUDIO INTERVENTION IN ELEMENTARY SCHOOLS OF KARNATAKA

In 2004, the Government of Karnataka (GoK) was approached by the Education Development Centre, Inc (EDC), a global non-profit organization, to pilot radio interventions in Karnataka. The EDC had experimented with the idea of using radio as a medium to help students and teachers improve learning outcomes on a scale basis across various parts of the world (Somalia, Sudan, Malawi and Pakistan), and hence had the desired experience and expertise. The EDC has designed, delivered and evaluated innovative radio programs to address some of the world’s most urgent challenges in education, health and economic opportunities. It was well received by the state level representatives of the SSA (2010), resulting in the collaboration between the EDC and the SSA for designing and implementing the radio programs based on school curriculum for all Kannada-medium elementary schools in the state. The intervention was known as Interactive Radio Instructions (IRI) and was implemented from the year 2005–06. The main objective of the IRI program varied from country to country. 4 In Karnataka it was adopted to supplement the existing

teaching system so as to help teachers teach and students to learn the so-called “hard spots” as identified in the existing curriculum. With the existing infrastructure, it was felt that radio could be a cost effective tool to reach a large number of government schools with low expenditure and comparatively larger reach. The IRI are prerecorded programs based on the school curriculum. They are aired through satellites and radio is used for the broadcast of the programs. The content was designed after a detailed analysis of the requirements of the targeted students and teachers. Teachers are trained to conduct the radio classes and are provided with guides and reference material to operate a radio class.

The special features of this intervention include:

- Instructional tool especially designed to deliver active learning by radio.
- Identifies radio as a potential tool for learning and dissemination.
- Usually 30-minute audio lesson allowing students and teachers to react verbally and physically to questions and exercises posed by radio characters.
- Use of imaginative local themes, songs, games, role plays and activities which unite the children at the local level so as to help them overcome difficulties in learning the curriculum; it also enhances teachers’ capacity to impart the so-called “hard spots”.
- Interactive session between teachers and students through pauses that are a part of the radio programs.

Karnataka also has a significant number of Urdu-medium schools (Table 3), and teachers of Urdu demanded a similar intervention for their schools. However, due to fewer Urdu-medium schools, the SSA decided to provide them with Urdu programs in CD format along with multimedia players. This was known as Interactive Audio Instructions (IAI). In 2007, the SSA funded the initiative and the EDC designed the Urdu-medium programs for Classes IV and V in three subjects: mathematics, science and social science. A needs analysis was done with Urdu teachers and resource persons, leading to the adaptation of resource materials.

Table 5: Schools in Karnataka by Medium of Instruction

Schools by Medium of Instruction	Number of Lower Primary Schools in Karnataka	Number of Higher Primary Schools in Karnataka
Kannada Medium	25859	23631
English Medium	NA	2944
Marathi Medium	443	613
Urdu Medium	2392	1973
Tamil	53	144
Telugu	63	76

The IAI and IRI are similar in approach, content and objectives, the only difference being the medium of dissemination. Unlike the IRI programs where a radio is used, the IAI program uses a multimedia player.

Table 6: Coverage by IRI and IAI Interventions in Karnataka

Coverage in Karnataka	Interactive Radio Instructions (IRI)	Interactive Audio Instructions (IAI)
Schools Covered	47,000 Kannada-medium Elementary Schools	2,294 Urdu-medium Elementary Schools
Students Covered	5,725,006	106,150
Teachers Covered	68,163	39,587
Subjects Covered	Kannada, English, Environmental Science, Mathematics, Social Science	Maths, Social Science, Environmental Science
Classes Covered	I to VIII	IV and V
Radio Programs	Chinra Chukki (I,II,III) Chukki Chinra(IV and V) Kali Kall (VI-VIII)	Chukki Chinra (IV and V)
No. of Programs (Annual)	290 Programs	50 Programs

THE ANNUAL COST ESTIMATES FOR VARIOUS OPTIONS

The CBPS study highlighted certain gaps in the delivery and recommended some changes in the implementation process to make the intervention more effective. The next section on effectiveness discusses these aspects in detail. Here, we present the cost analysis in terms of improving the present model, taking those recommendations into account. This estimate therefore refers to Policy Option 3 mentioned in the framework in the previous section. This estimate is based on 2012–13 prices. The qualitative information collected during our study forms the basis for estimating the costs for improvement. These additional costs are mainly for improving monitoring, evaluation and provisions for maintenance as these components were found to be particularly weak. We will discuss these improvements in detail at a later stage. The following heads have been added for improvement:

- Printing and distribution of schedules, teacher guides (recurring - annual).
- Training of teachers, support officials, members of school development and management committees etc. (recurring, annual).
- Monitoring and evaluation both by department officials and a third-party independent evaluation (recurring—once in three years).
- Regular funds for maintenance of equipment (recurring—annual).

The estimation for the annual recurrent expenditure shows that per child cost without improvement is very low, at less than two rupees for the radio mode for Kannada-medium schools. Per child cost for the audio mode for Urdu-medium schools is more than ten times higher. However, when one adds the improvement costs, which include teacher-training and support materials, maintenance grants and training for academic as well as local community monitoring, the per capita costs go up significantly for both the modes and the difference comes down drastically (Table 7).

Table 7: Annual Cost Estimates for the Present Model with no Change and with Improvements

Annual Cost Estimates at 2012–13 prices	IRI (Radio)		IAI (Audio)	
	Total in Rupees	Per Student Expenditure in Rupees	Total in Rupees	Per Student Expenditure in Rupees
Option 1: Present Model* without Improvements	10283500	1.79	2318200	21.84
Option 2: Present Model with Improvements	306878300	53.60	6325200	59.58

Cost estimations for changing the delivery mode to all Kannada-and Urdu-medium schools either through radio or audio show that audio is definitely not a desirable mode for any school as the per student cost rises sharply (Option 4). On the other hand, despite the small number of Urdu-medium students and high broadcast fees, the radio mode is much lower (Option 3), although still higher than the estimates for the present model with improvements (Option 2). The difference between Options 2 and 3 does not appear to be very significant, even though the costs are lower for Option 2 (Table 8). The choice of options would of course take into consideration the outcome and the ease of implementation, in addition to the costs.

Table 8: Comparison of Annual Costs for all Five Policy Options

	Total Annual Expenditure in Rupees	Per Student Expenditure in Rupees
Option 1: Present Model* without Improvements	1,02,83,500 (IRI + IAI)	1.161 (Average Cost to State)
Option 2: Present Model with Improvements	3,06,87,83,00 (IRI + IAI)	53.72 (Average Cost to State)
Option 3: All Kannada and Urdu-medium Schools with Radio	3,34,11,490	55.77
Option 4: All Kannada and Urdu-medium Schools with Audio	3,75,98,100	351.6
Option 5: Closing Down the Intervention	0	0

Benefit Incidence Analysis in the Elementary Education Sector in Karnataka

As the Public Budget Analysis of Education in Karnataka by CBPS shows, Karnataka has invested a great deal in elementary education, as is apparent from the real increase in its allocations over the past one decade. The Sarva Shiksha Abhiyaan (SSA), the national program for achieving universal basic education, started in 2001, also contributed to this trend. Out of the total estimated

population of 4.8 million children in the 6 to 10 years' age group, approximately 92 percent were attending school in 2001 (Census of India, 2001, Government of India). The attendance ratio for this age group has shown a consistent increase. However, there are concerns related to age group, location and gender. The latest report of NFHS-3 for 2005–06 shows that 73 percent of children aged between 6 and 17 years in Karnataka (78 percent in urban and 71 percent in rural areas, respectively) attend school. Eighty-nine percent of primary-school age children (6 to 10 years) attend school (92 percent in urban and 88 percent in rural areas, respectively), which drops to 77 percent for children in the age-group 11 to 14 years and to only 40 percent for children in the age-group 15 to 17 years. Also, the report mentions that among children aged 6 to 10 years, there is a small degree of gender disparity in school attendance in favor of girls in urban areas and in favor of boys in rural areas. Gender disparity in school attendance in favor of boys increases with age, but only in rural areas. In the age group 15 to 17 years, a much higher proportion of boys (45 percent) than girls (27 percent) attend school.

CONCLUSION

In the large public education system in India, as elsewhere, teachers have traditionally been very isolated. Schools tend to be geographically dispersed and there is often only one subject teacher per subject in each school. Teachers rarely have an opportunity to meet with other teachers teaching the same subject. Traditional teacher development processes do not therefore tend to offer much scope for interaction and peer learning. This research project has demonstrated that virtual networks can offer opportunities for teachers to connect with one another for peer sharing and learning. Such a PLC can also be a space for OER access and adoption, which can counter the “minor technician” role usually expected of a teacher by the education bureaucracy. A collaborative OER adoption model embedded within a PLC can provide the context for the community to come together and support a systemic model of OER adoption within a public education system. A FOSS environment can also encourage teachers to freely explore and connect digital means and ends. Teachers in this study found the creation, revision, remixing and redistribution of resources on mailing lists and the KOER platform both interesting and useful. This has made a positive impact on their digital habits and has affected the techno-social habits of certain teachers in Karnataka. It has also supported their professional development, as evidenced by their reflections on the learning that has taken place through community interaction. The nature of these discussions has enabled teachers to see the value of an online community for accessing and sharing educational resources.

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A STUDY ON THE PHILOSOPHY OF LIFE WITH A REFERENCE OF INDIAN PHILOSOPHICAL SCHOOL'S

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ABSTRACT

India has a rich and assorted history of reasoning. The vital comprehension of 'Self' is regularly dismissed, which is given by Indian way of thinking and the western view is more famous. This exposition begins with the presentation of fundamental standard and heterodox schools of Indian way of thinking. At that point conversation on six significant epistemologies followed by these schools, which follow these epistemologies in-parts or as entire is introduced. Further the article investigates a systematic conversation on the idea of 'self' as given by these old style Indian schools, particularly Nyāya-Vaiśeṣika, Vedānta and Buddhism in detail. India has a long, rich, dynamic and grouped custom of insightfully. However when we study "reasoning" just western way of thinking and savants has increased proper affirmation around the globe. This might be because of reason that religion and philosophical idea consistently have had close connections in India. They are of otherworldly nature, which is less acknowledged in west. In India, philosophical thoughts, are a consistently endeavor to comprehend the idea of ordinary living. Theory is never observed essentially as a scholarly interest or isolated from the truth of everyday life, except a training to upgrade the general living experience of people on earth. Indian Philosophy (in Sanskrit known as 'Darshanas'), alludes to a few conventions of philosophical schools began from Indian subcontinent, including Hindu way of thinking, Buddhist way of thinking, and Jain way of thinking.

KEYWORDS: Indian philosophy, self, comparison, western philosophy

INTRODUCTION

The frameworks of thought and reflection that were created by the human advancements of the Indian subcontinent. They incorporate both conventional (astika) frameworks, to be specific, the Nyaya, Vaisesika, Samkhya, Yoga, Purva-mimamsa, and Vedanta schools of reasoning, and irregular (nastika) frameworks, for example, Buddhism and Jainism. Indian idea has been worried about different philosophical issues, noteworthy among them the idea of the world (cosmology), the idea of the real world (mysticism), rationale, the idea of information (epistemology), morals, and religion.

According to Western philosophical idea, Indian way of thinking offers both amazing purposes of liking and enlightening contrasts. The distinctions feature certain on a very basic level new inquiries that the Indian rationalists posed. The similitudes uncover that, in any event, when scholars in India and the West were wrestling with similar issues and here and there proposing comparative speculations, Indian masterminds were propelling novel plans and argumentations. Issues that the Indian thinkers raised for thought, however that their Western partners never included, such issues as the inception (utpatti) and fear (jñapti) of truth (pramanya). Issues that the Indian logicians generally disregarded however that helped shape Western way of thinking incorporate the subject of whether information emerges as a matter of fact or from reason and qualifications, for example, that among expository and manufactured decisions or among unforeseen and essential realities. Indian idea, consequently, furnishes the history specialist of Western way of thinking with a perspective that may enhance that picked up from Western idea. An investigation of Indian idea, at that point, uncovers certain insufficiencies of Western philosophical idea and clarifies that a few ideas and qualifications may not be as inescapable as they may somehow or another appear. Likewise, information on Western idea picked up by Indian rationalists has additionally been worthwhile to them.

Vedic songs, Hindu sacred writings dating from the second thousand years BC, are the most established surviving record from India of the cycle by which the human brain makes its divine beings and of the profound mental cycles of mythmaking prompting significant cosmological ideas. The Upanisads (Hindu philosophical compositions) contain one of the principal originations of a widespread, all-infesting, profound reality prompting an extreme monism (outright nondualism, or the basic solidarity of issue and soul). The Upanisads additionally contain early hypotheses by Indian savants about nature, life, mind, and the human body, not to discuss morals and social way of thinking. The traditional, or conventional, frameworks (darsanas) banter, once in a while with infiltrating understanding and frequently with a level of redundancy that can get tedious to a few, such issues as the status of the limited individual; the differentiation just as the connection between the body, mind, and oneself; the idea of information and the kinds of substantial information; the nature and beginning of truth; the sorts of elements that might be said to exist; the connection of authenticity to optimism; the issue of whether universals or relations are essential; and the significant issue of moksa, or salvation—its temperament and the ways paving the way to it.

INDIAN PHILOSOPHICAL SCHOOLS

The principle Hindu standard schools of Indian way of thinking are shaped during the medieval time of Brahmanic conventions. The Vedas, which are the most established and most antiquated sacred writings of Hindus are the wellspring of their scriptural power:

• **Samkhya:** this is the most established philosophical school (conventional) and it hypothesizes that everything truly starts from 'purusha' and 'prakriti'. Pursha is 'self or soul or brain' and Prakriti is 'matter, imaginative office and vitality'. This way of thinking is dualist in nature, which is between oneself and matter rather than Western dualist school, which is among brain and body. As per this school a definitive objective of life is freedom, which is soul's acknowledgment.

• **Yoga:** The Yoga school is established by Patanjali in second Century B.C. what's more, composed Yoga Sutras. It follows the Samkhya brain research and power, is more on religious side. In Yoga Sutras, the training is partitioned into eight appendages for example ashtanga, which has the impact of Noble Eightfold Path of Buddhism. This assists with accomplishing the objective of quiet brain and separation.

• **Nyaya:** The Nyaya School depends on the Nyaya Sutras, which was written in the second Century B.C by Aksapada Gautama. It depends on an arrangement of rationale that has been received by most of the Indian schools in parts or entirety. As similarly as western way of thinking has impact of Aristotelian rationale. This school hypothesizes that genuine information is procured through the wellsprings of correlation, observation, declaration and induction. These are the best way to accomplish nirvana (freedom), as indicated by them.

• **Vaisheshika:** Kanada in the sixth Century B.C. established this school. It is an atomist and pluralist in nature for example they set up the hypothesis of nuclear structure. The establishment of this school is the idea that in physical universe all articles are reducible to a limited number of iotas. The key power is Brahman which causes awareness in every one of these particles. The Vaisheshika and Nyaya schools were in the long run consolidated. This current school's just legitimate wellsprings of information are observation and induction.

• **Purva Mimamsa:** The significant target of this school is to spread the Vedas and build up its power. The devotees of this school require supreme confidence in the Vedas and need to do the normal custom of the Vedic 'hawana'. Despite the fact that by and large the Mimamsa consent to the sensible and philosophical solutions of different schools, anyway they stress that freedom must be accomplished through the lessons of the Vedas.

• **Vedanta or Uttara Mimamsa:** The focal point of the philosophical lessons of this school is Upanishads for example otherworldly assessments inside the Vedas. They focus on reasonable methods of reflection, self-restraint and profound availability, more than some other conventional custom. Advaita is the most famous part of this school, which holds that the spirit and Brahman are very much the same. They follow the philosophy of fantasy. Visishtadvaita, they instruct that the Supreme Being has a limited structure, and the name is – Vishnu and Acintya Bheda Abhedha, theirs is a join monism and dualism, they pronounce that the spirit is both particular and non-unmistakable from Krishna, or God, and not many more.

CLASSICAL INDIAN PHILOSOPHICAL SCHOOLS

In the Indian custom, the wellspring of philosophical view about 'oneself' is generally affected by the Upanishads, where, as oneself is depicted "as the fundamental establishment of psychological limits", yet described in negative light since it itself isn't an item that can be intellectually gotten a handle on. The Upanishadic proclamations about oneself turned into the source messages for the various schools later on: the Nyāya-Vaiśeṣika and the Mīmāṃsā take the position that the solidarity of emotional experience required as a precondition and a generous establishment, and Advaita contends that this psychophysiological establishment is at last a hallucination that must be survived. The Nyāya-Vaiśeṣika, as a pragmatist school, acknowledges the majority of substances, including the considerable self. It has with own wishe, detest, choice, delight, torment and thinking. A self, on this substantialist account, is ontologically particular from different substances, including different selves, has certain basic properties, for example, perception and organization, and is equipped for mindfulness. While Mīmāṃsā, another pragmatist school, sees the self as a considerable substance, it builds up a comprehension of subject hood. The Buddhists are the partner to the group scholars, for whom oneself is a heap of meager occasions or cycles. In Buddhist educating anattā, frequently is interpreted as 'no-self', which is an immediate dismissal of Upanishadic, and later Vedāntic, lessons about self. On the off chance that we talk about the jargon, the Buddhist origination of oneself can be viewed in perdurantist terms as an assortment of worldly cuts of comprehensions and observations, which through causal connectedness are adequately covering to make conceivable reference to as one person. The Nyāya-Vaiśeṣika, joins contemporary pundits of the examination of individual character as far as the memory rule: since a psychological state can be a real memory of an encounter in particular if the individual in that state is a similar individual who had the experience, mental progression hypotheses can't clarify individual personality without surmising it.

GENERAL CHARACTERISTICS OF INDIAN PHILOSOPHY

Common concerns

The different Indian methods of reasoning contain such a decent variety of perspectives, hypotheses, and frameworks that it is practically difficult to single out qualities that are normal to every one of them. Acknowledgment of the authority of the Vedas describes all the standard (astika) frameworks, however not the irregular (nastika) frameworks, for example, Carvaka (radical realism), Buddhism, and Jainism. Besides, in any event, when thinkers affirmed loyalty to the Vedas, their faithfulness did little to shackle the opportunity of their theoretical endeavors. Despite what might be expected, the acknowledgment of the authority of the Vedas was a helpful route for a savant's perspectives to get worthy to the conventional, regardless of whether a mastermind presented a completely groundbreaking thought. In this way, the Vedas could be referred to prove a wide decent variety of perspectives; they were utilized by the Vaisesika scholars (i.e., the individuals who have confidence in extreme points of interest, both individual spirits and particles) as much as by the Advaita (monist) thinkers.

In most Indian philosophical frameworks, the acknowledgment of the ideal of moksa, similar to faithfulness to the authority of the sacred texts, was just distantly associated with the orderly conventions that were being propounded. Numerous epistemological, consistent, and even powerful teachings were discussed and chosen absolutely levelheaded grounds that didn't legitimately bear upon the ideal of moksa. Just the Vedanta ("end of the Vedas") theory and the Samkhya (a framework that acknowledges a genuine issue and a majority of the individual spirits) reasoning might be said to have a cozy relationship to the ideal of moksa. The consistent frameworks—Nyaya, Vaishesika, and Purva-mimamsa—are without a doubt, distantly related. Additionally, both the methods of reasoning and other logical compositions, including even the Kama-sutra ("Aphorisms on Love") and the Arthashastra ("Treatise on Material Gain"), perceived a similar ideal and pronounced their adequacy for accomplishing it. At the point when Indian rationalists discuss natural information, they are worried about preparing for it and showing its chance, with the assistance of rationale—and there, most definitely, the errand of reasoning finishes. Indian rationalists don't look to legitimize strict confidence; scholarly intelligence itself is agreed the respect of strict truth. Hypothesis isn't subjected to rehearse, yet hypothesis itself, as hypothesis, is viewed as being especially commendable and solid.

Notwithstanding karma, the absence of two different concerns further separates Indian philosophical idea from Western idea by and large. Since the hour of the Greeks, Western idea has been worried about science, and, in the Christian Era, with history. Neither science nor history has ever raised philosophical issues for the Indian. In the arrangements of pramanas, or methods of knowing acknowledged by the various schools, there is none that incorporates numerical information or authentic information. Conceivably associated with their lack of concern toward science is the noteworthy actuality that Indian scholars have not created formal rationale. The hypothesis of the logic (a substantial deductive contention having two premises and an end) is, notwithstanding, created, and much complexity has been accomplished in coherent hypothesis. Indian rationale offers an informative case of rationale of discernments (jñānani) as opposed to of unique suggestions—a rationale not separated and kept disengaged from brain research and epistemology, since it is intended to be the rationale of man's real endeavoring to realize what is valid for the world.

Forms of argument and presentation

There is, according to Western idea, a striking distinction in the way wherein Indian philosophical reasoning is introduced just as in the mode wherein it truly creates. Out of the presystematic age of the Vedic songs and the Upanisads and numerous different philosophical thoughts current in the pre-Buddhistic time, there rose with the ascent of the age of the sutras (aphoristic synopses of the primary concerns of a framework) a slick characterization of frameworks (darsanas), a grouping that was never to be negated and to which no further frameworks are included. No new school was established, no new darsana appeared. Yet, this traditionalism, similar to conventionalism to the Vedas, didn't check the ascent of free reasoning, new developments, or unique bits of knowledge. There is, clearly, a fundamental suspicion in the Indian custom that no individual can profess to have seen reality just because and, thusly, that an individual can just elucidate, state, and protect in another structure a fact that had been seen, expressed, and safeguarded by innumerable others before him: henceforth the convention of explaining one's musings by affiliating oneself to one of the darsanas. On the off chance that one is to be considered an extraordinary ace (acarya), one needs to compose an analysis (bhāṣya) on the sutras of the darsana concerned, or one must remark on one of the bhāṣyas and compose a tika (subcommentary). The standard request is sutra–bhāṣya–vārtika (assortment of basic notes)–tika. At any stage, an individual may present another and unique perspective, yet at no stage would he be able to guarantee innovation for himself. Not so much as a creator of the sutras could do that, for he was just organizing the considerations and experiences of endless forerunners. The advancement of Indian philosophical idea has consequently had the option to consolidate, in a practically interesting way, adjustment to custom and experience in intuition.

Roles of sacred texts, mythology, and theism

The job of the sacrosanct writings in the development of Indian way of thinking is distinctive in every one of the various frameworks. In those frameworks that might be called adhyatmavidya, or studies of otherworldliness, the holy messages assume an a lot more noteworthy job than they do in the sensible frameworks (anviksikiṣiṣya). On account of the previous, Sankara, a main Advaita Vedanta scholar (c. 788–820), maybe best set out the standards: thinking ought to be permitted opportunity just as long as it doesn't struggle with the sacred texts. In issues with respect to supersensible reality, thinking left to itself can't convey assurance, for, as per Sankara, each proposal set up by thinking might be countered by a contrary theory upheld by similarly solid, if not more grounded, thinking. The hallowed sacred writings, encapsulating as they do the consequences of instinctive encounters of soothsayers, thusly, ought to be acknowledged as definitive, and thinking ought to be made subordinate to them. While the holy messages along these lines kept on practicing some effect on philosophical reasoning, the impact of folklore declined significantly with the ascent of the frameworks. The legends of creation and disintegration of the universe continued in the mystical frameworks however were changed into similitudes and models. With the Nyaya (issue of information)–Vaishesika (investigation of nature) frameworks, for instance, the model of a potter making pots decided a lot of philosophical intuition, as did that of a performer conjuring up stunts in the Advaita (nondualist) Vedanta. The nirukta (historical background) of Yaska, a fifth century-BC Sanskrit researcher, recounts different endeavors to decipher troublesome Vedic folklores: the adhidaivata (relating to the gods), the aithasika (relating to the custom), the adhiyajña (relating to the penances), and the adhyatmika (relating to the soul). Such understandings obviously won in the Upanisads; the fantasies were transformed into images, however some of them persevered as models and analogies.

The issue of belief in a higher power opposite agnosticism, in the conventional faculties of the English words, assumed a significant job in Indian idea. The old Indian custom, nonetheless, ordered the traditional frameworks (darsanas) into universal

(astika) and strange (nastika). Astika doesn't signify "mystical," nor does nastika signify "skeptical." Panini, a fifth century-BC grammarian, expressed that the previous is one who puts stock in an extraordinary world (asti paralokah) and the last is one who doesn't have confidence in it (nasti paralokah). Astika may likewise mean one who acknowledges the authority of the Vedas; nastika then methods one who doesn't acknowledge that power. Not all among the astika savants, be that as it may, were theists, and regardless of whether they were, they didn't all understanding similar significance to the idea of God in their frameworks. The Samkhya framework didn't include confidence in the presence of God, consistently to be astika, and Yoga (a psychological mental physical reflection framework) accounted for God not on hypothetical grounds yet just on useful contemplations. The Purva-Mimamsa of Jaimini, the best savant of the Mimamsa school, places different gods to represent the essentialness of Vedic ceremonies however disregards, without denying, the topic of the presence of God. The Advaita Vedanta of Sankara rejects agnosticism so as to demonstrate that the world had its inception in a cognizant, profound being called Isvara, or God, however over the long haul views the idea of Isvara as an idea of lower request that becomes invalidated by a magical information on Brahman, the supreme, nondual reality. Just the non-Advaita schools of Vedanta and the Nyaya-Vaishesika stay fanatical theists, and of these schools, the lord of the Nyaya-Vaishesika school doesn't make the unceasing iotas, universals, or individual spirits. For a really mystical origination of God, one needs to look to the non-Advaita schools of Vedanta, the Vaisnava, and the Saiva philosophical frameworks. Though Hindu strict life keeps on being overwhelmed by these last-referenced mystical frameworks, the ways of thinking headed out in a different direction, far eliminated from that strict interest.

RELATIONSHIP BETWEEN PHILOSOPHY & EDUCATION

Reasoning and instruction are intently between related and between subordinate. Reasoning calls attention to the ways and training tail it. Without reasoning training would be a visually impaired exertion and without instruction, theory would be disabled. In the expression of Ross, "reasoning and instruction are two side of same coin; the previous is the thoughtful side while the last is the dynamic side. Instruction is the cycle and theory is the item. Every instructive issue are inquiries of reasoning. In other word we can say that the use of philosophical guideline in the field of training to fathom different instructive issues is viewed as instructive way of thinking. Actually, instructive way of thinking is that way of thinking which give answer to the instructive issues of for what reason to teach (point), whom to teach (youngster), who to instruct (instructor), where to teach (school), what to teach (educational program), how to instruct (strategies), when to teach (inspiration, etc. Further, "a sound way of thinking of instruction depends on a sufficient way of thinking of life". Reasoning and training are reconstructive; they provide for and take from one another in recurring pattern of thought and activity; they are intends to each other, and finishes. Along these lines it is the use of general philosophical situations to instructive issues is known as theory of training.

DEPENDENCE OF EDUCATION ON PHILOSOPHY

Philosophy determines the real destination towards which education has to go: Reasoning has consistently propelled instructive hypothesis just as training. It decides the genuine objective towards which training needs to go. In the expressions of Dewey: "Instruction is research center in which insightful differentiations become concrete, and are tried". Reasoning is astuteness; instruction sends that intelligence from one age to the next. Reasoning speaks to an arrangement of thought; training grasps that idea in the substance of guidance. Theory typifies a lifestyle; training is the groundwork forever. Theory is the information gotten by normal explanation; training is the advancement of that reason and different forces of brain.

Philosophy determines the various aspects of education: All the issues of training are the issues of reasoning. That is the reason, Gentile says, "Instruction without theory would mean an inability to comprehend the exact idea of training ". It is on the grounds that way of thinking decides both point of life and the point of training. Each part of training has a philosophical base. There is no part of instruction – points, educational plan, techniques, course readings, discipline, instructor and so forth which isn't impacted and dictated by theory. Stature and broadness of instruction is examined by theory. It is theory which gives means to training and these points decide the educational program, the strategies for instructing, the reading material, the job of the educator and the school discipline. It assists with building educational plan as indicated by the requirements of the individual and the general public. J.S.Ross comments, "From each edge of the instructive issues comes the interest for philosophical premise of life and training.

Great Philosophers have been great educationists also: Extraordinary Philosophers have been incredible educationists in the East also in the West. We can discover the most clear instances of the reliance of instruction on theory in the lives and lessons of all the extraordinary rationalists from Yajñavalka down to Gandhi in the East and from Socrates down to John Dewey in the West. Thinkers like Gandhi, Tagore, Radhakrishnan, Aurobindo Gosh, Plato, Socrates, Locke, Comenius, Rousseau, Froebel and Dewey have been incredible instructors. They mirrored their philosophical perspectives in their instructive plans. Socrates have given the world his "Socratic strategy" (Method of addressing and cross-addressing) of instructing; Plato, the Republic, the main instructive great. Rousseau, the incomparable French logician, held that instruction should "follow nature". John Dewey of America checked out tackling the instructive issues of his nation. Gandhi ji is the dad of Basic Education. In the expressions of Ross "If further understanding is expected to build up the central reliance of instruction on theory, it might be found in the way that all in all incredible rationalists have been extraordinary educationists".

Education is the dynamic side of philosophy: Training can be characterized as the most grounded instrument for the accomplishment of the beliefs of life and socialized endeavor to realize the fair and legitimate improvement of human character. The plant of training draws its sustenance from the dirt of reasoning. In the expressions of Adams: "Instruction is the dynamic side of theory. It is the dynamic part of philosophical conviction, the viable methods for understanding the beliefs of life". Reasoning is

the hypothesis of training while instruction is down to earth thereof. Instruction is the best methods for the engendering of reasoning. Training can't be envisioned without philosophical standards similarly philosophical standards are dead without the assistance of instruction. Model the presentation of the 10+2+3 arrangement of instruction and art training are the result of philosophical perspectives. Accordingly theory outfits us with considerations and these musings are tried by training.

Education is the means to achieve the goal: Theory manages the closures and instruction is the way to accomplish those finishes. Reasoning gives standards, qualities and standards; instruction works out those beliefs, qualities and standards. In the expressions of Herbert, "Training has no an ideal opportunity to make occasion till all the philosophical inquiries are once for all cleared up".

CONCLUSION

Theory is an arrangement of convictions about the real world. It is coordinated perspective on the world. It incorporates a comprehension of the idea of presence, mankind, and its job on the planet. Theory is the establishment of information. It gives premises by which man can find truth, and utilizes his brain to help his life. Presently which theory to follow is emotional to each individual? That will be chosen by our own ontological and epistemological perspectives. There is no uncertainty that Indian philosophical writings are more extravagant and more profound in portrayal of "self", and their embodiment envelops all the degrees of awareness known to individuals. Why the investigation of "self" is basic? This inquiry needs no answer as we as a whole know, self is the focal point of our carries on with, every single other zone, be it our connections, our work or widespread connectedness, they all are seen through the eyes of "self". Definitely the comprehension of this idea is useful to all people, particularly analysts and human asset chiefs. We as academicians need to dive way deep in the event that we need to comprehend and ingest it's incomprehensibility with genuine importance in our lives and to help other people handle that.

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A STUDY ON LIBRARY AND INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) TOWARDS EDUCATION IN KARNATAKA

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ABSTRACT

Information and Communication Technology (ICT) is growing with tremendous speed in all most all the fields of our life, like education, training, telecommunication, computer networks, Internet, etc. ICT does not automatically add quality to teaching and learning. Learning with the technology means focusing on how the technology can be the means to learning ends across the curriculum. Use, implements, effectiveness, and promote, are the broad intertwined issues which must be addressed when considering the overall impact of the use of ICT in education. The main purpose of ICT in education means implementing of ICT equipments and tools in teaching, learning process as a media and methodology. In this article authors focus on the impact of ICT on Library and Information Science (LIS) education based on the ICT tools and services used for LIS courses in the departments of LIS in Karnataka state universities. In Karnataka state there are eight general universities conducting the LIS higher education courses. The major courses like, BLIS / BLISc, MLISc / MLIS, M.Phil, Ph.D, and other Research and Development (R&D) programmes. Further the paper highlights the syllabi, teaching methods, infrastructure available, overall ICT tools and services used in the LIS education in the university system in Karnataka state.

KEYWORDS: Information Communication Technology, Library and Information Science, Higher Education, Learning, Teaching, Research and Development, ICT Tools and Services

INTRODUCTION

Education for library profession is a revolutionary process. Due to the ongoing developments in information technology sector, the information professionals trained in the latest information handling techniques would also become obsolete after a short time. The Inter University Board of India resolved that graduates of any stream would be eligible for admission to the librarianship courses conducted by the Indian Universities. In Karnataka some universities offering the course called Bachelor of Library & Information Science (BLISc), Master of Library and Information Science (MLISc), Master of Philosophy (MPhil) and Ph.D. The primary focuses on professional knowledge and Skills (technology, management and communication) to provide better and qualified expose in the field of LIS professionals in Karnataka state. The LIS professionals main aims is to improve library professionals to information professionals, traditional library to digital library, library cooperation to resource sharing networks/consortia, collection development to content development, conventional education to web based education, information society to knowledge society and establishment of knowledge commission etc. The Impact of ICT and Information Management Skills like Library Automation, Networking, Design and Development of Information System, Networking, Internet, Digitization, Content Development are the main area of the LIS professionals in new trends. The competencies of Information Professionals are Managing and Organizing Information Resources and Services, Applying Information Tools and Technologies for use or access the ICT based information tools and services. The Internet, an international network of networks, can open up new avenues of cooperation between educators and librarians as well as enhance the role of librarians as educators. As the Internet strengthens the links between libraries and education, several issues will need to be addressed. These include changing roles in the classroom, library, and workplace; unequal access to the Internet; privatization of the Internet; professional school curricula; and tools and user interfaces.

REVIEW OF LITERATURE

Bhatnagar (2015) in her study listed different resources for web-based library services like OPAC, Gateways, Portals, Subject Portals, Electronic journals, Online databases, Search engines and Subject directories. She further listed new web-based library services in her study like virtual library tours, Ask-A-Librarian, Real-time services, Bulletin Boards, web-based user education and web-forms. She further stated that as the Internet will become more common throughout the world, web-based library services will become more widespread and sophisticated. Libraries have to continuously address the issues related to the web design and various implementation issues. As the libraries are actively shifting their library services but the main purpose of libraries remains the same, to serve and inform users to find, evaluate, and use information effectively.

Madhusudhan and Nagabhushanam (2017) studied about how users are using various web-based services in different sections of university libraries in India and examined the ways of offering web access to library collections by University libraries and the user support for that access and the problems faced by users to access such web-based library services. The findings of their study revealed that many of the surveyed university libraries have not fully exploited the web forms, and are lagging behind to use the library websites effectively while as their study found that a few libraries offer innovative web-based library services in different sections. Bao (2005) conducted a study of 143 institutions of higher education to know the percentage of Academic libraries

providing web-based interactive reference services through their home pages and how such services are being provided through the home pages. The researcher found that 46.9% Academic libraries were providing web-based interactive reference services and the most popular words used to describe the reference link were „Ask a Librarian” and „Ask a reference question”. The study found that 71.6% libraries provided these services through a reference request form, and 18 (26.9%) through an e-Mail link only. One library was found to have a reference discussion forum (posting questions and answers asynchronously) and a reference chat room (posting questions and answers synchronously).

Zarei and Abazari (2016) studied web-based services offered by Asian national libraries and found that National Library of Singapore had the first rank in providing its services via a web site for users and was the only national library in Asia that provides more than half of its services (52.29%) via the web site. Many of its services, such as services to publishers and bibliographic services, are offered completely via its web site. Only services to the handicapped and blinds, and education and training are not provided via its web site. The study found that other national libraries in countries like Japan, Malaysia, China, Iran, Israel, Sri Lanka, and Kyrgyzstan also provided webbased services in range of 25-50%, respectively in descending order. Rest of the national libraries provided Online services under 25%. Data showed that these national libraries provide in-house information to their users rather than service provision for end-users via the web. The study showed that libraries were offering various types of webbased services like services to publishers, services to libraries and librarians, services to end-users, bibliographic services, Accessibility of services and web-based education and research services.

WEB-BASED LIBRARY AND SERVICES

Academic library offers various web-based library and information services to their scholarly users. Online reference service, full-text online databases, Web-OPAC, eJournals, e-Books and virtual reference services are much popular among the users in Academic libraries. Web-based library and information services help to have a good communication between the librarians and users through online reference service / Ask-a-librarian / Chat or Frequently Ask Questions (FAQ). Academic libraries always encourage posting comments and suggestions of the academic community through emails or suggestion box to improve the quality of the library and information services. Also, Academic libraries frequently up-date their information on services such as house-keeping operations, events calendar, staff information, library rules and regulations etc. through the library website. For this study, web-based library services means, any library service which is offered through the Internet as a platform. The services range from Online Public Access catalogues, electronic databases, document delivery services, digital and virtual libraries to Instant Messagingservices.

Teacher –Student Ratio

Teacher student ratio varies among the surveyed LIS Schools to a great extent. Number of students admitted for different courses in Library and Information Science need to be decided keeping in view the infrastructure and faculty strengths of the department. Studies need to be carried out to interact with stakeholders to identify and determine the employment market so that what is produced is consumed.

Teaching Methodology/Pedagogy

LIS departments in the country are using multiple teaching methodologies comprising of both conventional and non-conventional methods to ensure active participation of students in the learning process and making teaching –learning process attractive and interesting. Teaching methodologies applied include

- i) Lectures, organizing seminars, Group Discussions.
- ii) Medium of instruction in majority of LIS departments is through English language. However, a few departments along with English are also imparting instructions through other languages e.g Panjabi and Hindi language.
- iii) Conventional “chalk and talk” method adopted for teaching is augmented with other non-conventional methodologies like Power Point Presentations including slideshow, Wikis, Learning Management System etc. in almost all the surveyed departments.
- iv) Students of LIS department, University of Kashmir also attend virtual classes in EMMRC (Educational Multimedia Research Centre) being organized by different agencies in the country e.g. Consortium for Educational Communication (An Inter University Centre of University Grants Commission on Electronic Media).
- v) IGNOU is adopting a separate teaching methodology that is composed of Radio counseling, Study material, Counseling by teachers at study centers, lectures by eminent teachers through Gaynani, and other mass-media channels like Doordarshan etc. for empowering students with knowledge.

Computer Laboratory

Computer laboratories established by almost all the LIS departments in India should be upgraded with latest electronic devices and gadgets so that students are able to acquire knowledge and skills in handling the ICT component of libraries confidently. In order to produce competent professionals, LIS departments should have a balance between theoretical and practical aspects of the ICT component. This is because mere theoretical exposition cannot produce competent professionals. Practical training for computerized routines like house-keeping operations, provision for information services, internet access, online and CD-ROM searching, networking etc should be given due attention for developing ICT related competencies among the students. Terminals available in computer laboratories should be made available in sufficient numbers, so that students get full exposure to the ICT

facet. The laboratories should be supported with standard library software packages both open source and commercial source software’s.

IMPACT OF ICT ON LIS EDUCATION

Library and Information Science has developed its own professional techniques and methods. It has shown its affinity towards the application of other fields to improve professional performance. In the early 1960s, Library Science invited the theoretical and philosophical approaches of other disciplines and implanted them in its core. It was Ranganathan who infused scientific method in the field and that marked the first change, from Librarianship to Library Science. He is also responsible for introducing the concept of documentation as slanted to library science, with emphasis on pinpointed service to specialist readers. The use of information technology is one of the primary importance in education. Its use in education has two basic reasons. First that the students will become familiar with information technology and this would be helpful for their future. The second advantage is that the teaching standards will improve and will be effective. The library professionals to handle the ICT based whatever services provide to the users they should know the following important skills;

- Need for ICT knowledge
- Need for ICT skill
- Need for ICT tools and services
- Need for continuous learning in the context of rapidly changing ICT

Library schools must integrate ICT into their curricula and short courses to produce graduates who can cope with the changing work environment. The ICT based library is generating increasing interest among organizations worldwide that are seeking to reduce the cost of using IT technology and improve the quality of services delivered. In this way all the professional of fields they are using ICT tools and services. Current LIS education in India range from certificate, degree, postgraduate qualifications are popular and conducted by more than one kind of institution. LIS education programmes in India ranging from Bachelors level to Ph.D. level in Karnataka university LIS departments.

NEW APPLICATIONS

The profession which began with an objective of preserving the recorded knowledge of human civilization adopted a philosophical motto that the knowledge (Books) is for use, and then provided global access to that information. During the course of this threefold transformation, it has adopted the contemporary societal, economic, technological and educational changes in its application. These efforts have enabled it to acquire the capabilities of adopting them in the courses of teaching due to their imminent application in practice. The computers were successful in processing and retrieving of information, but restricted their work to "Inhouse". The major change was brought in by the application of Communications and Storage Technology. The impact of Information Technology and its varied changes in application cannot be expressed in these few pages but can be envisaged by the services available today through the Internet. The impact of Inernet on Library and Information services and the concept of a digital or virtual library should be reckoned as the nascent fields of study in recent years.

EDUCATION IMPROVING COMMUNICATION

The information systems used in universities are affordable and easy to be used by the faculty as well as by the students for e-mail communication, publication, web hosting, and online access. With this system any changes in the schedule or events that are made are recorded in the system and the faculty and students can easily access this information. These days all the universities have their own websites and this has also resulted in improved communication. Any alterations posted on the website can be accessed by both faculty and students. Out of 45 LIS teaching professionals only 10 professional have their own websites on the Internet.

CHALLENGES TO LIS EDUCATION

LIS faculties have many different kinds of training and skills, but their training may not be appropriate for the current needs of society. Many LIS professionals who have completed an LIS program do not consider this discipline an advanced and crucial field, but regard LIS professional as a simple duty. Instructors who lack expertise and the lack of interaction between the computer colleges and communicative sciences have also delayed the reformation of LIS programs. Accepting students to LIS programs without an interview or other rigorous screening is another challenging issue. LIS programs have not responded to the expectations of the profession or of the university community. It is necessary reform the organization, curriculum, training material and equipment, and instructor preparation.

METHODOLOGY

This study is based on primary data gathered through a short questionnaire, interviews and observations. A prestructured questionnaire was prepared with open ended questions for LIS professionals to collect data on different variables concerning the articles. Furthermore, the authors have gone through a lot of national and international articles and books on the related topics that have been used as secondary source.

OBJECTIVES

The main objectives of the study are set as follows

- To provide an overview about the LIS education system in Karnataka state;
- To evaluate the present education facilities in different universities in Karnataka state;
- To find out the infrastructure facilities to provide good LIS education system in Karnataka state;
- To assess the LIS staff, their experience, qualification, publication and career development opportunities for the LIS professionals in Karnataka;
- To put forward some suggestions regarding what measures should be implemented to solve the existing problems.

ANALYSIS OF DATA

The data gathered through questionnaire from 8 university LIS departments professionals of Karnataka state and has been tabulated, analysed and discussed.

LIS Education in Karnataka

The levels of LIS education in Karnataka state universities offering the following categories:

- Bachelor of Library and Information Science (B.L.I.Sc.)
- Master of and Information Science (M.L.I.Sc.)
- Master of Philosophy (M.Phil.)
- Doctor of Philosophy (Ph.D.)

The Table 1 show that the courses offered by the universities in Karnataka state.

Sl. No.	Name of the University	Location	Establi sh. Year	Type of Courses
1	Bangalore University	Bangalore	1974	MLISc/MPhil/Ph.D
2	Gulbarga University	Gulbarga	1980	MLISc/MPhil/Ph.D
3	Karnatak University	Dharwad	1962	MLISc/MPhil/Ph.D
4	Karnataka State Women's University	Bijapur	2007	MLISc/MPhil/Ph.D
5	Kuvempu University	Shimoga	1993	MLISc/MPhil/Ph.D
6	Mangalore University	Mangalore	1982	MLISc/MPhil/Ph.D
7	University of Mysore	Mysore	1965	MLISc/MPhil/Ph.D
8	Tumkur University	Tumkur	2005	MLISc/MPhil/Ph.D

Teaching Faculty

The quality education depends on the performance of faculty as their skills to impart knowledge to the learner are the basis for on campus education system. UGC has formulated a comprehensive faculty policy for university education, with an aim to reach out to the learning needs of students. Without experienced teaching faculty the department cannot get good result in all the areas,

same way here also the below figure shows that out of eight universities in Karnataka 16 professors, 12 Associate professors and 10 Assistant professor total 38 teaching professional and some universities appointed guest faculties for avoiding additional teaching burdens. Out of these 39 teaching faculties only few professionals are expert in ICT and others are expert in their specialised areas.

Table 2: Faculty Information

Sl. No.	Name of the University	Professor	Associate Professor	Assistant Professor
1	Bangalore University	4	0	2
2	Gulbarga University	5	0	0
3	Karnatak University	2	1	2
4	Karnataka State Women's University	1	0	2
5	Kuvempu University	2	0	1
6	Mangalore University	3*	0	1
7	University of Mysore	4	1	0
8	Tumkur University	0	2	3
Total		21	4	11

In Karnataka state universities LIS education context, the scope of the subjects taught varies from university to university and the students who come out of these universities with degrees mostly fail to perform in a technical or a research library. The electronic environment of the 21st century demands a range of skills from library LIS professionals, which include technical skills, IT skills and managerial skills. As a result, LIS professionals need organized training programs, which can be in the form of workshops, conferences, seminars, symposia; ICT based training and so forth.

Course Contents

In India as well as in other South Asian countries, main emphasis is laid on traditional aspects like Cataloguing and classification dominates the curriculum. In Karnataka almost all universities teaching ICT based LIS papers to the students. Information technology especially, computers applications have been included as a part of the educational syllabus. It is now helping students in shaping their future for careers in technology. The basic computer knowledge gives the students the basic requirements to compete with the expanding technological world. In Karnataka almost all eight universities are conducting four semesters of two years integrated MLISc courses having total 24 papers. Out of twenty four papers only Mangalore university conducting nine ICT papers and other three universities like Karnataka University, Karnataka State Women's University and Tumkur University they are conducting only four ICT papers in two years.

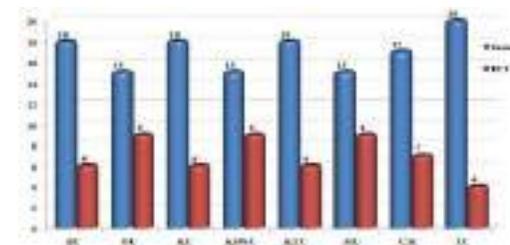


Figure 1: ICT and Other Papers in Syllabus

Teaching Tools

Instructions help students in better understanding of the subject, its structure, analysing current practices in information handling, active learning, and critical thinking skills. To deliver these critical information seeking skills effectively, teachers have to adopt the active learning methods. LIS departments are adopting, in addition to the traditional method, new methods of teaching like multimedia teaching techniques using Digital Light Projectors (DLP) Liquid Cristal Display (LCD), Over Head Projector (OHP) Smart Board, etc. to achieve necessary impact on the learner's comprehension of the subject. All the eight university/departments have LCD projector. Seminars and group discussion are the other teaching methods in all universities. In Karnataka only few universities conducting educational tour and project works.

Table 3: Teaching Tools and Infrastructure

Sl.No.	Infrastructure	BU	GU	KU	KSWU	KVU	MU	UM	TU
1	Multimedia Tools	0	1	0	0	0	0	0	0
2	DLP	0	0	0	0	0	0	0	0
3	LCD	1	2	2	2	1	0	2	0
4	Web	1	2	2	2	1	2	2	2
5	Board	1	2	2	2	2	2	2	2
6	Computer Lab	10	22	30	30	25	20	1	10
7	Computer	15	30	35	30	10	11	2	10
8	Computer Table	25	22	30	30	30	22	25	20
9	Computer Chair	1	1	1	1	1	1	1	1
10	UPS	1	1	1	1	1	1	1	1
11	Operating System	Win/Lin							
12	Lib. Auto. RCM	1	2	2	2	2	2	2	2
13	Lib. Auto.	1	1	1	1	1	1	1	1
14	LIBNET Tools	1	1	1	1	1	1	1	1
15	REFINERY Tools	1	1	1	1	1	1	1	1

Table 4: ICT/Network/Other Teaching Tools

Sl.No	Infrastructure	BU	GU	KU	KSWU	KVU	MU	UM	TU
1	Networking	√	√	√	√	√	√	√	√
2	WiFi Networking	√	√	√	√	√	√	√	√
3	Internet	√	√	√	√	√	√	√	√
4	DDC Sets	√	√	√	√	√	√	√	√
5	UDC Sets	√	√	√	√	√	√	√	√
6	CC Sets	√	√	√	√	√	√	√	√
7	AACR2-R	√	√	√	√	√	√	√	√
8	LC/SH	√	√	√	√	√	√	√	√

OTHER FACILITIES

ICTs are infused with value as the modern and efficient means to move in a global environment. LIS education has to embrace ICTs as part of course content that includes theoretical and practical aspects to develop automated, digital or hybrid information environment. The computer and Internet connectivity are essential for LIS students for better improvement to get trained in emerging digital environment, web-based information services and for self-learning.

Table 5: Teaching Tools and Infrastructure

Sl.No.	Infrastructure	BU	GU	KU	KSWU	KVU	MU	UM	TU
1	Class Rooms	30	30	40	35	100	50	125	60
2	Students Chair	30	30	40	35	100	50	125	60
3	Students Table	30	30	40	35	100	50	125	60
4	Projects	√	√	√	√	√	√	√	√
5	Practicals	√	√	√	√	√	√	√	√
6	Seminars	√	√	√	√	√	√	√	√
7	Workshops	√	√	√	√	√	√	√	√
8	Conferences	√	√	√	√	√	√	√	√
9	Symposiums	√	√	√	√	√	√	√	√
10	Extra. Curriculum	√	√	√	√	√	√	√	√
11	Grants	√	√	√	√	√	√	√	√
12	Hostel	√	√	√	√	√	√	√	√
13	Library	√	√	√	√	√	√	√	√
14	UGC* Infraset	√	√	√	√	√	√	√	√
15	Scholarship	√	√	√	√	√	√	√	√

CONCLUSIONS

LIS professionals are at present at the crossroads. Information professionals have started facing the challenges, which are accompanied with the new information resources. All most all eight general universities in Karnataka state offering the LIS education for the students. The University Grants Commission (UGC) of India merely serves an advisory role and providing some special grants like Special Assistance Programme SAF and non-SAP grants. Few universities got government special grants for improve its ICT and other required infrastructure, facilities and upgrade the existing infrastructure. ICT plays a vital role in bringing about changes in our society. As technology is getting more sophisticated and more affordable every day, the range of services that are provided also increases accordingly. In this age of ICT the role of the LIS departments has changed radically in developed countries. This paper deals with the development of LIS education system and implementing ICT tools in teaching and research fields in Karnataka state universities. This article gives a brief development of ICT impact on LIS education in Karnataka. It examined library education in all 8 universities in Karnataka and its present status. All Karnataka universities department of library and Information science detailed curriculum, goals, objectives, graduates profile, major skills, infrastructure and other functions were outlined along with its future plans. There is an urgent need for improvement in the IT infrastructure.

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A STUDY OF IMAGE RETRIEVAL SYSTEM IN COMPUTER APPLICATIONS

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ABSTRACT

Images play an important role in conveying information. With the rapid development of computer technology, the amount of digital imagery data is rapidly increasing. There is an inevitable need for efficient methods that can help in searching for and retrieving the visual information that a user is interested in. An ever flourishing retrieval technique is content based image retrieval (CBIR), where the visual cues found in the images are exploited for representing and retrieving the images. In this article we give an overview of the main concepts of CBIR. We concentrate mainly on the feature extraction stage as it is considered the core of the CBIR engines. Areas where the CBIR strategies are applicable are also reviewed. As we say, a picture is worth a thousand words. Humans have often used drawings to convey information. The cave men have told us about their dangerous hunting trips through the illustrations on the stone walls. The Pharaohs have illustrated their customs of praying on the walls of their temples. Nowadays, visual information can be found in most (if not all) areas of life. As the impact of computers on our lives is becoming more and more significant, much of the information, including pictures, is being digitized. Digital imagery is getting more and more popular in many perspectives. Private photo collections, medical imaging, and geographical information systems are only some to mention.

KEYWORDS: Image, retrieval system, computer applications, computer technology, digital imagery data

INTRODUCTION

As the computation power is growing and the cost of storage media is decreasing, the size of digital image collections is increasing rapidly. There is a need for techniques that enables us to access and retrieve the huge amount of information embedded in these collections, methods that can present us the information efficiently and conveniently. Simple manual browsing is getting cumbersome even with private collections. Automatic image retrieval is inevitable.

Advances in data storage and image acquisition technologies have enabled the creation of large image datasets. In this scenario, it is necessary to develop appropriate information systems to efficiently manage these collections. The commonest approaches use the so-called CBIR - Content-Based Image Retrieval systems. Basically, CBIR systems try to retrieve images similar to a user-defined specification or pattern (e.g., shape sketch, image example). Their goal is to support image retrieval based on content properties (e.g., shape, color, texture), usually encoded into feature vectors. One of the main advantages of the CBIR approach is the possibility of an automatic retrieval process, instead of the traditional keyword-based approach, which usually requires very laborious and time-consuming previous annotation of database images. The CBIR technology has been used in several applications such as fingerprint identification, biodiversity information systems, digital libraries, crime prevention, medicine, historical research, among others.

Text-Based Image Retrieval

Early work on image retrieval was based on textual annotation of the images, in which keywords were used to describe the image content. Retrieval was then done using text-based search approaches [Chang & sun Fu 1980, Roussopoulos et al. 1988]. Text-based systems suffer from major drawbacks. First of all, these systems require too much effort and time for manual image annotation. The problem becomes more severe as the image collections grow. Secondly, the description of the image content is subjective to human perception [Rui et al. 1999]; different people may end up with different descriptions for the content of the image in hand. Moreover, any image information that the annotator forgets, ignores or considers as unimportant at the time of annotation cannot be retrieved later. Another problem is that manual text annotation is valid only for the language used for the purpose of annotation. Other people that do not have a background in the used language(s) are not able to use the text-based retrieval systems.

Content-Based Image Retrieval

In the last years, the focus of the research on image retrieval has been shifted towards exploiting the visual cues that exist in the contents of the image. This is called content-based image retrieval (CBIR). Figure 1 is an abstraction of a typical CBIR system.

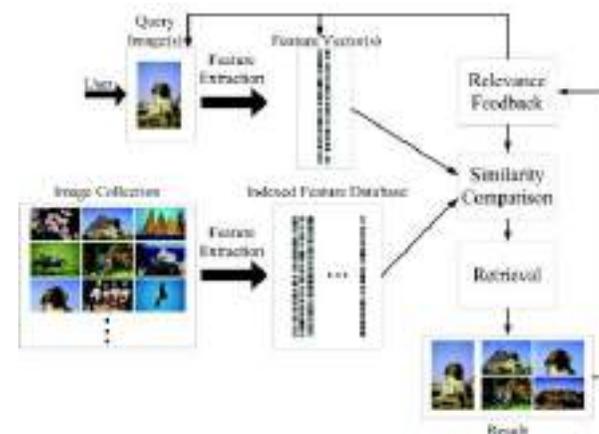


Fig. 1: Content-based image retrieval system

Different kinds of visual features such as color, shape and texture, are extracted from the images. The result is then a multidimensional feature vector that represents the image content. The set of feature vectors from all images in the collection in hand is stored in a feature database. This is done, usually, offline. If new images are added to the collection, then their feature vectors are extracted and added to the feature database. For accomplishing the retrieval task, the user communicates with the retrieval system by feeding his/her query, which can be for example in the form of a sample image, a sketch or a drawing of what the user is searching for. The feature extraction procedure is applied to the query image online, resulting in the compact representation in the form of a feature vector that is then compared with the feature vectors stored in the feature database. This is done to determine similarities between the query feature vector and the database feature vectors. Retrieval is then performed possibly using an indexing scheme that provides an efficient way to search the image database. Some systems allow the user to affect the retrieval process by integrating the user's feedback in the hope of generating more meaningful retrieval results. This is called relevance feedback.

Query Formats

The user interacts with a CBIR system through specifying a query. There are different ways in which a user can express his/her query. One possibility is to enable the user to sketch the query specifying the image elements and their spatial relationships. For example, if the wish is to search for country images with grass and sky, the user would draw a large blue region on the top of a smaller green region. Examples of such systems are [Jacobs et al. 1995, Wang et al. 1997b]. The most common type of queries is the query by image example, where the user feeds a sample image and asks for the most similar images (see figure 1). Another possibility is to use multi-image queries [Iqbal & Aggarwal 2003] where more than one query image is used to define the search goal more precisely. Using multi-image queries may be sometimes advantageous in supplying more detailed knowledge representation [Iqbal & Aggarwal 2003]. This can overcome the limitation on the specification of image content using a single query image, the matter that may lead to better results. The concept can be further extended by letting the user specify positive and negative image examples. This is applied for example in some systems that incorporate relevance feedback [Setia et al. 2005]. Some systems use a visual thesaurus to help the user to formulate his query [Fauqueur & Boujemaa 2003]. The assumption is that the user has the query in his mind without having a specific example image that expresses his goal. The thesaurus shows representative regions of the database. During the query, the user selects positive categories and negative categories from the thesaurus. The query composition is then defined as finding the images composed of regions in the positive categories and no region in the negative categories.

Features

Feature extraction is the core of the CBIR. The raw image data is not used directly in most computer vision tasks. This has two reasons. First of all, the high dimensionality of the image makes it unreasonable to use the whole image. Secondly, a lot of the information embedded in the image is redundant and/or useless. Instead of using the whole image, only an expressive representation of the most important information is extracted. The process of finding the expressive representation is known as feature extraction and the resulting representation is called the feature vector. Feature extraction can be understood as the act of mapping the image from image space to the feature space. The task of finding good features that adequately represent an image is still a challenging task. In literature, a wide variety of features are used for image retrieval. The used features vary depending on the purpose of the retrieval task. Concerning image content, one can distinguish between visual and semantic content. Features usually represent the visual content. Visual content can be further classified into general or domain-specific. For example the features that are used for searching in a diverse and general image database would be commonly features that represent the general

visual content like color, texture, and shape. On the other hand, the features used for retrieval tasks like searching for human faces are domain-specific and may include domain knowledge [Rui et al. 1999]. The semantic content of an image is not easy to extract. Annotation and/or specialized inference procedures based on the visual content help to some extent in obtaining the semantic content.

1 Invariant Features

For many applications the extracted features should remain unchanged (i.e. they should be invariant) if the image content is subjected to a transform that changes its current situation. Transformations can be both geometric (e.g. rotation and scaling) and/or photometric (change in lighting conditions). Consider an image retrieval system. The aim is to retrieve images with similar contents independent of transformations applied to the content of the image. For example, the images shown in figure 2 should be considered similar by the retrieval system although the main object was transformed.



Fig. 2: The two images should be considered similar by a retrieval system, despite the geometrical transformation applied to the image content

This means that the representation of both images should remain unchanged despite of the transformation applied. In the following we will concentrate on geometrical transformations. Given a transformation group G with elements $g \in G$ acting on an image S , we would like to have a mapping F that satisfies the following Equation:

$$F(gS) = F(S), \forall g \in G$$

gS means a group element g acting on the image S . i.e., we are looking for a transformation that maps all images of an equivalence class from the image space to the same point in the feature space. The above equation gives the necessary condition to achieve invariance. Different geometrical transformation groups include the group of translations, the group of Euclidean motion, which consists of translation and rotation, the group of similarities, which extends the Euclidean group by adding scaling, and the affine transformation group where the shear is an additional degree of freedom. Sometimes practical situations occur in which global invariance is not wanted, but only adjustable robustness against local transformations of the patterns. For instance, in optical character recognition small rotations of a letter are acceptable, but large rotations change class memberships like $Z \rightarrow N$, $M \rightarrow W$, $6 \rightarrow 9$ etc. Similarly, too large horizontal stretching can convert a slightly bent I to L , C or J . In these cases, there is a need for a generalization of the invariant features so that they are invariant/robust with respect to subsets of the transformation group.

2 Global vs. Local Features

In general, image features can be either local or global. If the features are extracted from the visual content of the entire image, then these features are called global features. Global features have been used successfully for image retrieval. The easiest and most famous example is the global color histogram [Swain & Ballard 1991]. The main problem of global features is that the resulting description cannot differentiate between different image parts like the object of interest and the background. Therefore, they are usually not suitable for tasks like partial image matching and object recognition or retrieval in cluttered and complex scenes. In contrast to global features, it is possible to extract only local features from regions of interest or objects in the image and use this information to try to solve problems like the above-mentioned. The main problem of most systems depending on this scheme is the required preprocessing, namely image segmentation to determine the regions of interest. This is not a simple task. Some researchers argue that coarse or inaccurate segmentation is enough for the task of retrieving images in a general database. This kind of segmentation is much easier and faster to accomplish than accurate segmentation of regions. Examples are systems in [Wang et al. 2001, Fauqueur & Boujemaa 2004]. However, for domain-specific applications, like object matching, this scheme would generally fail. As an alternative, one can consider extracting features from patches around image pixels ending up with a set of local feature vectors, each of which describes the local characteristics around an image pixel. Going in this direction, one can immediately observe that extracting local feature vectors around all image pixels is usually too expensive in terms of extraction time, storage and time needed for matching. Besides, it is not necessary to consider all pixels because of the redundant and/or worthless information. Taking these facts into consideration, a subset of the image pixels should be used for the computation of local features. These pixels should represent, together with their neighborhood, the most important visual information in an image. The term usually referred to in literature to describe this set of points is interest points. A lot of algorithms have been developed by researchers for the purpose of detecting and extracting the interest points. Having identified these points, a feature vector is extracted around each interest point (see fig. 3).



Fig. 3: After identifying the interest points, local descriptors that characterize the neighborhood of the points are extracted

These are usually called local descriptors because they characterize the local neighborhood of a point. During the retrieval process, the similarity between a pair of images is determined by the number of matches found between their feature vectors. In the recent years, this scheme has gained a great attention as it possesses several advantages that make it very well adapted to the tasks of matching, retrieval and recognition. First of all, the local features extracted around the points are usually robust to the transformations applied to the image content. Moreover, the scheme is also robust to partial occlusion, clutter, and changes in the background, as only corresponding local features in different scenes should match. This also eliminates the need for any prior segmentation. Examples of systems that adopt this scheme are. However, the above-mentioned advantages come at the cost of storage requirements and computation and matching complexities, although this is getting less important with the growth of the computation power and the decrease of storage costs.

Semantic Gap

Although CBIR overcomes the problems of the text-based image retrieval by the automation of the image description through feature extraction, it suffers from a problem that is directly related to the extracted features, namely, the semantic gap [Smeulders et al. 2000]. The semantic gap describes the absence of correspondence between the features extracted from the image's visual content and the semantics contained in that image. This may lead to unsatisfactory or disappointing retrieval results that do not match the user's expectations. The returned images may have very similar features; however their visual content from the user's point of view could be dissimilar. This is the biggest stumbling block for CBIR to gain mainstream acceptance, and remains largely unsolved even as quite a few articles may suggest otherwise. Relevance feedback techniques are usually used to alleviate the semantic gap problem (see section 6.1). Another possibility to skirt around this problem is to try to describe the image semantics by the means of automatic image annotation by keywords [Li & Wang 2003, Barnard & Forsyth 2001]. In contrast to the above-mentioned text based retrieval systems, automatic annotation tries to associate keywords with an image based on automatic analysis of its content. Retrieval is then done based on both associated text and image content. Due to the infinite number of semantic concepts that can be considered, the automatic annotation methods are still not highly reliable.

Indexing

The end-user is actually interested in a fast retrieval of images relevant to the query. Today's typical image databases are steadily increasing in size which in turn puts higher demands on the retrieval performance of a CBIR system. Thus speed becomes more and more important. In order to accomplish an increase of the retrieval performance, the multi-dimensional image features are indexed. During the last years indexing methods have gained more and more importance in CBIR applications. Various indexing methods are widely employed to increase the efficiency of image retrieval systems, where indexing enables fast data retrieval by providing sophisticated address calculations. The indices enable the retrieval platform to find images similar to the query without checking each image in the database and, thus reduces the retrieval time. Trees are widely used as indexing structures, where the most known architectures are R-trees [Guttman 1984] such as R+-trees [Sellis et al. 1990], R*-trees [Beckmann et al. 1990], K-d-B-trees [Robinson 1981], SS-trees [White & Jain 1996] and quad-trees [Samet 1990]. The R-tree is a dynamic hierarchical tree structure where the higher level node is a minimum bounding rectangle (MBR) that encloses a set of child MBRs or objects in the lower levels. The R*-tree improved the original R-tree by a more efficient storage and a dynamic reorganization of the tree resulting in less split operations. In [Oh et al. 2001] the authors propose the combination of a Self-Organizing Map (SOM) [Kohonen 2001] and a R*-tree for indexing high-dimensional feature vectors. The creation of a SOM-based R*-tree consists of two steps; the clustering of similar images and the construction of the R*-tree. In the first step a topological feature map is created by incorporating the SOM, which provides mapping from a high-dimensional feature vector onto a two-dimensional space. In the second step the R*-tree is built under the use of codebook vectors, i.e. the feature vectors contained in each node of the

topological feature map. The actual gain of the method comes from the elimination of empty nodes in which no image is classified, representing unneeded disk access and loss in performance. Thus the SOM based R*-tree indexing structure is constructed with fewer nodes which reduces the search time. The vector approximation file (VAfile) [Weber & Blott 1997] was designed in order to search high-dimensional feature spaces. The VA method represents each feature vector by a corresponding signature which is very compact and provides an approximation to the vector's information. Many general purpose CBIR systems were developed. SIMBA, Viper and CIRES are some systems to mention. Figure 4 shows a screenshot of searching for sunset scenes using the SIMBA search engine.

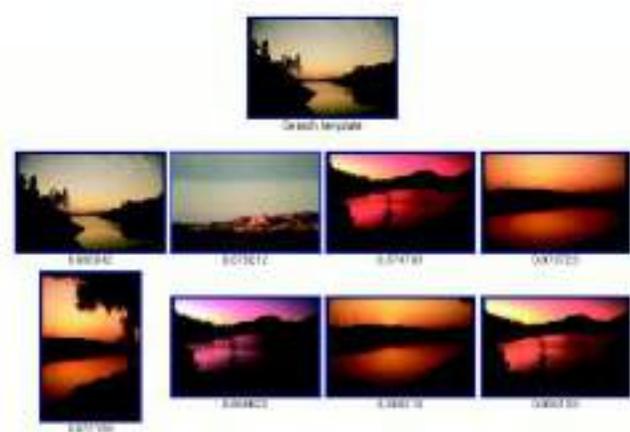


Fig. 4: Sunset query using the SIMBA search engine

CONCLUSION

Advances in data storage and image acquisition computer technologies have enabled the creation of large image collections. Thus, we need appropriate information systems able to efficiently manage such collections. Systems that address this task are commonly known as Content-Based Image Retrieval Systems whose operation is basically trying to retrieve images similar to an image sample. For this purpose, parameters such as shape, color, texture, etc. are used, usually encoded in a feature vector. Large images necessary to use a data structure for efficient representation and indexing of the feature vector. In addition, there are several ways to calculate the similarity distances between two images. As a future work, we propose a comparative study of the various measures of distances, as well as the techniques of extraction and indexing of the feature vector. Several performance measures are suggested in the literature. Due to space limitation, we only mention some of these measures. The most commonly used measures are precision and recall. The recall is the percentage of relevant images returned by a query. Precision gives the percentage of the relevant images in the number of retrieved images. Other measures include rank of the best match, average normalized modified retrieval rank (ANMRR), average rank of relevant images and error rate.

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A STUDY ON RIGHTS AND EDUCATION SYSTEM OF THE MINORITIES TOWARDS RURAL AND URBAN SCHOOLS IN INDIA

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Abstract

Education is a key to development of humanity. Indian Judicial framework, in Unni Krishnan case, has attempted to peruse right to education as a component of right to life, and which was similarly reacted by Indian parliament, through Eighty Sixth Constitutional Amendment. In a standing enhance nation; it ought to have giving equivalent significance to all station and sub rank. Regardless of rank, statement of faith, race, religion, the principle mantra ought to be of these nations is social equity and equivalent educational chance. It attempts to dissect different decisions of the Supreme Court with respect to minority educational establishments. The paper manages different occasions demonstrating how the well-to-do minorities have an edge over the penniless minorities.

Keywords: Education, Minorities, Caste, Diversify, Humanity

INTRODUCTION

Education is a key to development of humanity. Eventual fate of any nation relies upon the idea of education arrangement of the nation. Despite the fact that individuals from constituent gathering knew the significance of universal education however and still, at the end of the day, because of scarcity of assets they couldn't give it as a fundamental right, yet it was referenced in Directive Principles of State Policy. The Indian Constitution is focused on the correspondence of resident and the obligation of the State to save, secure and guarantee the rights of minorities in issues of language, religion and culture. The United Nations Declaration on the Persons Belonging to National, Ethnic, Religious and Linguistic Minorities says that the promotion and security of the rights of people having a place with such minorities contribute to the political and social stability of the nations where the live. Meeting their goals and guaranteeing their rights recognize the poise and uniformity all things considered and promote participatory development. The constitution of India contains numerous Articles protecting the prosperity of minorities.

"Education is the absolute most significant instrument for social and economic change. An accomplished populace, enough furnished with information and ability isn't just fundamental to help economic development, but at the same time is a precondition for development to be comprehensive since it is the informed and talented individual who can remain to profit most from the business openings which development will give. The Ministry of Human Resource Development has concentrated on a comprehensive motivation, with a dream of understanding India's human asset potential to its fullest, with equity and greatness.

"No democracy can long endure which doesn't acknowledge as fundamental to its very presence the acknowledgment of the rights of minorities" said Franklin D Roosevelt, the 32nd US President. Dr Kalam likewise offers an answer for accomplish such a general public, when he says: "... education with esteem framework ... religions graduating into otherworldly powers ... economic flourishing through national vision". We are Indian. Out of 121 corers (2011-12 enumeration report) here lives different kind of major and in reverse networks. One of them Minority people group (counting Muslim, Christian, Buddha, Sikh, Parsi and Jain) is significant Community. What's more, Muslim is little in India. Not very many Muslim understudies can finish their essential education. Some issue include it, these are some family related issue, economic issue, religious issue, communication issue, phonetic issue and some close to home and mental issue include. What's more, we keep in mind the drop out and wastage of in this level. These are the primary Educational Problem which seems an incredible boundary for Muslim people group at Elementary level. In another side we know the significance or need of Elementary Education.

Constitutional Rights on Education Provided to Minorities

The Constitution of India gives certain fundamental rights (Articles 15-17, 25 to 30) and order standards (Articles 330-339 and 350) to serve minorities in India. Nonetheless, in this paper just Article 30 will be pondered upon. The rights are secured by a prohibition against their violation, and are upheld by a guarantee of enforcement. They, being a piece of the Fundamental Rights, are contributed with sacredness and a status higher than that of the customary law and, thus, every lawful arrangement or official activity must adjust to the mandates suggested in them. The prohibition is contained in Article 13 which bans the state from making any law abbreviating or constraining any of these provisions and takes steps to veto any law found conflicting with. The order runs against the entire state which term under Article 12 is characterized to incorporate government and Parliament of India and the administration and the lawmaking body of every one of the states and all neighborhood and different specialists. The term 'law' incorporates inside its plentifulness any mandate, request, bye-law. Rule, guideline, notice, custom or use having the power of law; and the prohibition ties every single such instrumentality inside the state as have lawful position to figure such law. The guarantee of enforcement is contained in Article 32 which, giving practicability to the affirmations contained in Article 13,

pronounces that the right to move the Supreme Court by fitting procedures for the enforcement of Fundamental Rights is ensured and in this way forces an obligation upon the most elevated court to bear the cost of protection against any violation and vests a relating right in the religious and phonetic minorities to look for cure on the off chance that the rights are compromised with hardship or encroachment. A comparable purview has been presented upon the high courts under Article 226. The rights are made legitimate under the steady gaze of the courts for twofold motivation behind protecting them against self-assertive activity of regulatory specialists employing the power of state and against overabundances of those councils overwhelmed by transient numerical greater parts and frequently influenced by interests and partialities.

The partition and rule approach of the British had estranged minorities. Likewise, the ID of the Congress with the Hindu upper stations by a predominant stratum of the minority encouraged the dread of enslavement in post-freedom India among the equivalent. In these circumstances, sacred assurance of rights was viewed as a powerful way to disperse the dread and to persuade the minorities of protection of their inclinations in the autonomous India. Nonetheless, Partition and the assassination of Mahatma Gandhi were two moving powers that brought about keeping the rights of the minorities, particularly the religious minorities, to socio-social fields like education and language. As has been referenced before, the rights guaranteed in the Constitution are authoritative on the state and even the administrative gathering can't modify these rights. Further, interruption of any nature on these rights can be tested in the court. In any case, the wording of Article 30 were kept dubious, leaving a lot to the understanding of the legal executive, offering space to suit changes in the political and worth structures.

CONCEPT OF MINORITY

The term 'minority' incorporates just those non-archives gathering of the populace which has and wish to save stable ethnic, religious or semantic customs or qualities particularly not the same as those of the remainder of the populace.

With regards to this understanding the Constitution of India through its different arrangement remembers; (i) religious minorities (ii) etymological minorities (iii) social minorities and (iv) minorities having their very own content. Be that as it may, this expansive characterization of minorities might be over shortsighted. Note that the comprehension of minority in India isn't just about capturing the non-prevailing gatherings in unadulterated particularism of its numerical strength. It is basically about understanding the connection between various gatherings present in changed condition to one another in varying areas and how these gatherings remain in their association with the state and establishments of Democracy.

The political act of Indian polity was partisan and isolated and in this way it neglected to accomplish the 'participatory equality' guaranteed for all people and gatherings comprising the totality of the Indian populace. The Hindu majoritarian personality came to be spoken to as the national character along these lines blocking libertarian distribution of assets and denying due acknowledgment for socially variation social gatherings. Under such circumstances these gatherings wound up stuck a twofold spot prohibited from patriotism and yet caught inside the country state. Consequently, this filled in as a rearing ground for a few smaller scale identities. As an undeniable consequence of all these political impulses there emerged various gatherings and communities as "minorities, minimized, evidently avoided/subalternized, these gatherings despite the fact that framed a piece of the Indian country state however were barred or, best case scenario subordinately remembered for the cutting edge Indian culture.

LITERATURE REVIEW

Narula, M. (2014), has directed an examination entitled as "Educational Development of Muslim Minority: With Special Reference to Muslim Concentrated States of India", Objectives of the investigation were: 1. To presents a short talk of strategies and projects actualized for the development of education of the Muslim minority. 2. To depict the advancement of school education as far as access, interest, maintenance of Muslim kids in the Muslim concentrated states. Discoveries of the investigation were: 1. The paper uncovered that throughout the years the quantity of organizations, enrolment, instructors, and physical offices have expanded; still educational advancement of Muslims isn't good as far as literacy rates, enrolment, and maintenance and in finish of evaluations. 2. Result uncovered that Maharashtra, in examination with Bihar, West Bengal and Uttar Pradesh, is a long ways ahead in educational development of the Muslim minority. Be that as it may, West Bengal is likewise higher than the national normal. 3. The paper likewise uncovered sex disparity as one reason of educational backwardness of the Muslim minority. The negative demeanor and low aspirations of guardians towards girls' education, early relationships and social inclination for a local job for ladies delimits ladies' job in investment of formal education.

Rahman, F. (2016), has directed an examination entitled as "Education, Minorities and Constitution of India". This investigation featured after territories: Envisioning Problems and Polemics, Evolution of Minorities' Right in India, Pre-Constitution Phase, Post-Constitution Phase, and so forth.

Rong, M. (2009), has led an investigation entitled as "The development of minority education and the act of bilingual education in Xinjiang Uyghur Autonomous Region", Higher Education Press and Springer-Verlag 2009, 4(2): pp188-251. Target of the investigation was: 1. To characterizes the fundamental modes and development procedures of minority education in Xinjiang. Discoveries of the examination were: 1. It is discovered that, Southern Xinjiang, with its low populace thickness and high minority extents, is a unique region. There is an extraordinary need for the Autonomous Region government to make exceptional projects for educational development in the three prefectures of southern Xinjiang. 2. It is likewise discovered that Han schools in some minority territories of Xinjiang should open Uyghur language courses for Han understudies and understudies of Min kao Han in light of the fact that such courses would profit those understudies in creating and getting employment locally.

Molishree, (2006), has led an investigation entitled as "Minority Educational Institutions: A Critical Analysis", Summer Research Internship Program 2006, CCS Working Paper No. 154. Goal of the investigation was: 1.To examines different decisions of the Supreme Court with respect to minority educational organizations. Discoveries of the examination were:1. Result uncovered that emerged out of research, the specialist went to the aftereffect that each progressive government since Independence has offered empty talks to the reasons for the improvement of the destiny of the minority. 2. It is additionally discovered that the authorization of Article 29 and 30 was likewise designed and invented as a piece of appointive governmental issues and minority conciliation.

Mazhar Shamsi Ansary (2018) In a standing diversify nation; it ought to have giving equivalent significance to all position and substation. Independent of standing, statement of faith, race, religion, the fundamental mantra ought to be of these nations is social equity and equivalent educational chance. Generally the country won't be to grow appropriately. In India the entire World realizes that in India here live such a large number of sorts of Caste, Community. Minority Community is one of the regressive Communities in our general public. Particularly Muslims are behind in all parts of life. In Education they are not very great like other forward communities. All degrees of our Education System they are still behind. As like in the Elementary level they have such a significant number of Educational Problems. Karnataka is one of the significant State of India, yet locale of Karnataka is most in reverse area.

RESEARCH METHODOLOGY

Sample: The specialist has chosen just 200 understudies (Urban and Rural) of standard VIII from the secondary schools (Urban and Rural) and 70 educators of those schools (Urban and Rural) of Karnataka.

Method of the Study: The present examination is Descriptive sort in nature. Descriptive sort study technique has been utilized in this examination. Along these lines, normally various apparatuses, procedures, strategies and techniques for Descriptive study type inquire about have been utilized to gather examination and interpret the information. This examination was directed to identify Various Educational Problems of Minority Community at Elementary level. To accomplish this target Quantitative research strategy was picked.

Area:- The specialist delimited the region and took just 5 schools of the referenced region because of absence of time span. Three Rural schools and Two Rural School were taken.

Statistical Techniques:- The scientist has utilized Mean, S.D.'t'- Test to investigation and speak to the gathered information in her present understudy.

DATA ANALYSIS

H01: There is low level of Educational Problems of Minority Community Students.

The H01 checked through cut off point. Here cut off point is $M = 195.15 - 24.31 = 195.15 + 24.31 = 219.46$, $M - , M + 170.84$. Based on Cut off Point from the above table, we can see that out of the all out 200 Students, 17% Students have scored above 195.15, 71% Students have scored between 170.84 to 195.15 and 12% Students have scored underneath 170.84 on the Various Educational Problems related Questionnaire built by the scientist for the Students.

Table 1 Shows the Mean and Standard Deviation of Scores of the Minority Community Students about their Educational Problems and Teachers

Sl. No	Group/ Variables	Number	Mean	S.D
1	Boys	79	193.19	24.02
2	Girls	121	186.42	24.52
3	Rural Boys	54	189.99	23.95
4	Urban Boys	25	200.16	23.12
5	Rural Girls	65	202.49	25.26
6	Urban Girls	56	189.38	21.79
7	Rural Students	119	192.79	22.62
8	Urban Students	81	192.79	22.62
9	Male Teachers	65	177.66	21.81
10	Female Teachers	5	200.40	31.34
11	Total Students	200	193.19	24.31
12	Total Teachers	70	179.29	23.25

Table 2 Shows the Analysis of Level of Educational Problems on the basis of Cut off Point

Scores	Frequency	Percentage	Level of Attitude
Above-195.15	34	17%	High
Between 195.15-170.84	142	71%	Moderate
Below 170.84	24	12%	Low
Total	200	100%	

Along these lines, we can see that most extreme rate (%) of the Students have scored between 170.84 to 195.15, which shows that the degree of Educational Problems of Minority Community Students.

CONCLUSION

In India, Minority Community (Especially Muslim) is one of the significant Communities. Yet, we realize that this Community has loads of Problems in all unique circumstances. Educational Problems at Elementary level in the area of Karnataka is one of the serious problems of this Community. Such a large number of Researches has been directed to show the different Educational Problems of Minority Community. The Vision and Mission of Education for all should instill and assimilate in the whole gang, pioneers and devotees that for each youngster brought into the world poor and destitute, there should be a well-drawn arrangement, to guarantee that s/he doesn't remain so – for in the event that we flop in giving the essential needs of nourishment and safe house to a kid, she/he will never observe the light of the day, through education – at any rate. Education for the majority is a huge undertaking. It would require a determined focal point of the State, to implement this program in a nation, which is the seventh biggest on the planet regarding size and the second generally populated of all. Change in education is a social, political, financial and authoritative test. Along these lines, it is cleared for us that particularly which viewpoints Minority Community understudies had progressively Educational Problems at Elementary level in the locale of Karnataka and who were endured more on those angles. So the Researcher felt that this examination would be so significant or important for Minority Community in the region just as Karnataka and India.

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AN EXPERIMENTAL STUDY OF SYNTHESIS AND BIOLOGICAL ANALYSIS SCIENTIFIC OF PYRAZOLIDINE-3,5-DIONE

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ABSTRACT

There has been a most concerning issue of bacterial opposition as far back as the improvement of anti-bacterial specialists. The present research work centers around the microwave helped dissolvable less synthesis joined with ordinary stirring and refluxation techniques to frame some novel subbed 4-quinolone pyrazolidinedione derivatives. The characterization of n=9 derivatives was done utilizing I.R, ¹H NMR and mass ghastry analysis. The rate yield of definite mixes was seen as 22.15 to 69.68. Purity of the mixes was checked by utilizing TLC and natural analysis. These mixes demonstrated a significant anti-bacterial movement against *S. aureus*, *B. subtilis*, *Klebsiella pneumoniae* and *Proteus vulgaris* and anti-inflammatory action utilizing Invitro testing techniques contrasted with Ciprofloxacin, Amoxicillin and Ibuprofen respectively.

Keywords: Quinolone, pyrazolidine-3,5-dione, antibacterial agents, anti-inflammatory agents, antimicrobial

INTRODUCTION

Pyrazolone is a five - membered lactam ring compound containing two nitrogen iotas and ketone in a similar atom. Lactam structure is a functioning nucleus in pharmacological action. Pyrazolone is a functioning moiety as a pharmaceutical fixing, particularly in the class of nonsteroidal anti-inflammatory agents utilized in the treatment of joint inflammation and other musculoskeletal and joint issue.

The quick ascent in microbial resistance to the customary antibiotics has required a proceeding with look for new classes of compounds with novel methods of antimicrobial movement.

Albeit an enormous number of anti-bacterial agents are accessible in the market for the treatment of fatal bacterial infections but since of the developing resistance issue to these agents, the requirement for new antibacterial agents is likewise developing proportionately. One of the most utilized anti-bacterial classes of drugs is fluoroquinolones.

Inflammation is a reaction of the tissue to an infection, disturbance or outside substance and is a piece of the host barrier system. The inflammatory procedure includes a progression of occasions that can be inspired by various improvements (for example infectious agents, ischemia, antigen-antibody association and thermal or other physical wounds).

The 4-quinolone antimicrobials have various focal points over different classes of antimicrobial agents. They have wide range of action, all around retained orally, have generally long serum half lives and insignificant toxicity. The as of now utilized quinolone derivatives are known to have a few drug associations and unfriendly reactions.

The title compounds were prepared through several steps as depicted in Fig 1.

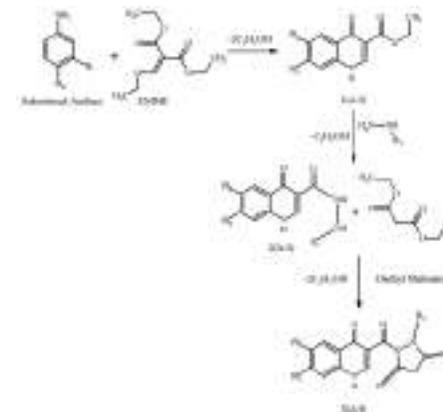


Figure 1: Synthesis of the title compounds

LITERATURE REVIEW

MANISH GUPTA, NEERAJ UPMANYU, SOMA PRAMANIK, CHANDRA KISHORE TYAGI AND AMOL CHANDEKAR (2011) A progression of novel 1-(2-methyl-4-oxo-1,4-dihydro quinoline-6-carbonyl)- 2-(subbed phenyl)- pyrazolidine-3, 5-diones [5A-5H] were incorporated with various sweet-smelling hydrazides and assessed for antibacterial and antifungal movement. The structures of the compounds were affirmed by nitrogen analysis, FT-IR, ¹H NMR and mass ghastry data. The antimicrobial movement of combined compounds were analyzed against two gram positive bacteria (*S. aureus*, *B. subtilis*), two gram negative bacteria (*E. coli*, *S. species*) and two organisms (*C. albicans* and *A. niger*) utilizing soup dilution technique. A portion of the blended compounds displayed gentle to direct antibacterial and antifungal action.

Suvarna Kini and A. M. Gandhi (2008) The 1,3,5-trisubstituted-2-pyrazolines were integrated by refluxing isoniazid with different subbed diarylchalcones in N,N-dimethylformamide at 120-140°. The physical and phantom data, for example, M.P., Rf, natural analysis, IR, NMR and Mass was gotten for the integrated compounds and the structures were affirmed. The screening of the orchestrated compounds for antimicrobial movement was performed against *Staphylococcus aureus*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Escherichia coli* and *Aspergillus niger*.

Annasaheb B. Jagnar, Shital D Gaikwad, Priyanka M.Wavare (2016) various subbed pyrazolidin-3-one, aryl oxadiazole and mercapto oxadiazoles are known for their biological significance like anti-bacterial, antitubercular, antioxidant and antiinflammatory action. The title compounds has been combined from diclofenac acid and ofloxacin responds with ethanol in nearness of acid to give hydrazide which on further response with Ethylacetacetate gives subbed pyrazolidin-3-one which experiences Mannich response gives Pyrazolidin-3-one. Acid hydrazide on treatment with Aromatic acids in nearness of Phosphorus oxychloride gives aryl oxadiazoles. Mercaptooxadiazoles orchestrated utilizing acid hydrazide and carbon disulphide. The recently blended compounds have been described by IR, ¹H NMR and CHN analysis.

Mohamed A. H. Ismaila, Dalal A. Abou El Ella, Khaled A. M. Abouzid, and Maiy Jaballah (2012) aganists as putative drugs for the treatment of γ . In the mission for novel PPAR type 2 diabetes, another arrangement of 2-pyrazolin-5-one and pyrazolidine-3, 5-dione derivatives, were planned and integrated, as analogs to the antidiabetic thiazolidinedione agents (TZDs). Broad sub-atomic displaying agonist's theory andy studies for the planned particles were performed; including their comparefit thinks about on the produced and approved PPAR γ their sub-atomic docking on the coupling destinations of the 3D structure of the PPAR receptors.

Deepak Swarnkar, Rakshit Ameta, and Ritu Vyas (2014) A progression of subbed 1,3,4-oxadiazole derivatives (3a-f) and (6a-f) have been integrated from diphenylacetic acid hydrazide under microwave illumination in different response conditions. The structures of the integrated compounds were doled out based on basic analysis, IR, and ¹H NMR. These focused on compounds have been tried for their antibacterial and antifungal exercises contrasted with ampicillin and griseofulvin as standard drug. Compounds 3a, 3e, 3f, 6c, 6d, 6e, and 6d exhibited the greatest antibacterial exercises while 3b, 3c, 3d, 3e, 6a, 6d, and 6e exhibited the most extreme antifungal exercises

MATERIAL AND METHODS

The chemicals and reagents utilized in this were of AR and LR grade. They were secured from SpectroChem, Hi-Media, Merck, Sigma Aldrich and Ranbaxy.

Synthesis of substituted ethyl esters of 4-oxo-1,4-dihydroquinoline-3-carboxylic acids [1A-1I]

Equimolar quantities of subbed anilines (0.01 mol) and diethyl (ethoxymethylene) malonate (EMME) (0.01mol), (practically boring fluid, b.p. 279-281 °C) were taken in a measuring glass under solvent-free condition. At the point when an unmistakable arrangement was acquired by shaking, it was lighted under microwave for min at high force (900 watts) while shaking the blend at interims of 30 sec. The subsequent arrangement was inevitably changed over to pale mass after cooling with ice. This was trailed by washing it with CH₃CO and the buildup was recrystallised utilizing N, N-Dimethyl formamide (DMF) as solvent. Dissolving focuses, rate yields and time of micro wave light of all 1A-1I compounds are given in table 1(a).

Table 1: Substituted ethyl esters of 4-oxo-1,4-dihydroquinoline-3-carboxylic acids

Parameters	Codes								
	1A	1B	1C	1D	1E	1F	1G	1H	1I
R ₁	Chloro	H	H	H	H	H	H	H	Chloro
R ₂	Fluoro	H	F	Cl	Br	I	CH ₃	NO ₂	H
R ₃	H	H	H	H	H	H	H	H	Ph
% Yield	50.39	46.96	52.07	40.15	40.05	47.24	45.86	46.30	50.10
Melting Point (°C)	290-295	270-275	296-298	310-315	320	306-308	295-301	260-261	290-292
Time of Irradiation (min)	1-1.5	1.5-2	4.5-5	2-3	2-3	2-3	1-1.3	0.4-0.5	1-1.3

Synthesis of substituted 4-oxo-1,4-dihydroquinoline-3-carboxylic ethyl ester hydrazide [2A-2H]

Equimolar quantities of ethyl esters of 4-oxo-1,4-dihydroquinoline-3-carboxylic acids and hydrazine hydrate was taken in nearness of DMF as a solvent in an iodine jar. The response blend was kept for stirring utilizing attractive stirrer for 16 to 18 hours. The reasonable arrangement acquired was poured in ice cold water with steady stirring. The arrangement was kept at room temperature for 20 to 24 hours to get accelerates of hydrazide. The strong hastens were separated, dried and recrystallised utilizing DMF-ethanol (1:1) blend. Rate yield and liquefying purposes of all the (2A-2I) derivatives are given in table 2.

Table 2: Substituted 4-oxo-1,4-dihydroquinoline-3-carboxylic ethyl ester hydrazides

Parameters	Codes								
	2A	2B	2C	2D	2E	2F	2G	2H	2I
R ₁	Chloro	H	H	H	H	H	H	H	Chloro
R ₂	Fluoro	H	F	Cl	Br	I	CH ₃	NO ₂	H
R ₃	H	H	H	H	H	H	H	H	Ph
% Yield	56.96	48.25	54.47	47.97	47.51	58.39	55.73	48.43	13.59
Melting Point (°C)	>330	>330	>330	>330	>330	>330	>330	>330	>330

Synthesis of 7-chloro-6-fluoro-4-oxo-N'-phenyl-1,4-dihydroquinoline-3-carbohydrazide [2I]

Equimolar quantities of ethyl 7-chloro-6-fluoro-4-oxo-1,4-dihydroquinoline-3-carboxylate and phenyl hydrazine was taken in a 50ml of container. Presently the suspension got is exposed to microwave irradiation at high force (900 watts) for 7-8min with stirring at an interim of 30 sec. The red shaded arrangement was cooled in ice. The blend was washed with ethanol to give accelerates in the wake of keeping aside the reasonable answer for 17 hours. The strong encourage got was separated and recrystallised utilizing ethanol. Rate yield and softening point for the derivative is given in table 2.

Synthesis of substituted 4-quinolone containing pyrazolidine-3,5-dione derivatives [3A-3I]

An equimolar quantities of subbed 4-oxo-1,4-dihydroquinoline-3-carboxylic ethyl ester hydrazide (2A-2I) and diethyl malonate was taken in DMFethanol (1:1) arrangement and acidic acid (1ml) was added to it in a round bottom flask. The blend was refluxed for 6-7 hrs. The response blend was left in open dish for 2-3 hrs. The solid precipitate framed was sifted, dried and recrystallized utilizing ethanol. Rate yield and melting points for all the blended derivatives are exhibited in table 3.

Table 3: Substituted 4-quinolone containing pyrazolidine-3,5-dione derivatives

Parameters	Codes								
	3A	3B	3C	3D	3E	3F	3G	3H	3I
R ₁	Chloro	H	H	H	H	H	H	H	Chloro
R ₂	Fluoro	H	F	Cl	Br	I	CH ₃	NO ₂	H
R ₃	H	H	H	H	H	H	H	H	Ph
% Yield	22.11	48.48	35.5	40.41	69.68	49.63	50.12	60.75	45.09
Melting Point (°C)	>350	>350	>350	>350	>350	>350	>350	>350	>350

Biological Activity

- 1) Anti-bacterial movement: Agar plates were set up by emptying supplement agar media into the petridishes and every one of them were immunized with a specific microorganism, similar to gram-positive (*S. aureus* and *B. subtilis*) and gram-negative (*Klebsiella pneumoniae* and *Proteus vulgaris*). After agar was solidified, cups were made in the supplement agar. The Anti-microbial test drugs 3A-3I is put in the cups (1000µg). The drug diffuses through the agar around the cup. The plates are brooded at a temp of 37°C for 24hrs for bacterial culture. The standard reference drugs utilized in the antibacterial screening were Ciprofloxacin and Amoxicillin (100 µg/ml).
- 2) Anti-inflammatory action (in vitro Inhibition of albumin denaturation): The test compounds were broken up in least measure of dimethyl formamide (DMF) via completing sonication for 10-15mins and diluted with phosphate buffer (0.2M, pH 7.4). The last concentration of DMF in all arrangements was under 2.5%. Test arrangement (1ml) containing diverse concentration of integrated compounds [3A-3I] was blended in with 1ml of 1mg/ml albumin arrangement in phosphate buffer and hatched at 27±1°C for 15 min. Denaturation was prompted by keeping the response blend at 60±1°C in water shower for 10-20 min. in the wake of cooling, the turbidity was estimated at 660nm in U.V spectrophotometer. The rate inhibition of denaturation was determined from control where no incorporated compounds were included and looked at against standard (Ibuprofen).

RESULT

Synthesis of 1A-1I was done utilizing microwave irradiation under solvent free condition, physical data. The yields were seen as standard with that of the ordinary strategies which utilizes natural solvents. Along these lines this technique is an efficient and cost sparing strategy. The technique was additionally seen as valuable for synthesis of phenyl hydrazide under solvent less condition. Essential analysis of all the last 3A-3I compounds demonstrated that they were exceptionally unadulterated; purity was additionally checked utilizing TLC. An extensive antibacterial action was appeared by all the blended derivatives contrasted with standard drugs.

Compound 3D was seen as increasingly compelling against *S. aureus* while 3B and 3G have indicated great movement against *B. subtilis*. 3G has given some movement against *Klebsiella pneumoniae*. Compound 3C has demonstrated great movement against *Proteus vulgaris*. From the invitro anti-inflammatory action contemplates it was uncovered that 3B and 3D gave similarly better inhibition to albumin denaturation with increment in concentration from 0.2mg/ml; to 1.0 mg/ml.

CONCLUSION

It very well may be inferred that blended combined heterocyclic ring show great antifungal activity as well as give great antibacterial activity too. The viability of the integrated compounds as antibacterial was seen as more prominent, when contrasted with antifungal activity. Compound with nitro substitution on benzene ring is progressively best. These compounds can be considered as lead molecules for future examinations.

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AN EXPERIMENTAL STUDY OF CLOZAPINE VALIDATION AND METHOD BY HPLC

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ABSTRACT

This paper deals with the investigations did by the essayist in this laboratory on the development and validation of HPLC and spectrophotometric techniques for chose multi segment drugs in their plans. HPLC is the dominant division procedure to distinguish, isolate and quantify the drug. Various chromatographic parameters were broke down to streamline the strategy like example pretreatment, picking portable stage, section, and detector determination. The target of this article is to audit the strategy development, advancement and validation. HPLC is the dominant partition system to recognize, isolate and quantify the drug. Various chromatographic parameters were broke down to improve the technique like example pretreatment, picking versatile stage, section, and detector determination. The target of this article is to audit the technique development, streamlining and validation.

Keywords: Validation, Formulation, Optimize, Parameters,

INTRODUCTION

The drug analysis assumes a significant job in the development, production and therapeutic utilization of drug. Standard investigative strategy for more up to date drugs or detailing may not be accessible in pharmacopeias; it is basic for the build up a more current logical technique which are exact, exact, explicit, direct, basic and quick.

Clozapine (CLZ) is classified basically as a dibenzodiazepine subsidiary. It is known as an atypical antipsychotic operator and showcases adequacy in the executives of schizophrenia and treatment of other insane disorders. Particularly for the instances of life time commonness of schizophrenia, CLZ is a compelling decision among the antipsychotics (1). In spite of the fact that it has high antipsychotic and therapeutic potential, portion dependent epileptic seizures (2) and serious risk of lethal agran ulocytosis (3) confines the more extensive utilization of CLZ. As per the insights as of late audited, occurrence of clozapine-incited agranulocytosis extends up to 21 cases for each 1000 patients in a single year (4). In this manner, visit hematological observing and drug checking is toxicologically significant and prescribed during the treatment. The generic name of clozapine hemifumarate is Seroquel, it is endorsed for the treatment of schizophrenia, a mental disorder set apart by fancies, mind flights, upset reasoning, and loss of contact with the real world. It is additionally utilized for the momentary treatment of insanity related with bipolar disorder. Seroquel is the first in another class of antipsychotic drugs.

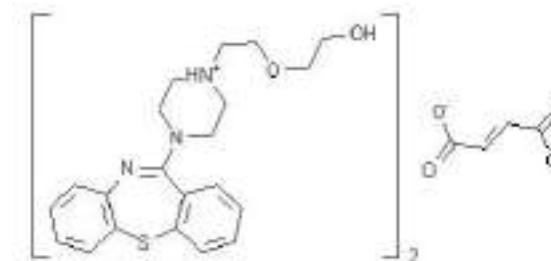


Fig 1: Structure of Clozapine

Clozapine is a weak corrosive (pKa 3.3, 6.8) which exhibits moderate pH dependent dissolvability ranges from 94.3 mg/mL to 2.37 mg/mL at pH esteems from 1 to 9 and lypophilicity qualities (Log P) which shift with pH 0.45 in water, 1.37 at pH 5, 2.65 at pH 7 and 2.59 at pH 9. Clozapine shows great strong state stability. It has a watery dissolvability of 2.29 mg/mL at 25°C and exhibits reasonable tableting properties when joined with suitable excipients.

Various strategies dependent on gas chromatography, superior fluid chromatography and immunoassay are distributed. Radioimmunoassay analysis for clozapine and its metabolites is one of early applications (8), yet not regular because of its restricted sensitivity and particularity in examination with chromatographic strategies. Truth be told, GC method is a typical decision of analytic scientists – toxicologists as a result of its high sensitivity particularly when combined with the mass

spectroscopy detection. Notwithstanding, on account of CLZ detection, GC measures are not normal inclinations because of thermal stability issues driving CLZNO to decompose quantitatively.

Importance of newer analytical methods

The quantity of drugs and drug plans brought into the market by pharmaceutical ventures has been expanding at an alarming rate. These drugs or plans might be either new substances or halfway basic alterations of the current ones or novel dose structures (controlled/continued discharge definitions) or multi segment measurements structures.

Analytical strategies for the quantification of the drugs in various mix structures and natural liquids may not be accessible.

- The drug blend may not be authentic in any pharmacopeia
- A writing search may not uncover any analytical strategy and techniques for drug blends because of the impedance caused by beneficiaries
- Analytical strategies for a drug in mix with different drugs may not be accessible
- may require expensive instruments, reagents and solvents utilized,
- may include unwieldy extraction or partition steps which are tedious and
- May not be basic, rapid, dependable and touchy.

LITERATURE REVIEW

Emrah DURAL (2015) basic, synchronous and reliable HPLC strategy was created for analysis of clozapine that is a generally endorsed drug particularly for treatment of schizophrenia, yet may have lethal toxicities now and again. Its two metabolites are norclozapine and clozapine N-oxide in human plasma. Chromatographic conditions and detection parameters were balanced in consequence of streamlining study. An isocratic elite fluid chromatography strategy with bright detection at 220nm was used. Analytes are concentrated from plasma by fluid extraction with ethyl acetic acid derivation, n-hexane and isopropylalcohol (80:15:5,v/v/v) which permits to get great extraction yields (>80%) for all analytes. Division was performed on a C18 turned around stage segment utilizing a blend of acetonitrile and 62.4mM phosphate cradle (containing 0.3%triethylamine, pH4.5) at the proportion of 40:60(v/v). Technique indicated linearity with great relationship coefficients (r2 >0.999) for each analyte. The relative standard deviations and relative standard mistakes determined to exhibit precision and accuracy between and withinday measure were under 4% for low concentrations. The strategy was specific and delicate with detection points of confinement of 23.6µg/L, 19.3µg/L and 23.6µg/L for clozapine, norclozapine and clozapine N -oxide separately. The system depicted is moderately basic, exact, and pertinent for routine therapeutic drug observing particularly in psychiatry facilities or in toxicology reference research facilities.

Ravi Kiran B (2017) A rapid, specific and accurate isocratic HPLC technique was created and validated for the test of Clozapine in pharmaceutical dosage structures. The examine included an isocratic – elution of Clozapine in Grace C18 segment utilizing versatile stage arrangement of support and acetonitrile in the proportion of 80:20 (v/v).The wavelength of detection is 225 nm .The proposed strategy can be utilized for routine quality control tests in industry in bulk and in completed dosage structures and for the stability thinks about as the technique separates Clozapine from its degradation items.

Hani Naseef (2018) Alogliptin benzoate, an individual from dipeptidyl peptidase-4 inhibitors, is an ongoing drug created by Takeda Pharmaceutical Company for the treatment of Type 2 diabetes; it potentiates the impact of incretin hormones through the hindrance of their degradation. Alogliptin can be utilized alone or in mix treatment. Another delicate and rapid HPLC technique was created for the assurance of alogliptin benzoate in bulk and pharmaceutical dosage structures; it was validated by ICH and FDA rules. - e HPLC analysis was performed on the Agilent 1200 framework outfitted with a Hypersil Gold - ermo Scientific C18 (250 cm × 4.6 mm) 5 µm segment, with a blend of acetonitrile and ammonium carbonate support in the proportion of 55 : 45 v/v as the versatile stage, at the stream rate of 1.0 mL/min. - e detection was performed at the wavelength (λ) of 277, and the retention time of alogliptin benzoate was around 4 min. - e complete run time was 6.0 min. - e adjustment plot gave straight relationship over the concentration scope of 85–306 µg/ml. - e LOD and LOQ were 0.03 and 0.09 µg, separately. - e accuracy of the proposed strategy was dictated by recuperation thinks about and was seen as 100.3%. - e repeatability testing for both standard and test arrangements indicated that the strategy is exact inside as far as possible.

Haritha Gali (2016) The target of the investigation was to build up a basic, accurate, exact RP-HPLC technique for the assurance of Esomeprazole and Naproxen utilizing portable stage (A blend of Acetonitrile and Methanol in the proportion of 60:40 was viewed as the optimal creation of dissolvable) as the dissolvable. The proposed strategy was included the estimation of retention time at chosen analytical wavelength 260.0 nm was chosen as the analytical wavelength. The retention time of Esomeprazole and Naproxen was seen as 3.425 and 4.352. The linearity of the proposed strategy was in the scope of r = 0.9999 for Esomeprazole and r = 0.9999 for Naproxen. The strategy was measurably validated for its linearity, accuracy and precision of the plan.

Rao KS (2010) A stability-demonstrating HPLC test technique has been created and validated for valsartan in bulk drug and pharmaceutical dosage structures. An isocratic RP-HPLC was accomplished on Waters 2695 utilizing Symmetry C18 (250mm × 4.6mm × 5µ) section with the portable stage comprising of 0.02 mM sodium dihydrogen ortho-phosphate, pH changed in

accordance with 2.5 utilizing ortho-phosphoric corrosive (dissolvable An), and acetonitrile (dissolvable B) in the proportion of 58:42 %v/v. The pressure testing of valsartan was completed under acidic, antacid, oxidative, thermal, and photolytic conditions. Valsartan was all around settled from its degradation items. The proposed strategy was validated according to ICH rules. The strategy was seen as suitable for the quality control of valsartan in bulk and pharmaceutical dosage frames just as the stability-demonstrating ponders.

MATERIAL AND METHODS

Chemicals and reagents: Potassium dihydrogen phosphate, sodium hydroxide, orthophosphoric corrosive and HPLC grade methanol were obtained from Merck (Darmstadt, Germany). Ethyl acetic acid derivation, nhexane, isopropyl liquor and triethylamine were acquired from Sigma (St. Louis, MO, USA). The models of pharmaceuticals, clozapine norclozapine, clozapine n-oxide, and chlorpromazine hydrochloride (Internal standard) were likewise bought from Sigma (St. Louis, MO, USA).

Selection of internal standard: Disclosure of chlorpromazine in the 1950's was one of the most noteworthy leaps forward for the treatment of schizophrenia until the appearance of atypical antipsychotics, for example, clozapine. Other than the physic-concoction sub-atomic vicinity, similitudes in pharmacological motivation behind chlorpromazine with clozapine are important. Then again, additionally, the chromatographic pre-study with chlorpromazine showed certain outcomes to be utilized as an inside standard for this investigation.

Instrumentation: The HPLC framework comprised of a Shimadzu® Class VP Binary siphon LC-10Atpv, SIL-10Dvp Auto sampler, CTO-10Avp segment temperature Oven, PDA-UV Detector. Every one of the components of the framework are controlled utilizing SCL-10Avp System Controller. Information acquisitions were finished utilizing LC-solution™ programming. The chromatographic partition of clozapine(drug) and lamotrogine (ISTD) was done utilizing GRACE Genesis C18 column(50x4.6 mm ID,3 um). The other significant instruments utilized which incorporates Shimadzu miniaturized scale balance (Model No: CPA225D), Water shower and Ultrasonicator is make of Systronics (Model No 289-An), and Eppendorf Micro-pipette of limit scope of 100uL to 1000 uL) and Hamilton syringe of 10µL is utilized for test infusion in these trials.

Validation of Analytical Method

Linearity: From the standard stock arrangement (100 µg/ml) of Clozapine further weakenings were made with versatile stage to get scope of arrangement containing six unique concentrations. Six recreates per concentration were infused. The linearity (connection between top territory and concentration) was resolved over the concentration scope of 5-30 µg/ml of Clozapine. The outcomes acquired are appeared in Table 1.

Table 1 Linearity study of Clozapin

Replicates	Concentrations of Clozapine					
	5 µg/ml	10 µg/ml	15 µg/ml	20 µg/ml	25 µg/ml	30 µg/ml
1	808515.9	1233526	1666912	2189545	2611275	3248299
2	822288.8	1248641	1666236	2227893	2610522	3248368
3	803459.2	1271196	1725827	2271831	2615872	3259153
4	812508.9	1239725	1675288	2200548	2626407	3265125
5	821638.2	1261067	1669875	2262130	2615511	3256879
6	804284.8	1272481	1727184	2274303	2618490	3262387
Mean	812481.4	1254939	1686432	2242661	2613316	3257137
Std. Dev.	8814.632	17049.33	29502.98	37530.73	9317.592	6508.199
% RSD	1.085	1.359	1.747	1.673	0.356	0.199

Precision: The precision of the technique was demonstrated by Intra-day and Inter-day variety thinks about. In the Intraday thinks about, 3 imitates of 3 unique concentrations (10, 20, 30 µg/ml) of Clozapine were examined in a day and rate RSD was determined. For the bury day variety ponders, 3 reproduces of various concentrations were broke down on 3 back to back days and rate RSD were determined. The outcomes got for Intraday and Inter day varieties are appeared in Table 2

Table 2: Intra-day precision study Clozapine

Concentration (µg/ml)	Area (µV · Sec)	% Recovery ± SD	Mean % Recovery ± SD	% RSD
10	1232111	100.37 ± 1.07	99.88 ± 1.10	1.15
20	2220122			
30	3210133			
10	1232111	99.34 ± 0.86		
20	2220122			
30	3210133			
10	1232111	100.00 ± 1.13		
20	2220122			
30	3210133			

Accuracy: To check accuracy of the technique, recuperation contemplates were done by adding standard drug to test at three distinct levels 50, 100 and 150 %. Fundamental concentration of test picked was10 µg/ml of Clozapine from tablet arrangement. These arrangements were infused in balanced out chromatographic conditions in triplicate to acquire the chromatograms. The

drug concentrations of Clozapine were determined by utilizing linearity condition of Clozapine. The outcomes acquired are appeared in Table 3.

Table 3 Recovery study of Clozapine

Level	Conc. (µg/ml)		Area	% Recovery	Mean	% RSD
	Sample	Std				
50 %	10	5	1728432.00	99.38	98.695	0.656
			1709826.05	98.09		
			1717410.57	98.62		
100 %	10	10	2225016.159	100.32	100.204	0.376
			2214736.265	99.78		
			2228770.869	100.51		
150 %	10	15	2701260.737	100.03	100.561	0.478
			2723956.015	100.98		
			2716399.139	100.67		

Result and Discussion

A few physical and synthetic properties of alogliptin benzoate were gotten from the writing. - e analytical technique was created to choose fundamental turned around stage HPLC-UV chromatographic conditions, including detection wavelength, portable stage, stationary stage, and test arrangement strategy. For this reason, a progression of preliminaries were performed by differing the proportion of acetonitrile and ammonium carbonate support and enhancing the chromatographic conditions on the Hypersil Gold - ermo Scientific C18 (250 cm × 4.6 mm) 5 µm section. - e aftereffects of technique advancement are outlined in Table 4.

Table 4: Results of method optimization

Column used	Mobile phase	Flow rate	Wavelength	Observation	Result
Restek C18, 125 × 4.0 mm i.d., 5µm	(Buffer: methanol) (45:55) v/v	1.0 ml/min	206 nm	Poor resolution 1A	Method rejected
Thermo Scientific C18, 250 × 4.6 mm i.d., 5µm	(Buffer: acetonitrile) (25:75) v/v	1.0 ml/min	277 nm	Poor resolution 1B	Method rejected
Thermo Scientific C18, 250 × 4.6 mm i.d., 5µm	(Buffer: acetonitrile) (45:55) v/v	1.0 ml/min	277 nm	Good resolution 1C	Method accepted

CONCLUSION

In the present research, a quick, straightforward, accurate, exact, and direct stability-showing HPLC strategy has been created and validated for alogliptin benzoate, and thus it tends to be utilized for routine quality control analysis. - e analytical strategy conditions and the versatile stage solvents gave great goals to alogliptin benzoate. What's more, the principle highlights of the created strategy are short run time and retention time around 4 min. - e technique was validated as per ICH rules. - e technique is sufficiently hearty to imitate accurate and exact outcomes under various chromatographic conditions. In this investigation, concurrent strategy of HPLC-UV technique was proposed with straightforward extraction of test yielding great recuperation, particular chromatographic partition, delicate UV detection with improved sensitivity and accuracy of assurance for analysis of CLZ and its metabolites. Along these lines, to accomplish quality division of analytes in a sensible analysis time satisfactory chromatographic variables were balanced. The versatile stage piece and the pH were streamlined. The portable stage was a phosphate support changed in accordance with acidic pH and containing acetonitrile as the natural modifier. Pattern partition of the 3 analytes (and the IS) was accomplished in under 20 min. The technique was validated as far as reproducibility, sensitivity, accuracy, precision and detection constrains as per globally acknowledged rules. Counting the significant metabolites of CLZ, analysis for all analytes demonstrates exact and accurate outcomes in any event, for between day examines which permit deciding therapeutic and lethal concentration levels.

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A STUDY OF OCCUPATIONAL STRESS OF TEACHERS IN JOBS SATISFACTION IN SECONDARY SCHOOL OF KAPILVASTU DISTRICT

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ABSTRACT

Teachers shape the general public through their compelling intercession in the life of students. To make adapting progressively important, reasonable and productive to a student, adequacy of teaching conveyed by a teacher is exceptionally basic condition. In the present investigation an endeavor has been made to quantify the occupational stress job satisfaction and teachers adequacy in secondary level teachers of Kapil vastu area. The present examination has investigated the appropriate components identifying with Job Stress and its satisfaction levels among the teachers by exploring the significant writings from the past investigations. A sample size of N=400 is taken for the investigation and the sample populace was distinguished inside the teachers of Kapil vastu area and its edges of both private and government schools. Further huge contrasts were found in the occupational stress of male and female secondary school teachers.

Keywords: Occupational stress, Secondary school teachers, Job satisfaction, Gender, Private

INTRODUCTION

Education and development are essential to one another. Education teaches academic astuteness, opportunity of articulation in equitable way and sensible knowledge among human beings. Human development is pre-essential to the development of any country and education is the significant impetus for human development.

In nowadays the life of an individual is brimming with stress and tempests in the quick moving society at worldwide level. The majority of the way of life illnesses is brought about by stresses either at work spot or something else. Stress is the wear and tear our bodies experience because of the consistent evolving condition. Stress makes an effect on an individual both physically and sincerely and makes positive and horrendous breaking down feelings. There, in the society at each progression, in a steady progression issue is occurring which make the life of an individual unhappy, tiring and loaded up with negative considerations. The expanding recurrence of rapes, murders, thefts and bigotry feeling made human life pathetic, horrible and caused the feeling of submitting sue side and so forth. The man isn't protected even in educational foundations and at his/her home. The individual in question may pick any occupation for enduring however any kind of occupation is additionally no more wellspring of the delight giving or satisfying the wants of the existence with no stress or pressures.

Job satisfaction is the mix of two words "Job" and "Satisfaction". Job satisfaction is an occupational action performed by a person thusly for a prizes, satisfaction alludes to the way one feels about occasions, individuals and thing. The individuals who are occupied with calling and business too probably communicated that they are not happy with the work they are doing.

Teacher stress is a particular kind of occupational stress. It is the experience by a teacher of unsavory feelings, for example, strain, disappointment, outrage and melancholy coming about because of parts of his/her work as a teacher. A standard stress is good, and has no negative impacts on teachers, however in the event that the stress consistently hit the teacher's working lives, at that point they respond in various manners like demonstrating job dissatisfaction, less assurance, powerless execution, and general fatigue. Generally speaking, teachers showing elevated levels of stress likewise give indications of significant levels of psychological distress typically exhibited by high uneasiness and low psychological prosperity, just as diminished job satisfaction for example mental ill-health, burnout and job dissatisfaction among the teachers.

Sources of Occupational Stress

By and large occupational stress is brought about by a confound between apparent exertion and saw reward, or a feeling of low control in a job with levels of popularity. Low social help at work and job dissatisfaction can likewise increment occupational stress. It is the psychological and physical express that results when the assets of the individual are not adequate to adapt to the requests and pressure of the circumstance. Stress can undermine the accomplishment of objectives both for individual and for associations moreover.

1. Intrinsic to the job: incorporates factors, for example, poor physical working conditions, and work over-burden or time pressures.
2. Role in the association: incorporates job equivocalness and job strife.
3. Career development: incorporates absence of job security and under/over advancement.

4. Relationships at work: incorporates poor associations with chief or partners, an outrageous segment of which is tormenting in the work environment.
5. Organizational structure and atmosphere: remembers little association for basic leadership and office legislative issues.

The occupation stress happens gradually and gradually in the method for persistently working for quite a while by focusing completely on a specific occupation being ceaselessly from the other social wants which stay unfulfilled with the progression of time and experienced stressful existence of an individual inside the organization, the side effects of which show up gradually which impacts the dynamic working style of a person. Here, are a couple of indications of an occupational stress which have been accounted for by the different agents.

LITERATURE REVIEW

The present inspect looks at the job satisfaction, for example how much procedure capacities that are genuinely esteemed by utilizing people are available in their compositions environment. Albeit various investigations have been performed inside the subject of teachers, anyway some had been attempted to assess the action satisfaction of male and female teachers in government and non open foundations.

Kumari and Chahal (2017) led an investigation utilizing spellbinding technique on secondary school teachers in Sirsa region of Haryana to discover the teacher adequacy in connection to sort of school, sexual orientation, area and level of understanding. The teacher viability scale built and approved was utilized to gather information 100 sample teachers from Sirsa locale of Haryana. Discoveries of the investigation indicated that the teacher adequacy of government school teachers is higher than tuition based school teachers, sexual orientation and territory doesn't have any noteworthy job in teacher viability. Results of the examination uncovered that the teachers having over ten years of experience are profoundly compelling when contrasted with those having less than 10 years of involvement with secondary schools.

Dr. Nain Sing, Anupama Katoch (2017) in the present investigation an endeavor has been made to quantify the occupational stress of secondary school teachers of area Mandi in Himachal Pradesh. A sample pool of 200 secondary school teachers from the administration schools was arbitrarily taken. The significant data from the sampled subjects were gathered through the institutionalize Occupational Stress Index. It was discovered that the secondary school teachers by and large had occupational stress having high, moderate and low levels. Further noteworthy contrasts were found in the occupational stress of male and female secondary school teachers.

Dr. Harpreet Kaur (2017) the examination inspected teacher effectiveness in connection to occupational stress and life satisfaction. The sample in the investigation was 645 teacher educators from 96 private B.Ed. schools associated to three state colleges of Punjab for example Punjabi college, Patiala, Punjab University, Amritsar were haphazardly chosen by lottery technique. Based on discoveries, it is recommended that the school ought to sort out fundamental ability development software engineers, emotional wellness and prosperity for teacher educators and the headings ought to be given to the universities to dispense pay rates to employees according to UGC standards. Additionally, the head of school must arrangement psychologically while perceiving the admonition indications of teacher's stress in the school in regards to outstanding burden, duties and financial status.

Dr. G. Lokanadha Reddy and Dr. R. Vijaya Anuradha (2013) This examination analyzed the Occupational Stress of teachers working at higher secondary level. 300 and Twenty Seven higher secondary teachers from Vellore District in Tamil Nadu were picked as sample, by utilizing Simple Random Sampling Technique and managed with an Occupational Stress Rating Scale. The factual methods utilized were rate, mean, SD, mean \pm 1SD, t-test, F-test, and stepwise numerous relapse examination and they got results are dissected as needs be.

Dr. S.S.Jeyaraj (2013) The point of the investigation is to decide the Occupational Stress level of Government and Aided Higher Secondary School Teachers living in various socio-social and financial circumstances. 185 Aided school teachers and 120 Government teachers have partaken in the present investigation. Arrangement creators are encouraged to investigate the teacher training and evaluation framework with the supposition that individual and social attributes and working conditions may affect teacher occupational stress. Results additionally demonstrated that teachers who announced more noteworthy stress were less happy with instructing, were bound to leave educating (vocation expectation), and less inclined to take up a showing profession once more (vocation commitment). Implications for additional exploration are likewise talked about.

Research Methodology

A sample pool of 400 secondary school teachers from the administration schools and tuition based schools was haphazardly taken. The applicable data from the sampled subjects were gathered through the institutionalize Occupational Stress and its satisfaction Index. It was discovered that the secondary school teachers for the most part had occupational stress having high, moderate and low levels. Further huge contrasts were found in the occupational stress of male and female secondary school teachers of Kapilvastu region.

Analysis & Interpretations

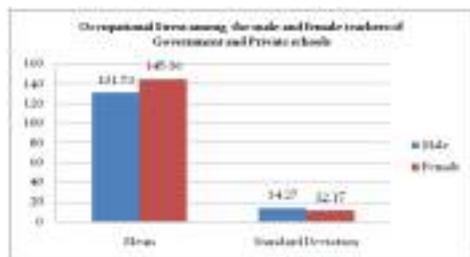
To examine the levels of job satisfaction and occupational stress among the legislature and the non-public school teachers and to analyze the level of job satisfaction and occupational stress between the male and the female teachers.

Table 1: Occupational Stress among the male and female teachers of Government and Private Schools

School Teachers	N	Mean	Std.Deviation	t-value	df	Significance Level
Government aided	200	126.21	10.21	-6.75	398	Significant (0.01)
Private	200	143.72	12.55			
Male	225	131.73	14.27	5.01	398	Significant (0.01)
Female	175	145.36	12.17			

Table-1 demonstrates that the teachers working in private secondary schools face across the board high level of occupational stress ($t=6.75$, $p<0.01$) when contrasted with their counterparts working in government- aided secondary schools.

Table-1 additionally shows that the female secondary school teachers face significant high level of occupational stress ($t=5.01$, $p<0.01$) when contrasted with their male counterparts.



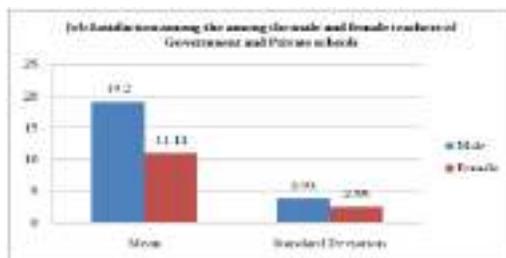
Graph 1: occupational Stress among the male and female teachers of Government and Private schools

Table 2: Job Satisfaction among the among the male and female teachers of Government and Private Schools

School Teachers	N	Mean	S.D	Calculated t-value	df	Level of significance
Government aided	200	20.23	2.35	17.45	398	Significant (0.01)
Private	200	11.04	2.32			
Male	225	19.20	3.93	12.03	398	Significant (0.01)
Female	175	11.11	2.55			

Table-2 shows that the teachers working in private secondary schools face low level of job satisfaction ($t=17.45$, $p<0.01$) when contrasted with their counterparts working in government-aided secondary schools.

Table-2 likewise demonstrates that the female secondary school teachers face low level of job satisfaction ($t=12.03$, $p<0.01$) when contrasted with their male counterparts.



Graph 2: Job Satisfaction among the male and female teachers of Government and Private schools

RESULT

The teachers of Kapilvastu region working in private secondary schools have generously higher levels of occupational stress when contrasted with their counterparts working in government-aided secondary schools and private secondary schools teachers have altogether poor levels of job satisfaction when contrasted with their counterparts working in government-aided secondary schools.

The female secondary school teachers have higher levels of occupational stress when seen to their male counterparts. It is additionally observed that the female secondary school teachers are found to have altogether decreased levels of job satisfaction when contrasted with their male counterparts. The female secondary school teachers are more disappointed with the job than their counterparts.

CONCLUSION

A solid negative connection exists between the occupational stress and job satisfaction of the secondary school teachers. Secondary school teachers experience fluctuated levels of occupational stress and lower levels when sort of school (government/private) and sexual orientation are thought about, accordingly suggesting that the working conditions are diverse for the teachers. Effective education can be accomplished through the endeavors of very much qualified, equipped and effective teachers. Likewise, a negative connection between job satisfaction and occupational stress mirrors that when teachers are not happy with their jobs they will feel the stress of the occupation; so as to cut down the measure of occupational stress the job satisfaction ought to be expanded.

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A STUDY OF RISK ANALYSIS OF HIV PATIENTS IN SURKHET DISTRICT OF NEPAL

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ABSTRACT

Socio economic and social structures and the outcomes of its connection bothered the HIV pervasiveness among individuals, particularly have influenced ladies. This investigation is about age and gender explicit HIV dismalness in Surkhet District, Nepal. The principle target of the investigation is to discover the components that influence the HIV pervasiveness in Nepali society and the connections of various existing socio social and economic variables that have driven females helpless against HIV contamination particularly to housewives. Subjective and quantitative strategies were utilized for the information assortment. Patient XY was danger of various variables that need rehabilitation care. Among this psychosocial issue, is the unmistakable one in this way, nursing calling has imperative job in this viewpoint. A purposive sampling system was applied to incorporate each of the 234 seropositive patients who were under drug from focuses of Surkhet District, Nepal.

Keywords: HIV/AIDS, Rehabilitation, Patient, Nutrition, Man sex with man

INTRODUCTION

Human Immunodeficiency Virus (HIV) attack the blood stream through butt-centric , vaginal , or oral sex ; blood transfusion , sharing of intravenous drug infusing hardware and through mother to child during preceding birth over the placenta or during birth , or by means of breast feeding. The nearness of HIV in the blood stream doesn't imply that an individual has Acquired Immune Deficiency Syndrome (AIDS).

HIV is presently a day considered as a ceaseless manageable disease, instead of terminal illness. Like other interminable disease, HIV has likewise different mental, social and behavioral maladjustments that need rehabilitation, particularly in children

The health conveyance system is broad with in any event one health office (Sub Health Post or Health Post) in every Village Development Committee in the nation principally emanating from the standards of an essential health care approach. Female people group health volunteers have particularly reinforced the health conveyance system in Nepal in the course of the most recent two decades.

HIV in Nepal is described as concentrated scourge. In excess of 80 percent HIV diseases spread through heterosexual transmission. Individuals who infuse drugs, female sex laborers (FSWs) and men having intercourse with other men (MSM) are the key populaces at higher hazard spreading the scourge. It is evaluated that 55,626 individuals are living with HIV in Nepal in 2010.

Dominant part of diseases are happened among grown-up (15-49) male (58%) women of conceptive age gathering (28%) populaces, while 8% of contaminations are happened among children under 15 years old. The key populaces at higher hazard (IDUs, FSWs, MSM, male work transients and clients of FSWs) shared 58% of all grown-up HIV diseases. Most elevated number of contaminations is assessed is in the age gathering of 25-49 years who are economically profitable and sexually dynamic. The younger stratum of populace underneath the age of 15 has least number of contaminations and most are because of mother to child transmission.

Late aftereffects of diminished new HIV contaminations are credited to powerful counteraction mediations, especially among key high hazard populace gatherings, for example, IDUs, FSWs and their clients. In any case, the pace of new contaminations has expanded among MSM/TG in Nepal. In by and large, the grown-up (15-49) HIV commonness has begun declining gradually, while the predominance has been declining all the more quickly among young populaces (15-24).

With regards to HIV Rehabilitation is characterized as persistent procedure of strong consideration that incorporates both preventive and treatments. The rehabilitation care the two spreads debilitations of physical movement, decline from social inclusion and psychological impedances.

Nutritional stock to improve nourishment security for PLHIV has both physical and mental health improvement. Human Immune Deficiency Virus (HIV) tainted people are at a more serious danger of having malnutrition contrasted with General populace. Among those variables contagious diseases including in the mouth or throat, loss of hunger and higher occurrence of loose bowels that prompts malabsorption have a critical job to create malnutrition for PLHIV thus, Nutritional intercession or treatment is a key for PLHIV



Figure 1: The Vicious Cycle of Malnutrition and HIV

LITERATURE REVIEW

Ingrid Van der Heijden and Sharlene Swartz (2010) In the midst of the worldwide talk on children stranded and made helpless by HIV and AIDS, this paper investigates how social settings and social environments fit as a fiddle children's understanding of misery. The paper uncovers a focal mystery in regards to how the intercession's goal of discussing death and inspiring recollections of perished friends and family with young children is bewildered by social practices situated in ideas of silence and the need to protect children. The paper recognizes the 'culture of silence' encompassing death in some African settings, yet infers that companion drove procedures can possibly normally go around these social taboos, at the same time making a truly necessary space for young children to cry and talk among themselves, regardless of whether staying quiet at home within the sight of adults.

Shankar P R, Upadhyay D K, Subish P, Bhandari R B, Das B (2010) The present examination was done at the Manipal Teaching Hospital, a 700-bed showing emergency clinic in Pokhara, Western Nepal. This was an observational examination that used a review case notes survey system. The microorganisms secluded on culture and their antibiotic sensitivity designs were considered. Drug utilization was estimated by the characterized day by day portion (DDD) per 100 bed-days. The mean cost of the drugs was calculated. The percentage of drugs recommended by nonexclusive name and the percentages of fixed-portion blends utilized were noted. The fundamental demographic data of older inpatients, drug use designs, drug utilization utilizing DDD, creatures segregated and their antibiotic sensitivity designs, and the mean cost of the drugs were examined.

Eswarappa Mahesh, Manns Manohar John, Gurudev Channabasappa Konana, Rakesh Madhyastha Parampalli, Sujeeth Reddy Bande, Sarita Suryadevara (2017) The most forceful HIV-related renal disease is end-stage renal disease because of HIV-related nephropathy. Nearness of HIV disease used to be seen as a contraindication to renal transplantation for various reasons; worries for fuel of an effectively immunocompromised state by organization of extra immunosuppressants; the utilization of a constrained inventory of benefactor organs with obscure long haul results. Numerous investigations have revealed promising results at three to five years after kidney transplantations in patients treated with profoundly dynamic antiretroviral treatment, and HIV is never again a contraindication for renal transplant. Subsequently, we present eight HIV-positive patients who got live-related renal transplantation at our middle and their development.

Mahmoud Alameddine, Joshua S. Jue, [...], and Gaetano Ciancio (2017), Human immunodeficiency infection (HIV) contamination has for quite some time been a contraindication to kidney transplantation because of transplant immunosuppression, HIV-related renal brokenness, and nephrotoxicity related with antiretroviral treatment (ART). In any case, progresses in antiretroviral treatments and transplant immunosuppression regimens have enabled patients to effectively experience kidney transplantation. Rising information has demonstrated that kidney transplantation might be a practical alternative for fittingly chose HIV patients with end-stage renal disease (ESRD). In this survey, we talk about the signs, immunosuppression conventions, and results of kidney transplantation in HIV patients.

Mothobi NZ, Masters J, Marriott DJ (2018) An instance of tenofovir-actuated Fanconi disorder in a patient accepting antiretroviral treatment for HIV disease, with goals of the related electrolyte variations from the norm upon change from tenofovir disoproxil fumarate to tenofovir alafenamide fumarate, is accounted for. Tenofovir alafenamide fumarate, a novel prodrug of tenofovir containing fundamentally lower doses of tenofovir than tenofovir disoproxil fumarate, has been related with an ideal renal profile contrasted with tenofovir disoproxil fumarate. By and large, the uncommon confusion of tenofovir disoproxil fumarate-incited Fanconi disorder is managed by end of tenofovir. There are restricted reports of the effect of a change technique from tenofovir disoproxil fumarate to tenofovir alafenamide fumarate, which might be vital in patients unfit to end tenofovir.

MATERIALS AND METHODS

This was a cross sectional examination with purposive sampling from May 2015 – April 2016. The examination was attempted in three ARV focus in the Surkhet District, Nepal. All patients who were under medication from these focuses were remembered for the investigation. A purposive sampling strategy was applied to incorporate each of the 234 seropositive patients who were under medication from focuses of Surkhet District, Nepal. Meeting was directed by eye to eye talk with utilizing pre-trying semistructured

poll. Polls were pretested in BPKHS for its validity and unwavering quality. Composed educated comprehended assent was taken before the examination and classification was kept up with the data accumulated. Survey remembered data for socioeconomic and demographic attributes and epidemiological variables related with HIV/AIDS. The factors were coded and entered in Excel software. The factual examination was finished by SPSS 11.5 adaptation to calculate frequency, percentage and mean.

ANALYSIS

HIV infection has kept up to be a worldwide danger to mankind definitely more broad than it was anticipated 10 years prior. The pace of the pandemic is quickening everywhere throughout the word and particularly south Asia and subSaharan locale. This investigation indicated that the greater part of the respondents among the HIV/AIDS patients were male (71%) and the male to female proportion was accounted for to be 2.4 to 1. The mean age of patients to be 29.6 years and the male to female proportion was 2.4:1 which is profoundly predictable with our investigation. This could be because of the hazard conduct male partners receive in a man centric culture. This discovering was somewhat higher in which 66% males were HIV infected yet steady that indicated 74.3% of the males were infected. Our investigation found that 35.5% of the patients accepted their heterosexual relationship as a method of transmission of HIV and the other 35.9% referenced their needle sharing habit during intravenous drug use as the reason behind the transmission.

Table 1: Socio-demographic characteristics of respondents (n=234)

Characteristics		Frequency	Percentage
Sex	Male	166	71.0
	Female	68	29.0
Age Group (Years)	0 - 10	6	2.6
	10-20	60	25.6
	20-30	132	56.4
	30-40	36	15.4
	>40	0	0.0
Marital status	Married	177	75.5
	Unmarried	36	15.5
	Widow / Widower / Separated	21	9.0
	Others	0	0.0
Education level	Informal education	75	32.1
	Primary education	114	48.7
	Secondary and above	45	19.2
Occupation	Unemployed	73	31.2
	House wife	53	22.6
	Skilled/semi-skilled laborer	64	27.4
	Business/sales	22	9.4
	Others	22	9.4

Overall heterosexual transmission is accounted for to be the most well-known method of transmission. In a comparable investigation of a creator showing emergency clinic, Pokhara 61% of the patients were found to have transmitted HIV infection through unsafe hetero sexual relationship and the other 22% transmitted by sharing needles among their intravenous drug user friends. The 62% of his patients transmitted the infection secondary to unsafe heterosexual contacts and this discovering is like our investigation. 56.3% of the patients in inquire about were infected through sexual contact.

Table 2: Distribution of high risk behavior among the respondents (n = 234)

Characteristics	Frequency	Percentage
Risk behavior		
Intravenous Drug Use	77	32.9
Commercial Sex Workers	84	35.9
Men Sex with Men	2	0.9
No any significant risk behavior	71	30.3

Table 3: Mode of transmission for HIV infections among the respondents (n = 234)

Characteristics	Frequency	Percentage
Mode of transmission		
Heterosexual	83	35.5
Needle sharing	84	35.9
From husband	54	23.1
Mother to child	1	0.4
Blood transfusion	5	2.1
Others	5	2.1

Huge extents of individuals who have HIV infection however aren't under medication are excluded from this investigation which is one of the principle restriction of this examination. Thus, retrospective request of the method of HIV infection transmission is one of different constraints.

Health calling and network health worker have a crucial job to clarify the significance of psychosocial support for the PLHIV from their family, friends, and network everywhere particularly for females

The mental concern was regular among children than adult as per his examination structure all members 23% of children demonstrated sentiment of outrage and 33 children shows visit disorders, from this 19 felt separated, 15 were dreadful.

RESULTS

Among the participants, the mean age was calculated to be 33 years. It was additionally discovered that 70.9% of them were male and the greater part of them were in the age gathering of 30-39 years. It was likewise detailed that 75.5% of them were hitched and 32.1% of them had not experienced any conventional instruction. It was likewise seen that around 33% (31.2%) of them were jobless (Table 1).

Among the participants, more than 33% of them had high hazard conduct with the commercial sex worker (35.9%) and around 33% were intravenous drug users (32.9%) (Table 2).

It was additionally seen that more than 33% of them accepted heterosexual (35.5%) and needle sharing habit among friends (35.9%) as the reason for HIV transmission to them. Not many detailed blood transfusion (2.1%) and mother to child transmission (1.3%) as the reason behind the infection (Table 3).

CONCLUSION

Unsafe high risk conduct with business sexual worker and needle sharing habit were seen as the related with HIV/AIDS patients. This intercession aches time overcomers of the patient and prompts age related CVD and other constant disease that needs a long lasting rehabilitation care. Patient XY was risk of different components that need rehabilitation care. Among this psychosocial issue, is the noticeable one along these lines, nursing calling has fundamental job in this perspective. Therefore, Nurse who works in this hospital ought to apply comprehensive consideration for patients with HIV/AIDS. The hospital should likewise join rehabilitation care as one segment of care in ART facility.

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AN ANALYTICAL PROCESS AND SYNTHESIS OF THE BENZALKONIUM CHLORIDE DETERMINATION IN BETAXOLOL (0.5 PERCENT) OPHTHALMIC FORMULATIONS

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ABSTRACT

High-performance liquid chromatography has been utilized to quantitative benzalkonium chloride (alkylbenzyltrimethylammonium chloride) in complex ophthalmic details at or beneath fixation levels of 50 ppm. The method includes a one-advance dilution for sample planning and direct injection; along these lines, recuperation as well as transformation issues are nonexistent. The measure is snappy, explicit, reproducible, and straightforward. This method is snappy, explicit, and particularly helpful for medicate item stability contemplates. Likewise, on the grounds that the method recognizes every homologue, it tends to be reached out to routinely decide the homologue proportion for quality control purposes. The developed method is reasonable for the normal analysis of Benzalkonium chloride in Betaxolol (0.5%) ophthalmic arrangements just as for the stability thinks about.

Keywords: Benzalkonium Chloride, Ophthalmic, Betaxolol, HPLC, Alky

INTRODUCTION

The assurance of low concentration additive in pharmaceutical plan establishes a difficult issue in current pharmaceutical analysis. This investigation was directed to develop and approve stability demonstrating High Performance Liquid Chromatography (HPLC) method for assay of benzalonium chloride in betaxolol 0.5% ophthalmic solution

Ophthalmic arrangements are sterile fluid or oily solutions or suspensions of at least one dynamic materials. These items are regularly stuffed in appropriate multi-portion compartments that permit the instillation of progressive drops of the readiness.

Benzalkonium chloride is one of a quaternary ammonium aggravate, a joined blend of alkylbenzyltrimethylammonium chlorides containing the chemical equation $[C_6H_5CH_2N(CH_3)_2R]Cl$, where R is an alkyl group alterable from C_8H_{17} to $C_{18}H_{37}$. It is a blend of alkylbenzyltrimethylammonium chlorides of different even numbered alkyl chain lengths. This item is a nitrogenous cationic surface-acting agent having a place with the quaternary ammonium group. It has three primary classes of utilization; as a biocide, a cationic surfactant and stage move agent in the chemical industry. With a property of antimicrobial agent, benzalkonium chloride can be securely utilized in pharmaceuticals at lower concentrations from 0.002% to 0.02% yet it tends to be shift up to 0.2% in ophthalmic details relying upon different elements.

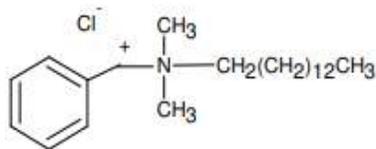


Figure 1: Structure of benzalkonium chloride (BKC)

Betaxolol hydrochloride is a white, crystalline powder, soluble in water, with an atomic load of 343.89. Betaxolol chloride in ophthalmic arrangements has been demonstrated to be successful in bringing down intraocular pressure and is shown in the treatment of ocular hypertension and chronic open-point glaucoma. The chemical structure is available in Figure 2.

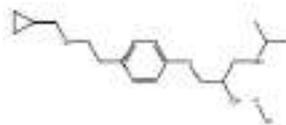


Figure 2: Structural formulas of Betaxolol hydrochloride

As utilization of the proposed method, it was utilized for BKC estimation in different advertised ophthalmic solutions and during

being used stability study.

In this work we present a straightforward robust, accurate and precise method for the assurance of benzalkonium chloride in betaxolol (0.5%) ophthalmic solutions.

LITERATURE REVIEW

J. Mehta, K. Patidar and N. Vyas (2010) The analyte was chromatographed on a Waters Spherisorb CN, (4.6x250 mm) section stuffed with particles of 5 µm. The mobile phase, advanced through a trial configuration, was a 40:60 (v/v) blend of potassium dihydrogen orthophosphate cradle (pH 5.5) and acetonitrile, pumped at a flow rate of 1.0 mL/min at keeping up section temperature at 30 °C. Greatest UV identification was accomplished at 210 nm. The method was approved as far as linearity, repeatability, middle of the road exactness and method precision. The method was demonstrated to be robust, opposing to little deliberate changes in pH, flow rate and structure (organic ratio) of the mobile phase. The method was effectively applied for the assurance of BKC in a pharmaceutical definition of latanoprost ophthalmic solution with no impedance from basic excipients and drug substance.

Ankit Agarwal, Sunil Tiwari and Kashyap Nagariya (2013) To develop a basic, fast and accurate HPLC method for concurrent quantitative assurance of Latanoprost, Timolol and Benzalkonium chloride (BAK) in ophthalmic solution. Chromatographic separation was accomplished with PDA indicator utilizing Inertsil C18, 300 x 3.9mm, 5µm turn around phase systematic section. The mobile phase comprise of cradle: acetonitrile (40: 60 v/v), was gone through the section at flow rate of 1.0 ml/min. The method was performed at wavelength angle .The test was completed at 30oC. The calibration bands were straight in the concentration scope of 25% to 150% of the working concentration (r2 > 0.999). The lower furthest reaches of quantification was 0.8, 0.9 and 0.6 for Timolol, BAK and Latanoprost individually.

Labranche LP, Dumont SN, Levesque S and Carrier A. (2007) A basic and quick turned around phase HPLC method was developed for routine analysis of all out benzalkonium chloride in ophthalmic plans. The analysis includes basic sample preparation utilizing the mobile phase as the diluent. The method utilizes a Waters SymmetryShield RP-18 (75 mm x 4.6 mm, 3.5 microm molecule size) section and a mobile phase comprising of a blend of methanol-potassium phosphate (pH 3.0; 7.5 mM) (68:32, v/v). Utilizing these conditions, three significant homologs of the benzalkonium chloride (C(12), C(14) and C(16)) were separated in less then 7 min. Moreover, recuperations running from 97% to 99% at three degrees of the name guarantee of complete benzalkonium chloride content were acquired for various ophthalmic details. Information supporting the development and approval of this method are displayed.

Rakshit Kanubhai Trivedi, Swetha Challa , Mukesh C. Patelb , Dipika R. Trivedi and Parimal M. Chatrabhuji (2013) A stability-demonstrating RP-UPLC method was developed for the concurrent assurance of fluticasone furoate (FF) and benzalkonium chloride (BKC) in a pneumatic drug item. The ideal chromatographic separation was accomplished on the BEH C18, 1.7 µm (50x2.1 mm) segment, utilizing isocratic elution at 215 nm finder wavelength. The improved mobile phase comprised of 0.05 M potassium dihydrogen phosphate cushion and acetonitrile in the ratio of 45:55% v/v. The developed method separated FF and BKC inside 5 minutes. The stability-demonstrating capacity was set up by constrained debasement tests. Moreover, this method can be stretched out for singular estimation of FF and BKC in different economically accessible aspiratory drug items.

Bhaskar Daravath, Gouru Santhosh Reddy and Kamarapu SK(2014) The present investigation depicts method development and ensuing approval of RP-HPLC method for the synchronous estimation of Diethylcarbamazine citrate and Chlorpheniramine maleate in tablet dosage structures. Switched phase high-performance liquid chromatography (RP-HPLC) method was developed and approved for synchronous estimation of Diethylcarbamazine citrate and Chlorpheniramine maleate in consolidated dosage structures. RP-HPLC separation was accomplished by utilizing Kromasil C18 segment (250mm 4.6mm, 5mm) with mobile phase comprising of (80:20) Acetonitrile: Potassium di hydrogen phosphate solution (0.01M, pH 3.0 modifying with Ortho phosphoric corrosive) with a flow rate 1.0 ml/min(UV location 238nm).

MATERIALS AND METHODS

Chemicals

Benzalkonium chloride working standard (100% immaculateness) got from Merck, Germany. Acetonitrile and frosty acidic corrosive (HPLC Grade, SDFCL). Sodium acetic acid derivation, disodium edetate sodium chloride (Charlo Erba) Purified water is. Ltd. Betaxolol standard (99% virtue) and betaxolol 0.5% ophthalmic solution samples. Gotten from Bash Pharma, Co Sudan.

Instruments

Analysis was performed on High Performance Liquid Chromatography-HPLC (SHIMADZU, JAPAN) outfitted with UFLC line pump (model LC-20AB) and Prominence auto sampler (model SIL-20AC), Column L10, CN (250 mm x 4.6, 10 µm). Noticeable quality UV/VIS Detector (model SPD-20AV), Prominence Degassing Unit (mode DGU20A 3 R) and section broiler (model CTO-20A). Mettler Toledo Balance MS model 1050 DU (Switzerland). Ultrasonicater (Model Elmasonic S80, Germany). Nylon Filter 0.45 µm. Information securing was made with SHIMADZU LC -Solution programming.

Liquid chromatographic conditions

Injection volume 100 µL, flow rate; 2.0 mL/minute, discovery wavelength of 254 nm;column stove 30°C mobile phase (0.1M sodium acetic acid derivation, acetonitrile (55:45 v /v).

Methods

- Mobile phase preparation:** Precisely 0.1M Sodium acetic acid derivation buffer powder was readied and the pH was changed in accordance with 5.00 with icy acidic Acid. The mobile phase was set up by mixing 0.1 M sodium acetic acid derivation buffer and acetonitrile (45% 55%, v/v). The mixture was sifted and degassed for 10 minutes by sonication.
- Benzalkonium chloride standard stock solution:** Precisely 100 mg of benzalkonium chloride standard were accurately gauged and moved into a 100 ml volumetric flask; the volume was finished up to check utilizing purged water and sonicated for 1 moment to create a solution having a concentration of 1000 µg/ml.
- Preparation of placebo solution:** The solution containing betaxolol excipients (disodium edetate sodium chloride) barring benzalkonium chloride is utilized as fake treatment.

RESULTS AND DISCUSSION

System suitability test

A stock solution of benzalkonium chloride of a concentration of 200 µg/ml was arranged and was injected multiple times and the results got are appeared in Table 1 and the acquired chromatogram is appeared in Figure 3.

Table 1: Results of System suitability test.

Injection #	Ret. Time		Sum of Peak Area	Theor. Plate		Tailing Factor	
	C12	C14		C12	C14	C12	C14
1	8.2	10.3	209856	3555	3686	1.058	0.954
2	8.2	10.3	209775	3629	3829	1.058	0.954
3	8.2	10.3	210369	3620	3882	1.057	0.951
4	8.2	10.2	209576	3624	3896	1.058	0.96
5	8.1	10.2	209485	3628	3878	1.057	0.95
Average	8.18	10.26	209812.2	3661	3840	1.058	0.954
STDEV	0.04	0.06	345	31.62	87.21	0.001	0.004
RSD%	0.55	0.55	0.16	0.88	2.3	0.05	0.41

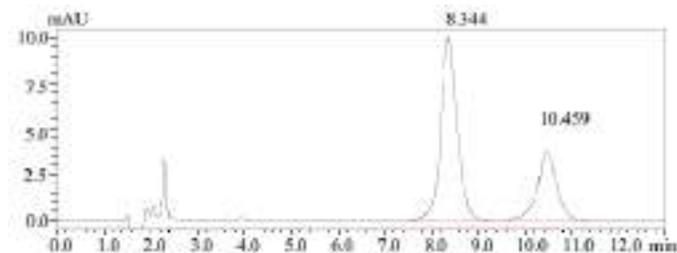


Figure 3: The chromatogram of benzalkonium chloride

Stability of solution

A benzalkonium chloride solution (200µg/ml) was injected into HPLC framework as fresh sample, and afterward was injected following 6 hours and following 24 hours. A fresh test solution was arranged and investigated following six hours and 24 hours. At each time, the sample was investigated multiple times. Interday RSD% were 0.19, 33 and 33%. RSD% of entirety tops region of fresh injected working standard of benzalkonium chloride, following 6 hours and following 24 hours was determined and saw as 0.28%.

Linearity

A progression of seven concentrating levels (100.15-160.24, 180.27, 200.30, 220.33, 240.36 and 260.39 µg/ml) were set up from the stock solution (1000 µg/ml) and the solutions were estimated and the calibration bend was plotted. The relapse condition acquired was: $Y=1051.6x - 8405.4$, $R^2=0.9995$.

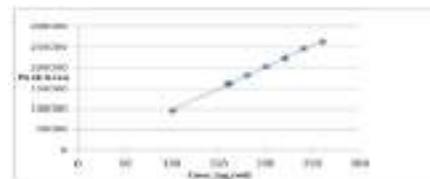


Figure 4: The Calibration Curve plot of benzalkonium chloride

Specificity

Placebo of the betaxolol (0.5%) ophthalmic solution, equal to the sample volume was taken and solution arranged and investigated. No interferences peaks were appeared in the got chromatogram.

Accuracy

Three unique quantities (low, medium and high for example 80%, 100% and 130% of the standard test solution) of the legitimate standard were arranged and injected in triplicate for each spike level. The results acquired were adequate (acknowledgment recuperation criteria % is 98%-102 %). See Table 2.

Table 2: Results of the recovery study

Conc.	80%	100%	130%
Avg. assay (n=3)	79.55%	100.23%	129.81%
Avg. recovery	99.94%	100.23%	99.78%
RSD%	1.57	1.56	0.73

Precision

Investigation of the precision of the assay was controlled by repeatability (intra-day) and middle precision (between day) in triplicate. Repeatability was assessed by assaying of eight judgments at 100% of the test concentrations. Moderate precision was surveyed by looking at the assay of eight judgments at 100% of the test concentrations on various days (3 days) arranged in a similar way for repeatability. The RSD% acquired was

- Intra-day precision:**

Table 3: Benzalkonium chloride results of the intra-day precision test (repeatability)

Day	Average Assay (n=3)	STDEV	RSD%
Day 1	99.05	0.206	0.40
Day 2	100.39%	0.328	0.33
Day 3	100.96%	0.504	0.58

- Intermediate precision:** The general intermediate precision of the method is appeared in Table 4. The results were inside the satisfactory range, for example $RSD \leq 2$.

Table 4: Overall intermediate precision results

Days	Avg. Assay	STDEV	RSD%
Day 1	98.95	1.056	1.08
Day 2	100.39		
Day 3	101.96		
Overall average	100.77		

Robustness

The Robustness was dictated by injecting triplicate injections of standard solution. The parameters tried were, flow rate, section broiler temperature and recognition wavelength mobile phase pH.

CONCLUSION

This investigation displays a basic approved HPLC method for estimation of BAC in an assortment of ophthalmic preparations. The developed method is explicit, quick, robust, precise and accurate. A basic, sensitive, cost-viable method for the assurance of benzalkonium chloride in betaxolol 0.5% ophthalmic solution was developed and approved. The developed method meets the ICH rules for method approval.

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A STUDY OF SECURITY ISSUES IN STEGANOGRAPHY METHODOLOGICAL RESEARCH

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ABSTRACT

Information or data is vital asset to us. Steganography is the specialty of secured, or hidden, writing. The reason for steganography is undercover communication to hide the presence of a message from a third party. This proposed framework manages executing security-utilizing Steganography. The mediums are typically images, video, audio and so forth., wherein explicit bits or the general space is normally 'corrupted' with 'significant' data. In this technology, the end user recognizes an image which is going to go about as the bearer of data. The data file is encrypted and authenticated. This message is hidden in the image. The image whenever hacked or translated by a third party user will open up in any image previewer yet not showing the data. This shields the data from being imperceptible and consequently be secure during transmission. The user in the less than desirable end utilizes another bit of code to retrieve the data from the image.

Keyword: Steganography, Cryptography, Privacy, Security, Authentication

INTRODUCTION

Data or information is extremely significant to any association or any distinct individual. None of us prefers our discussion being caught as it contains the capability of being abused. Security and authentication techniques like computerized watermarks; steganographic strategies and other data installing calculations have contributed a lot to improve the different security highlights and to save the protected innovation. In this regard, steganographic techniques have been the best in supporting stowing away of basic information in manners that forestall the recognition of hidden messages. Steganography is commonly progressively favored media in view of its innocuousness and fascination.

While cryptography scrambles the message with the goal that it can't be comprehended, steganography hides the data so it can't be watched. Various kinds of steganographic techniques utilize color composition, luminance, surprising arranging of color palettes, misrepresented noise, and connection between colors lists and so on. The fundamental goals of the security or steganographic calculations ought to be, for example, to give classification, data integrity and authentication.

The significant downsides of steganography are that one can hide next to no information in the media chose. A few techniques are following

- Encoding secret message in text/documents
- Encoding secret message in audio
- Encoding secret message in images

TYPES OF STEGANOGRAPHY

Steganography might be delegated pure, symmetric and asymmetric while pure steganography needn't bother with any trade of information, symmetric and asymmetric need to trade of keys earlier sending the messages. Steganography is profoundly subject to the kind of media being utilized to hide the information. Medium being commonly utilized incorporate text, images, audio files, and network conventions utilized in network transmissions.

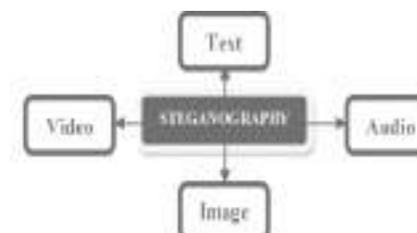


Figure 1: Types of Steganography

LITERATURE REVIEW

Richa Gupta, Sunny Gupta, Anuradha Singhal (2014) Information or data is exceptionally essential asset to us. Along these lines securing the information turns into even more fundamental. The communication media through which we send data doesn't give data security, so different strategies for securing data are required. Information concealing assumes an extremely urgent job today. It gave strategies to encrypting the information with the goal that it gets unreadable for any unintended user. This paper audits the techniques that exist for data covering up and by what means can these be joined to give another degree of security.

Chandra Prakash Shukla, Ramneet S Chadha, Abhishek Kumar (2014) In numerous associations like FBI and RAW offer private and significant data on any network. Hackers are consistently in sit tight for it. They hack the data and use it for their advantage. These people groups attempt to utilize these data to hurt somebody, they deal these significant data to adversary nations. In either case, message sender or collector needs to address the cost. To shield from these unfortunate demonstrations, we can utilize Steganography and cryptography together to guarantee security of the message. One of the most effective and secure calculations is RSA Algorithm for changing over text message to figure text. Steganography is the craftsmanship and study of writing hidden messages so that nobody separated from the sender and planned beneficiary even acknowledges there is a hidden message and Cryptography is a component to change over message or data in non readable structure.

Ronak Doshi, Pratik Jain, Lalit Gupta (2012) Steganography is a strategy for secretly communicating. Steganography is a procedure that includes concealing a message in a proper transporter for instance an image or an audio file. The bearer would then be able to be sent to a collector without any other individual realizing that it contains a hidden message. This is a procedure, which can be utilized for instance by social liberties associations in oppressive states to communicate their message to the outside world without their very own administration monitoring it. Steganalysis is a recently developing part of data preparing that looks for the recognizable proof of steganographic covers, and if conceivable message extraction. It is like cryptanalysis in cryptography. The technique is antiquated developing beast that has increased changeless notification as it have recently entered the universe of computerized communication security. Objective isn't just to forestall the message being read yet additionally to hide its reality.

Rupali Gawade, Priyanka Shetye, Vaibhavi Bhosale, P N. Sawantdesai (2014) Steganography is characterized as the workmanship and study of concealing information, which is a procedure that includes concealing a message in a proper bearer for instance an image file or IP Header. The transporter would then be able to be sent to a collector without any other individual realizing that it contains a hidden message. In this venture we present a plan to send message indistinctly between focuses over Internet utilizing any encryption calculation which is utilized to encrypt mystery message, and afterward installs the balanced message into recognizable proof field of IP header. This proposition examines the presence of clandestine directs in PC networks by investigating the vehicle and the Internet layers of the TCP/IP convention suite. Two methodologies for data covering up are distinguished: parcel header control and bundle arranging. The bundle arranging approach is reenacted at the network layer which gives a plausibility of parcel arranging under differing network conditions.

Marwa E. Saleh, Abdelmgeid A. Aly, Fatma A. Omara (2016) In spite of the fact that cryptography and steganography could be utilized to give data security; every one of them has an issue. Cryptography issue is that, the figure text looks trivial, so the aggressor will intrude on the transmission or make increasingly cautious minds the data from the sender to the beneficiary. Steganography issue is that once the nearness of hidden information is uncovered or even suspected, the message is gotten known. As per the work in this paper, a blended technique for data security has been proposed utilizing Cryptography and Steganography techniques to improve the security of the information. Right off the bat, the Advanced Encryption Standard (AES) calculation has been changed and used to encrypt the mystery message. Besides, the encrypted message has been hidden utilizing strategy. In this manner, two degrees of security have been given utilizing the proposed cross breed technique. Furthermore, the proposed technique gives high embedding capacity and excellent stego images.

PROPOSED SYSTEM

The algorithm present in the current framework was fairly entangled. In cryptography, the importance of data has been changed. Along these lines, it makes goal to the hacker to hack or devastate the data. In our proposed framework, we executing another technology called steganography for data security, it change the importance of data as well as hides the nearness of data from the hackers. The fundamental target of this framework is concealing enormous measure of encrypted and authenticated data regardless of the size, measurements of the image and without upsetting the lucidity of the image.

ENCRYPTION

In the encryption procedure from the message every single printable character involves 7 bits and the last piece esteem is 0. In the initial step I am taking 8 characters one after another from the data file and the last character 7bits are changed in accordance with its past 7 characters and these 7 characters are kept up independently in another file. Like that each 8 characters are changed over in to 7 characters and all these encrypted characters are kept up independently in another file (say encr1). After that by utilizing an arbitrary capacity we create a 4 piece polynomial. Take 4 characters from the encrypted file and by utilizing this polynomial perform modulo-2 division activity on these 4 characters then we will get a rest of 3bits. In the second step of encryption these 4 characters, polynomial and the rest of balanced in 5 bytes. These five bytes are kept up independently in another file (say encr2). Like for each 4 characters of first encrypted file subsequent to performing modulo-2 division activity, 5 bytes are kept up in the file encr2.

A. Data embed

This method manages distinguishing the (encrypted data) figure text with key (encr2) and the image to install the data before it very well may be transmitted. Open the given image files in the binary mode and locate the size of the first image. This size is kept up in the image itself by utilizing a unique mark which is helpful to retrieve the data from the image. Presently include figure text from the file encr2.cmp to the image. Presently the image is ready to transmit. In the event that the image already contains a few data you can't include some more data for a similar image. So before embedding data check whether the image contains data or not.

B. Data retrieve

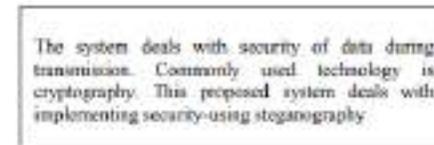
Subsequent to getting the image through certain media, the end user additionally opens the image in the binary mode and checks whether the image contains the extraordinary mark or not. On the off chance that mark discovered, at that point image contains data. At that point get the first size of the image from that mark. Presently with the exception of unique data of the image separate data from the image up to the uncommon mark. This is encrypted data (figure text). This data is kept up in a file say decrypt 2. For this data check authentication whether data is corrupted or not and afterward unscramble the data to get the first message. Take five characters from the retrieved data file (decrypt2.) and distinguish the key from the fifth character and by utilizing this key perform modulo 2 divisions on these five characters. On the off chance that the rest of zero, at that point there is no corruption in the data generally data is corrupted. On the off chance that the data isn't corrupted, at that point expel key and leftover portion from the five characters and organize the bits in 4 bytes to get the encrypted data. These 4 bytes are kept up independently in an uncommon file say dect1. Like that for each 5 bytes from decrypt 1. Subsequent to evacuating key and leftover portion the 4bytes are kept up in the file dect1.cmp.This is the encrypted file without key.

C. Decryption

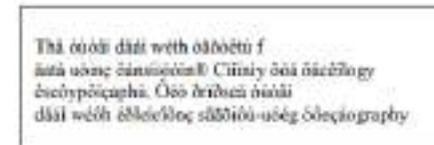
Take 7 bytes from the encrypted file decrypt 1. what's more, unscramble these bytes so that take last bit from these 7 bytes and orchestrate them in another byte. Make the last bit estimation of these 7 bytes just as the new byte as 0. Presently keep up these 8 bytes in unique file say data1. This is the unscrambled data. Like that for each 7 bytes from the encrypted file structure 8 bytes and keep up these bytes in the file data1. This file contains the original data.

SAMPLE TEST RESULTS

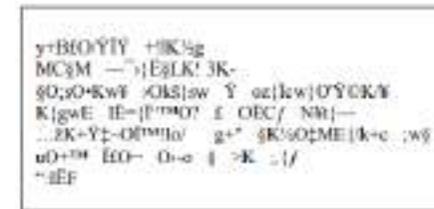
A. Encoding: Sample – 1 (image pcl.jpeg)



Plain text (175 bytes)



Encrypted data (156 bytes)



Encrypted data with key(195 bytes)



Figure 2: Actual image (pc1.jpeg) 160 x 120

B. Decoding

Retrieved data from the image pc1.jpeg



Figure 3: Stego image (pc1.jpeg) 160 x 120

```
y=B40/YIV +HK/g
MCgM -}EgLK! 3K-
5O.sO+KwY )Ok!sw Y az(few)O*YCK/Y
KlgwE IE={P*MO? f OEC/ Nñ!—
...JK+Y+~O!M!In' g+* gK%O!ME!A+c ;
w@uO+™ IEO~ O=0 § >K ;{/
```

Retrieved data from stego image(195 bytes)

```
Thá óróái dáai weth óróóera f
dáai róiteq óánsiékóón@ Chiny-óá áóóélogy
ésoóypóáqphú. Óóó áróóera óróái
dáai wéih éóíeíéíéq sááíóóó-óóéq áóéqáqphú
```

Authenticated data (encrypted data) (156 bytes)

```
The system deals with security of data during
transmission. Commonly used technology is
cryptology. This proposed system deals with
implementing security-using steganography
```

Decrypted data (175 bytes)

RESULTS ANALYSIS

We have tested our method for various arrangements of images just as messages. For every single ordinary jpeg and the bmp images the proposed method is working fine. The analysis for various data is appeared in the beneath table 1.

TABLE 1: Stego Image Size

Image Size (bytes) IS	Data size (bytes)	After encryption Size (bytes)	Encrypted data with key (bytes) ES	Stego Image size (bytes) IS+E+S	Data retrieved from stegoimage (After decryption) (bytes)
4.608	1	4	5	4.613	4
4.608	2	4	5	4.613	4
4.608	3	4	5	4.613	4
4.608	4	4	5	4.613	4

CONCLUSIONS

Steganography is an intriguing and successful method of concealing data that has been utilized since forever. Methods that can be utilized to reveal such naughty strategies, yet the initial step are mindfulness that such methods even exist. There are numerous valid justifications too to utilize this sort of data stowing away, including watermarking or an increasingly secure focal stockpiling method for such things as passwords, or key procedures. In any case, the technology is anything but difficult to utilize and hard to identify. The more that you think about its highlights and usefulness, the more ahead you will be in the game.

In this framework the planned tool manages giving simple and secure information. The data is encrypted with key and embedded with an Image which is ready to send through communication channels. It will be solid and secure. At the less than desirable end, the tool checks the accessibility of data and authenticates the data. It retrieves data from the stego image and decrypts it. This bundle contains two sessions. The main sessions manages Embedding, Retrieving and Authentication of data. The subsequent sessions give the utilities to encryption and decryption of data.

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THINKING AND AGRICULTURAL PROBLEMS OF NEHRU JI

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When Pandit Jawaharlal Nehru became the Prime Minister of India. The problem of agriculture in India was very serious then. Production here was so low that people could not get enough food. The fertile earth was vast and vast in India but could not be produced. Food was sourced from abroad, then people of India used to get a lot of food. If food does not come from abroad, then millions of Indians would spend many days without food. Nehruji was very upset with this problem. The idea of agricultural development developed in the mind of Nehru ji regarding the problem of agriculture in India. He started to solve the problem of irrigation first to solve the problem of agriculture. For this, he started arranging tap-wells in various provinces of India. Tubewells were buried in thousands of villages of different provinces. Which solved the problem of irrigation to a large extent. Now he had a problem of manure. To solve this problem, he started the production of chemical fertilizers in the provinces of Bihar, Bengal, Orissa, Uttar Pradesh, Gujarat, Maharashtra etc. And from this it started being distributed in different provinces of the country. Farmers in India started buying this manure and giving it to the fields. For this, Nehru called many agricultural scientists from abroad to India. These scientists started wandering in rural areas to teach new techniques of agriculture. In which Indian peasant people got inspiration of new technology of agriculture. Farmers in India traditionally used to cultivate from plow.

Due to which the fields could not be plowed properly and could not be produced. Nehru ji imported tractors, plows, fars from abroad and distributed among the farmers of India started using these instruments. Which led to a growth in production in agriculture.

Seed was a widespread problem for advanced agriculture in India. Traditionally people here kept seeds of paddy, wheat, corn etc. and used the same people used to do farming. There were no advanced seeds, so the production in agriculture could not increase. Nehru imported advanced seeds from countries like Japan, America, France, Russia etc. for production in agriculture. And distributed it among the farmers. Farmers used these seeds in agriculture, this led to good results in agriculture. Production increased. This type of initiative was called the Green Revolution. This led to good development in agriculture. Land in India was useful for agriculture, but due to lack of resources, farmers were unable to use the land. Millions of acres of land was lying like this. Nehru developed a consciousness to make the degraded lands cultivable for the development of agriculture. This had a wide impact on the farmers. The peasants of India started cultivating the fallow land to make it arable and gradually started to produce food in it. This increased the level of production in India and led to a fall in the level of imports from abroad. In this way inspiration of food production was generated in the people. Nehru started making dams on big rivers and started producing electricity by making dams. In areas where there were no rivers, irrigation was made by setting up tube wells. In this way, the production of agriculture increased gradually in India and due to the production of agriculture, the poor started getting rich food. Nehru ji played a heartfelt role in the operation of this system. As a result of his role agriculture production increased in India and people in India started to get a lot of food. In this way, Nehru played an important role in the development of agriculture by taking help from abroad. He traveled to America and Russia and made several treaties for cooperation in the field of agriculture. As a result of this treaty, advanced agricultural machinery advanced seeds started coming to India. These instruments were distributed among the farmers. Due to which, the peasant people gradually started the process of development in this area. Agricultural scientists were called from abroad. Agricultural scientists inspected Indian farms. The farmers here were encouraged to plant different types of crops in different fields, after getting inspiration from it, people started farming. Gradually there was development in agriculture. Farmers started using different types of advanced seeds from abroad. This led to widespread change in agriculture. Gradually, peasant people used improved seeds.

The use of advanced tools accelerated the process of development of agriculture. Grain production increased gradually. All these works were executed during Nehru's prime ministership. This work was implemented not only in one province but in all the provinces of India. This led to extensive development in the production of agriculture in all the provinces. The problem of hunger was gradually diagnosed in India by increasing production. With the increase in production, the poor and laborers also started getting food. Fruits were also developed for development in agriculture. Improved variety of flowering plants were imported from abroad in India, plants of reed, banana, pear, apple etc. were imported and planted from abroad. This also led to a wide increase in the production of fruits. The farmers of India started producing and selling fruits in the market. Large quantities of fruits began to be exported abroad. As a result of exports, India started getting foreign exchange profits on a large scale. This increased India's fruit exports. The consciousness of planting fruit trees was awakened among the people. Millions of trees were planted in the flat plains of Bihar. Millions of apple plants were planted in Kashmir. This work started growing uniformly throughout India. Farmers in the areas where there were fruits started planting trees of those fruits. In this way, a wide variety of fruit trees were planted in India and the production of fruits increased. This led to the export of fruits from India to abroad. The Government of India received a large amount of foreign exchange from the export of fruits. In this way, Nehru played a wide role in the production of grains and fruits during his prime ministership. Nehru worked tirelessly to bring India into the ranks of a prosperous nation. As a result, India grew widely. Even the problem of food and fruits was widely diagnosed, due to which the

economic condition of India gradually started improving and India's income started increasing. With Nehruji's untiring efforts, India's economic system, which had been exploited for decades, turned into an independent system.

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A STUDY OF OBESITY IN RELATION TO PHYSICAL FITNESS AMONG PEOPLES

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ABSTRACT

The purpose of the study was to evaluate the obesity among peoples in relation to their physical activity level and physical fitness. A total 100 peoples for the present study were purposively selected from Gurdaspur district, aged 25 to 35 years. Statistical analysis was performed using SPSS version 16.0 for windows (SPSS Inc, Chicago, IL, USA). The data was presented as descriptive statistics such as mean, standard deviation, minimum value, maximum value etc. Karl Pearson's product moment coefficient of correlation was computed to assess the relationship among obesity, physical fitness and physical activity among peoples.

INTRODUCTION

The increasing prevalence of childhood obesity and overweight has been recognized as one of the most serious public health problems. It is estimated that worldwide over 22 million peoples under the age of five are severely overweight. Overweight in peoples and adolescents are increasingly common while physical fitness in adolescents is declining. Lower fitness in adolescents may track into adulthood. The study of obesity in relation to disease and physical fitness is of major concern to those interested in child growth and development, as the prevalence of childhood obesity is increasing rapidly worldwide. Obesity is associated with several risk factors for the development of heart diseases and other chronic problems including hyperlipidaemia, hyperinsulinemia, hypertension and early atherosclerosis.

A number of studies have identified over consumption of high calorie diets as major causes of overweight and obesity among peoples. Physical inactivity is found to be a major contributor to the high incidence of overweight and obesity among peoples and adolescents and it is significantly related to risk factor of cardiovascular diseases. Another reason for obesity or fatness among peoples is watching television or playing video games which are more desirable and easier than physically participating in activities themselves. Even our systems because of limited financial resources have contributed to a sedentary life style by devoting fewer resources to physical activity instructions, play grounds. The causes of childhood obesity are multi factorial, including genetic predisposition; events occurring in the early postnatal period. Overweight and obesity has been called a global epidemic by the W.H.O(2000) The prevalence of overweight and obesity is especially dramatic in economically developed countries Wang and Lobstein(2006) and not only in adults but also in peoples and adolescents. In Germany for instance, 17% of adolescents aged 14 to 17 years are overweight and nearly 9% are obese Kurth and SchaffrathRosario(2007) . Similarly, in the United States, 18% of adolescents aged 12 to 19 years were obese in 2007/2008 . In accordance with the literature He et al(2011), Fogelholm et al(2008), Aires et al(2010), Haerens et al(2007), Ortega(2010) the term overweight includes obesity in this review. Several health conditions and disorders have been attributed to being overweight in peoples and adolescents Daniels (2006). For instance, overweight peoples and adolescents are more likely to suffer from cardiovascular, metabolic, pulmonary, skeletal or psychosocial disorders. Even if these conditions or disorders are not manifested during childhood, being overweight in childhood increases the risk of illness in adulthood Daniels(2006). Hence, it is critical to identify risk factors for overweight in peoples and adolescents and to address overweight during childhood and adolescence. Being overweight may originate from many different factors ranging from environmental influences to genetic variations Hebebrand(2004). The heritability of predisposition for a high body mass index (BMI) or body fat content is between 25 and 40% Bouchard et al(1997), which suggests that other factors such as environmental factors may also play a critical role. According to Bouchard et al. Bouchard et al(1997), both the family environment and genetic predisposition influence the development of body fat content and distribution. Other important factors include lifestyle factors such as physical activity (PA), nonsmoking, high-quality diet, sedentary activities and normal weight Pronk et al(2004). Lifestyle factors are also important in the description of the obesogenic environment that is based on the four pillars family, sport and leisure time, eating behavior and social education Wabitsch(2004). Several epidemiological and intervention studies Wareham et al(2005), Dipietro(1995) have identified the role of physical activity and physical fitness for overweight in peoples and adolescents.

The obesity of peoples and young people is an essential reason of the development of the obesity in the adult age with all consequences. The child who is becoming involved in the adolescence overweight, has only, according to Kaplan and Mamel (1995) 25% chances of reaching the correct body weight in the adult age, however if with the obesity he is becoming involved in the maturity, the probability of reducing the body weight to the norm is only 3%. Peoples who are overweight experience physiological consequences similar to those of overweight and obese adults. Risk factors for chronic diseases such as heart disease and cancer are prevalent in overweight peoples, increasing the likelihood of disease development early in adulthood. For them an excess of the body weight is larger all the more disadvantageously an obesity influences to the organism of the child. Although the majority of the examined obese peoples do not sense the complaint it is possible for them to state the different degree of the change in the bone-muscular arrangement and greater burden for the cardiovascular system (Dietz 1998, Freedman et al. 1999, Krebs et al. 2003, Reilly et al.2003). Even though the youthful obesity is connected with many risk factors of chronic diseases of the adult age, the most adverse influence concerns the psychosocial sphere (Dietz 1998). Obese peoples and teenagers often suffer because of the low self-assessment, psychological disorders and discrimination by peers. Treatment of the obesity of peoples is a

difficult and long-term, requiring the patience and understanding process. It is a source of stress for both the child and parents. Therefore, early awareness both of the family and the child to the physical development and need to control the problem is essential to correcting the diet and the lifestyle what will be assured by effective action with the child (Napler, 1993).

SELECTION OF VARIABLES

- Speed
- Explosive strength
- Flexibility
- Agility
- Endurance
- Physical Activity

SELECTION OF TOOLS

Table: Tools and measurement unit of tests of physical fitness and physical activity level

Sr. No	Component	Test	Unit of Measurement
1	Speed	30 m dash	Seconds
2	Explosive Strength	Standing Broad Jump	Meters
3	Flexibility	Sit and Reach	Centimeters
4	Agility	Shuttle Run	Seconds
5	Endurance	600 Yard Run	Seconds
6	Physical Activity	Physical Activity Questionnaire for Peoples (PAQ-C)	

RESEARCH FINDINGS

Table: Descriptive statistics for various physical fitness components of the peoples.

Variables	N	Mean	SD	SEM	Minimum	Maximum
Speed (sec)	100	6.08	0.74	0.07	5.02	8.03
Explosive Strength (m)	100	1.43	0.30	0.03	1.00	2.40
Agility (sec)	100	13.41	1.20	0.12	11.00	17.00
Endurance (sec)	100	120.27	0.12	0.01	120.00	120.56
Flexibility (cm)	100	-0.49	6.24	0.62	-23.00	15.00
Physical Activity Questionnaire Score	100	3.20	0.71	0.07	0.40	4.56

SD: Standard Deviation, SEM: Standard Error of Mean

The descriptive data of the various physical fitness components of the peoples is shown in table 4.4 and fig. 4.4. The average time in 30 m dash (speed) of the peoples was 6.08 seconds with standard deviation of 0.74. The mean distance in standing broad jump (explosive strength) of the peoples was 1.43 m, whereas, the standard deviation was 0.308. The average time in shuttle run (agility) of the peoples was 13.41 seconds with 1.20 of standard deviation. The mean time in 600 yard run (endurance) of the peoples 120.27 seconds, whereas, the standard deviation was 0.125. The peoples had -0.49 cm mean value in sit and reach test (flexibility) and standard deviation was 6.24. The mean value of physical activity (PAQ-C) was 3.20 with 0.712 of standard deviation.

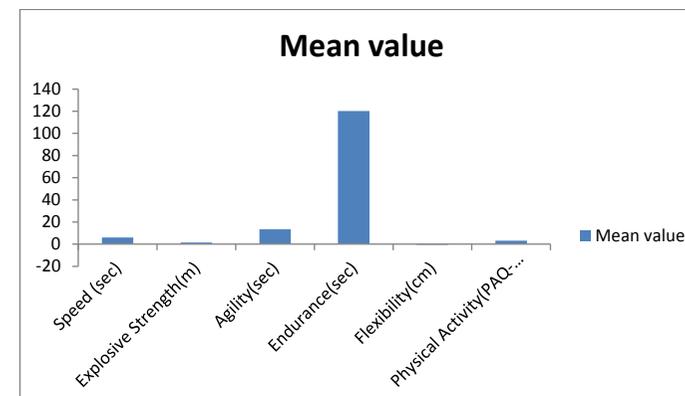


Fig. Mean values of various physical fitness components of the peoples.

Table Correlation between various physical fitness components and physical activity level among peoples.

Variable	N	Pearson Correlation Coefficient	p- Value
Speed (sec)	100	-0.08	0.40
Explosive Strength (m)	100	0.29*	0.003
Agility (sec)	100	-0.31*	0.001
Endurance (sec)	100	-0.10	0.291
Flexibility (cm)	100	0.07	0.453

* indicates $p < 0.05$

The correlation coefficient between the physical activity level and the physical fitness components are depicted in table. The speed was not significantly correlated with physical activity level among peoples. The explosive strength demonstrated significantly correlation ($r = 0.29, p < 0.05$) with physical activity level among peoples. The physical activity level among peoples was also showed significantly correlation with agility ($r = -0.319, p < 0.05$). The endurance and flexibility were not significantly correlated with physical activity level among peoples.

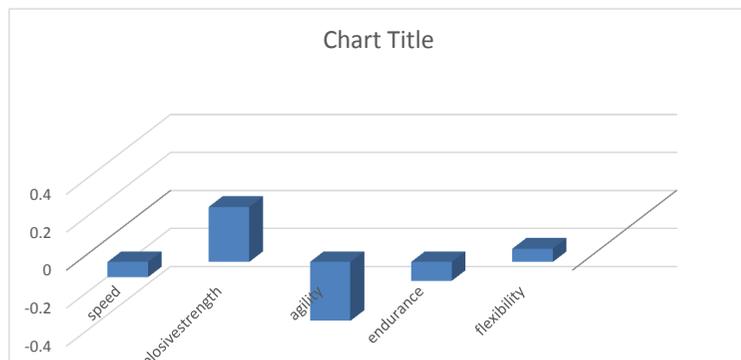


Fig-Correlation between various physical fitness components and physical activity level among peoples.

DISCUSSION OF FINDINGS

Physical fitness parameters i.e. explosive strength and agility were correlated with physical activity level of the peoples. The time of 10x4 m agility test showed negative correlation with physical activity level because as the time decreases the performance in agility improves. The data showed that most of the peoples are not engaging in strength work because of the prevalence of comfortability of the society moving towards utilising the machinery work for household work also. It is recommended by the author that peoples should spare time for exercise and do some strength training work with weight training. They should also involve themselves in household work.

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RELIGION AND FERTILITY BEHAVIOUR IN INDIA

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Introduction

The problem of rapid population growth, mainly caused by high level of fertility, is at the root of all socio-economic maladies of India. The level of fertility is significantly influenced by Socio-economic, religious and cultural factors. Religion provides a system of beliefs and attitudes about marriage and reproductive norms. Fertility may be influenced by the religion through theological prescriptions on procreation, or 'theology' and 'socio-economic characteristics' mechanisms may work in combination to affect child bearing practices (Iyer, 2002). India is a multi-religious nation and according to 2011 census in total population of the country 79.80 percent are Hindus. 14.23 percent Muslims, 2.3 percent Christians and 3.45 percent are Sikhs, Buddhists, Jains and others. The census data further show that the rate of population growth has been significantly higher during the past decades for the Muslims as compared to Hindus and other religious communities. The percentage of Muslims in total population of India increased (as per census data) from 10.7 percent in 1961 to 12.1 percent in 1991, 13.4 percent in 2001 and 14.2 percent in 2011 while the proportion of Hindus has declined from 83.5 percent in 1961 to 79.8 percent in 2011. Higher level of fertility among Muslims appears to be the major factor for higher rate of their population growth. The study relating to association between religious affiliation of the couples and their fertility behavior would be highly useful for the policy makers and the personnel involved in the operation of the fertility control programme. Different religious groups may need to be targeted differently by the policy makers and the programme managers in order to control child births among them.

Major objective of the present paper is to discuss the main theological contents relating to child-bearing in Hindu and Muslim religions. Against the background of the theological contents of Hinduism and Islam an attempt has been made to examine the differentials in the levels of fertility and family planning acceptance among these religious groups. The analysis is mainly based on the data collected from the reports of the National Family Health Surveys conducted in India during 1992-93, 1998-99, 2005-06 and 2015-16. The census of India publications, reports of the relevant research studies and demographic literature related with the present study have also been reviewed and used in the analysis.

Theological Foundations

In India, religious faith is so deep-rooted, particularly among traditional and rural people, that explanations and arguments given against irrational religious norms and superstitious practices are largely ignored or not taken seriously. It has been believed that religious principles have encouraged higher fertility among couples of some religious communities. As more than 90 percent of the populations of India belong to Hindu and Muslim communities, as attempt has been made here to analyze major contents of Hindu and Muslim religions relating to child bearing and fertility control.

Hinduism

In Hindu religions, there is great emphasis on having children, especially the surviving sons. For example, the Hindu scriptures speak of the three debts we have to pay ; to the sages by vedic study, to the gods by sacrifices and to the ancestors by offspring (Iyer, 2002). Son is needed to perform last rites of the father. Hindu religion prescribes that Shradha Ceremony (A ritual performed after death) for a father or mother is to be performed by the son. It is believed that if the 'Shradha' is not performed the soul of the father or mother will not complete its transmigration and reincarnation. The male child was regarded as a protector of his father from the hell (put). When the religious dogma prescribes the exigency of having sons to guarantee the father's entrance into heaven, a high mortality society like India requires that many children to born (Goode, 1970). The National Family Health Survey conducted in India during 1998-99 showed that 85 percent of the Hindu respondents wanted one or more sons. A survey conducted in the selected rural areas of Lucknow District during 2001-02 revealed that among total surveyed women (500), 98 percent considered son/sons as essential in the family (Rastogi, 2004-05). The survey further demonstrated that among women who were of the view that a family must have son/sons, large percentage. (42 percent) felt the need for son/sons to perform last rites of father and other religious functions/rituals.

In Hindu religion, the bride is blessed to given birth to eight sons (Ashtaputra Saubhagyavati Bhav). Another example to encourage high fertility in Hindu religion is a mantra from the Rig Veda recited while performing the marriage ceremony. Through this mantra, the bridegroom prays to Lord Indra that 'He may bless his bride with ten sons and that she may treat him as eleventh' (United Nations, 1961, Gandotra and Pandey, 1979). The effect of such features of Hindu religion is that couples with larger number of sons are admired. A woman without a child, particularly a male child is subjected to ridicule and faces prejudices and ill-will of the family and the society in which she lives. Childlessness and inability to produce a male child may induce a man to establish a polygamous household (Dybe, 1954).

Among Hindus, the marriage is a religious duty of every person and it is nearly universal. It is emphasized in Hindu religion that keeping a daughter unmarried beyond the age of puberty is tantamount to committing a sin on the part of the father (Bhagat and Unisa, 1991). The husband and wife are not regarded as being equals in their obligations and privileges. The Hindu ideology indicates that a woman is not fit to be independent (Gandotra and Pandey, 1979). At every stage of life she is to be under the

domination of some male, either her father, husband to son. This adversely affected the autonomy and status of women and largely limited their role to domestic work and child-bearing leading to high levels of fertility among Hindus during the past.

Islam

The Institutional requirements of Islam are specified in the Sharia or Islamic Law, which is derived from two main sources ; first the Koran and Second, the Sunnah of the Prophet Mohammad's interpretations of the word of God and their application to various situations. In the Koran, it is essential for the Muslim males to marry and the early and universal remarriage of widowed and divorced women is highly encouraged (Youssef, 1978). Islamic law does not require a husband to obtain permission from a Court or from current wives in order to undertake another marriage. Islam permits a man to divorce his wife, in some situations unilaterally. As polygamy is permitted among Muslims by the prophet and the divorced women and widows can remarry, Muslim women may have an opportunity for procreation throughout their life. In Muslim religion, the marriage is considered as contractual and the primary purpose of the married life is to produce children. According to Muslim religion, sons are important and needed to look-after their parents in old age. The main objective of marriage in Islam is to increase the followers of Islam which encourages Muslim couples to have large number of children.

One of the features of Muslim societies which trends to increase fertility is that Muslim women gain respect and status within their own kin group and community when they have children (Youssef, 1978). This is because children represent a form of social insurance against the threat of divorce or polygamy, since women derive status from motherhood even when divorced or rejected for a second wife. On the status of women relative to men, Islam traditionally awarded men a more prominent place than women within the family. Regardless of the ethnic origin, women in Islamic societies in the past were restricted to a lifestyle that guaranteed preservation of 'family honour and prestige' (Obermeyer, 1992). The purdah system prescribed by Muslim religion reduces women's autonomy and restricts them to avail employment opportunities outside their home. Non-working Muslim women may have larger number of children.

It is widely held that the theological content of Islam does not permit to control births or use family planning methods which is an important reason for high fertility in Muslim societies. On this issue it has also been pointed out that it is a misconception of the Muslim couples that 'Islam does not allow acceptance of family planning methods' (Bhatia, 1990). The consensus however, is that Muslims are in favour of unrestricted fertility because they are generally not in favour of family planning on religious grounds (Das ad Ghosh, 1988). Mahammedanism gives strong and unequivocal emphasis to high fertility and this is an essential aspect of the zeal for the extension of Islam and the expansion of Mohammedan societies (Lorimer 1958).

Fertility Differentials

Against the background of above discussion on theological features of the major religions in India, it would be significant to analyze fertility differentials and variations in family planning acceptance among different religious groups of the country. Hindu and Muslim both religions emphasize the importance of being married and need to have large number of children, particularly sons. Despite equal emphasis on high fertility in both the religions, the empirical evidence in India shows that Muslims have on an average larger number of children than the Hindus and other religious groups. Table I shows total fertility rates and mean number of children ever born to women (aged 40-49) years for Hindu, Muslim and other religious communities of the country. The table demonstrates that total fertility rates as well as mean number of children ever born to women (aged 40-49 years) have been highest for Muslims as compared to Hindus and other religious groups during the year 1992-93, 1998-99, 2005-06 and 2015-16. There has been decline in fertility level over time (during 1992 to 2016), in all religious groups including Muslims. In 2015-16, the total fertility rate has been noticed as 2.6 and mean number of children ever born to women (aged 40-49) as 4.15 for Muslim as against 2.13 and 3.13 respectively for Hindus. These fertility rates for Christians, Sikhs, Buddhists and Jains are lower than both Hindus and Muslims during the same year.

Table – 1

Total fertility rate (TER) and mean number of children ever born to women aged 40-49 years according to religion in India

Religion	Total fertility rates				*Mean number of children ever born in women aged 40-49 years			
	1992-93	1998-99	2005-06	2015-16	1992-93	1998-99	2005-06	2015-16
Hindu	3.30	2.78	2.65	2.13	4.78	4.34	3.97	3.13
Muslim	4.41	3.59	3.09	2.62	5.83	5.72	4.60	4.15
Christian	2.87	2.44	2.35	1.99	4.01	3.47	3.27	2.65
Sikh	2.43	2.26	1.96	1.58	3.99	3.59	3.56	2.62
Buddhist	-	2.13	1.96	1.74	-	4.05	3.82	2.93
Jain	-	1.90	2.02	1.20	-	3.32	3.27	2.24
Others	2.77	2.33	2.65	2.57	4.24	4.33	3.87	3.79
Total	3.39	2.85	2.68	2.18	4.84	4.45	4.00	3.22

* Rate for women aged 15-49 years

Source : National family Health Survey, India, 1992-93, 1998-99, 2005-06 and 2015-16.

Variations in Family Planning Acceptance

The contraceptive prevalence rate, defined as percentage of currently married women (Aged 15-49 years) who are currently using a contraceptive method or whose husbands are using a contraceptive methods, is one of the principal determinants of fertility. Highest level of fertility among Muslims has been accompanied by lowest contraceptive prevalence rate among them. It can be seen from Table 2 that the percentage of currently married women who (or their husband) currently used any modern family planning method has been lowest for Muslims among all religious groups during 1992-93, 1998-99, 2005-06 and 2015-16. During 2015-16 the contraceptive prevalence rate was 38 percent for Muslims as compared to 49 percent for Hindus, 48 percent for Christians and between 58 to 65 percent for Sikhs, Buddhists and Jains. The level of family planning acceptance seems to be low among Muslim couples as most of them are rigid and think that their religion does not allow the use of any fertility control method (Singh, Saxena, Saxena and Gupta, 1996). Education of women is the most important factor to promote family planning methods among the couples. During 2015-16 only 27.6 percent of the Muslim women (Aged 15-49 years) in India were educated upto high school and above as compared to 36.3 percent of the Hindu women. About one third of these Muslim women (31 percent) had no education during the same year (National Family Health Survey, India 2015-16)

Table : 2

Religion	Percentage of women			
	1992-93	1998-99	2005-06	2015-16
Hindu	37.7	44.3	50.2	48.8
Muslim	22.0	30.2	36.4	37.9
Christian	40.3	44.9	48.9	47.9
Sikhs	50.0	54.7	58.4	65.4
Buddhist	47.9	63.9	64.7	65.4
Jain	58.3	58.1	69.1	57.6
Other	33.3	35.2	21.1	36.6
Total	36.3	42.8	48.5	47.7

Source : National Family Health Surveys, India, 1992-93, 1998-99, 2005-06 and 2015-16.

Conclusion

Above analysis reveals that the contents of both Hindu and Muslim religions encouraged high fertility and emphasized the need to have sons. At the same time the level of fertility is significantly higher among Muslims than Hindus. Higher fertility among Muslims is likely to be the result of their higher degree of adherence to religious precepts. It seems that Muslims follow high fertility norms of their religion more strictly than the Hindus. The level of family planning acceptance has been found to be lowest among Muslims as most of them are rigid and think that their religion does not allow the use of any fertility control method. Large proportion of the Muslims may be reluctant to use family planning methods as they are not effectively educated and motivated. On the basis of above findings, it may be suggested that the religious groups should be targeted differently by the policy makers in order to influence their decision making about child-bearing and contraceptive use. The religious leaders, particularly among Muslims, are to be properly convinced and educated about the significance of small family norm and family planning to spread such messages among the couples belonging to their religious communities. Negative effects of large number of children on health of the mother and children and resources of the family should be well explained. Status of women should be raised by providing them greater opportunities for education and employment. More efforts are needed to strengthen information, education and communication (IEC) system and to increase the mass media exposure among the couples to reduce the effect of religion on child bearing practices and family planning acceptance, particularly among those who belong to Muslim community.

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GRAHAM GREENE'S NOVELS: RE-ECHOES OF PASSIVE PAST

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Abstract:

Graham Greene is one of the greatest novelist of the modern era who has creted a world full of tension, bitterness, irrational hopes, fears, exploitation, violence, alienation and isolation. The novels of Greene show his interest in the technological, sociological and political forces that have played a major role in making man more isolated, anxious and uneasy than ever before while labouring under the strain of man-made forces, He has been struggling to fight off their oppressive pressure for which man has to pay a heavy price. In the present paper more emphasis is laid on Greene's personal encounters with evil in early childhood, his gambling with death, his maddening loneliness resulted from his loveless childhood and his vast engagements through writings with its deeper mysteries. In such a dark abysmal world, the characters are unable to understand the complexities around them and are too pre-occupied with their own troubles to think of the others.

Key-Words: Alienation, Isolation, Abysmal oppressive, complexities

Objectives:

- 1) To represent psychological inside of the childhood upon once personality
- 2) The study of the blue print formed with the effect of time on once writings
- 3) To study the biographical elements in the characters of Greene's novels

Introduction:

Graham Greene has become a noted figure in British Fiction during the past fifty years. His work has brought to the literary scene a deeply distinctive and compelling quality that has undoubtedly earned him a distinguished place among Britain's most interesting and complex contemporary writers. As a prolific writer Greene has written varied kinds of works, which have not only evoked lively interest in critical and academic circles, but also gained popularity with the general realms of public and cinema audience. His major contribution has brought him within the main stream of British literature. He dealt with every thing that touched the human elements-depression, isolation, capitalist monopolies, conflict, alienation, muffing, spying and survival on the edge of the precipice. All these varied kinds of approaches in his writings show that no contemporary writer has elicited such diverse opinions as Greene. Right from the publication of his first successful novel *Stamboul Train* (1932) he has been discussed at many levels and from different points of views.

Graham Greene was born little too close to the "pain threshold" to use expression coined by William James. Born in 1904, the son of Harles Henry Greene, was thrown upon the resources of his own imagination to fight the ennui and despair which beset his life. To the personal post script to his book of essays, Greene writes.....

"I was seventeen and terribly bored and in love with my sister's governess one of those miserable, hopeless, romantic loves of adolescence that set in many minds the idea that love and despair are inextricable and that successful love hardly deserves the name."

Graham Greene too found working in the dark recesses of his own childhood "a region of danger where nightmare might easily becomes reality." The deep underlying sense of loneliness that is an inherent part of the life of a Greenean protagonist can be traced back to his own childhood. Greene could never really feel close to his mother or father. He always associated his mother with a certain kind of remoteness and lack of "possessive instinct". She was rational, cold, kind and practical and could never reach out instinctively towards her children. She was of little help to the young boy's emotional growth and stability. She was too prim, too careful, too rehearsed in her manner and attitude to evoke any love in Greene. He bore no resentment against her but never even felt really close to her. The only closeness he ever felt towards anyone was his nurse Nanny, whom he immortalises in his autobiography, "I remember her bent over my bath with her white hair in a bun.... I never remembered being afraid of her, only impressed by that white bun of age."

Graham Greene always seems to hear the child in him and his novels are the answers to the external questions of the child. These questions explain his miseries and sorrows, Carolyn.D. Scott, notes the same fact:

"No critic can escape the childhood theme in Greene, for it is the one obsession out of which his tragedies grow."

Greene's sense of utter futility regarding life, the suffocation, puritanical environment of his school, his alienation, his tortures at the hands of bullies and his desire to end his life by taking poison..... all these form a background to understand his characters. These experiences form a symbiosis in Greene's childhood experiences and the characters of his novels recreate the same in their childhood. In fact Graham Greene's novels are an exploration of experience through character in action. He is concerned like all creative writers with the human condition and he reacts to it in attraction and repulsion. He sees and feels his characters in relation to his own intensely felt reactions. His redical experiences and observation of cruelty, violence and ugliness themes and motives which form a matrix of impulses and circumstances for Greene's character.

Graham Greene's novelistic efficiency has ensured an easy and successful reception of a fictional world that is intensely personal and even obsessive. The terms "Greanean" and "Greenland" have become legendary and are also provoking enough to arouse an attempt at a definite understanding of them. Greene's setting of his imagined world is so consistently vivid and actual that the term Greenland has become legendary. Greene's setting of his imagined world is so consistently vivid and actual that the term "Greenland" has become a collective name. It is an intense land on the map of contemporary literature, made up of a matrix of impulses and influences that could not be escaped, avoided and resisted

The writings of Graham Greene profoundly reveal his sense of isolation of man's isolation and estrangement. As walter Allen states, "He is an almost mediumistic rappaort with the temper of his tmes." "Most of Greene's novels re-echoes what Mathew Arnold has said earlier in his poem entitled "Marguerite"

"yes in the sea of life enisled

With echoing straits between us thrown,

Dotting the shoreless watery wild,

We mortal millions live alone."

His birth at the beginning of 20th the century in itself was history enough. He was the product of a restless, exploratory and turbulent period of the early part of the 20th century which has been appropriately defined by William James as the "familiar spectre" and this restless period of the 20th century influenced Greene's thinking to a greater extent. Graham Greene believed that a novelist can write only what he has experienced directly and personally. Francois Mauriac, of whom Greene was an ardent admirer states that for a born novelist. "his childhood and youth alone is enough to provide immense amount of literary nourishment."

Greene's childhood experiences has a formative influences on him and he was conditioned by them as much as Conrad Dickens, Twain and Kipling who never could free themselves from the grip of childhood. Greene's childhood is also the brain-centre from which the lines begin and are traced through his life graph. These lines are quite uniform and show little undulation since the same brain waves move regularly outward. Therefore, it may be said, the key to understand Greene as a novelist, is his childhood, Greene himself subscribes to the theory that childhood, and adolescence form a blue print. Later life is faithfully drawn on this design. Modern research in genetics upto the discoveries of Noble Prize Winner, Hargovind Khorana, has proved the influential role of heredity in man's life. The basic blueprint of a man's character or personality is contained in the genes, the basic building blocks of the body. The building blocks of Greene's characters exist in their childhood consciousness-their store house of early memories. Here childhood means the period of the earliest sensible reactions to life when the mental processes begin to formate various concepts. And Greene writes everything to project the great world of his childhood. In his attitude, he is being loyal to his earliest impressions. Greene's views are very similar to Bernanos' expressed in "Les Enfants Humilies".

"I do know why I write. I write to justify myself in whose eyes?..... in the eyes of the child I was, whether that child speaks to me any longer or not, I shall never acknowledge his silence; I shall keep on answering him."

Brown, a character in one of Greene's novels *The Comedians* says, "For the writers it is always said that the first twenty years of life contain the whole experience, the rest is observation, but I think it is equally true of all of us". Anyone who reads Greene's account of his childhood and adolescence cannot avoid feeling that the recurrence of seedy background, obsessed characters and extreme situations in Greene's novels is evidence of obsessional motives in a single pattern established in his early years. The past of a writer is of great value to him in novel-writing. Francois Mauriac has said:

"Even if he withdraws from the world and stops his ears, his most distant past will begin to ferment. His childhood and youth alone is enough to provide a born novelist with an immense amount of literary nourishment. Nobody can stop the flow of the river which flows from him."

All Greene's works establish the truth of the given statement. It is because so much of the experience communicated in his novels flows from Greene's memories that it is possible to view comprehensively in his works both the man who suffers and the man which creates. Greene's unhappy child-hood has had a great influence on his whole works. From the events and influences of Green's early life, it is possible to gather evidence of flight, rebellion and misery during those first seventeen years when the novelist is formed.

Graham Greene's fiction communicates his own life experiences, which is also the life experience of the struggling, suffering humanity, Greene's outlook on life is sustained by "those well springs of humanism that have nourished our society in the past. He affirms the positive human values and reasserts in clear and unequivocal terms the need for a moral life. Greene's novels are memorable defences of men against machines of military life, tyranny and despair. He is aware of man's weaknesses. He also recognizes the moral strength of man. He believes in the dignity of man. The humanist traditions that began with Field-ing reaches its climax in some of the most distinguished novelists of our time, Greene being one of them. Greene in his essay on **Walter De More**, makes a self revealing remarks in which he says, "Every creative writer worth our considerations. Every writer who can be called in the wide eighteenth century use of term, poet is a victim: He is a man given over to obsession"

Greene too is a victim, he is a man given over to an obsession. Greene's Obsession is human. It reflects the humanist predicament, something vital something more than a horrified sense of a nightmare reality that seems to be at the back of his

mind. Obviously it can only be explained within a human frame of reference, Greene's basic obsession is the predicament of man in an evil world. This obsession is the product of Greene's moral development, his ceaseless battle with the reality. It is his personal discovery, the crystallization of an evolving human self. The atmosphere of Greenland is permeated with gloomy reflections upon disloyalty, despair, loneliness and death. But they are not necessarily pessimistic, they are in search of the true meaning of life, **Walter Allen** is right in saying that Greene depicts a "World of broken trust" and it is this lack of trust which lies at the root of the existentially awakened man's retreat into bad faith, non-commitment and the isolation.

Summing up the creative achievement of a vigorous talent like Graham Greene's can be as trying as seeing through the "appalling strangeness" of God's mercy. Here is a writer who probes hate and lust to discover the secret of love and explores sin to enhance the possibilities of salvation. Happiness is just an occasional episode in Greene's world of the odd event, the exceptional character and the extreme situation where the expected is ever ambushed by the unexpected. His novels evoke dismay, fear and bewilderment. He has an uncanny sense of modern reality, His fiction is illuminated by his sharp eye of the contemporary scene, and it communicates;

Our modern compulsive patterns of panic terror and fights. Thus it want be an exaggeration to say that in Greene, one is aware of the presence of the great masters, combining into himself the social sense of fielding along with the sensitivity of Sterne.

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AGRICULTURAL DEVELOPMENT AND ENVIRONMENTAL DEGRADATION: WITH SPECIAL REFERENCE TO ROHTAS DISTRICT OF BIHAR PROVINCE

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Abstract

Introduction: Rohtas district is located in Patna Central region in the central western part of the state of Bihar. It extends between 24° 30' to 50° 20' northern latitudes and 83° 14' to 83° 26' east longitude. The geographical area of this district is 3,847.82 sq km which is 2.95 percent of the total area of Bihar state. Its total population in 2011 was 29,59,918 persons and in 2011 3,79,301 persons resided in 5 cities of the district, 12.81 percent of the total population of the district. The district is predominantly rural.

After independence Rohtas district was a part of old Shahabad district. In 1972, the Rohtas region was made a separate district which included the southern part of Shahabad. In 1995 a new district, Kaimur district, was carved out of the western part of Rohtas district. The present study area is of the area of the new Rohtas district. There are 3 subdivisions in Rohtas district, Sasaram, Bikramganj and Dehri. The district has 19 blocks. Many crops are produced in the district according to soil and climate.

Agricultural Development and Environment: According to the term Etymology, the word 'Ager' means the soil and culture of the farm means care. But, largely agricultural work includes tillage, cropping, pastoralism, forestry, irrigation, fisheries.

According to Zimmermann, "Agriculture involves productive efforts that are used by humans living on land and, if possible, making the system of human, plant and animal life or natural development more advanced or progressive. And it aims to fulfill the need for its own, vegetative or animal-related substances through these methods. "

Agriculture is the mainstay of the masses in the agronomy of the Rohtas district. Agriculture plays an important role in overall economic development of a region. They play a dual role in economy i.e. as a supplier of raw materials and consumer of produced goods".

Agriculture in the Rohtas district is mainly dependent on the monsoon. But after 1970, the expansion of irrigation facility has given great impetus to intensive crops. Paddy is cultivated extensively in the district. This district is called the Bowl of Rice. Apart from this, wheat, maize, jowar, millet, mahua etc. are cultivated in abundance. Cash crops mainly include sugarcane, potato, tobacco, oilseeds and pulses, red chillies, spices (coriander, ginger, fennel) etc. Food crops are produced on most arable land. The nature of agriculture is mainly subsistence. Recently, agriculture has progressed on a commercial scale in many areas due to state government's programs related to agriculture, expansion of irrigation and credit facilities and achievement of improved seeds.

Due to rapid expansion in agriculture, environment degradation occurs as follows.

(i) forest destruction and related land use changes, (ii) the use of chemical fertilizers, pesticides and herbicides in the fields; (iii) due to increase in irrigation facilities and quantity of irrigation and (iv) changes in biological communities. Agriculture practices also pollute soil. According to an estimate agricultural activities produce more than 1.8 billion tones of waste each year. About three-quarters of this is manure "

Today the need to increase the area of agriculture and production is increasing. With this, it has become very important to balance agricultural development and environment. It is absolutely true that for growing population it is necessary to promote agriculture for food grains, raw materials for factories and fodder for cattle. However, it is also true that if this experiment is allowed to be done in this way, then the situation can be serious.

Productivity of soils decreases due to continuous intensive farming in any area. We know that continuous cultivation of cotton over a long period (hundreds of years) in the piedmont areas of the Appalachian of the southeastern United States has led to an increase in soil erosion so much that not only the quality and quantity of cotton There has been a drastic decrease in production, but there has also been an increase in ecological condition.

Chemical fertilizers are heavily used to increase agricultural productivity. Crops are unable to make full use of all chemical nutrients. Thus, there is a continuous accumulation of unsuitable chemicals in the soil. As a result, pollution of the soil starts due to excessive concentration of chemicals. Some chemicals leach down and pollute ground water. Similarly, due to pesticide and herbicide synthetic chemicals used to remove weeds and diseases of crops, there is heavy pollution of soils and water of various sources (water of ponds, lakes and rivers and ground water). For example, excessive use of Ammonium Sulphate leads to an increase in sulfate ion in soils. Potassium and sodium ion (Sulphate ion) concentration increases in soils due to excessive use of potassium and sodium nitrates. Due to which acidity in the soil, these ions are transferred (by the water of rain) to pollute the water and underground water of ponds, lakes and rivers.

We know that infiltration of nitrate takes place in a very slow pace. The penetration of nitrate from the ground to a depth of one to two meters is possible in one year. Thus the nitrates unused by crops reach the lowest aquifers in 50 years. It is clear that due to the continuous concentration of toxic chemicals under the surface, a time bomb is being prepared which can explode at any time.

This elapsed time bomb can have inexplicable side effects on the human community. This self-created disaster can be got rid of if (a) the use of chemical fertilizers and pesticides and herbicide synthetic chemicals are cut. (B) Deep irrigation should not be done in agricultural areas. We know that these toxic chemicals can soon come to the surface due to deep irrigation. Because of deep irrigation there will be an increase in the ground water, due to which the downed toxic chemicals, barley, madua, jowar, millet etc. are also produced. Pulses cross crops in the district. Under this, arhar, gram, lentil, khesari etc. come.

Table No: 1

Land attached in major food crops in Rohtas district, cultivation in pure sown area, production and productivity: 2009-10

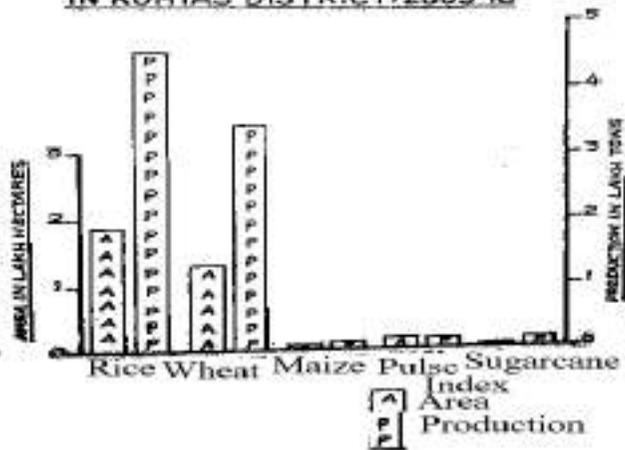
District	Food	Net sown area	Food grains	Percent of net sown area	In production tons	Percentage of area of Bihar	Bihar's production percentage	Productivity kg per hectare
Rohtas	Rice	2,50,125	1,89,029	75.57	4,50,116	5.9	12.4	2,381
Rohtas	Wheat	2,50,125	1,30,972	52.36	3,11,047	5.9	6.8	2,375
Rohtas	Corn	2,50,125	103	0.04	123	0.1	0.1	1,194
Rohtas	Pulses	2,50,125	16,435	--	14,211	2.8	1.7	862
Rohtas	Sugarcane	2,50,125	1,111	--	54,831	--	--	48 Ton / hectare

Source: Department of Agriculture, Government of Bihar, Patna.

The earth will come up along with the water and it will have far-reaching adverse effects on plants, animals, micro-organisms and humans using this water. Some nitrates reach the human body through vegetables, fruits and food grains, and these chemicals can cause cancer diseases through chemical reaction.

The chemical elements in the fields flow with the water of rain and reach the ponds, lakes and rivers. In this way, due to continuous storage of chemical nutrients in these reservoirs, some plants start to grow rapidly. This process is called plant growth or plant nutrition. And other plants and animals die. Through this process, the water in the water reservoirs gets polluted and the bio-oxygen demand (BOD) is adversely affected.

AREA AND PRODUCTION OF FOOD CROPS IN ROHTAS DISTRICT: 2009-10



Vegetable production: Among the vegetables in the district are staple potatoes, onions, tomatoes, cauliflower, brinjals etc. Vegetable cultivation has increased considerably in places where irrigation facility is good in the district. Simultaneously, with the development of the road, traders in the rural areas are easily transported to the urban areas by purchasing vegetable and market fruits.

Table No: 2

Area and production of staple vegetables in Rohtas district: 2010-11, in area Hecter and production in tons.

Vegetable	Area	Production
Potato	10,392 (3.3)	1,74,588 (3.2)
Onion	11,182 (2.2)	22,931 (2.1)
Cauliflower	1,108 (1.9)	20,666 (1.8)
Brinjal	978 (1.8)	19,756 (1.1)
Others	5,943 (1.7)	82,991 (1.5)
Total	19,700 (2.3)	3,31,386 (2.3)

Source: Agriculture Department, Government of Bihar, Patna Note: Percentage of total production and area of the state of Bihar is displayed in Kosh.

Today, farmers are concentrating more in the cultivation of vegetable near the rural market in rural areas. Its cultivation is being done in all seasons and farmers are getting financial benefits from vegetable cultivation throughout the year. In particular, there has been a significant increase in potato, onion, tomato and green vegetable farming and government incentives are being given for vegetable cultivation. Production of fruits (Horticulture): Due to the quality and taste, its use and production has increased considerably. Mango, Guava and Banana are the main fruits in Rohtas district.

Table No: 3

Area and production of staple fruits in Rohtas district: 2010-11

Fruits	Area	Production
Mango	5,608 (3.9)	50,142 (3.6)
Guava	3,209 (10.9)	24,388 (10.00)
Banana	284 (0.9)	13,178 (0.9)
Others	1,073 (1.9)	9,452 (1.6)
Total	10,264 (2.5)	97,160 (2.5)

Source: Department of Agriculture, Government of Bihar, Patna.

Note:- The figures inscribed in bracket indicate the percentage of the total of the state of Bihar.

Modern agricultural development, aromatic plant and medicinal agriculture: Traditional agriculture has been done on the basis of available resources in Rohtas district. But now medicinal commercial agriculture is being started here. Such agriculture has started giving economic benefits to the farmers. Soil and climate are favorable for medicinal agriculture. These farmers have been trained through the National Horticulture Mission and the Chief Minister's Horticulture Mission Program and medicinal, spicy and aromatic fruit plants have been planted and production has started.

Rohtas district has the location of Karmabhoomi of Baba Vangabhata and Tapaphoomi Hasapura block of Maharishi Chyavan Rishi for medicinal, muslin and floriculture. Here lomongrass, fenugreek, ashwagandha, white musli, bacha, medicinal basil are planted. Jatfira from which diesel oil is made.

Floriculture: In Bihar State / Rohtas district, attraction towards flowers has increased. In the last few years, the demand for marigold, belly, rose and Rajnigandha for decoration, especially in the pavilion, pandal, bouquet, temple has increased significantly. People with resources use it more. Its use on the occasion of elections and at the time of marriage, its demand increases greatly. Flowers are then sourced from Bengal and other states.

Table No: 4

Area and production of main flowers in Rohtas district: 2010-11

(Area in hectares, production in tons)

Flower	Area	Production
Jasmine	1.15 (1.15)	3.05 (1.0)
Rajnigandha	1.2 (1.1)	5.04 (1.1)
Rose	1.10 (1.6)	1.16 (1.3)
Marigold	2.30 (0.8)	38.64 (1.6)
Others	1.90 (1.5)	15.77 (1.5)
Total	7.85 (1.0)	63.10 (0.9)

Source: Department of Agriculture, Government of Bihar, Patna.

Note: The percentage of total of the state of Bihar is displayed in the bracket.

Special center will be opened in Bihar for cultivation of aromatic plants. Farmers can increase income from poppy cultivation. Onion, garlic, coriander, chilli, turmeric, ginger, fenugreek, mangaraila, fennel, sunflower and celery spicy crops can be cultivated in the district on a large scale from a commercial perspective. There is favorable land, climate and water for doing this type of farming.

Animal Wealth: Animal is an important animal resource. Generally, animal husbandry is also included along with crop production under agriculture. Animal husbandry is directly related to agriculture. Animal husbandry, sheep, poultry, pig farming, goat rearing etc. are included under this. Fisheries etc. are also done. Bihar state (including Rohtas district) accounts for about one third (30 percent) of animal husbandry in agricultural production. Other cooperation in agriculture, plowing of fields by bullocks and buffaloes, irrigation, bullock carts, driving by buffalo, crushing of oil and sugarcane, running of ruts and furrows are done in irrigation. Important substances like milk, meat, leather, wool etc. are obtained by animals.

Table Number: 5

Animal Wealth in Rohtas district: 2007(in thousand of figures)

District	Cow	Buffalo	Pig	sheep	Goat	Poultry Farming
Rohtas	249 (1.43)	282 (2.82)	085 (1.9)	22 (10.07)	165 (0.70)	185 (1.52)

Source: Directorate of Ennimal Husbandry, Government of Bihar, Patna.

Note: The data given in the column shows the percentage of yesterday of Bihar.

Animal husbandry and environment: Digestive system of cattle produces large amounts of methane gas. This gas is also released from the collected dung. Surface and degraded ground water are polluted by dung rainwater. According to a study, 50 percent of the water pollution of the reservoir is through excreta of animals. Rare water is used in large quantities in the production of animal fodder. Overgrazing takes place at the root of crops while grazing by animals, which causes soil erosion easily. The environment is polluted by the deodorant emanating from meat preparation centers.

Fishing in the district: Rohtas district is full of natural resources, where there are many ponds, water bodies, reservoirs and additional rivers, which has potential for fisheries development. Programs are being implemented to increase fisheries production in the state / district and to make the traditional fishermen engaged in this business self-reliant. Various schemes are being run for fisheries development as per the agricultural road map by the Directorate of Fisheries.

Table No: 6

Fish Production in Rohtas District (2011-12)

District	Production (in thousand tons)
Rohtas	5.29

Source: Rohit Kumar, Prabhat Khabar, a daily news paper, December 2013, p.no. 02

Conclusion: Overall, farming in our state still remains a monsoon gamble. Last year (2015) many areas of the country were in the grip of drought and further there are chances of unexpected fluctuations in the weather. The kharif crop has been badly affected for the last four years due to deteriorating mood from year to year of the monsoon.

Considering the global warming, seasonal fluctuations, changing rainfall patterns, etc., agricultural experts have long emphasized not only to strengthen the irrigation system but also to redefine the production distribution structure. As such, it is the need of the hour that long-term measures be taken to reduce farmers' dependence on monsoon along with measures that accurately predict the weather. The Prime Minister Agricultural Irrigation Scheme will do the same. Under this, modern methods of irrigation will be adopted focusing on small irrigation projects, ponds, wells, watershed development so that water wastage is stopped. With this scheme, we will have to give priority to the cultivation of pulses, oilseeds and coarse grains by bringing changes in the cropping system. This crop not only demands less water, but also successfully withstand seasonal fluctuations. Their production will not only get rid of the problem of under-production of paddy-wheat, but will also encourage diversified agricultural species which will eventually have a positive impact on the entire economy.

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GEOGRAPHICAL RELATIONS IN URBANIZATION AND AGRICULTURAL OF PATNA DISTRICT

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Abstract

With the development of civilization, the patterns of agriculture have also changed. Initially, there was a simple, simple model of agriculture, which is evolving from a deep subsistence model to a trunk-farming model today. The impact of urbanization on agricultural land around Patna city leads to mudradayini trunk-farming agriculture, while rural areas of Patna do intensive farming. Agricultural techniques have also changed a lot, with animal-based agriculture now turning into mechanical agriculture. Over the years, agricultural areas are constantly getting reduced and urban settlements are increasing.

Key words - intensive-discharge farming models, trunk farming agriculture, mechanical farming, agri-culture, administrative organization, travel models, plantation farming, traditional farm implements, planting materials, drift irrigation, fishing, aquaculture, organic farming, alluvial area, Cold house, green land, green house.

Introduction - History is witness, human civilization has been progressing and changing with time. Human was less meritorious during the early period, so his life was simple and easy, he used to hunt in the forests and sleep peacefully in the caves of the mountains. The main occupation or occupation of man was hunting and to satisfy his hunger. Over time, he went through a pastoral life into the Neolithic period in the agricultural system (Dr. Bhattacharya) has given an important place to the advent of agricultural culture in his book "Outlines of Indian Prehistory". Over time man has become more meritorious, and he has developed and technicalized by revising his three basic needs - bread, cloth and house. Now between the development of civilizations, only two patterns are seen. The city is the axis of modern civilization, while the village is its base, urbanization trend over time has left many effects on the nature of the village's agriculture. With time the area of agricultural land is shrinking and concrete forests are being formed at the said place. There is no longer any part of the world where concrete has not been built. The era of this urbanization is intent on completely transforming the agricultural form. Bihar is an agricultural state of India. And this state is also struggling between urbanization and agriculture. However, the frequency of urbanization in Bihar was around 14 percent as per 2011 census, and currently around 16. Which is half of the pace of urbanization across India. Being the capital city of Patna and its surrounding areas, the capital of Bihar creates a unique correlation between urbanization and agriculture and stands out from other cities and districts of Bihar. The study presented is only on the situation between urbanization of Patna district and the correlation of agriculture.

Research Area - Research Area District Patna is the largest populous district in the state of Bihar. The headquarters of this district is Patna city which is the capital city of Bihar state. The geometrical extension of Patna district ranges from 2503 'N latitude to 2507' North latitude and from 8406 'East longitude to about 840.44' East longitude. The total geographical area of this district is 32.3 square kilometers and the average elevation is 53 meters above sea level. The total population of this district is 58,38,465 according to the 2011 census. Its administrative organization is organized between 23 blocks and six subdivisions. The research district is a predominantly agrarian district which is spread in central Bihar parallel to the south part of the Ganges in the west and narrow in the east. The district has two Tihai rural population whose main function is agriculture. About 47.4% geographical area of this district is under net sowing area.

Research Methodology - The research paper presented is based on primary and secondary data. The primary data has been obtained from field work and field survey. Whereas the second data has been collected from the Directorate of Census and various departments and mediums. The data is explained from the table. The table is synthesized and analyzed. The deliberation has been given excellent status by taking the help of questionnaire and schedule and analysis of impact in urbanization and agriculture correlation in Patna district.

Research Concepts - Analysis is carried out with the research concepts presented.

1. At present, the agricultural sector is decreasing and the urban area is increasing.
2. Vegetable and horticultural farming model has developed around Patna.
3. In the future, the urban model will dominate the agricultural model.

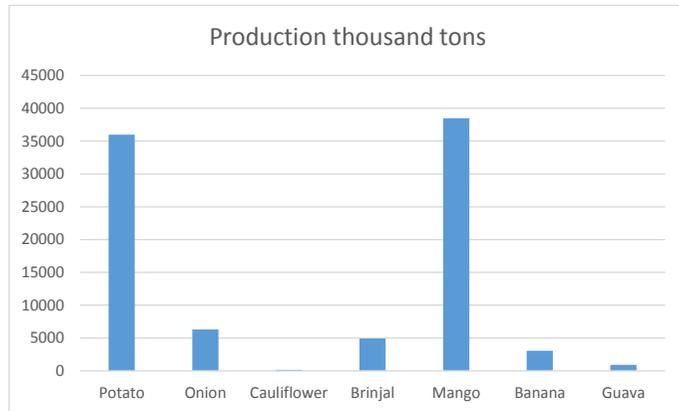
Research Explanation - To understand the harmony between urbanization and agriculture, both have to be understood first. As far as agricultural activity informs the primary culture, the same urbanization culture is related to the second, tertiary, fourth activity. Urbanization is the process of moving from primary life system to second, tertiary, fourth life system. Which has an impact on agricultural life and changes the traditional pattern of agriculture to a new mechanical model. The same thing can be seen in the inclusion of agriculture in the areas surrounding Patna. The impact of the city system on the agricultural system is being kept point-wise.

Development of Bagan agriculture model from food grains to agriculture model- Farmers are moving towards horticultural agriculture (vegetable, fruits) to get increased demand for food and double benefits. Potato production (5.7 लाख) and onion production (5.1) have been recorded in Patna district in 2015-16 of the total production of the state, in addition to cauliflower (0.1), brinjal (4.3)). As far as fruits are mango (2.6)), guava (2.4)), banana (2)) and sugarcane (0.2)) which is clear from Table-1.

**Table No.- (1)
Vegetables and Fruit Production (2015-16)**

Vegetable and fruit	Production thousand tons	Percent
Potato	36000	5.7
Onion	6300	5.1
Cauliflower	130	0.1
Brinjal	4900	4.3
Mango	38500	2.8
Banana	3050	2
Guava	900	2.4

Source - District Agriculture Department, Patna (Government of Bihar).



Technological development in agriculture - Earlier, the entire process of agriculture was done using traditional agricultural implements. Modern agricultural machines were also used at some places, but till date, plowing with tractors, harvesting from harvesters and rosemary from thresher, now bull animals can be seen in this area only.

Better ritual materials and seeds - It is necessary to increase production, better quality planting materials and improved seeds are available at reasonable prices and at the right time, which Patna city enjoys. The Bihar government is also giving a grant in this.

New means of irrigation - As stated by (Prof. Sinha 2014, Geography No. 154 of Bihar), the only means of livelihood for 88.7% of the people living in Bihar is agriculture. Irrigation is necessary to strengthen agricultural resources. This increases the fertility of the soil by 6 times. Traditional means of irrigation, permanent availability of water in canals, tube wells, wells, ponds etc. is becoming a challenge. Now, the new form of irrigation, the use of drift irrigation (dripping) technique has started in the adjoining area of Patna. In this, the government also provides 90 percent grant.

Aquaculture and Fisheries - Patna is a flood-prone district as is evident. Where there is a lot of potential for aquaculture and fishing. In the district, the production of fish in 2013-14 was 12.09 thousand tons (2014-15) and it was 14.01 thousand tons, which has increased to 15.5 thousand tons (2015-16), it is also evident from Table-2. Aquaculture (hydroponic) This is an intermediary farming of sand or pebbles without soil. In which plants are grown in water. Vegetables like cucumber, tomato, spinach, cabbage, capsicum are being grown with this technique.

**Table no. (2)
Fisheries and fish seed production in Patna district**

Sr. No.	Year	Fishery Production (1000 Tons)	Fish Seed Production (In Lakhs)
1.	2013-14	12.09	35
2.	2014-15	14.01	21
3.	2015-16	15.5	154

Source - District Animal Husbandry Department, Patna (Government of Bihar).

Green-house technical agriculture - It can be seen in small quantities around Patna city and in Mokama block, Pandarak block.

Organic agriculture and environmental improvement - Organic agriculture of horticultural crops is being encouraged and supported on a large scale. And with the help of the government in the state, farmers will be informed about organic farming in the Cachar region of Ganga. At present, farmers lack food literacy due to which unbalanced soil is adversely affecting human and soil health. The land is becoming barren, so different. The land is becoming barren due to agricultural sector taking productivity.

Preservation and marketing of crops and vegetables - In India, the first cold house was built in Kolkata in 1792. At present, cold houses are being constructed on a large scale with government, private and community support. But there is a need to increase its number more, because the year that nature supported the farmers. There is a record production of fruits and vegetables in that year, and that year it gets destroyed due to low storage system of fruits and vegetables and there is economic and psychological damage to the farmer.

Problems - Some problems also arise between urbanization and agricultural correlation. Some essential point-of-view becomes necessary.

Land Use - As urban pollution increases, the demand for land use for various urban activities also increases. Due to the proliferation of cities, forests have to be cut, green land is used for pasture and agriculture. The wetlands are dried, and the cropland is encroached upon. This is a challenge because it reduces green land, and increases the consumption of fossil fuels and emits greenhouse gases as a result the land temperature rises.

Rapid growth in population - The population of the country is increasing at a rapid pace, when its direct impact can be seen in the urban areas and nearby areas mainly due to the availability of human convenience and employment, daily, seasonal laborers from rural areas of Patna.

Small size of holding area - Due to their small size, new agricultural implements are not used due to which there is difficulty. Such as the use of harvesters.

Uncertainty of Rain - Monsoon is necessary for agriculture but due to climate change its effect can be seen on agriculture.

Conclusion - Due to urbanization, modern technology has been used in agriculture, but the soil is becoming barren due to greed for more productivity. The insecticide used in crops has affected human beings. Previously, where agriculture used to nourish human beings, today the same agricultural product is devouring human health. There is a lack of food security. In this direction, the Agriculture Road Map (2017-22) proposed by the Agriculture Cabinet of the Government of Bihar is an important step in which proposals for the development of all-round ecological conditions are proposed.

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COMPARISON OF SELECTED ANTHROPOMETRIC MEASUREMENTS BETWEEN NATIONAL LEVEL AND DISTRICT LEVEL BODY BUILDERS"

VARIABLES LIKE STANDING HEIGHT, BODY WEIGHT, BICEPS GIRTH, CHEST GIRTH, THIGH GIRTH AND CALF GIRTH. WEIGHT IN KGS AND OTHERS IN CMS.

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Abstract

The purpose of study was to analyze the body building performance depending on anthropometric measurements among Belagavi District's National Level Body builders group A and new beginners of bodybuilders. To facilitate the study, twenty body builders from various colleges in Belagavi District, were selected as subjects. They were in the age groups of 19 – 30 years. The criterion variables are, control group (CG) that consists of National Bodybuilders and the other is the observation group (OG) of upcoming bodybuilders. Both these groups are monitored for this study to find the reason with regards to why National Level bodybuilders have more muscle mass when compared to up-coming bodybuilders, even though the duration of training period is same. The CG consists of ten National Level bodybuilders and OG consists of ten up-coming bodybuilders. The data collected from twenty body builders is based on the anthropometric measurements method and it has been statistically analyzed.

To ascertain the degree of relationship Pearson product moment correlation was selected and the level of confidence was fixed at 0.05.

Result of the study indicated that, lifting heavy weights is necessary to gain muscle mass, but weight should be increased gradually. Study also shows that, there is a psychological effect on up-coming bodybuilder's with the wrong concept of lifting heavy weights trying to gain muscle mass.

Key words: Body Building, anthropometric measurements, hypotrophy, weight training, Criterion variables- Controle Group (CG) and Observation Group (OG),

Introduction

Bodybuilding purely depends upon muscular endurance. Muscular endurance can be defined as "the ability of muscle to do the activity for longer time without getting fatigued". The muscles are developed by using the aid of weight lifting. Since 11th century, there were stone dumbbell weights known as Nals, that were lifted by those wanting to develop their bodies to enhance health and stamina to help overcome the challenges of daily life.

Followers of the iron game will know that bodybuilding in its popular form began earnestly in the 1890s with the arrival of Mr Eugene Sandow, on whom the Mr. Olympia statuette is modeled on. Eugen Sandow, who is now, generally referred to as "The Father of Modern Bodybuilding". He is credited as being a pioneer of the sport because he allowed the audience to enjoy viewing his physic in "muscle display performances". Later Ben and Joe Weider formed the International Federation of BodyBuilders (IFBB) - which organized their competition IFBB Mr. America. In 1950, another organization, the National Amateur Bodybuilders Association (NABBA) started their NABBA Mr. Universe contest of weightlifting in the UK. Another major contest, Mr. Olympia was first held in 1965 - and this is currently the most prestigious title in bodybuilding. In the 1970s, bodybuilding had major publicity, thanks to Arnold Schwarzenegger and his film Pumping Iron released in the year 1977. Legendary bodybuilder Arnold Schwarzenegger played an active role in bodybuilding's development throughout the 90s and beyond.

History of Belagavi Body Building:

Since 1955 Bodybuilders of Belagavi district are participating in various National Level Bodybuilding Competitions. Nowadays, Bodybuilding sports is very popular in Belagavi . Mr. Katti was the first person who started taking bodybuilding competitions which were restricted only to gym. But these days any individual who has mastered the developments of his physic can participate in bodybuilding competition. As per the knowledge of the seniors- most bodybuilder, Mr. L.R.Patil, the history of bodybuilding began from Samarth Gymnasium, the oldest gym of Belagavi. In 1998, B.D.B.B.A (Belgaum District Bodybuilding Association) was established under the noble guidance of Mr. Sunil Aptekar (National Judge), Prakash Pujari (National Judge), who was the founder members of the association. Mr Ajit Siddnavar, Bandu Majurkar, L R Patil are also the association members. This association is responsible to conduct Mr. Belgaum, District Level Competition and qualify Belagavi team to State and National competitions.

This competition is very famous because of the bodybuilders like Premchand Degara (Mr. Universe), Prasad Kumar (9 times Mr India), Sunil Aptekar (Mr Asia) etc, who used to come from outside as a guest poser and seeing their Hercules physique and

ability of displaying muscles, Belagavi people used to get amazed and their curiosity and love for bodybuilding started increasing. Because of such bodybuilders and craze for bodybuilding, this sports is very popular in Belagavi.

Methodology

The purpose of study was to analyze the body builders of CG and OG depending upon the anthropometric measurement among Belagavi District body builders. To facilitate the study, twenty body builders from various gym in Belagavi District, were randomly selected as subject. They were in the age group of 19 – 30 years. The criterion variables are, control group (CG) which consists of National Bodybuilders and the other is the observation group (OG) of upcoming bodybuilders. Both these groups are monitored for this study to find the reason with regards to why National Level bodybuilders have more muscle mass, when compared to the up-coming bodybuilders even though the duration of training period is same. The CG consists of ten bodybuilders and OG consists of ten up-coming bodybuilders. The data collected from twenty body builders based on the anthropometric measurements method has been statistically analyzed.

To ascertain the degree of relationship Pearson product moment correlation was selected and the level of confidence was fixed at 0.05, which was considered adequate for this study. Person product moment correlation was employed to

Determine that, lifting heavy weights is necessary but weight should be gradually increased under the proper guidance of a coach or knowledgeable person who knows the skills, pros and cons of lifting weights. Study also shows that, there is a psychological effect on beginner bodybuilder's with the wrong concept of lifting heavy weights which will put them in hypertrophy condition and finally end up in over training their muscle which in due course will become difficult to gain muscle mass.

Results and Discussion

RESULTS

Table – I

The Mean, Standard Deviation, Mean Differences and 't' Ratio on Selected Anthropometric Measurements of District Level and National Level Body Builders

Variables	Group	Mean (M)	Standard Deviation (σ)	Mean Differences (DM)	Obtained 't' ratio	Table Value
Chest Girth	District Level	104.95	5.77	5.28	1.847	2.101
	National Level	99.67	6.97			
Biceps Girth	District Level	40.28	1.96	1.37	1.210	
	National Level	38.91	2.99			
Forearm Girth	District Level	33.15	2.48	2.52	2.283*	
	National Level	30.63	2.44			
Thigh Girth	District Level	59.44	2.86	3.43	2.283*	
	National Level	56.01	3.79			
Calf Girth	District Level	35.38	0.79	-0.87	-0.849	
	National Level	36.25	3.13			
Height	District Level	14.38	0.85	0.15	0.302	
	National Level	14.23	1.36			
Weight	District Level	71.57	9.99	2.52	0.540	
	National Level	69.05	10.86			

* Required table value for significance at 0.05 level of confidence for df of 18 is 2.101

The mean values on chest girth of district and national level body builders are 99.67 and 104.95 respectively. The obtained 't' ratio of 1.847 on chest girth was lesser than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was no significant difference exist between district and national level body builders on chest girth.

The mean values on biceps girth of district and national level body builders are 40.28 and 38.91 respectively. The obtained 't' ratio of 1.210 on biceps girth was lesser than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was no significant difference exist between district and national level body builders on biceps girth.

The mean values on forearm girth of district and national level body builders are 33.15 and 30.63 respectively. The obtained 't' ratio of 2.283 on forearm girth was greater than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was a significant difference exist between district and national level body builders on forearm girth.

The mean values on thigh girth of district and national level body builders are 59.44 and 56.01 respectively. The obtained 't' ratio of 2.283 on thigh girth was greater than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was a significant difference exist between district and national level body builders on thigh girth.

The mean values on calf girth of district and national level body builders are 35.38 and 36.25 respectively. The obtained 't' ratio of -0.849 on calf girth was lesser than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The

results of the study shows that there was no significant difference exist between district and national level body builders on calf girth.

The mean values on height of district and national level body builders are 14.38 and 14.23 respectively. The obtained 't' ratio of 0.302 on height was lesser than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was no significant difference exist between district and national level body builders on height.

The mean values on weight of district and national level body builders are 71.57 and 69.05 respectively. The obtained 't' ratio of 0.540 on weight was lesser than the required table value 2.101 for significance with df of 18 at 0.05 level of confidence. The results of the study shows that there was no significant difference exist between district and national level body builders on weight.

Discussion: From the result of statistical analysis it is shown that National Level Bodybuilders have more muscle mass when compared to up-coming bodybuilders, although the training period taken by both the groups is same. The study proves that it is necessary that a weight training pattern should be performed under the supervision of a trained and skillful coach or educator. The up-coming bodybuilders should gain the required knowledge before taking bodybuilding sports seriously. Before they get started with the gym workout, they should be properly guided, made familiar with the weight training pattern and should be necessarily provided with the knowledge of weight training techniques and with the pattern of diet to be followed as well.

During the study it has also been noticed that, genetic factors also matters while trying to get a good quality of physical structure and also to gain muscle mass. But, with proper training method and appropriate diet, any structured physic can be transformed to gain muscle mass.

Study also indicate that, there is a psychological effect on beginner bodybuilder's with the wrong concept of lifting heavy weights which will keep them in hypertrophy condition and over train their muscle which in due course will become difficult to gain muscle mass.

Demerits:

- 1) Younger bodybuilders can harm their physic and health really bad.
- 2) Lack their self confidence when desired results are not attained
- 3) Try to use illegal substances to improve their physic.
- 4) Stop gyming when the things do not work out with regards to improvement in physic.
- 5) Injuries that can last for life long as a result of performing weight training wrongly
- 6) Over training of muscle through directly opting for heavy weights instead of increasing the weights gradually.
- 7) Excess wear and tear of muscle at a very younger age.
- 8) Up-coming body builders give much priority to the muscle which shows improvement and neglect other muscle which doesn't. Because of which they ignore the overall development of their body.
- 9) Lack interest in bodybuilding with the passage of time when the outcome is minimum while the efforts they take to train their muscle is maximum.
- 10) The new beginners try imitating the present workout pattern of the successful bodybuilders and fail to realize that every successful bodybuilder has had a first time for everything that they do successfully do today.
- 11) Fitness is completely ignored and only temporary muscle gain is considered vital.
- 12) The need for assistance of a skillful coach is completely neglected and self study is emphasized a lot more resulting in higher risk of failure.

Conclusions

The findings of the study indicated that training must be done at the right intensity. Exercise scientists have determined most people should train between 70-85 percent of their one-rep max to elicit an optimal hypertrophic response. Choose a weight that allows you to do 6-12 reps with good form before reaching failure and it should be performed under the proper guidance of coach or knowledgeable person who knows the required skills of lifting weights to increase the muscle mass with proper weight training workout and muscling gaining diet.

Study also indicates that, genetical factors depend upon heredity, to get a good physical structure. It is also noticed that there is a psychological effect on up-coming bodybuilder's with the wrong concept of lifting heavy weights trying to gain muscle mass with insufficient diet which is necessary to increase the muscle mass.

Acknowledgement: I acknowledge Augustine Gnanaraj for providing valuable inputs and motivating me to take up this study for my research and proprietors of Ayur, Corporation, Rudra, Morya, and Shivam gym for their cooperation towards the conduction of the anthropometric study required for this paper presentation.

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QUALITY CONTROL ANALYSIS IN A BUILDING CONSTRUCTION IN INDIA

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ABSTRACT:

This paper was learnt the capacity and importance of quality control. The construction industry in India has been struggling with quality issues for many years. The construction costs can be fundamentally lessened if the construction industry grasps the idea of quality assurance and control that has been utilized with awesome accomplishment by service and manufacturing industries in India. Quality is one of the basic factors in the achievement of construction projects. Quality of construction projects, and additionally project success, can be viewed as the satisfaction of desires (i.e. the satisfaction) of the project participants. In any case, not at all like manufacturing and service industries, where a standard item is consistently delivered, most results of the construction industry are unique cases, specially designed for a specific reason. Thus, fulfillment of a quality level is difficult both to indicate and to screen. The quality of the implementation will be guaranteed through an integrated system of quality assurance performed by the Construction Manager and quality control given by the contractors.

KEYWORDS: quality control, management, construction, business, company, market, performance.

INTRODUCTION:

The Construction industry of India is an important indicator of the advancement as it makes investment opportunities crosswise over different related sectors. The construction industry has contributed an expected 6708 billion to the national GDP in 2011-12 (an offer of around 8%). The industry is divided, with a modest bunch of major companies required in the construction activities crosswise over all segments; medium sized companies specializing in specialty exercises; and small and medium contractors who take a shot at the subcontractor basis and do the work in the field. In 2011, there were somewhat more than 500 construction equipment manufacturing companies in all of India. The sector is work concentrated and, including in direct jobs, gives employment to more than 35 million people.

Today construction of skyscraper buildings is a profoundly streamlined process including a wide range of orders and participants. However, the discernment of quality inside these different disciplines is still very different. E.g. coordinating the required consistent resistances of elevator shafts is a testing assignment amid the concrete works. To meet these challenges an association between construction and geodesy is required.

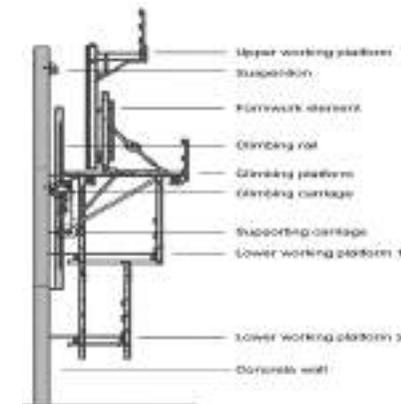


Figure 1: Climbing formwork

In the scientific study depicted thus a technique for quality assurance in construction based on engineering geodesy was developed. The method was theoretically applied to construction of a center of a normal high-rise building. For the concrete works the representative technique of climbing formwork was selected. Figure 1 indicates points of interest of a climbing formwork.

Climbing formwork systems are utilized while horizontal supporting building elements, similar to sections or bars, are not accessible. This circumstance happens for example in centers of elevated structure buildings, stairwells, bridge pylons, cooling towers, dams etc. Climbing and sliding formwork systems has turned out to be productive in such cases. These systems are designed to be upheld just by methods for the components they produce.

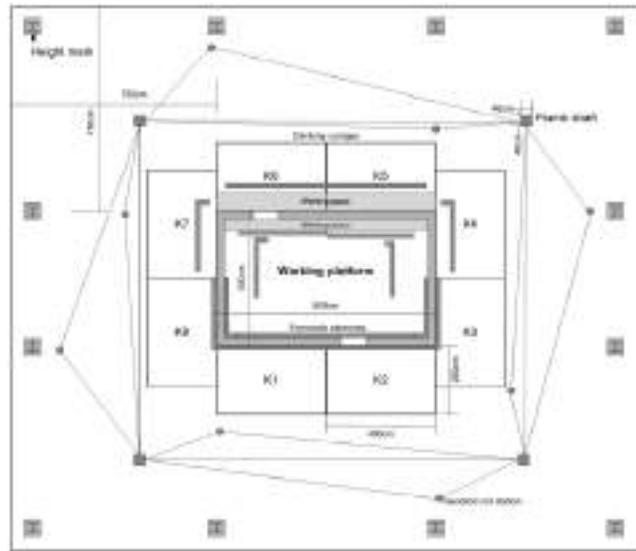


Figure 2: Layout of the typical floor

Climbing formworks can be for the most part separated into self-climbing and crane-depending (Schmitt, 2001). Be that as it may, in the introduced scientific study the crane-depending climbing formwork was precluded. Just the working platform within the building's core (Figure 2) was thought to be uprooted by a crane. The formwork itself should be moved using pressurized water. In this way, the crane capacity help can be accomplished and an about breeze autonomous construction process is possible.

REVIEW OF LITERATURE: Quality is a desirable characteristic by all partners in construction. The quality assurance (QA) is an arrangement of exercises whose object is to show that an element meets all quality requirements (Schweitzer, 2012, Schwieger 2011). QA activities are completed in construction projects to motivate the certainty of stakeholders in meeting the quality requirements. QA provide the stakeholder with sufficient certainty that a structure, component, material or system meets pre-expressed quality gauges and will perform satisfactory during its whole service life. Quality control (QC) is the arrangement of exercises or techniques whose object is to guarantee that all quality prerequisites are being met. With a specific end goal to accomplish QC, forms are checked and performance problems are solved (Rehr, 2011).

Sehlz (2010) has studied "construction quality control/quality assurance design" in that Materials qualification testing will be done earlier to construction to check that the materials comply with prerequisites of the determinations. The contractor will get delegate tests of the materials designated as the proposed wellspring of the materials. Test tests will be sent by the contractor to the Testing Laboratory. The Testing Laboratory will report all test comes about for assurance of material meeting the acknowledgment criteria. For soils, sampling and analysis will be performed by the contractor on the on location acquire material source. The CQAO or designee will occasionally inspect material being utilized. On the off chance that verified that the attributes of the material being utilized contrast from the material initially tried, the CQAO designees will coordinate the contractor to rehash the qualification testing. On the off chance that the new material qualification test results meet the criteria of the technical specification as controlled by the Engineer of Record, the new materials might be utilized for the work; generally, already approved materials must be utilized or different acceptable materials must be inspected and tried as noted above preceding consolidating into the work.

Lunze, J., Regelungstechnik (2010) "Quality estimation methods used in product lifecycle" in that In Polish organizations, nature of items is a consequence of numerous connected processes. Those processes are relied upon the variables framing quality products necessities. At introduce time the organizations put "avoidance technique" which supplanted "detecting strategy". This approach has impact on advancement of production process and decrease of expenses and decay. As indicated by Quality Management System and Quality Control organization should utilize quality techniques in the entire item lifecycle such exercises make it conceivable to apply the proposed display in ceaseless quality improvement.

Beetz, A., Schwieger (2010) "quality control of cost estimation handle in construction organizations" in that Quality has been developed in the 1980s as the best key issue in industry. Statistical process control (SPC) is a vital component of total quality management (TQM). In spite of the fact that SPC techniques were initially created for manufacturing; they have been successfully applied to certain regulatory and service functions. The target of this research is to exhibit the materialness of SPC techniques for quality control and improvement in engineering organizations included in construction (implementing projects). A standout

amongst the most imperative procedures to be controlled in construction projects (cost estimation process) has been centered on. The technique of controlling such a procedure has been characterized relying upon looking into the subject in the past investigations. Receiving singular estimation graphs is come to as the procedure utilized to control this procedure measurably. Practical data, spoken to as a rundown of activities actualized in 2002 by the State Company for Transportation Projects together with their assessed and real expenses, have been gotten and considered for this reason (through applying singular estimation outlines as a suitable technique for controlling processes factually) demonstrating the appropriateness of SPC techniques in building construction organizations which attempt projects along drawn out stretch of time. Management commitment and training are very important in realizing the social change Control chart technique can be utilized in industry as well as in engineering organizations. This paper has been committed to apply this technique in a construction engineering organization (on the organization level); it has been discovered that this technique is an exceptionally efficient tool to isolate uncommon causes from regular reasons for fluctuation. It is conceivable to incorporate further quality measures like cost and calendar measures alongside the conventional ones (imperfection measures) to control quality in engineering organizations.

CIDB (2008) "the application of quality assurance in system implementation projects" Most system implementation projects come up short since they don't understand their unique reason and subsequently don't meet the necessities of clients and organizations. Frequently the explanation behind this is quality assurance not being executed by the venture group and in addition non-adherence to quality standard rules. This research study accordingly means to decide how organizations apply quality standards amid the execution of quality assurance in their system implementation projects. A further point is to figure out what sorts of problems are knowledgeable about the utilization of quality assurance by organizations that have implemented quality affirmation in their system implementation projects. The literature review conducted focuses on what quality are, and additionally the sort of quality control benchmarks and project management procedures that are accessible. A survey of the explanations behind unsuccessful framework execution projects and quality initiatives additionally gives foundation on where organizations are going wrong. A subjective research technique, with numerous contextual investigations, is connected in this research study. The outcomes demonstrate that the organizations that taken part in this examination think about did apply quality affirmation procedures amid their framework execution ventures. In any case, shortcomings existed that, if improved, could improve the effective implementation of systems, the quality of the systems implemented, and the time period in which frameworks are implemented. In view of the discoveries of the research study, the specialist has built up a quality assurance display that can be utilized amid system implementation/development projects (CIS 2006). This model is isolated into the different system development lifecycle phases, for example, the planning phase, design phase, development phase, and so forth, showing the quality confirmation exercises and expectations required amid each of these stages. This approach bodes well that a few or these stages can be adjusted to any company's system development lifecycle system to help with distinguishing the exercises and expectations required for successful implementation/development of projects. The comes about because of the research have demonstrated that shortcomings do exist within system implementation projects when taking a gander at the QA activities performed to help with the accomplishment of the project. Through the literature review directed, it has been discovered that despite the fact that direction for QA activities exists as models, frameworks and gauges, these are not sufficiently particular to help an organization in recognizing the particular QA activities required amid each phase of a SDLC.

Brace (2004) "has studied "Factors Affecting Quality in the Delivery of Public Housing Projects in Lagos State, India" in that the research work digs into the source of public housing in Lagos, India and its development over the years. It distinguishes the challenges of public housing yet concentrates on evaluating the quality assurance hones in the construction industry. The goals are to examine the factors that obstruct effective quality confirmation rehearses; and to find out who ought to be to a great extent in charge of guaranteeing/implementing effective quality affirmation hones in public housing projects. The study reveals that the aims quality assurance are effectively traded off and every now and again lost since it depends intensely upon the individual contributions to usage from each designer, contractor, supplier and sub-contractor. The study infers that all have real parts to play in guaranteeing quality work in public housing projects; implementation of quality guidelines by government offices, setting up of quality assurance office in construction firms and authorizing statutory prerequisites and in addition giving trainings and classes on quality standard. Extreme punishment for rebelliousness to quality standards be set up by government and professional bodies. Customers must demand proof of contractors' accreditations for quality affirmation capacity before gathering their delicate records and experts on the project must attempt to cooperate in accomplishing desired quality.

Chung, H.W. (2007) "the construction and building materials industries for practical advancement in developing countries" The construction industry (CI) in developing countries (DCs) confronts huge number challenges Confronting its improved performance and development. Like numerous developing countries, the Sudan faces extreme issues in its construction sector which ought to be truly tended to and wiped out. Problems related to building materials (BMs) production; supply and management have a tendency to command the rundown of obstructions to the development of the Sudanese Construction Industry (SCI). The main study is to direct an exhaustive and expound audit and examination of the construction and building materials industries in the Sudan concentrating on privately delivered building materials and building technologies employed in the arrangement of housing. The research aimed to outline the criticalness of the construction industry in the socioeconomic development in the Sudan and to evaluate the possibilities of the nation in independence of key building materials It inspected existing conditions of the Sudanese Construction Industry (SCI) and the Sudanese Building Materials Industry (SBMI) by exploring the part of construction in the socio-economic development of the country. The study examined the causality connection between construction and the economy as an entire and its subsectors employing statistical tests, to be specific the Granger causality test Data relating to the execution of the Sudanese economy during 1982-2009 were employed for the investigation. The study explored the likelihood of delivering BMs locally regarding raw materials accessibility and distribution.

The orange transitions in Figure 5 (e.g. "Set up positional net", "Set up tallness net" or "Measuring formwork") picture the engineering geodesy processes, which are coordinated into the construction process. For example in the second hierarchy level, the processes "Build and stationing" is running parallel to construction process "Advancing..." "Only when both the processes are completed effectively the next engineering geodesy process "Measuring formwork" can begin. On the off chance that the procedure "Measuring formwork" is successfully finished (resilience is met) a criticism to construction process is done and the following process "Establishment of the scores and the segments" is executed. In Figure 6 the procedure measuring formwork is envisioned by a 3D model. Here a total station which is positioned on the last cemented floor is playing out the alignment of the formwork.

CONCLUSION: In construction project because of the contribution of different stakeholders in quality control and assurance, issues of quality control emerge in for all intents and purposes all the utilitarian regions of construction activities. Inside the organizational structure of the stakeholders in the construction project, a predetermined number of quality assurance/quality control (QA/QC) work force were in charge of an undeniably large workload including numerous more unpredictable practices than found in traditional construction. To guarantee the continued quality of recovery of the barrage facilities, several approaches are being considered, including automation. The computer-aided technology specifically indicates extraordinary guarantee in making instruments to help QA/QC elements. Past development of QA/QC in India has shown that the stakeholders must end up noticeably included ahead of schedule in the process to guarantee suitable performance. In any case, in developing some QA/QC systems, the stakeholder is not known and the system can't be custom-made for a specific level of space learning. At the point when this circumstance happens, it is important to provide flexibility in the system to deal with clients with varying levels of learning about the domain. Joining this flexibility into a computer module is a major problem in current QA/QC development and different approaches have been attempted to manage the problem. The performance specifications for construction operations indicating the required construction process and determining the required nature of completed facility remained missing in term of application and implementation in the project.

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A CRITICAL EVALUATION OF ELT IN HIGHER EDUCATION IN KOLKATA- SPECIAL EMPHASIS TO PEDAGOGICAL CONCERNS

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ABSTRACT

Teaching English in rural and difficult areas is an unplanned teaching/learning activity. In fact both the teacher and the taught are unaware of the effective pedagogical strategies. The reasons for such an unplanned perpetuation of English language teaching in such areas could be innumerable but a few are Heterogeneous classes, Substandard teaching material, Hostile socio-cultural factors etc. My paper would explore the possibilities of evolving strategies for empowering and equipping the "English teacher" supposed to teach English. In order to substantiate my points, the paper would be based on a case study of undergraduates studying English at higher level, which is situated in the Kolkata district.

Keyword: ELT, Syllabus, Curriculum, Teacher, Student

1. INTRODUCTION

English today is the sequel to the fifth language Invaders of England Germanic century. Pre-invasion forms of records are not available Language. Language. English is one of the oldest languages in the world. World with three clear cut from almost the fifth century OLD ENGLISH (or c.1100 English) demarcation; MIDDLE demarcations MODERN ENGLISH with its respective segment (to c.1500); ENGLISH Own variations in dialect.

Learning any new content in an unknown language is very important.

It is difficult, therefore it is important for teachers to make educational changes — Some of them aim to build the English language of learners skills and some are designed to enhance their access.

Content from academia.

Much research is under way to know what Appropriate and effective method of pedagogy.

It is unfortunate but true that ELT in most of the academic situations in India seems to be ineffective and impractical. Most students ' English language proficiency and communicative skills are subject to doubt. At the college level, most students who have passed college examinations are unable to communicate either orally or in written form. This is the fact despite having had almost 1000 hours of formal language instruction in their language classes before they entered college level during nearly eleven years of schooling, but maximum have very low English orders. Many explanations.

Out-dated pedagogy and teacher domination

Indeed, ELT in India has suffered for more than a century from an obsolete pedagogy and teacher-dominated presentation style. In this type of chalk and talk-oriented instruction method, a instructor functions as a narrator who, through a parrot-like imitative mechanism, infuses information into receptacles. This cycle includes translation, repetition, memorization, recitation and duplication in language classes, which are often conducted by a combination of the grammar-translation approach and audio-lingual methods.

Such an instructional program that is operating in most of India's government and semi-government schools and colleges is focused on individualistic student rivalry. Their emphasis is on cramming the kit in order to be able to regurgitate them if they are called or humiliated in their examination papers that typically measure nothing but their short-term memory capacity and their knack of working under intense pressure quickly. This wash-back effect in turn has had pernicious effects on the learning process and consequently on the language processing abilities of the students.

Use of vernacular medium of instruction

What makes the matter worse is that English is typically taught in the vernacular for the advantage of students who are not even at university level able to understand or communicate in English. They speak English with a concoction of local slants and regional words. The teachers are also not able to hold the attention of the students. Shortly after the beginning of the attention of the class students begins to waft and usually the boredom is rife by the end of the semester. In English language classes, SMS-ing, talking, emailing, listening to music, yawning, dreaming or even sleeping are typical behaviors.

• Learners' needs are ignored

A big issue with this situation is that the interests of the learners are continually being overlooked. The fact that students come from diverse backgrounds makes the situation in language learning classes more difficult as their socio-cultural contexts produce large gaps in their communicative skills. The variations between their skills, style of learning, methods for learning and activities

are overlooked. According to the

They lose interest and lack the ability to learn, and therefore get poorer and poorer by the day.

- **Teacher-Centered approach**

Another greatest problem in ELT is the destructive impact of the traditional teacher - centered approaches which are being applied from primary to college level. There is very little scope for genuine and meaningful interaction and effective language learning. The outcome of this type of educational system is nothing but short-term student mastery of the course material, but the after-effects of this educational system are lower incentives for learning strategies and social skills transfer. Thus, education is a depositing act in which the students are the depository, and the teacher is the depositor. Instead of communicating, the teacher is talking and making deposits that the students collect, memorize and return to parrot patiently. This is the principle of "banking" education in which the scope of action permitted for the students applies only to obtaining, loading, storing the deposits.

- **Less use of technology in ELT classroom**

For all the flaws of English teaching, a lot of teachers and students have a passion for this. Teachers like it because they worry about the viability of applying or the productivity standard of new technologies. Most believe the latest technologies in real classroom setting are not realistic. But the fact seems to be that they lack the ability to open their eyes to the latest developments emerging in the field of education. A large number of teachers lack the technical know-how. Students really like this product-oriented approach, as it offers the details they need to obtain their marks in the shortest possible time. They suffice to make their dreams come true by learning certain survival skills.

- **Lack of collective awareness**

Another problem is the lack of collective awareness in different authorities. Central Universities, Deemed Universities, The CIEFL, RIEs, ELTAIs, KHS, CBSE, NCERT, Navodaya Vidyalayas, Kendriya Vidyalayas, NCTE, Autonomous Colleges, Curriculum Development Centers, Academic Staff Colleges, Refresher Courses, Open Universities and Schools, DIETs, Operation Blackboards, Education for All, Computer Assisted Language Learning, Language Laboratories, National Testing

Service, Action Plan etcetera, all are big names and high-sounding words but all these agencies don't have co-operation regarding language teaching. Due to this lack of cooperation, English language instruction mechanically executes as rituals.

It is the business of linguistics and ELT to make a learner proficient and competent in the use of English as tool for communication. This proficiency and competence is essential for anyone engaged in learning English and once this competence is attained he/she can then go on to dwell in the realms of Shakespeare, Milton, Dryden, Pope, Goldsmith, Jane Austen, Wordsworth and so on. And to inject this competence in the learner is the job of a specialist. Such specialists are the need of time in Indian situation.

The most emerging issues for an English language teacher are -

- How to add variety and remove boredom from an ELT classroom?
- How effectively and fruitfully can language games be played in ELT classroom?
- How can language communication skills be developed in the learners?
- How can we construct a realistic but effective curriculum?
- How can a teacher evaluate the performance of the learner throughout the year?

These various aspects of ELT with precision and clarity seem to be the need of the day.

Despite all these measures, the condition in the country can't be encouraged if teacher trainers continue to load the trainees with the useless theories and teachers of English continue to use age-old methods in their English classes and learners continue to be incapable of using English whenever they need.

- **Lack of knowledge of curriculum**

A good structure of curriculum and syllabus is essential to the teachers of English because it gives them directions for their classroom teaching. The knowledge of various methods makes a teacher knowledgeable and helps him to choose the right method but the knowledge of the curriculum and syllabus helps him to develop his own method in order to suit the needs of his learners.

2 REVIEW OF LITERATURE

Manish Kumar [2019] discussed how "English is our big window on the world" English is not only in India but in the world. Since English is spoken so often, it is called a 'world language.' Although it is not an official language in many countries, it is the language taught mostly as a foreign language.

R. Abilasha; M. Iankumaran [2018] English, an extensively used language of today, has often been mentioned as „ global language“. It is the language of the current age and the same is learned and taught worldwide as a second language. In India, English is not only used for communication but also for inter-state and intrastate coordination, because the nation is connected

with the great ethnic and linguistic diversity

Tarjani Dakshesh Sheth [2016] The fluency of English among students becomes a major skill they need for their jobs. The industry noted that Indian students have deteriorated in English and have had to implement policies and strategies. English is an integral part of the Indian curriculum over decades and plays an important role in the search for jobs in well-known organisations. Institution and government agree that the English language should not be rejected globally.

Pandey, M. and others[2015] The efficacy of English language courses at India's engineering colleges has been examined. This article. Most engineering graduates in India are unemployed because of their poor communication skills and lack of faith. Many research papers confirmed the importance of improving the employability of engineering graduates; however, the problem of poor communication skills in India is still growing.

This study aims to examine ESL teachers' pedagogical and technical perceptions of the integration of CALL into ELT. Previous research on teacher perception in EFL / ESL has shown that exploring the relation between teacher and learner beliefs helps teachers to develop their methodical and teaching styles to adapt themselves to specific situations (Ahmad & Aziz, 2009).

3 RESEARCH METHODOLOGY

- **Method**

The present study uses a mixed method research which employs both qualitative and quantitative methods. For data collection, field survey has been employed. Additionally, a case study design was also chosen, because it was necessary to look into the various experiences, insights, and voices of a particular group of second language teachers.

- **Sample**

The research methodology is based on the analysis of data collected through field survey of students and teachers engaged undergraduates studying English at higher level in rural parts of Kolkata. The standardized questionnaires for both teachers and students are used separately. The target group is approximately 250 students and 50 teachers from higher level colleges located within Kolkata

- **Tools used**

Since this was a survey type of research, the investigator selected questionnaire suitable for the study, as it required some factual information from a large number of teachers and students as respondents within a short span of time. A standardized tool developed by Santosh Suman (2013) was used for collecting data. The following tools were used for collecting data: A. Questionnaire for English Language Teachers B. Questionnaire for English Language Students.

- **Data analysis**

The collected data was analyzed systematically. In addition, categorical analysis was employed in order to sort and code data into assigned categories.

The data was used to form bar graphs and pie charts, which interpreted the results of different categories through distinct color codes.

The purpose of this part is to give an actual account of the problems, confining attention to what was thought and done during the research at different points in its development and leaving a more detailed discussion of these issues. The case study presents particular views of various teachers and students regarding second language pedagogy, syllabus, their problems in teaching and learning English language etc. based on the case study of a small number of classes at higher secondary level of various colleges in Kolkata. The needs of English language in past and its need in present scenario have been analyzed. Now the question arises from this study is - whether there are changes in curriculum and pedagogy with the changing time? This is the prime question which is to be answered with this research. Keeping this in mind, various teachers and students of various colleges have been interviewed and their opinions have been gathered through various sources. Experts of ELT in India and from abroad have been consulted regarding the problems of our learners in learning English language. Many research papers have been presented at national and international level to check whether the other specialists in the area of ELT agree with the views or not. Received data have been analyzed from teachers' perspective and students perspectives' to reach to a conclusion and try to bring out solutions to these problems. The various criteria adopted for this case study are pedagogy implemented by teachers in their ELT classes, ELT curriculum, assessment and use of technology as these are important components that need to be strengthened in order to make ELT more successful in India. The questionnaires were designed for case analysis on the basis of certain criteria. Considering pedagogy, curriculum and evaluation as the defining parameters of language teaching in the context of ESL, this empirical study enumerates and elaborates the barriers to successful ELT particularly in rural areas. There was an effort to incorporate the various aspects of ELT viz. Curriculum, learning of knowledge, teaching of grammar, vocabulary and literature, assessment skills and the use of technology to understand the pedagogical consequences of interactive English language courses.

The research selected undergraduates studying English at higher level (Bachelor of Arts with English as one of the required languages to be learnt). The opinion of both learners and teachers is taken into account when the results and potential recommendations are arrived at.

4. ANALYSIS AND INTERPRETATION FROM TEACHERS' VIEWS

4.1 Interpretation of the data received from the teachers through questionnaires.

- Which standard do you teach? [Table 1]

Standard	Percentage
Under-Graduate	70%
Post-Graduate	10%
Secondary-Level	5%
Primary-level	15%

The research shows that 70% respondents are of under-graduate level, 10% respondents are of post-graduate level, 5% respondents are of secondary level and 15% respondents are of secondary level. So the majority of respondents have been teaching at under-graduate level.

- Of how many years have you been teaching English language? [Table 2]

Years	Percentage
One year	12%
Five year	70%
More than that	15%
Less than that	03%

The research shows that 12% respondents have the teaching experience of English language of one year, 70% respondents have the teaching experience of English language of about five years, 15% has the experience of more than that, and only 3% has the experience of less than one year.

- Are you satisfied with the syllabus of English you teach in your classes? [Table 3]

Opinions	Percentage
Yes	33%
No	67%

By research the researcher finds that 67% respondents are dissatisfied with the syllabus they teach to their students, 33% are satisfied with the syllabus. Majority of them need changes in ELT syllabus.

- Are you able to achieve the objectives of enhancing language skills through this syllabus? [Table 4]

Opinions	Percentage
Yes	10%
No	05%
Partly	78%

The response of respondents' show that only 10% believes that they can achieve their objective of language teaching through this syllabus, 78% believe only partly can be achieved and 5% don't believe so.

- After how long the syllabus is being revised? (Approximately) [Table 5]

Years	Percentage
One year	10%
Two year	12%
Five year	33%
More than that	45%

The research shows that only 10% respondents say that the syllabus of English is being revised after one year, 12% believes after two year, 30% believes after five year and 48% believe that it is being revised after more than that.

- Are you satisfied with the changes that come after the revision of the syllabus? [Table 6]

Opinions	Percentage
Yes	20%
No	70%
Not sure	10%

By research the researcher finds that 20% respondent feels satisfied while, 70% are dissatisfied with the changes, 10% respondents are not sure.

- Does this syllabus which is being taught at under graduate level makes the Apprentices willing to use English in their everyday lives? [Table 7]

Opinions	Percentage
Yes	45%
No	55%

- Do you think it will be good if the teachers from various colleges are involved in the curriculum design? [Table 8]

Opinion	Percentage
Yes	82%
No	08%

The research shows that 45% respondents believe that the syllabus of General English at under graduate level is as per the requirement of time and 55% believe it is not.

The research shows that 82% respondent believe that it would be better if the teachers are to be involved in curriculum designing for the students, only 8% respondents don't believe so.

4.2 Interpretation of the data received from students at under-graduate level through questionnaires: Students' Perspectives.

The researcher finds from the research that 85% respondents love to learn English language and 05% respondents don't like to learn this language.

- From which standard did you start learning this language? [Table 9]

1 st standard	48%
3 rd standard	02%
5 th standard	50%

- Do you like learning English language? [Table 10]

Opinion	Percentage
Yes	85%
No	05%

The data received from the respondents shows that 48% respondents started learning English language from 1st standard, 02% started from 3rd standard and 50% started from 5th standard.

- Do you agree with the assumption that English language provides numerous opportunities in future for the learners? [Table 11]

Opinions	Percentage
Agree	62%
Disagree	25%
Not sure	13%

The research shows that 62% respondents from under graduate believe that English language provides numerous opportunities in future for the learners, 25% don't believe so, and 13% are not sure about it.

- Are you happy with the syllabus prescribed for your classes? [Table 12]

Opinion	Percentage
Yes	43%
No	57%

The responses of the respondents show that 43% respondents are satisfied with the syllabus of BA. TDC course prescribed for General English students & 57% respondents are not satisfied.

- Do you think that this curriculum is helpful in enhancing the four skills of language i.e. listening, speaking, reading & writing? [Table 13]

Opinion	Percentage
Yes	35%
No	65%

The research shows from the data received from the respondents that 35% respondents believe that this curriculum can enhance the four skills of English language, 65% don't believe so.

- Do you feel like that after twelve years of studying English in your Academic field, you can use this language in your everyday conversation? [Table 14]

Opinions	Percentage
Yes	49%
No	51%

The data reveals that 49 percent of respondents believe they will be able to use English in their day-to-day lives after graduating, and 51 percent think they will not be able to do so.

- Do you find your English language classroom interesting? [Table 15]

Opinions	Percentage
Yes	59%
No	41%

The research shows that 59% respondents find English language classroom interesting but 41% don't find innovative in English language classroom.

- Are you able to recite the poems or understand literature without your teacher's help? [Table 16]

Opinions	Percentage
Yes	28%
No	72%

The research shows that only 28% respondents can recite poem and able to understand the literature prescribed in their syllabus without teacher's help, 72% are not capable to do so.

RESULTS AND DISCUSSION

Through the interpretation of the data received from approximately 50 teachers of various colleges of Kolkata and who have the experience of more than five years of English language teaching, it has been found that majority of them are dissatisfied with the syllabi and text books prescribed for their respective classes. They feel that they can partly achieve their objectives through these syllabi of ELT. The purpose of the ELT is to hone the skills of language but these can't be achieved through these syllabi because prescribed syllabi are exams-oriented in which the target is to pass the year end examination.

Again teachers feel that the various syllabi have not been revised with proper interval and these changes don't satisfy the demand of learners in present scenario. The revision is nothing but only interpolation of a few chapters and deletion of a few chapters. These changes don't make syllabi effective. No doubt, Kolkata Govt. has introduced semester system in education at all levels - primary, secondary and higher, but the division of the syllabi are not up to the mark. For e.g. if first semester covers poetry and a few topics of grammar, the second semester covers prose chapters and some topics of grammar, the third semester again covers poetry and so on. This division of syllabus creates monotony and boredom among the students. Maximum teachers feel that the syllabus should be creative, innovative, and latest, according to the need and level of all the learners so that the learners get attached with it and this is possible only when the teachers should be involved in syllabus designing. They have daily interaction with learners. Only they can understand the real problems of their learners.

Through the analysis of data received from the students of various colleges, it has been found that majority of respondents love to learn English language. Maximum have started learning English language from their first standard. Most of them feel that English language can provide numerous opportunities for them in future. When asked about the syllabus prescribed in their respective classes, only a few are satisfied. Majority of them find it boring and irrelevant. They feel that they can neither use English language in writing nor in communication even after studying it for 12 years in their academic career. They count various reasons

behind it. They say that they get very little practice of speaking exercises in English language classroom. As they have to concentrate on the exams, their emphasis remains in learning this language rather than using this language but in the end they realize that they are backward and can't face competitions. So data received from questionnaires shows a lot of dissatisfaction among teachers and students. This dissatisfaction is with syllabus, curriculum, examination system, text books, and availability of technology in English language classroom.

CONCLUSION

In recent times, a number of committees and study groups have given anxious thought to the position of English in our education system and its teaching at various levels. English teaching at different levels, its position in schools and universities, its share of time tables and its contribution to teaching other subjects are part of a problem that has become increasingly relevant and contentions over time. It has been observed that there is a significant gap between learners blessed with different opportunities and disadvantaged learners (learners who don't get a lot of opportunities to learn this language even if they belong to rural or urban areas) and that gap is getting wider every day.

Evaluation framework should also adjust. Evaluation is usually taken as students' year-end test. But all other considerations such as syllabus, tools, methodologies, results etc. all influence the process of teaching learning. And we will analyze all these variables. In addition, in second language learning, all skills should be checked, not information but skills which are important to the use of that language for communication. This can not be done only by summative evaluation which we usually do in our assessment framework, i.e. the program's end result which usually includes tests and measurements. Knowledge obtained from the summative assessment is typically used to evaluate whether or not the students have passed the course. Students should be evaluated summative as well as formatively.

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STUDY OF CONTRIBUTION OF WALT WHITMAN AS POET

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ABSTRACT:

The emergence of Walt Whitman had changed the entire poetic scenario, not only in America, but also all over the world, wherever his influence reached. His creative and groundbreaking voice had profound effects on aesthetics, poetics and social life. He was a poet filled with a profoundly human sensibility who wanted to put an end to the hostile divisions of society based on class, caste, ethnicity, colour, age, sex and gender. In particular he lent his voice to the feelings of the popular masses. He attached himself with them using self as a metaphor and realized the fundamental resemblance of all cultures on earth.

KEYWORDS: literature, women, american , romantic

INTRODUCTION:

Whitman had become America's first genuine literary voice. He is a political poet, a poet who holds that poetry plays an essential part in American democracy's life. This is so because the poet knows what it is to see men and women as ends and to see each and every one of them having the boundless and equal worth. The lyric-epic was a native form by which he wanted to create an epic work that would distinguish American literature from European literary traditions. His works would grow organically from American native landscapes and peoples. Part of his projects included producing works for the American culture that would serve as political sourcebooks. By writing a grand poetic work, he wanted to foster a democratic culture in the United States. Whitman realized soon into the project that the traditional epic wasn't a suitable form for his task. So, he created the lyric-epic in his Leaves of Grass in an attempt to construct a new form. Walt Whitman was primarily Nineteenth-century American music loving poet.

II CONTRIBUTION OF WHITMAN AS POET:

Whitman is to be found in those 'poets to come' who have 'talked back' to the poet, in an ongoing dialog referring to his verse, one he embraced and encouraged: "O poets to come, he said. I am counting on you!". In reality poets such as Ezra Pound, D.H. Lawrence, Carl Sandburg, Hart Crane, T.S. Eliot, Federico Garcia Lorca, Wallace Stevens, Langston Hughes, Muriel Rukeyser, William Carlos Williams, Allen Ginsberg, Pablo Neruda, Jorge Luis Borges, Louis Simpson, Galway Kinnell, Marge Percy, Inspired by his Leaves of Grass, Yusef Komunyakha and Sherman Alexie have replied to him, to name a few. In Why Poetry Matters, as the critic and poet Jay Parini writes: "Whitman is always our contemporary, always a torch. His light invites us to remember how we form a single entity, both physical and cultural. We can't split ourselves between ourselves and them because in the great experience of life we can muck together. Words had become deeds in Whitman".

He's long enjoyed a special reputation as the poet of democracy in American literature, the poet who best reflects and communicates democratic ideas and values. He tried to exercise public authority through his poetry and poetics that were deeply influenced by the political discourse's pressures. By following the middle-style diction, he defied the literary norms of the nineteenth century. But contrary to most Modernists of the twentieth century, he remained committed to the notion of poetry as a common mode of public discourse.

His works transcended the borders of a country, he so exuberantly celebrated and has inspired the writers of many generations and nationality. We are looking explicitly here at its influence on contemporary writers across nations. While Walt Whitman died well over a century ago, his poetry and prose continues to speak to the state of a divided and nervous United States. He portrays the poet as his own creation of time and place. Nevertheless, what Whitman said about his age also has a surprising applicability to the present period.

Many readers across the world will find the poem relevant to the political scene of the present day.

Another indication of Whitman's importance to the twenty-first century includes remarks he made in Democratic Vistas (1871), a book that came to be known as The Gilded Age, written during a time period. Named after a satirical novel by Mark Twain and Charles Dudley Warner published in 1873.

E. A. Robinson was the author of a poem called Walt Whitman. This title was not the first poem. The poem was posthumously published, in 1897. The title has already been used by at least two other authors and many others had already addressed Whitman in verse. Robinson sings in the poem:

The master-songs are finished, and the guy,

The sang a name for them

(Perlman, Folsom, and Campion quoted.1998:93).

The verse above indicates Walt Whitman's words is now more complicated than ever before. Robinson mourned that that day he didn't hear him much, because his songs were too pure for him, too powerfully pure.

Robinson's poem re-enacts a rhetorical motion made repeatedly by Whitman himself in Leaves of Grass: resolving present discord by imagining unity in the future. The present division in this poem alone is mainly about Whitman himself. We should continue with this point as it highlights one of the key facets of how potential readers have come to terms with the poet and his poetry Walt Whitman. The guy who strolled through New York City, nursed hit soldiers and loved Peter Doyle is dead among a host of other items. That individual is the only phenomenon that can justifiably claim to be the unitary Walt Whitman.

We can distinguish the Walt Whitman multitudes in several ways. Whitman's work is shot through at the most fundamental level with a struggle between Romantic Individualism and the current social self.

Written during the poet's stay in Manhattan, the Ode to Walt Whitman is perhaps one of the greatest works to emerge from this period, marvelously demonstrating the emerging style of Garcia Lorca which merged Whitman's free verse with the surreal imagery of the 1927 Generation. The poem opens with an illustration openly combining Whitmanesque exuberance with a distinctly surreal aesthetic:

By the Bronx and East Shore

Boys sang, their waists exposed

The plate, wax, leather and a hammer.

Ninety thousand miners took silver out of the rocks

And children making upstairs and views

Poets such as Pablo Neruda and June Jordan, for whom Whitman is the spokesperson of 'the people.' And then there are others like Randall Jarrell, for whom Whitman remains 'only a very fine, very professional poet.' At a more basic point, Walt Whitman's presentation of his own diverse carols brings us a great many other poems. Leaves of Grass continued to change while he was alive, and most of the commentary written during his lifetime refers to editions that few contemporary readers have read. Yet his death did not stop the mutation. Through the years, numerous groupings of readers have turned to specific poems. He's been the poet of O Captain at different times! Captain my! Song of the Open Road, Song of Myself, When Lilacs Last in the Bloom'd Dooryard, Passage to India and, more recently, Live Oak, with Moss. The changing corpus of Whitman's poetry means that authors like Charles Swinburne, Ezra Pound, Langston Hughes, Allen Ginsberg, and Alicia Ostriker speak about the Whitman's are different individuals and sometimes individuals who wouldn't know each other. Amid these nuances, some of the forms can be described, in general terms. Whitman's example over the last hundred and fifty years has shaped poetry.

In America Whitman had already become well-known. As the British admirers of Whitman, led by William Michael Rossetti, raised nearly a thousand dollars for him in 1886 because they claimed America had left its great poet living in squalor, thundering none but Andrew Carnegie, "I felt disgraced by victorious democracy. Whitman is until now America's greatest poet" (Quoted in Reynolds David S. 1995:557). Carnegie soon followed with gifts of her own. And "Whitman's 1887 Abraham Lincoln lecture attracted many well-known American democrats, including Mark Twain, John Hay, poet Edward Eggleston, and sculptor Augustus Saint-Gaudens".

III CONCLUSION:

Whitman's legacy as a profounder of democracy, given his general popularity, lay primarily in the hands of a devoted group of American followers, including John Burroughs and William Douglas O'Connor. The Poet's first full-length thesis was Burroughs' Notes on Walt Whitman (1867). With the phrase of the good gray poet, O'Connor had found a formula to make Whitman appealing to Victorian society of the middle class, at least much more so than the poet's own depiction of himself as "hankering, disgusting, magical, naked" (WaltWhitman.1986:47). Nevertheless, O'Connor's later writings on Whitman would depict Whitman in Christ-like terms and explicitly relate his poetry to progressive politics (this included the fact that the two men's relationship eventually broke up over Whitman's refusal to support the Fifteenth Amendment, this granted black men the right to vote).

Whitman was well known for being a revolutionary prophet of democracy and sexual equality. Despite Whitman's illustriousness few authors took Whitman seriously as a poet, other than imitators like Traubel. One peculiar aspect of Whitman's early reception is that he's been lauded more for his theories than his art in the English-speaking world. It was in France where Whitman's poetics first had a major influence on a group of writers called the Symbolists, where he had to appear in translation.

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STUDY OF CONNECTIONS BETWEEN RAVAGED, FRACTURED FEMININITY AND ITS REFUGE IN SUICIDE

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ABSTRACT:

A gruesome violation of the organism's ceaseless race against death, suicide, in its own perverse way, asserts humanity's unique essence over and above blind nature. The issue of suicide and suicidal behaviour has had a continuous flirtation with religion and philosophy. In the uncertain political atmosphere and self-consuming hedonism of Classical Rome, life could not aspire beyond here and now. With no particular vision of the hereafter, suicide was often perceived as a politico- philosophical statement—an act of individual protest—against injustice, anarchy, corruption and decadence. This paper reflects study of connections between ravaged, fractured, femininity and its refuge in suicide.

KEYWORDS: victimization, femininity, motherhood, suicide

I INTRODUCTION:

Authors, Emily Bronte, Charlotte Perkins Gilman, Sylvia Plath, Ashapura Debi and Arundhati Roy—each of these creative and sensitive writers have articulated the anger and anguish of women—the castrated sufferers in a phallogocentric world—through their art, and each have suggested ways to resist, circumvent, or transcend oppression through either motherhood, madness or suicide, i.e. through creation, alienation and/or death, depending on her orientation and experiences.

Feminist anthropologists, such as Sarah Blaffer Hrdy, feel that the victimization of the womb is as old as the species itself, whereas sociologists, such as Mary O' Brien and Gerda Lerner feel that it is a more culturally-oriented phenomenon which is coterminous with the beginning of private property, possession and patrilineal inheritance that legitimized the primacy of the seed—the semen —relegating to marginality the womb that held it. Whatever be its historical beginning, the oppression and disinheritance, the acute destitution of the woman, which started with the founding of the patriarchal civilization, under the aegis of the Father-god and his most potent weapon, the logos, refuses to ebb, and is relentlessly continuing even to this day. Herein lies the relevance of a work like mine, that struggles to salvage the woman's version of the story, from the wreckage of motherhood (that is irreparably damaged and mutilated), psychosis and suicide—from the dark hell of damned femininity.

II CONNECTIONS BETWEEN RAVAGED, FRACTURED FEMININITY AND ITS REFUGE IN SUICIDE

Cleopatra's mythically intriguing life and suicide, for the first time, associates female suicide with a mysterious glamour and seduction whose legacy is carried forward by the highly sexualized women celebrities of our century, such as Marilyn Monroe.

The Greco-Roman civilization was morally indifferent to—if not approving of—the issue of suicide. Pythagorus, Empidocles, Cleopatra, Brutus, Casius, Cato, Seneca—the list of celebrity suicides in classical Greece and Rome is surprisingly long.

The Stoics had to develop a full-fledged philosophy of suicide—as an act of individual moral choice—in Nero's Rome, teetering on the edge of anarchy and disintegration. When living becomes bereft of all sense of purpose due to political, social or cultural hostility, when the fundamental human desire for self-realization is defeated by insuperable circumstances, suicide becomes, as in Seneca's Rome, the individual's self-violating dissidence that condemns the culture and polity she has been made to inhabit—unfairly and arbitrarily. It is a radical form of cessation.

With the advent of Christianity however, the spiritual / philosophical reception of suicide undergoes a sea-change in Europe. The Christian stand on suicide was a stark reaction to the classical tolerance of the act, it was no longer interpreted as the individual's self-assertion against a hostile world. In Christian ontology, the self's power over itself is over-ridden by God's ownership of it; the radically disempowered human individual has practically no authority to destroy what does not belong to him.

In Christian theology, suicide marks a violation of 'hope'—one of the cardinal virtues. Judas Iscariot was damned not because he betrayed Jesus to the murderous enemy, but because he despaired and killed himself. In fact, Christianity forecloses suicide as a spiritual option by associating it with Judas, the inveterate villain, the bogeyman of early Christianity and the receptacle of two millennia's anti-Semitic hatred.

Judas serves to stigmatize suicide in a way that no one else could have done in the history of Christianity. Even Hitler's suicide would seem less revolting to a believing Christian. But then how can a religion, that organizes itself around an exceptional act of heroic suicide, be so disapproving of the same act? I think that the suicide-issue constitutes the central paradox in Christian theology. There is only one possible way to explain it: Christ's suicide was sui generis, but a suicide nonetheless (John 10.18, 'No man taketh it [i.e. my life] from me, but I lay it down of myself. I have power to lay it down'). After he had performed such a stupendous feat for the absolution of mankind—for fallen humanity's atonement—it would be blasphemous for lesser human mortals to replicate his act. Self-willed death is the *raison-de-etre* for Jesus' birth as the Son of Man, the core of 'felix culpa'.

With Christianity, the soul in the hereafter becomes religion's obsessive concern. The early Christian church not only denounced all sorts of suicidal conduct, but also introduced severe deterrents for it: e.g. ritual humiliation of the corpse to ensure infernal suffering (by hanging it upside down, burning it, dismembering it), confiscation of the deceased's assets etc.

In fact all forms of organized religion almost unanimously condemn suicide as cardinal sin. The point, however, gets problematized when confronted by specific spiritual issues such as saintly suffering (especially in Classical Rome and medieval Christianity), Samson's suicidal vendetta in Milton's deeply religious retelling of the Old Testament story or for that matter the concepts of 'Sati' in medieval Hinduism and 'Shahdat' in Islam.

In 1588 Christopher Marlowe's Dr. Faustus voices the insuperable dilemma of the Renaissance man, riven by the mutually conflicting discourses of humanist self-assertion on the one hand, and of medieval Christianity on the other:

"Faustus, thou art damned;" then swords and knives

Poison, guns, halts and envenomed steel

Are laid before me to dispatch myself:

... I should have done the deed,

Had not sweet pleasure conquered deep despair.'

During early Christianity, when a whole new civilization was consolidating around a nascent religion, law conspired with theology to convert suicide into an indictable offence. It was not until as late as 1961 that the Suicide Act in England could finally remove the legal stigma associated with self-killing:

'Through it, firstly, criminal penalties for committing suicide was abolished. Secondly, survivors of suicide attempts were no longer liable to criminal prosecution. Finally, increased penalties were set for persons aiding and abetting a suicidal act. This British legal initiative was followed in other Western countries. At this point in time, if anything, the pendulum is swinging in the opposite direction with some countries considering the legalization of euthanasia.'

The twentieth century understanding of suicide is majorly shaped by Emile Durkheim's *Le Suicide* (1897). It still happens to be the single most influential discourse on suicide. Durkheim's sociological analysis of suicide, its statistical and demographic profiling etc. were the first of its kind in Europe.

What Durkheim did was in many ways akin to what Freud would be doing at the turn of the century in the West: i.e. exploring the two cardinal taboos around which the modern Western civilization had organized itself—sex and suicide. While Durkheim had cast his gaze outwards, on culture and society, Freud turned inwards, to the endlessly complex human mind to analyze this infinitely intriguing mystery. Alongside Durkheim's sociological study of suicide, Freud would offer his psychoanalytical reading of the same phenomenon.

Durkheim's two main hypotheses were: 'First, suicide is not common in an integrated society. Second ... the underlying motivation for suicidal behaviour varies with the changing values of a particular society.

Durkheim thus suggested that suicide was an etiologically related to the social structure of the particular society or group in which the individual lived and to his relationship to the group.'

According to Durkheim, the three categories of suicide are: altruistic, egoistic, and anomic. Whereas an etiologically altruistic and egoistic suicides are posited at the two opposite ends of social integration, anomic suicide is more of a default option.

Altruistic suicide happens when the individual is subsumed by his culture – when he overly identifies with the metanarratives of his society. It is a case of extreme integration, e.g. when the individual lays down his life for religious or political causes. In this setup suicide is honourable, ennobling, and often mandatory: here the customs and rules of a group/community demand suicide in order to fulfill certain purposes. From the *Sati* in the medieval Hindu India to the most technically sophisticated suicide bombers in Iraq, altruistic suicide will stay as long as society does.

With egoistic suicide we encounter a disabling 'lack of social integration where the individual either was not integrated or had become withdrawn from the social network which includes the family, religion ... and political groups.'

Esther Greenwood's suicide attempts in Sylvia Plath's *The Bell Jar* is of this nature as are the glamorous rock suicides of the twentieth century. In egoistic suicide, the individual outgrows the culture she inhabits and the self-inflicted death is a radical solution to the problem of maladjustment. Teenage suicide makes up for the biggest percentage of this class of suicide.

Anomic suicide is an extreme reaction to any hostile change in life's circumstances that were earlier favourable. This sort of suicide is typically precipitated by separation, divorce, bereavement, financial hardship or loss of job. Anomic suicide is patently triggered by a 'fall' – social, economic, or emotional. Here a previously integrated individual suddenly experiences a loss of integration, caused by forces outside his control. Suicide among old or middle-aged individuals fall in this category. Sylvia Plath's final and successful attempt would be a textbook example of anomic suicide where the onus of being a single mother of two infants, in a foreign country, outweighed her desire for creative self-realization.

Of all types of suicide listed by Durkheim, the suicide most relevant to women is anomic suicide (though phenomena such as *sati* and *jahar*, ritual self-immolation practised by medieval Hindu women, fall into the altruistic category). Women, always at the receiving end of disasters such as widowhood, divorce, rape, premarital pregnancy etc., seem to gravitate towards anomic suicide just as Emily Bronte's Catherine Earnshaw, Ashapura Debi's Shankari, Sylvia Plath or Charlotte Perkins Gilman did.

Suicide and Psychosis

Is there a privileged relationship between suicide and madness? A ghastly voyage to death, undertaken prematurely, suicide is the culmination of intense laceration and desperation, incomprehensible to a so-called healthy mind. It is an acute dysfunction of the self, confronted by an inclement world.

Almost all textbooks on clinical psychiatry emphasize the privileged relationship between psychosis and suicide, depressive psychosis constituting the highest risk-group: 'at least two-thirds of those people who commit suicide have been found to have suffered from depressive... illness, feels Kay R. Jamison, who suffered from severe psychosis and conquered it successfully. Her extraordinarily courageous coming out is recorded in *An Unquiet Mind*, a Dantesque journey to the inferno of madness and back.

According to experts and clinicians, suicide, for patients suffering from untreated psychiatric illness, is wired into the malady. It is patently impossible to uniformize suicidal behaviour. No all-encompassing theory exists either in medical science or sociology, offering a master-key to suicide: 'Suicide, attempted or completed, is an extremely complex enigma of the human condition. It can not be presented as a unitary disorder. No single psychodynamic formulation or bio-psycho-social model can be used to generalize a common theory in the understanding of suicidal behaviour. Unbearable mental anguish seems to be the one common thread that links almost all cases of suicidal behaviour.

My work deals with suicide—rather female suicide-- as a conscious and ethical choice. A statement against societal oppression, suicide, committed by our women authors and characters, is indeed a way of ending 'unbearable mental anguish'. Sometimes it may look like the ultimate failure of the ego to cope with the hostile reality threatening to engulf it, but then, this failure can paradoxically constitute a success, a victory, which becomes the victim's sole access to power.

While there is truth in the psychiatric explanation of suicide, one must not fall into the trap of medical determinism while trying to understand suicide, which is, at the end of the day, an immensely complex phenomenon. What is madness after all, if not a state of mind, catalyzed by cultural and existential determinants?

Since there is a special connection between madness and suicide, just as madness has its own logic, so does each case of suicide have its own point. Each individual suicide tries to make sense of a crisis in its own way. It is not always an automatic culmination of psychosis. Not all madwomen commit suicide. Suicide is ultimately a consciously considered option. It has its own rationale, its own justification, especially for the acutely disempowered sufferer.

III CONCLUSION

Suicide, thus, is an answer—an extreme answer—to a problem that reality posits before an embattled ego. It is problem-solving at its fatal extreme, when all other resources—mental and material—have failed.

Poet and critic A. Alvarez, in his book, *The Savage God*, brings out the despair, sterility, violence and nihilism characterizing a suicidal mind: 'A suicidal depression is a kind of spiritual winter...unmoved. [An]...intolerable abyss...separates the inner world from the outer. Thus, suicide becomes a natural reaction to an unnatural condition. Perhaps this is why, for the depressed, Christmas is so hard to bear...[I]t is an oasis of warmth and light in an unforgiving season...For those who have to stay outside, it accentuates the disjunction between public warmth... and... private despair.' This is the reason why 'suicide often seems to the outsider a supremely motiveless perversity', encouraging 'the sociologists to their endless search for ...categories and theories.'

The lethal reality of suicidal depression is recorded in the Russian poet Vladimir Mayakovsky's final poem (which also served as his suicide-note) vis-a-vis the profound beauty and serenity of life:

'Its after one

The Milky way runs like a silvery river through the night.

I am in no hurry

and with lightning telegrams

There's no need to wake and worry you

As they say

The incident is closed...

Now you and I are through

No need then to count over mutual hurts, harms and slights

Just see how quiet the world is!

Night has laid a heavy tax on stars upon the sky.

In hours like these you get up and you speak

To the ages, to history and to the universe.'

The suicidal women we discuss in this chapter must have experienced the same calmness and reconciliation when they died in defeat and privation. Ravaged by disease, desolation, anomy, destitution and abjection, women such as Emily Bronte, Sylvia Plath, Shankari, or even Satyavati might have felt that they were trying to 'get up', to wake up in death. Perhaps they too wanted to have their private conversations with 'history' and 'the universe', as the cultures they inhabited refused to listen to them.

Writing Suicide

Representing suicide is an inherently aporic act. Confessional poets and writers have elevated to an art- form the apparently morbid reality of suicide. One of the massive fall-outs of the cultural revolution of the 1960s has been the relaxation of the two primary taboos in the western civilization: sex and death. The visibility of death (including suicide) has never been greater in life and art since the Middle Ages. A dramatic increase in iconic suicides over the last half-century (Plath, Anne Sexton, Marilyn Monroe, Jimi Hendrix, Kurt Cobain) along with the raging debate on euthanasia, in recent times, has suddenly revived the Romantic glamorization of suicide/premature death. Suicide is back in fashion.

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A STUDY OF KENNETH ANDERSON WORKS TOWARDS WILDLIFE

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ABSTRACT

The analysis of the present work is based on wildlife in forest literature by Kenneth Anderson. The specific source material for study and description of the present work is chosen Kenneth Anderson. Here discusses the works of Kenneth Anderson "*The call of the Man-Eater*". He writes about his adventures to hunt tigers and leopards in the jungle particularly those who were man-eaters. His tales of adventure are set inside the depths of the Indian forests. We show his sincere concern for Indian wildlife and rapidly shrinking forest s, full of dramatic tension and excitement, too. He also discusses the topic of magic and medical history in his novels, in addition to concentrating on wildlife

KEYWORDS: Wild life, Kenneth Anderson,The call of the Man-Eater

1. INTRODUCTION

Today the entire world faces the great environmental crisis. Man has become aware of its effects after thousands of years of manipulating Nature. Ecological imbalance has created a serious concern for social activists, administrators, scientists and environmentalists all over the world. Now the awareness for preserving ecological equilibrium is growing. Modern man in towns is isolated from Nature. First, human beings and animals converged and shared the most beautiful landscape on earth. Today convergence has been a conflict with the search for capital resulting in the disappearance of endangered animal species. Humanity faces a great challenge on how to thrive and lead a better life while maintaining a balance with Nature.

Deforestation has caused depletion of the network of food, fodder and fuel, and has devastated the habitats of numerous tribal communities, birds, reptiles and wild animals. The rapid industrialisation has polluted the Earth's atmosphere. Globe climate is undergoing a rapid shift due to deforestation. It is about time we take advantage of all opportunities to save wildlife and prevent clashes between man and beast.

There are many authors and naturalists who in their works have depicted nature and wild life. Foreign-shore authors include James Harriot, John Muir, Rachel Carlson, Henry David Thoreau, and Peter Matthiessen. Their writings are extremely valuable. The other prominent authors, including Jane Goodall, Dian Fossey and Ian Douglas Hamilton, are biologists and conservationists whose path-breaking studies have inspired generations.

2. KENNETH ANDERSON'S LIFE AND WORKS

Anderson was born on 8 March 1910, in Bolarum (near Hyderabad). He was an Anglo-Indian of Scottish origin, sixth generation. His father was the F's Superintendent, Douglas Stewart Anderson. And C. M. A. In Poona and managed the wages paid to the military personnel, holding the rank of captain honorary. His father had a rifle and hunted regularly for waterfowl. His father was not a professional hunter but the person who inspired Anderson's interest in hunting the most. Kenneth Anderson was in Bishop Cotton School Bangalore and then at St. Joseph's College for his education. He had been fond of adventures and wild animals from a young age. He has wandered in many places out of the way, particularly in the Karnataka, Tamilnadu and Southern India forest s. Such forests were lush with trees, and the forest s around Bangalore abounded in wildlife.

Anderson worked as a Superintendent in the Blue Printing and Planning department for many years at the Postal Department and during World War II at the Hindustan Aircraft Factory. He promoted to the planning level of Factory Manager.

In speaking Kannada, the language of his home town of Bangalore, Anderson was well versed and even spoke Tamil, the language spoken to some degree in neighboring states. He'd been staying in a Bangalore bungalow. His house was a huge property and had a menagerie with a moat, which included even a bear. K. Anderson also owned almost 200 Acres of land near Bannerghatta today a Bangalore suburb. He had used an 1895 model Winchester 405 rifle to hunt. He was a true believer in the power of herbal medicine and was bringing with him always a package containing different forms of natural herbs from the forest. Sometimes alone and unarmed he would go into the forest to meditate on and admire the beauty of wild nature. His love for the Indian forest inhabitants led him to write stories of real-life adventure, mainly about his hunting feats. Every book is composed of his experiences in forest s with man-eating tigers, leopards and rouge elephants. There are also other tales in which he addresses, the tribal communities' values inhabit ting the trees, the forest ethic and his passion for the forest. Anderson contributed an enormous amount of lying to the literary genre widely known in India as Shikar Literature.

Anderson, as a hunter, hunted down man-eating tigers and leopards to remove the threat to villagers they posed. He is officially recorded on the government records from 1939 to 1966 as having shot eight man-eating leopards and seven tigers. He shot a couple of rogue elephants too. There are reports he had unofficially fired over eighteen to twenty people killing panthers, and killing tigers over fifteen or twenty.

Anderson's first literary novel, *Nine Man – Eaters and One Rogue*, was first published in 1954 by the London publishers George Allen and Unwin. His most recent work, *Jungles Long Ago*, was posthumously published in 1976. His love of hunting and wildlife, along with his love of writing, allowed him to publish four books on man-eating tigers and panthers and other wild animals, which were translated into several languages worldwide. In 2008 Rupa Publications will publish his collected works in two volumes. However, there is no record of the exploits of Anderson. The archival evidence available at the Bangalore Forest Department library clearly shows that in the 1940s and 1950s, when Anderson reportedly encountered man-eating tigers and leopards, there were reports of man-eaters in the forests of southern India.

While immersed in Shikar's environment, he denounced city-based hunters who in jeeps traverse the forest, shooting wild animals. His concern for the future of wildlife has led him to various Indian sanctuaries. He went to the Gird Forest, to see the Lions of Asia. So Anderson became the photographer of wild life, and the tourist instead of the hunter. His works represent his concern for the conservation of existing wild animals in the region.

Anderson died of Cancer on 30 August 1974. He had a friend, Donald Anderson who was an avid hunter too.

A community of nature lovers, influenced by his work, formed a society called the Kenneth Anderson Nature Society. After Kenneth Anderson, they made efforts to rename a stretch of the Malagiri range reserve forest in Krishnagiri and Tamil Nadu Dharampuri districts to mark his centenary birthday. Some of the Kenneth Anderson Nature Society members are consciously promoting and conserving the tigers. That is because they are influenced by the works of Anderson. He's written about his concern for the depleting wildlife population in his stories. He's encouraged people to get interested in environmental research. In his book *A View from the Machan*, even K. Ullas Karanth, a leading conservation zoologist, has admitted that Anderson's works were among his early influences.

Anderson has written eight books in the form of Forest Stories, and the *Fire of Passion* (1969) is his only fictional novel. His eight books on forest s are:

- 1) *Nine Man-Eaters and One Rogue* (1954)
- 2) *Man-Eaters and Jungle Killers* (1957)
- 3) *The Black Panther of Sivanipalli* (1959)
- 4) *The call of the Man-Eater* (1961).
- 5) *This is the Jungle* (1964)
- 6) *Tigers Roars* (1967)
- 7) *Tales From the Indian jungles* (1970)
- 8) *Jungles Long Ago* (1976)

His eight books contain sixty-five Forest stories and all the stories.

3. BRIEF ANALYSIS OF THE BOOK “THE CALL OF THE MAN-EATER”

Anderson describes this book as a collection of stories of Adventure and notes in the introductions his intention to write this novel. He makes it clear that his intention is not only to provide an account of the pursuit of the larger wild animals, but to take the readers on an excursion with him and to introduce him to the sights, sounds and incidents that will be encountered in the forest. He refers to India as 'the beautiful country' and its native city. He shares his memories of those wonderful days and nights in the forest, unusual or funny events, and says these memories are very special to him and he wants to remember them.

He specifically states in the introduction that he has related some of the behaviors of a few lesser-known creatures to introduce them more closely to the reader. In the company of his humble forest friends, he says he is always happy and content. Thus, he expresses his love and sense of fraternity to the poor tribal living in the forest s. Anderson takes stock of the emerging wildlife scenario in India. He draws the reader's attention to the vanishing forest s and their wildlife, also reminds him of the peculiar heritage of India, and makes an urgent appeal to put an end to the wild creature's wanton slaughter. He shares his disappointment with the sportsman responsible for this disaster and calls on them to use camera instead of gun and rifle. He's telling,

“for the sportsman of the future, I would strongly advocate the camera instead of the rifle and gun.”(K. Anderson Omnibus Vol I – *The Call of the Man – Eater* 406.)

He expresses his love of Nature and invites the reader on a magnificent journey into the forest that throbs life. Anderson cites Lawrence Hope's beautiful poem, and then draws attention to the wild animal, jackal, and tiger calls. Finally, he is demanding that his reader come with him.

“So put your man-made cares aside and visit these wondrous regions with me, where the jungle presides and the laws of nature hold sway”.(407).

He quotes another poet who asks his readers to allow his heart and mind to speak to him in the silence of the wild places. And the publication of this book generates a very clear consciousness in a reader's mind of nature and wild life.

“The Call of the Man-Eater”

The story starts in a chatty tone. Anderson shares his experience in the Joldahl jungle with his readers. He sits at Joldahl in the woodland bungalow verandah and records the wild animals' calls. And then you state that,

“For the tiger to whose roars I was listening was no ordinary tiger. He was a man-eater!”(409).

Anderson then describes the location of Joldahl and Bhadravati industrial town in detail. Instead he explains the thick jungle situated fifteen miles southwest of Joldahl and Gunjur. In the old days he'd also camped in Gunjur. He then refers to a very hard-working and obliging caretaker at the bungalow in Gunjur. He had a beautiful little daughter who grew up into a beautiful seventeen year old child. The very same girl was the first victim of the man-eater. His friend Joe Thompson told him this story. The girl's death that he remembered so well inspired him to write a letter at Joldahl to the Forest Range Officer. He asked for specifics of the tiger at Gunjur and the caretaker's daughter's death. After five days he got a reply confirming the girl's sad story. Anderson went by car to Joldahl and then walked along a 10-mile footpath to Gunjur to meet his old friend, the caretaker who narrated the tragic end of his father. He vowed to seek to avenge her. Anderson also gave an account of two more human victims of the tiger. Anderson chose to set up his camp at Joldahl to begin his man-eater shooting adventure. He heard the tiger's calls in the jungle after midnight, and came out near the armchair on the forest bungalow verandah. When the sound faded into the distance, he took the view that the tiger was bound for Gunjur. He found tiger pug marks in the narrow ravine the next morning. He followed the pug-marks and became aware that the tiger had gone all the way to Gungur on the footpath. He then met with Ananthaswamy, the caretaker of the Gungur Forest Bungalow. He asked him about the tiger's presence in the area, and responded negatively. This has prompted Anderson to discuss the man-eater's actions. Here, he makes a very significant point that the man-eater likes the taste of human flesh and chooses to kill and devour a man, woman or infant to kill domestic cattle or wild animals. He also addresses the odd fact that the human race is essentially afraid of a mouse— eating tiger and panther. Once Anderson made a plan to shoot the tiger from the tree or machan he faced bait availability issue, but Anantswamy told him he would be sitting or standing in the open as a bait himself. He said goodbye

“But I am doing it – and doing it cheerfully – in an attempt to avenge my little daughter. I will gladly sacrifice my life to bring about the death of her cruel slayer”.(421).

Anderson appreciates his formidable courage. Ultimately he wanted to make a human dummy.

Anderson narrates realistic incidents that followed. He gives detailed account of how simultaneously a lone jackal and tiger got closer. Anderson here is telling about a tiger's relationship with a jackal which is enigmatic and unexplained. The Jungle tribes explain this two carnivore's partnership. Here Anderson narrates another interesting event that took place when he was sitting in the hide. The panther stood just outside the hide and almost touched his head. This was a really emotional experience. He explains his desire and compares panther to Satan. Anderson has recounted the incident humorously. The next night the tiger was led by the jackal to the dummy, and he sprung with roar on the dummy. But, due to Anantswamy's enthusiasm Anderson struggled to shoot the tiger. Anderson started tracking the tiger the night after. They again positioned the dummy, and the enigmatic jackal led the tiger toward the dummy as he had done two nights before. The jackal first appeared before the dummy as he had done two nights before and lifted his head to the sky to say 'Ba-ooh-ah,' 'Ba-ooh-ay!' Then flew away several yards. The tiger then appeared at the same spot and Anderson shot him without error. Next morning he examined the tiger, finding he was a very old male with worn canines. Anderson is passing on the jackal's very funny remark that led his friend to his death and was sorry. She also suggests that it may have been the jackal who first persuaded the tiger to consume human flesh by leading him to simple prey-the poor daughter of the caretaker. The locality map assists readers in locating the events in the plot.

“The Evil One of Umbalmeru”

It is one of the most interesting tales from Anderson. Hope from the reader is raised up to the end of the book. Anderson and his friend Deva Sundram went for a week to camp in Nagapatla and there he was called 'the evil guy.' He asked the 'bungalow owner,' old Dadoo for 'Jungly Khubbar,' and excitedly bursting, he told him about the exploits of 'Evil One.' Patel then told Rangampet village,

“Aye, he is in the jungle in real earnest, and has taken five people already. But he will never fall to your firearms, sir for he will never give you a chance by appearing before you.”(470).

Another old villager said this particular beast has no pug-marks left behind, no trail, no witnesses. The bungalow keeper said the Evil One had come to the forest in the last couple of months and already accounted for the disappearance of five people. Anderson's reaction was as it were,

“It can't be anything but a tiger or panther. Although I must admit it is certainly a peculiar and unusual beast. This mystery intrigues me. I would certainly like to solve it.”(474).

So, Anderson builds suspense over the poor. The 'Evil Man' committed a series of murders in a number of villages and hamlets at the edge of the three forest areas known as the Bhakarapet Reserve, Chamala Valley, and Mamandur High Range Forests in Andhra Pradesh in Chittoor District. Anderson lists five victims all of the 'Bad One.' And the tale includes more characters. Anderson recounts how Kothanda Reddy first disappeared as a great magician, or 'Mantramkara,' then Adiraja followed by venkatamma followed by two other people. Instead he narrates how he went to the Forest Bungalow at Nagapatla with his friend Deva sundram. He came to hear prawling over there about the 'Evil One.' He started scanning for that the nearby jungles. Here he

expresses his love of Nature by claiming he has never been sick of seeing beautiful forest scenery. When walking through the forest he saw the first pug-marks of tiger near Umbalmeru. Therefore, atleast one tiger had been reported to be in the field. Three days later the bamboo cutter saw the tiger within half a mile of the rocky pool of Umbalmeru. And finally the Evil One exposed his identity. Then, the very next day he jumped onto the bamboo cutter. Anderson then writes,

“The Evil one was no evil spirit, intangible and unreal, as everyone had thought. It was a flesh-and-blood tiger, as I had more than half-anticipated it would be.” (478).

Instead, he sat the same evening on a tree with his friend Deva and the bamboo cutter. He could see a hyaena, and maybe even a wolf. Then he got the information from the manager of the railway station that maybe it was the tigress who came to Tirupati who escaped a few months ago from a cirque. The description had become more interesting for Anderson. So he put some questions to the manger, and he came to find that the tigress was called 'Rani.' He gathered all the details about the tigress and concluded,

“The enigma was solved, and the animal’s peculiar habits were no longer a mystery. For I was sure now that the man-eater was the escaped tigress and no other beast.” (495).

The conclusion had been accurate. He went to Rangampet instead to enlist the support of his friend Ramiah who knew the area well. He asked him about a cave near the Umbalmeru lake, and he found that five cellars are near the river. And he went up to each cave with Ramiah and Deva to search for the tiger. The tigress leaped out with thunderous growl at the opening of the fifth cave. He shouted at her "Rani! Rani Rani!" The tigress stopped, turned her face toward him, she hesitated for a brief second with a strange look of confusion and partial surrender. But he shot at her and she staggered away. Anderson gave a very detailed account of this incident. He described the tigress’s gestures when he called her and responded to the situation with great precision.

Anderson answered Rani's question. Who had made Rani a man-eater? He examined it objectively and rather rationally. Here he explains the risks of raising wild animals in years of captivity. But it's not the 'evil one' version but the 'unfortunate one!' 'Anderson linked years to the physical and psychological impact of captivity on fragile animals.

“A Night by the Camp Fire”

It is a special chapter in this book, as this is not a narrative but a sort of readers' preaching. Anderson informs his readers at the beginning of the passage how he acts when he is disgusted with the sight of too many people and the horrendous noise they make. His solution to this issue is to go into some jungle nearby. He then provides an account of his journey to a place called Kundukottai, where a beautiful forest is situated. He describes the Forest’s charming natural beauty and its wildlife. He narrates his wonderful night encounter by the camp fire to build understanding among the readers of beautiful Nature.

Anderson admits he's written stories of wild animal hunting and shooting so far that creates the impression that these animals are fierce, implacable and unreasonable and deserve to be killed and destroyed. She confesses he too thought the same way in his younger days. But then he has kept most of these creatures as pets in different ways and capacities for many years, from an early age to quite an advanced age. From his experience he notes that each of them has displayed exceptional qualities of common sense and love. His opinion is illustrated by telling stories about few of them.

First of all he tells the story of his pet sloth bear that he got in the jungle as a result of an accident. He brought home an abandoned baby bear, and gave it to his wife. She'd called it "Bruno." The bear was very close to members of his family as well as to all the tenants' children staying in his bungalow. Anderson explains all of Bruno's fun and playful games. He also states that after Bruno was sent to Mysore zoo his wife was inconsolable. He talks about his experience of bringing up a baby from the jungle acquired with hyena. He narrates how a female hyena fought gallantly with five wild dogs until she died leaving two orphans behind her. Anderson gave the male baby hyena the name Jackie. He gave account of how he had brought up a baby hyena and a lot of incidents that happened to him. Anderson documents the 8 panther cubs he had kept as pets. He's saying,

“We have had about eight panther cubs in all, most of them rescued from their dens after the mothers had been shot.”(531).

He cites panther cubs as being particularly adventurous and mischievous. Among other men, they will remember their proprietor. Then he recounts his pet jackal's story called 'Ella.' He had an unusual snake, called Jemima the python. In this chapter Anderson's love for animals is revealed. He also tells us about his baby elephant journey. He reflects at the end of the chapter on the superstitions of the aborigines who live in the forest areas. He has explored their ideas regarding the dead spirits, black magic and occult questions. Thus this chapter introduces a particular Kenneth Anderson character.

“The Black Rogue of the Moyar Valley”

“The Black Rogue of the Moyar Valley ” is a novel about a full grown and particularly hairy elephant. He was a 'rouge' and nasty guy, quite certainly. But it's a sad tale and so Anderson warns his readers at the start of the novel,

“But before I begin, let me warn you that this tale has rather a sad and unexpected ending. It closes with an experience I have never had before, and most certainly do not want to go through again.”(550).

This incident took place in the jungle in Coimbatore District on the bank of the Moyar River, and in the Blue Mountains. He refers to the existence on both banks of the Moyar River of two great wildlife sanctuaries, namely the Madumalai Sanctuary and the Bandipur Sactuary. He defined the place of action topography as well as the fauna that lives in those very dense jungles.

Two separate legends linked to the rogue's history. Anderson addresses all of those stories to make the story interesting. Next was the titanic battle between two raging bull elephants, which lasted for two days on the bank of the river. This battle inflicted numerous injuries on the hairy black elephant resulting in his becoming rogue. The other story was from Tallamalai Village in the Coimbatore Forests. The local person fired at the elephant which was killing his crops according to this version. The elephant was wounded, and occasional attacks of a single elephant took place in those areas after a few months. Anderson narrate incidents of black elephant attacks.

An American tourist who visited Bangalore came to see Anderson one day and asked him to make a trip to a place where he could take bison movie pictures. Anderson explained the situation to him and suggested that it's comparatively simpler to shoot the bison than the tiger. They went to Coimbatore Forest because there were so many of these creatures. One way he picked up a sholaga for his assistance, named Rachen. They made their plans to go to the forest from the hamlet named Honathetti with sholaga guides. They mentioned black rogue in the course of conversation. They encountered black rogue as they reached the forest. Rachen did spot it. They were purposely pursued by the black criminal. He approached, and then charged. The American threw his camera down, and the four of them fled as fast as possible and scrambled to the top of the mountain. Anderson describes his appalling experience,

“The rogue reached the edge of the rock, where he towered above us- a truly awesome sight!” (565).

Anderson cursed himself on that day, for not carrying his rifle. The ghastly game of hide-and seek continued for many hours with the black rogue. Anderson voices his reaction,

“I was tired and angry. Above all else, I was ashamed. For nearly three hours my companions and I had been engaged in a cat-and-mouse game wherein we had most definitely been the 'mice'.”(569)

They avoided a ghastly death when the elephant had left for the sea. They entered the village and then Anderson agreed, with two sholagas, to go back to the forest to shoot the elephant. They soon noticed the rogue's trail, and started to follow his route. They went down the nullah for a mile and unexpectedly found that the elephant was fast trapped in a quagmire, he had blundered right into mud-filled ditch. He screamed in sheer horror, he sunk lower and lower, inch by inch. Anderson and the two sholagas were horrified at his awful plight. So, Anderson writes,

“To shoot him in this terrible plight, while struggling for his very life, appeared to be the act of a coward and murderer.”(576)

He knew it was difficult to flee for the poor animal, and shot the elephant behind the head. He's saying,

“A sigh of relief escaped all three of us. At least the poor beast could suffer no more. It was dead.”(576)

The American and Anderson went the next day to that spot but the elephant had totally vanished, and the soaking sand kept their dark secret. Anderson's journey was harrowing.

“Jungle Days and Nights”

Anderson's life was full of surprises as he lived in the remote areas, off the beaten track and thus had stocks of fun, exciting events. He recounts a few of these in this chapter. Such accidents are both horrific and amusing. So Anderson and his readers exchange their memories.

First incident happened in the Salem district forest near Gummalapur. He pursued the vultures circling in the sky in pursuit of a panther in pursuit of a panther, and was surprised to find that it was a human corpse, a woman's body and not a panther's kill. As Gummalapur's policeman had fallen ill, he complained to the Patel about the dead body and returned to Bangalore, after which he submitted the report by post to Hosur police station. Yet the police arrived at his door and began questioning. They had taken him to the place. Anderson offers this account to illustrate how he suffered from officialdom by making a real story of what he'd discovered in the forest. He narrates yet another news incident about a dead forest elephant. This time it was the Department of Forestry that made him suffer. Then he narrate the big and very bad event that took place on Punjur's road. He was traveling at midnight with his son Donald and two more of his friends when they encounter a young dying woman on the lane. He chose to leave her having regard to his two previous encounters and consulting with his wife. He felt guilty of his decision to abandon the poor girl to her fate.

Anderson also tells two short stories about himself in the early days of his career as a hunter to show the effect of a tiger's appearance upon him. The first incident occurred in Lingadhalli. He was sitting by the dead horse, on the machan. He had been petrified with fear when the tiger came and the gun rolled off the table. We talk of how the same scene happened when he and another boy named Jerry Barrow went on a hunting trip. Anderson recounts some of his jungle trips that culminated in accidents with an element of humor that turned out humorous as some accidents did. Thus, Anderson in this chapter deviates from his daily hunting and shooting tales of the wild animals.

“The Creatures of the Jungle”

At the start of this chapter, Anderson points out that much has been written about Africa's big animals and carnivores, and about India's tigers, panthers and elephants. Still, the authors neglect the smaller animals. So he is eager to write in the jungles of southern India about small and lesser known species. He writes mainly about the Indian wild dog. He gives descriptions of this species. He states the wild dog is an incredibly curious breed. They're great killers but he'd never heard of a single case of wild

dogs attacking people. He narrate few wild dog events that shed light on their behaviour. He relates a strange incident when he was forced to shoot three wild dogs in the jungle. Then he concentrates on another species about which the Indian wild pig or the wild boar is little written about. He gives account of how the wild boar is hunted with the help of dog packs and also the 'pig-sticking' game. He states that the wild boar has intellect and strength, and a fanatical warrior's spirit. Anderson always finds the sloth bear attractive. Hence he reads,

"The sloth bear is a creature that has always interested me greatly."(625)

He tells several tales of bears to illustrate their habits and chief characteristics. They're really smart animals he says. He identifies lesser known species of a pangolin and addresses one particular species found in India, the striped hyaena, in detail. He expresses his opinion,

"An animal for which I have a special affection is the hyena, perhaps for no better reason than that most sportsmen appear to regard him with contempt, unworthy even of a photograph or bullet."(634)

Similarly he provides a lot of panthers, tigers and elephants information. He has provided several examples of how to concentrate on certain animals' peculiarities. With these animals Anderson became familiar in their natural environment. He is thus able to write directly on panthers, tigers and elephants in more depth. So this chapter, 'The Jungle Creatures,' is filled with useful details about the Indian wildlife. Anderson aims at sharing his knowledge with ordinary readers.

"The Sulekunta Panther"

Anderson's "The Sulekunta Panther" is a wonderful story. This story reveals Anderson's ecological approach to and love for wild creatures. He has portrayed an excellent character of one of his shikaris, 'Muniappa.' By profession he was a hunter and, moreover, a poacher. Yet Anderson admitted he had avoided poaching. He knew the jungles well within a ten-mile radius of his own Jowlagiri village. Muniappa sent Anderson a postcard informing him that three heads of cattle near Sulekunta hamlet had been killed by a tigress. He had him invited to come and shoot it. But Anderson refused to kill a tigress for her food who had been killing her legitimately. Muniappa turned up in person fortnight later. So it was obvious to him that he was trying to send the tiger-skin to his creditor to free him from the debt. After five weeks Anderson received Muniappa's telegram regarding the tigress' fresh kill. So Anderson immediately reached that position, and then went to Sulekunta. It is a small hamlet in the North Salem division forest, seven miles from Jowlagiri. Anderson describes that place's topography and describes a varied type of jungle; heavy forest in a deep valley, with a lot of bamboo growth.

Muniappa had built a machan bamboo-tree near the kill. Anderson found the machan's structure to be most insecure, and he knew it would be horrifying to sway and cringe. He sat on the bamboo machan, and bent in thirty degrees the whole frame. The storm, thunder and lightning and the tigress came in the night too! His rifle and other equipment dropped on the ground as the machan tilted to a 45 degree angle. Anderson clutched a piece of broken bamboo in terror and remained in hanging position when he heard a series of hacking roars and the sound of a large body running through the undergrowth. He held on to save his life in this position, and continued his shouting to drive away the tigress that was under him. He was in great danger, because without effort, any tiger could hit him. He eventually fell to the ground and spent terrible night in pitch-darkness. He had returned to Sulekunta early in the morning. He mentions the most uncomfortable night he'd ever spent. Then he came back to Bangalore in a sad mood. He had pneumonia, and chose not to go to Sulekunta again. Yet after a month after getting Muniappa's telegram Anderson went to Sulekunta. He came to know that the beast is a 'thendu' meaning a large-sized panther who killed full-grown white cow at the fringe of the same bamboo belt. Muniappa found lantana bush a perfect hide out. Anderson sat once more waiting for the panther. He explains jungle music he heard and at 7.45 p.m. He heard the sound of a faint hissing, the unmistakable panther snarl. He speaks on his uncertainty about the animal's identity, whether it's tigress or panthers. The animal saw Anderson in the hide-out and vanished in the course of time. Anderson here investigates panther's mind. He is thinking the way the panther feels about coping with the situation. During the second night Anderson was forced to sit up for the panther. He made a new strategy this time, and changed his hiding spot. The 'thendu' appeared as expected, and sat perfectly still and silent before him. Now, Anderson outlines his own dilemma here. He had his finger on the rifle trigger when, for a moment, he hesitated and was lost! He said to the panther, 'Good evening,' lowering his rifle, returning his greeting with 'woof!' 'Woof!'-'Woof!' And vanished. At the last moment, Anderson changed his mind. It shows its own mind,

"I had almost squeezed the trigger when I thought of the two night of excitement and entertainment with which this animal had provided me. Was I now justified in butchering him in cold blood when he was quite unaware of my presence, and when he had committed no crime?"(692).

Anderson also disapproves of wanton killing of panthers and tigers. Its approach to the world is exposed here. He also says,

"But I never regretted my last-moment decision to spare the life of that beautiful animal."(692)

A fascinating part of this story is his love-hate friendship with the panther!

"From Mauler to man-Eater"

Anderson refers to two episodes he'd recorded in the earlier adventure novel. First episode is about the tiger that began to act very strangely by mauling the Rajnagara herdsman and cattles. This tiger never bit any of his human victims but mauled him with forefeet paws. Then, another such case was found in the jungle of Pegepalyam. Anderson gives few examples of the victims of the

tiger, and then states that there was nothing wrong with the teeth or jaws of the animal indicated by the human remains which had been found. His regular style of attack was to scratch and kick with his forepaws, rather than biting. This made it very clear that this animal was none other than Rajnagara 's earlier 'Mauler,' which had strayed north into an area about sixty to one hundred miles north-east of Rajnagara. Therefore, at the beginning of the novel, Anderson states that this novel is the sequel to the episodes he reported in the earlier book, Man-Eaters and Jungle Killers.

Anderson records incidents involving two more attacks, and particularly at Alambadi, and analyzes the man-eater problem. He says,

"It was therefore, reasonably certain that this tiger was not entirely devoted to man-eating."(696)

The news then came from the Bejahai hamlet that the tiger had killed and eaten the two persons. This has given Anderson and his son Donald a serious thought on the matter. Donald also decided to work on it because with them there was something real and genuine. They both concluded that Pegepalyam's elusive tiger and 'Rajnagara's Mauler' began his depredations once more. At this point of the narration Anderson states that "What follows is the tale of Donald, as he told me"(697). He gives details of the location of the Bejahai hamlet, located in the valley of the highest mountain peak, Ponachi Malai, before he recounts Donald's story. Anderson has provided a map of the area where all of the story's events occurred.

Donald had long resolved to shoot that tiger to solve the riddle of his strange habit of mauling his victims before they were killed. Hence, he began his quest at Ootaimalai. On the way a fellow named Ranga and another old shikari friend Byra picked up an old shikari for help. They all entered the hamlet called Bejahai on foot, where the tiger had successively killed two men. Here, he provides information about Bejahai and its people in the jungle hamlet and passes comments on their lifestyle and nature. All are Sholagas.

He conducted Sholagas, the villagers' meeting to get to know them and collect tiger information. All of them, the villagers told him it was difficult to shoot the tiger because it was being protected by the goddess of the jungle. But one Sholaga of the Middle Ages, named Lotta, came forward with contempt and blamed the villagers. Donald had decided to make him a member of his team, as he was intimately familiar with the forest in that area. Anderson has beautifully portayed Lotta character who plays a significant role in man-eater shooting. Lotta has commented on the tiger's nature and mystery as,

"This tiger has no magic nor goddess to protect it, dorai. But it does have brains, much more brains than most of the people standing here."(706)

Lotta has revealed the tiger's hiding spot. It was a small cave near the top of the hillock where, throughout the day, he assumed the man-eater laid up.

So, they started their journey to reach the cave's entrance. With photographic images Anderson narrates this exciting journey. Events followed quickly as they reached the top of the cellar. Within the cave below Donald the tiger rumbled. Then he screamed suddenly, and out of the cave he rushed the next second. Donald fired the first bullet in the tiger's chest behind his neck and the second shot, then the tiger was gone.

CONCLUSION

The story ends in an unexpected way with the tale of the man-eater. Examining the dead animal solves the mystery. It was an old bullet wound that has possibly made the tiger a man-eater. The bullet had blown away the whole of his head, the painful injury on the face caused the tiger to make a particular style of attacking. The tiger had never forgotten to associate this awful wound with the human race and had taken great care every time he attacked the man to keep his face out of the way and safe from possible harm. Thus story has a typical ending which exposes the man-eater mystery.

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AN ANALYSIS OF POETRY OF IMTIAZ DHARKER

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Abstract

The analysis of the present work is based on selected sets of poems. The main thrust of the current work is on the history of love and protest, is to pick or choose the sets of poems from the poet that have tended to understand the meaning of love and protest. Relatively easier was to locate Imtiaz Dharker's poetry, since Dharker's anthologies comprising serial poems could be used from various libraries. The poems also shed light with a poetic protest, because Dharker's protests are related to modern socio-cultural phenomena such as issues of modern life, terrorism and economic change, such as globalization. Therefore, in the context of the protests over forested issues, the selection of Imtiaz Dharker's poems happened.

Keyword: Imtiaz Dharker, poem, Love, Protest

1. INTRODUCTION

In Imtiaz Dharker's Poetics, the uninhibited and strong sense of rebellion against all manner of social restrictions depicted in her poems brought about a sea-wave of cruel and gross opposition from the self-proclaimed custodians of the culture, so-called guardians of orthodox religion and meaningful politicians who sympathize with the above-mentioned sections of society.

Females are limited by economic, social and theological constraints and compelled to endure physical, emotional and psychological traumas. Women give way through their poetry to these suppressed desires, pain and choke.

The uprising of Dharker produced several bursts of conservative faith guards, spiritual guards, and middle politicians in the petticoats. In culture, it developed stirred reactions.

The poet and critic Arundhati Subramanyam calls me to speak of the Devil as an uncompromising embrace of unrest. It is a profound flourishing of identification and development. She is the most respected. After five volumes of poems, she is renowned in poems circles worldwide. Dharker's poetry is mainly focused on home, love, freedom, travel, geographic and cultural displacement, communal conflict and gender politics, suppression of and protest against social forces by cultural, religious and political forces. In her poems there is the strong vein of transmediality, drawing drawings accompanying her poems. Such sketches and her poetry are closely related. She opposes the principles of Islam that trap women rigidly. She is a feminist poet.

In Imtiaz Dharker's poetry, feminist ideals are vividly articulated. Via her verse, she discusses women's issues. Using powerful pictures, she has given rise to her anger and brooding regarding women's problems, such as their social standing, religious responsibilities, issues of wellbeing, cultural and educational and technical problems. She accepts that the state of women has changed positively, but she cares for those who continue to suffer and those who are raised from their suffering.

So far, she has written five poetry books. *Purdah* (1989), *I talk for the Devil*, the attacker at my table in 2006 and *Leaves Fingerprints* (2009). I talk for the Devil. Her first poetry collection, *Purdah* and other poems, were furious and enthusiastic. Through *Purdah* herself she has built a position among feminists. She is the strongest advocate of women's oppression. The researcher picked 30 two striking poems by Dharker from all five poetry collections. Her first anthology represented her personality and her writing's light. For the research, the only poems that represent chosen topics, such as love and resistance, were chosen. The poems in *Purdah* address the different implications of *purdah* (veil), a mandatory tradition in Islam. It discusses the issues facing teenage girls and women in depth. She explores the internal politics of religious and family and society elders. *Purdah's* piece of art is abundant in creativity and material.

The sense of *purdah* has shifted in the changing times. The 'Purdah' that was once a security violates dignity and feelings. It is regarded as the symbol of women's suppression and also felt that it veils the personality (individuality) of women. Dharker exposes the system of *purdah*.

2. LIFE OF IMTIAZ DHARKER

Imtiaz Dharker is a poet and director who divides her time between London and India. She was born in 1954 in Lahore, Pakistan, and raised in Scotland. Her writings focus on mixed ancestry and traveling lifestyle: probing, inventive and richly textured poetry that cover regional and cultural migration, wars and identity relations, and interrogations regarding country, democracy and faith. However, Dharker is, with all its severity, a genuinely global poet, whose works talk clearly and with great emotional wisdom to anyone who has ever felt the drift in this ever-increasing, multicultural and dwindling environment in which we reside. For many years now, her poems were taught in the UK national curriculum by 'Speech Bubble.'

She was born to Pakistani parents, raised at the age of less than a year in Glasgow where her family relocated. She was married to Simon Powell, the producer of Poetry Live. After living on cancer for eleven years in October 2009, she died. Dharker has got

married with Anil Dharker, a former publisher of 'Debonair,' and a well-known columnist, and has split his time between London, Wales and Mumbai. Her daughter Ayesha Dharker is a successful foreign film actress, T. V. and Stage.

Her poetry's key themes involve family, independence, travel, spatial and cultural migration, group tension, identity politics, love and dissent. The Poetry Publishing Company, Bloodaxe, is printing all the titles. *Purdah* and *Other Poems* address the various aspects of the life of a Muslim woman who experiences injustice, oppression and violence engineered through the *purdah* culture. At the heart of her fiction is this blended ethnicity and traveling lifestyle. Dharker also has written and directed over 100 films and audiovisuals, focusing on reproductive health education and shelters for women and kids. She got a Silver Lotus for a short film in 1980. She has held ten solo exhibits of pen and ink sketches in China, Hong Kong, United States, UK and France as an experienced artist.

While she was at age, she began to compose poems. Why would she operate on a poem when questioned in an interview? Her answer was:

"It often starts with one line. The rest of the poem grows out of that line. I do revise, but trim rather than add...the same with the drawings" (De Souza Eunice, 1999, 116).

She wrote her poems consistently at any hour of the day, anywhere when she used to come back from shooting, on the back of an envelope, anywhere when the poem starts turning up. She herself expresses the process of being creative. When asked about:

"What does being creative mean to you?"

Her reply was: "I don't see it as writing a poem. I'm not actively sitting down to write or paint. I don't have a choice. The beauty of a poem or a drawing as opposed to a film is that I have total control. I don't think about who's going to read it or see it. I have the sense of a private moment of control. It's a world, which belongs to me. It's not for anyone else. This is different from film, which is audience-related. The moment the poem is published or the drawing exhibited it goes into public arena and out of my hands" (D'souza, 117).

Thus Imtiaz Dharker is a contemporary modern Indian poet writing on the striking themes and leaving a long lasting impression on the minds of the readers with her pen.

3. WORKS OF IMTIAZ DHARKER

As a contemporary Indian English writer and a poet Imtiaz Dharker created the firm mark on Indian English poetry. The list of the literary contributions of Dharker is as follows:

1. 1989: *Purdah* (Oxford University Press)
2. 1997: *Postcards from God*. (Newcastle upon Tyne: Bloodaxe)
3. 2003: *I Speak for the Devil* (Bloodaxe 2001; Penguin Books India)
4. 2007: *The terrorist at my table* (Bloodaxe, Penguin Books India)
5. 2009: *Leaving Fingerprints* (Bloodaxe)

Anthologies

1. 2002: *Staying Alive* (ed) Neil Astely (Bloodaxe)
2. 2004: *Out of Fashion* (ed) Carol Ann Duffy (Faber)
3. 2004: *Being Alive* (ed) Neil Astly (Bloodaxe)
4. 2007: *Answering Back* (ed) Carol Ann Duffy (Picador)
5. 2011: *Being Human* (ed) Neil Astly (Bloodaxe)

4. ANALYSIS OF SELECTED WORKS OF IMTIAZ DHARKER'S POETRY :

The poems 'Postcards from God I' and 'Postcards from God II' are linked strongly. The poem 'Postcards from God II' is very hopeful of successfully 'getting through the channels.' The poet mentions the cable television network jamming. She seeks to create a relationship with God, the All-powerful. The communication mode is changed from Maulavis to audio, video signals and the projection eye, but the condition is not altered. Hajjis and Maulavis have always obstructed good and good things. There is this intangible barrier between God and worshipers and because of such barriers, one will never be one with God. She uses visual, video communicates metaphors. You can't communicate with God, but the person with integrity stops from trying to communicate. She said that efforts to communicate should never stop, so channels should always be open. Other individuals around her are continuing to suppress the female self. She uses the magnificent image of Postcards from God and tries to answer them. She says:

"Between video walls and my face
is the eye,
made in the inverted image
of the unfinished sky

a slit where all the unexplained
looks through,
rippled with power, pricked with light.
These are the image I will send to you”

(Postcards from God. pp. 76)

The eye here is the watchfulness of the poet. It's one of the troubling images. The poet talks about the modern world of human suffering. Dharker expresses her anger at the ruthless, man-made world. The pain of others who have been casualties of egotistical culture can not be accepted. The god is contemplating a world like this with consternation. His human life now appears to be like a whim and indeed, as we hear him impressing on his postcard as he journeys around his development, his sense of loss, anger and above all dissatisfaction can not be described. Like Dharker, God is frustrated by the present state of human beings who, in making material progress, have lost all their values. She can not stay quiet about any of this and unconventionally communicates her indignation at all of this. God did not think that the universe he built could be so messy and disorderly. She bravely fights against the financial, theological turmoil surrounding her.

The poem "Taking the Count" is a link between God's postcards. The relation to the poem 'prayer' is also contained in this poem. In prayer we can see the range of footwear, shoes and chaplains, all turning into bulk. She uses the Chapple metaphor. She's talking about how the prayers wash the sea. In "Taking count," she makes a comment on religious and spiritual existence with the similar material image of 'dhobi.' The count is what a life will be. She is accustomed to look at things in a different way. All activities in daily life which we regard as mechanical activities have certain connotations that we don't usually understand. We are constrained by such household responsibilities, but if we approach them from a certain perspective, we are mindful that through all of these issues there is a lesson from our lives. Washed clothes are thought to be clean souls. She's going to get rid of any animosity, they feel like they're fresh as you wash clothes. She tries to remove the burden.

The poem 'After Creations' is a beautiful poetry that interacts with theological traditions and at the same time shines light on modern culture, loses confidence and lack of innocence. She is highly mindful of the Biblical parable of all creation, original sin. She also doesn't spark religion. The religious influence continues, but in a different way. As an author, she claims that an individual should build her own universe and that she makes her own environment is a larger argument or request. Dharker's own creative world as a poet. 'Word' is the attempt to create order in this world and God gave us the word and for artists like her it says that you forget or keep aside that God created the world, take into account ordinary things if you want, you will find an order. God seems to have expected that peace will be established by him in the universe, but sadly the universe has a lot of disharmony. The image in the poem is that God is extremely dissatisfied with the state of affairs he has created in the world. Actually the poet herself satirizes God's world's state of affairs and it is lost. She says:

“When I began
It was simpler world
Things, perhaps, got out of hand”

(Postcards from God, pp. 107)

This world's order is lost. Our duty is to bring back the lost order. 'Adam's Daughter' is a poem about life's problems such as hunger and poverty. The poet talks about a little girl she calls the Adam's Daughter'. The girl at the age of three had so many difficulties, so she lives in fear. The poet says:

“Hands give and often take away
There is no pattern to it.
The food is there and sometimes
Disappears”

(Postcards from God, pp.130)

This is the crude reality of the life of the girl and her mother. She's probably the daughter of a poor ragpicker and by collecting scrap. The girl's mother is unhappy and frustrated, as whatever she brings, it does not help her to buy them enough food. The girl's family is experiencing such worst problems. The street worms rule her backbone. Even after the problems, 'her mind' is still there. And the girl continues to watch the poet closely to see what she's going to do. She might hope that somehow the poet could help her. The poet's habit is always one way or the other to criticize religion. She makes no difference between two major religions: Christianity and Islam when she attacks religious hypocrisy and double standards.

By calling Adam's daughter the daughter of the beggar woman, she achieves two things. The first thing is that Adam is the son of God and that nobody ever has ever referred to the daughter of Adam. She attacks the male way she sees things.

The second thing she achieves is that religion has no mechanism whatsoever to take care of Adam's daughters. When we read this poem all talk of charity and service to humanity seems to be the humbug. The indifference of all people who walk on the road has

been shattered. They are quite uncomfortable with the suffering of such poor women and beggar children. The woman with "strong feet" are depicted as disrespectful in the poem that is rich people. She contrasts it to crows. Even the sun was blocked; such was the darkness surrounding the suffering poor girl.

I Speak for the Devil (2001) is the next remarkable anthology of Imtiaz Dharker's poems. It's about the enemy in our subconscious who doesn't look like the attacker depicted at my table in her other series of poetry. The word "Devil" is generally inverted in this series. In comparison to the traditional understanding of the devil that is not related to daily existence, she depicted the devil as part of our lifetime.

"Stitched" aims to answer the reader's consistent question about the poet's fascination with the terrorist or the devil. It would seem that the fractured personality of the poet is discreetly linked to the fractured existence of the terrorist by reason of multiple nationalities, mixed faiths, combined identities and multi-lingual emotional thinking. The strong experience of social neglect is shared commonly by the terrorist whose existence is marginal in society and the highly intellectual poet who has a natural claim to be in society's main river. The verb 'stitched' is expressive enough to demonstrate that the mainstream poet and the marginal terrorist, on the one hand, shares the world of experience. Her broken personality is further explained by showing us she is well versed in a variety of languages and traditions, such as Punjabi, Scottish, German and French. It belongs to all this culture, but is not tagged by any language or culture, makes it a 'garbage bag.' She persisted amid the intense internal stress and embarrassment. She doesn't know if she did the right thing. She wants to undertake "dangerous summersault." She wants to start everything a fresh one, starting from square one.

In the poem 'Slit,' the poet has tied up men to take responsibility for two things in all social dynamics. First, they hold women to account for all crimes, particularly the tragic effects of men's lives and sometimes they are also forced to end their lives. Secondly, it is simply men who conduct all crimes and who founded the unchallenged patriarchal structure to keep women responsible for all. The 'rare talent for vengeance' in man is the creation of a scheme that protects violence against people and has provided God to prohibit the fair prosecution of violence against men. The poet informs the world that only holy people and Heaven know that there are disasters and why the head of someone is shot off. She says:

“Ask the man carrying
Holy books,
Ask God
He knows”

(I Speak for the Devil, pp. 85)

There is a strong comment on the self-centered, egoistic and greedy nature of man. Men control the entire world of thought and religion to hold the women to account for all past and present sins. It is obvious that Eve was responsible for the fall of man from innocence by his original sin. Accident, sabotage, political animosity and all other problems in human life are held accountable to women in the current social context.

Undressing is the poem to be read in the light of the other important poem 'Opaque.' These poems deal with men and women's closest relationships. In Opaque, she wishes him to wear the light clothes, and in 'Undressing,' while disguising him, she wants him to be slow and steady. The prominent word is that it's he who unravels quickly, and another meaning is that it is she that slowly and patiently unravels him. The second meaning appears to be better because she wants him to be patient and to bear with her. She wants to get closely acquainted with this man's knee when she says "this knee."

She certainly has 'that knee' on her mind's back. She excuses him because 'her fingers try to remember the texture of being free.' The idea of freedom is reversed here because she wants to lose her freedom rather than get it. The presence of freedom is this different equation of freedom's absence. The poet is known for such dark ways of presenting the menu of his poems on earth as to tell things directly.

The poem 'Exorcism' culminates in a relationship between men and women, about which she spoke in poems like 'Opaque' and 'Undressing.' That is a step forward as the act of consummation is suggested here. She is a powerful, individualistic woman whose breath is for herself and for nobody else. In support of her statement that she controls herself and does well, she carries on her different role as a woman in the lives of many other men in one type and the other. She says that she's not Sialkot's daughter, Lahore's sister, Mumbai's wife, London's mother, a Glasgow nightmare, the Delhi devil and Rome's fantasy. She developed cold feet in terms of her movement from one place to another, but her breath is still warm. She can dance easily on drums and cause. She swirls and crashes, too. There are all the ways in which her relationship with the people and especially the man she is talking about is established. She does not restrict man and woman to the relationship between husband and wife alone, but equates all other relationships where men and women are connected. However, she mentioned the supreme relationship in her poems 'Opaque' and 'Undressing.'

The next anthology Dharker published 'The terrorist at my table' in 2006 is clearly about the unheard voice of isolation, rebellion and the unique interpretation of contemporary international terrorism issues as well as the decomposition of counties from one to two and many others. The poet claims that the intangible barriers separating nations are the product of a few malicious wicked

leaders. You suppress your breath of creativity in this collection's poem 'My Breath.' The narrative voice calls the insensitive majority representative to hear her breath. The nation's national heritage has made up its mind. She says:

"... Do you remember...
The shape it used to have
inside my body?"

(the terrorist at my table, pp. 18)

The profoundly ingrained splintering scars forced citizens on highways to move from the small village to the capital. Your breath makes this migrant population a journey. Your breath can always have some sense for him who can listen to it. Now a day her breathing aspires to a new start in her life. Communication is easy now when your neighbor lights a spark. The presence of the wood-smoke reverts to the past where the planet becomes unfamiliar and they have not "produced modern maps." She says:

"... before the documents changed hands"

The "The terrorist at my table" is a splendid poem in which the poet blends the little domestic works like cutting onions and cooking with world concerns such as stability, unrest in Gaza, Palestinian problems, doomsday rain and records her resistance on a single forum. Phrases are like onions. She says the chopping board sentences seem more coherent than the press. Terror attacks on trains are taking place. The captives are removed. Although she does her daily job, she is disturbed by all these wild assaults. She says:

"when things are in their place,
they look less difficult".

(the terrorist at my table, pp. 22)

It doesn't mean only the household stuff here, but stuff at a wider level. She contrasts evidence with rings of onion. The tough facts are finely cut and sliced. These volatile activities around the world are very difficult to digest. The minute details of the kitchen work, which has two organizational possibilities and destruction, are closely linked to the constant unrest in the Gaza Strip. There is an inversion of knowledge that leaves a stain between two parties, for example. Gaza or Palestine's creation as a nation is the creation of the knowledge that some people are willing to "give away." They divided the world by cutting and cutting people's sensitive minds. The gift of this awareness makes men aggressive:

"your generosity turns my hands
To knives
The tablecloth to fire"

(the terrorist at my table, pp. 22)

In reality, the table cloth that weaves people has broken the planet by few men. Giving such information is a transgression itself. It's the best essay.

She says she feels like it rains outside Jerusalem, which is not favorable and reminds us of the day of destruction of the end of the earth.

Who gave me the poem? 'The intellectual basis for 'the attacker at my bed' is the title poem. It is the fundamental question that expresses in the terrorist's mind the deeply rooted spirit of enquiry. The questions begin by holding the gun in his hand and ending with the terrible anger of the man who gave the gun in his hand. In amongst these concerns is the most humorous dilemma of liberating the attacker from weapons and giving freedom. The most questionable aspect of the terrorist's mind is expressed in the sweetest desire and partial fulfillment.:

"Who stroked my head
sang me to sleep
who fed me"

(the terrorist at my table, pp. 34)

The feeding hand is opposed to the hand which gave him a weapon. His consciousness wouldn't have troubled him if the feeding wasn't there. The poet showed the supreme irony in the terrorist's life by presenting the contrast between the two hands.

The next poem "open" is a fine example of the extreme sense of restlessness and the most mysterious and secretive aspects of the personality of the poet. It also uses the new technical term "unlocked" as a reference to the protagonist, a poet's sensitive mind. The poem presents the most humiliating part of the terrorist's life and that is the attitude of people towards him. He simply can not enter 'public spaces' like any other person. He moves without arms and says his arms are more relaxed. He finally addressed the fear of the public. He overcame his sense of shame not by allowing the public to jeer at him but by giving them room to inspire resentment towards him. Each of her poems deals with different human situations and in all her poems, there is a strong reversal in

meaning. In the same way, this poem makes the terrorist threaten the people whose lives are confined to the false and shamed ideas of the so-called terrorist life. It is a kind of state that is locked in one's own jail. On the other side, the terrorist embraces the misery of the citizens and unlocks his own life by giving them space.

'The Password' is another poem that parallels the previous poem 'open.' You can not 'unlock' your life unless you remember the password. Without the keys, we can not get into the machine we own. We must remember the password indications like our date of birth or the first lover's name, that could be our mother's maiden name or anything like 'the city,' 'the village,' 'the road,' where we belong. If you lose your password, you have to give a good reward to all processes.

'Jaan,' the next poem on the subject of protest, discusses the relationship between terrorists and women in their lives. The first of them are the women who call him Johnnie. The protagonist is actually known by the names by which all these women speak to him. There are so many types of characters in the same person, who are called by four names. Johnnie, Johnnie, John. He can't maintain and live a continually blended existence like an average human. His search for love is named by the poet 'another flame.' He can not keep up with any single lady, because if his identity is known he will be trapped. He will travel rapidly and enter a new door every time he looks for love. There is a profound sense of sympathy for the terrorist, who for his lifetime is denied a woman the most basic human thing like love.

In the poem "Never trust the daffodils", the narrator brings the terrorist's self to another point through this poem. The attacker was looking for spring crocus. He is optimistic that the flowers will certainly be there but his hopes will never be fulfilled. Owing to this encounter he started being sentimental and realized that events are still common and rarely exceptional. "He began to challenge issues normally." In winter, several green shoots emerge, despite his wishes, and he feels the "touch of springs." The poet still says he should never trust the stupidity and never be romantic but realistic about accepting ordinary things in his life.

There are a number of poems concerning the poet's passion. The poetry previously mentioned, which talks of the young terrorist beginning to challenge the ordinariness, brings us to the meaning of the story. The poem also discussed the advent of seasons, especially in spring, which passes through the park with the protagonist and her husband. We always recall those individuals who came and were part of their friendship throughout their lives.

Spring contributes to summer and in the process, her love (passion) becomes hotter as they spend a long time together when her hand is moist. The purpose to move together is to battle the freeze and the entire idea of walking and moving hand in hand brings the climax of the poem, as we know that it languishes in the lap as it is waiting for it to wake up.

There is a feeling of defiance also in Imtiaz Dharker's love poetry. She communicates her extraordinary respect for herself as a woman in the poem 'Opaque.' This is the most beautiful love poem, in that the woman is a woman poet and she describes herself as a woman. She does not accept that her clothes do not conform to her wishes. From time immemorial men dictated women's clothing to be oppressive to the desire to wear the clothes according to their imagination. Men have no option at all to mark her cloth's sensual outlines. A woman must be able to pick what she wants to wear. The poet takes the great flight of fancy to say that her dream love should adapt a costume to her, a light, and when she feels that vision, her vision should pass through a medium of blue. She says:

"Weave me a dress of light,
a net made out of blue"

(the terrorist at my table, pp. 101)

She wishes that dress to be "switched on runways in the dawn"

Her intention to make the dress 'pathway' is to make the flight of his treading senses in the sky of his mind land perfectly at the very point of its physical life.

'In camera' is a poem about the connection of gadgets such as a camera to the literary mind creative process. A camera records all her movements along the street. Not just the static camera, but also the video camera sends your clips of your views and stories to every corner of the world. It's honest with the person and acerbic to the truth. Camera reminds her of a person she's had the wonderful moments with who lies idle on the table, and whose 'untouched' glass of wine. The camera makes no choice between showing and not showing.

'Anarkali Lahor' is a poem, very unique in English, dedicated to the romantic tragic woman of the Anarkali period of Mogul and devoting herself to the central character of Anarkali. Anarkali is like the omnipresent Lord in the hearts of all those loving souls who bear her painful death's grief. This poem is for Khushwant Singh who both loved Lahore and the poet. The poet feels Anarkali's anklets in the Shalimar Rivers her shadows are marching towards the grenade vine, where the prince brushes his eyes. Lahore is the sequel to the romantic past in which Anarkali still lives in people's memories. It is beyond the normal concept of sacred and unholy. She has entered Lahore's poetic psyche. It is Anarkali who sings Iqbal and Faiz. The place where her tale took place no longer resonates with Anarkali's love songs. Here people are talking fake Anarkali tales. Anarkali's cultural tradition is loved and remains in Lahore people's minds because of the moral help that citizens have lost in Delhi with the exception of a few old men. Anarkali's fond memories come in a different mode from south to San Francisco to Hong Kong. He claims that Anarkali's aura breathes in both of these people's heads. Her aura affects the environment in people's hearts.

The poet seems profoundly sympathetic to the terrorists in general and seems to have developed an intricate relationship with a terrorist in particular. We don't consider much help for terrorism activity, but a secret and serious appeal to recognize the terrorist's inner speech. It is a shocking realization that terrorists have a strong sense of beauty and an extraordinary love passion that can not be found in the minds of the material people. In this way, the poet has spoken in this collection of poems the unheard voice of the terrorist, 'the terrorist on my table.'

Leaving fingerprints is a journey from past poetry collections to Leaving fingerprints in the next collection of Dharker's poetry. This poem collection deals with the natural corollary and this is the battle.

The poem "A Place Called Battle" is an in-depth description of the place called the fighting ground and of the proverbial place known for the battle between waterloo and Tone Bridge, High Brooms, Tone Bridge wells, Wadhurst and Stonegate. And a place named Battle is coming. She recalls her history book with dates that looked like footprints. However, the larger boot prints produced by the boys are here named war. There is the field of poppies on the other hand, and this area is named war. Surprisingly, the poet took a ticket to this place. The stations she passes have become her everyday bytes of news reports she is supposed to cover. She is a reporter to cover these repositories. In fact, there is a time journey back and forth in this poem. The place called battle must be the place where the battle took place many years ago and the poet came to this place as though she had reached a fictional place. She interacts with another person who is equally interested in the root cause of violence. The poet therefore says that she lives with that other fictitious person in this place. She says, "these talks make room for my voice" (as a poet).

In the second stanza there is a connection to poppies. People tend to forget all of the positive aspects of life and are living as if they are affected by drugs, under the influence of poppies. The place called battle seems like a microcosm that projects outdoors the microcosm of the bigger world, where people are constantly engaged in violence and fighting. The poet is forced to stay in the Fight spot.

The poem "Walling Her" is the reenactment of the epic romantic Queen era symbolized by Anarkali's role in Indian literature. The poet had made the narrator of the poem the person who was given the job of walling Anarkali in the wall. He's a mason who's been working adding stones and mortar. He began to wall her at her knees. Until he got to her face stage, he detected her smell. This was the living thing's smell. Her song stood before his face and he understood what she said. She said his name, his children's and wife's addresses, and his village name. She sang out his heart. She sang out. The walling cycle in Anarkali is identified as the most important incident in Indian love making history. Even when she offers her last goodbye to the world, she never stops singing.

The poet created the character of mason as the important person in history, who was entrusted with walling the most beautiful woman behind the stones.

The poet laments the total neglect of the society of the artist or poet in the poem 'I'm sorry to say.' The literary type of her poetry will not inform the world of herself as a human but instead asks her to reach a sheet of paper, on which she wrote a particular poem. The paper doesn't tell if she was a woman or a man, or if she was black or white or if she was a violent person. It's only going to tell the world that she touched people to write a poem. She probably means that people shouldn't go beyond the written word to find out about the poet. Her only identity and existence are her literary creation. She prefers to be known only through that identity and not through anything like a man or a woman.

The poem "What the Palm Reader Said Then" indicates the underlying ambiguity in our lives. Palm lines alter the fate, but lines alter also like the individuals in our lives. It is not enough to plan the travel to arrive on time, but it is necessary to notice to realize that there are others that stand in our way, sometimes they are the obstruction to our life and often there is an individual who will listen to the river instead of getting the final call at the airport. The traces of destiny slip out of an open hand like the men wandering around you. The palm reader said these items in the poet's history long before. However, the prediction of these lines, just like the changing lines that change our fortune, does not use this change. In the end, uncertainty prevails in human life at all times. Through this essay, we research the sense of 'pace' through our lives. This poem often shows the helplessness of the individual who is a target of the shifting lines and men.

The poem 'The Room with two doors' is a metaphysical poem that deals with existence and death. The protagonist wants to pass on the wine to her, because it is time to depart and the wine is left unconsumed. Both of them knew that they had been there for a while and visitors. The host was very friendly to both of them and served them carafes of wine. This could mislead the visitors to think that they could stay there with two doors. You might think they can stay happy, drink and eat and tell each other stories. These doors represent the birth and death of our lives. We can enter only from one door, and we must leave the other. The wind leads them across a door. The wind is the harsh reality of death in our lives that sweeps us and makes us always unstable. The wind has left both visitors in the room, waiting for restless fingers to move in the trees outside the room. The wind looks forward to taking the visitors with him. He continues looking for them both for a while and casts them like 'late seeds' on land. The poet used the verb and the noun "leaves" creatively. The wine will be able to 'leave'; from the other door, they will leave their room. The breeze stirs them up like completed leaves and the set is labeled Fingerprints Leaving. Therefore, in this book, combined with the title book of this set, there are several specific interpretations of "leaves" exercise. Life must be lived to the fullest, if the glass of life must be consumed in full and not in part.

As noted in the last paragraph, the poet used the term "leave" in this collection of poems called "Leaving Fingerprints," in a creative way. The most poetic sense of the word "exit" is that objects and individuals shift their form, but still with us. Many

people put the remaining wine behind, leaving their memories intact. The fingerprints are left behind, reminding us of those who left us or left the fingerprints in different ways.

The true tragic thing is that religion which, in this final phrase, claims to interpret God on earth, turns its ear to that "quiet crowd" which, like thousand prayers, is 'thrown together' washing against the wall of God. The poet addresses the central problem posed by 'Postcards from God' in the next series of poems.

CONCLUSION

The theme of these poems is the link between sexuality and power, which has been central to feminist thinking and the transformation of heterosexual love into a tool for subjugating women in polycentered society. Imtiaz Dharker emerges from her poetry as a powerful, uninhibited, frank, and daring character. The purdah, which is rightly part of the oppressive system, is put on the victimizer. This makes her idea distinct from the normal feminist ventures.

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A STUDY OF FINANCIAL LITERACY AND FINANCIAL PLANNING OF MBA GRADUATE STUDENTS

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Abstract:

Financial planning is part and parcel of life of every human being. It prefer by Individual after job. This teach in class room for organization and for individual in MBA graduate. Researcher try to study the financial literacy and it planning among these students. From the literature review suggested investment avenues, the main objectives of study to know the financial planning of the individual and impact on individual saving and awareness with different investment avenue. Researcher prepared questionnaire to collect data from the respondents. After mentioning the need of it for better future life, five hypotheses are formulated and find association between the data and followed by conclusion.

Keywords: Financial Planning, MBA Graduates, Financial Awareness

INTRODUCTION

Financial planning is important in life to help you plan for your future & take better control of yours financial goals with the help realistic plans & effective measures. The financial plan can enhance the qualities of individual's life increase satisfaction & complete the future needs and type's resources. The personal financial planning is helps to different way:- Improved the relationship with personal results with well planned & different financial decisions, Financial Investments are helps to lifetime with protecting financial resources, It is to avoid the dangerous incidence and different situations.

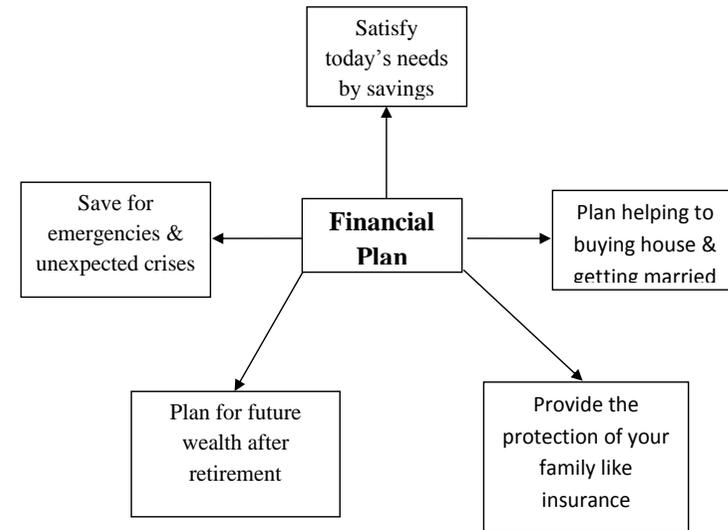
People are understood the process of financial planning together and its benefits so to gets rewards in future. The financial planning is the process of setting the plans, how implements the plan, achieving & reviewing the goals. The Financial Planner Standards Council (FPSC) defines FP as the integration and interdependence of 6 key elements: Financial management, Risk management, Retirement planning, Estate planning, Asset management, Tax.

Financial literacy is the education and understanding of knowing how money is made, spent, and saved, as well as the skills and ability to use financial resources to make decisions. These decision how to generate, invest, spend and save money.

Personal financial planning is the way of managing the money & achieving to the personal economic satisfaction. It is also called Personal Money Management. Financial Planning is the long time process of our life, than investments, It is not only one time investments deal but benefit from the financial Planning, multi-millionaires.

NEED A FINANCIAL PLANNING

Financial planning important because it use for future achieving the financial goals in different stages.



LITERATURE REVIEW

The personal financial planning increasing after graduation period & continuous working days this is include the socio-demographic factors like age, gender, education & income etc. People are aware about the savings, opportunity of investments. Most of the small savers depend on interest rate from the small investments in their life. In their study investigated how investments choices are affected to the respondent. The investors are in different age groups do the investments like mutual funds, debentures, bonds etc. Their study based on responses from the different investment quaternaries. People choice investments like real estate, bonds, debentures for their owe business & students are used high risk investments like derivatives & equity shares.

The main objectives are to awareness of personal financial planning. The researcher prepared the various questionnaires to different level only for preparing the financial planning & social benefits. People are awareness about skills, financial knowledge & socio economic benefits. The studying of financial planning their investment are higher returns of individual.

In literature review the financial playing important role managing to the earned money of the every individual. It is very difficult process to managing the finance for others, but returns are very high. There are so many difficulties people are face & so guidance is required for this people & also how to increase their funds in market for personal financial planning. The guidance is provided in different profession like investment, insurance, college saving, property tax & retirement. (BLS 2017)

The investments are important also providing high returns in India. So it is expansion country in financial services as well as new planning & financial product coming into market (G. Srinivas Rao, 2018) The Financial planning is choosing the people for self services. It is life learning process wit using different strategies & interacting with different people & also various advisors. What is product & how to understand product by using clients its important & also various prospects converted into clients (Iannicola and Parker, 2010)

According to the Fernandez (2004) the financial behavior is influence the customers. Financial generates the knowledge, positive changes in financial investments also helps to the investments planning. The research provides the positive impact for the personal financial management.

According to Joo's (2008) the financial knowledge is conceptual process it includes the financial satisfaction, financial behavior, financial attitude & objectives. All are comes together in "subjective perception". The present relationship is related to financial satisfaction, planning, knowledge & confidence. It includes risk management, retirement planning, estate planning, cash management, and emergency saving & credit management.

According to samuelson's(1969) this seminal work the relationship between risk and time by observing the optimal allocation to risk assets with horizon, based on three assumptions:1) the investor exhibits constant relative risk aversion, 2) returns follow a random walk, 3) wealth is a function only of returns.

According to the survey by Ralph A and Thomas S. (1991), students are great emphasis this provide economic security like "planning for retirement" and " An analysis of health and life insurance needs". Investment which are for retirement planning

success in the few knowledge of these instruments and the time value of money. Students are basics of financial planning like 'understanding of financial attitude and goals'.

According to the J.W. Cowen, W.T. Blair, and S.M. Taylor (2006), these are personal financial planning education in Australian universities this research are use methodology analysis was limited to identifying all financial planning courses at undergraduate and postgraduate did not include any specialized areas of financial planning services. Analysis of two parts- first is masters level courses in financial planning including 8 universities providing 15 post graduate courses and 7 courses are designated as master of financial planning. Second are other postgraduate courses in financial planning this analysis report show in 8 universities offered 12 courses in total. Universities located with three in Queensland, two in both Victoria and NSW and one in the Australian Capital Territory (ACT). But 12 courses 7 were designated as graduate Certificates in financial planning and remaining 5 were Graduate Diplomas in financial Planning.

According by Tan Hui Boon, Hoe Siew Yee and Hung Woan Ting (2011), the review in "Financial Literacy and Personal Financial Planning in Klang Valley, Malaysia". This is survey in personal financial planning in Malaysia has recorded an impressive growth rate over the past few decades. Primary data are survey in employing financial planning it is achieve to research objectives. Research designed is Questionnaire using by closed-ended structure. These are two types questionnaire used to determine individual financial literacy level. 1) Basic level of financial literacy, 2) Advanced level of financial literacy level. And key components of personal financial planning.

According to Verma (2008), mostly people student invested in LIC or Mutual Funds but mostly LIC because of this useful in Life & when death of person at that time used & provide lets risk secured. According Gupta & Jain (2008), investment is depend on income of individual so provide various schemes like Mutual Fund, LIC , Gold , Government Saving schemes. The review of financial planning related to income, age & which portfolio i.e. Important.

According Vineyard (2004) P3, after retirement the investment is more helpful like Retirement funds covert to self-managed funds. It is provide long term investment as well as growth after retirement because after 70 age minimum expenses and distribution. So it's helpful also employers pension funds included.

According to Caudill (2005), Retirement Planning full time for individual as well as different types of leave, insurance program & at the last return to individual flexible benefits plan, Long Term care insurance etc.

According to Fernandes (2014), financial behavior is the short term & long term investment planning. In the investment identifying the proper funds, Bonds, share etc. and achieve to the financial goal with higher returns.

According to Minaksh (2009), in financial planning generally poor people are more participate than others because they need that & some personal economic, so they increase their financial knowledge, positive changes with attitude & which plan related for future with financial product.

According to Davar & Grill are investigated the various types of investment for the individuals. What is opinion about investment, they are satisfied or not & what are the changes in that planning it's all related to investment with their returns.

According Chitra & Shreedevi (2011) analyzed the planning, goals, returns, risk, profit, loss & reasons this seven traits are comes in financial planning. This is traits impact on individuals planning doing the investment. Any investment gives result while taking proper decisions with some of guidance. This decision is compared with other variables.

Mitchell is the describe pensions & found that many workers are used the financial plan & their features. She compared the pension funds for the retirement employee & what is the requirement of the employee that is identified. There are so many employee used this retirement provisions.

OBJECTIVES OF THE STUDY

1. To the study of financial planning of the individuals & impact on individual savings.
2. To understands the individuals are awareness about various plans with their investment.
3. To study of different level of higher education of individuals & their financial planning.

HYPOTHESIS

The number of researches has shown the various investment factors of the individuals like gender, age, education, monthly income, investment planning with goals, existing liabilities & investment information etc. The research work is targeted to pass out graduate students or individuals. For the purpose of this study, following hypothesis has been proposed.

Hypothesis 1

H₀: Financial planning for various financial assets is independent of gender.

H₁: Financial planning for various financial assets is not independent of gender.

Hypothesis 2

H₀: Financial planning for various financial assets is independent of age.

H₁: Financial planning for various financial assets is not independent of age.

Hypothesis 3

H₀: Financial planning for various financial assets is independent of monthly income.

H₁: Financial planning for various financial assets is not independent of monthly income.

Hypothesis 4

H₀: Financial planning for various financial assets is independent of MBA specialization.

H₁: Financial planning for various financial assets is not independent of MBA specialization.

Hypothesis 5

H₀: Financial planning for various financial assets is independent of knowledge above personal.

H₁: Financial planning for various financial assets is not independent of knowledge above personal.

RESEARCH METHEDODOLOGY

In this study we use the survey research methods because of various responses. The questionnaire is prepared for general awareness like financial planning, preference & risk perception of people the data is analyzing by using statistical techniques like cross tabs & percentage method. In survey, all collecting data is primary data. Primary data is new dada provide for personal financial planning as well as secondary data is also used for the research.

The financial planning is used in higher education terms like, financial knowledge, financial behavior, financial studies & attitudes. Also they include Tax planning, how manage liquidity, protecting life & assets, saving for future, planning for retirement, estate planning etc.

In the research there are different methods used to gather information, they are in two categories i.e. Primary Data, The primary data is collected with getting proper solution to problem. It is real time data in observation, questionnaire & experiment telephonic interview etc. Secondary Data, The Secondary data is collected to the different purpose. It is readily available form to data collected in various resources like journals, websites, research papers, manuals etc. The Sample from the Students is choosing Investments Planning, MBA Students chosen on bases of Convenience Sampling method from Area of Research – Pune City. Descriptive Method for Investments of students by using financial planning. To test testing hypothesis SPSS has been used.

DATA ANALYSIS

After analyzing the demographic profile of the respondents, it was observed that 52% respondents are male. 56% and 40% of the respondents fall in the age group of 18-25 years and 25-32 years respectively. Around 35% respondents have a monthly of Rs. 15-25 thousands. Majority of the respondents are MBA specialization and knowledge above personal.

Association between gender and financial assets

From table it is observed that males invest mostly in LIC products followed by fixed deposit and mutual fund. Females mostly like LIC and Fixed deposit, mutual funds.

Table 1:- Gender and financial assets

Gender / Financial Assets	House	Mutual Fund	Fixed Deposit	Equity Share	Gold	LIC	Total
Male (26)	7	9	10	6	4	11	47
Female (24)	5	8	9	6	4	9	41
Total	12	17	19	12	8	20	88

We have chi-square test on the data to observe the significance of the data found and tested hypothesis 1. The critical value of $\chi^2_{0.05}$ is $\chi^2_{0.05} = 0.237$. Where degree of freedom = (no. of rows -1) X (no. of columns-1) = 1 x 5 = 5. The calculated χ^2_{cal} value for the above table is $\chi^2_{cal} = 11.07$ at 95% confidence level the χ^2_{cal} is more than $\chi^2_{critical}$ value. Therefore we are accepted the null hypothesis and conclude that Financial assets for various financial assets in independent of gender.

Association between age and financial assets

From the table is observed that respondent in the age group of 18-25 years invest mostly LIC products followed by fixed deposit. Those in the group of 25-32 years invest mostly LIC and fixed deposit followed by mutual funds.

We have applied chi-square test on the data to observe the significance of the data found and tested hypothesis 2. . The critical value of χ^2 is $\chi^2_{0.05} = 9.810$. Where degree of freedom = (no. of rows -1) X (no. of columns-1) = 3 x 5 = 15. The calculated χ^2_{cal} value for the above table is $\chi^2_{cal} = 28.87$ at 95% confidence level the χ^2_{cal} is more than $\chi^2_{critical}$ value. Therefore we are accepted the null hypothesis and conclude that Financial assets for various financial assets in independent of age.

Table 2:- Financial assets for various financial assets in independent of age.

Age / Financial Assets	House	Mutual Fund	Fixed Deposit	Equity Share	Gold	LIC	Total
18-25 (28)	6	9	10	7	7	11	50
25-32 (21)	5	8	9	5	1	9	37
32-40 (1)	1	0	0	0	0	0	1
40 above (0)	0	0	0	0	0	0	0
Total	12	17	19	12	8	20	88

Association between monthly income and financial assets

From table is observed that responds having a monthly income up to Rs. 15 thousand invest monthly in fixed deposit followed by mutual funds those to the income of Rs. 15-25 thousand are invest in LIC, followed by fixed deposit and mutual funds respondent's in the income of Rs. 25-30 thousand are invest in LIC followed by mutual funds. Income are Rs 35-45 thousand are equally invest are mutual fund fixed deposit and equity share respondents in the income of Rs 45-55 thousand are invest in house and mutual funds those in the income 55 above are LIC mostly like followed by mutual fund and equity share.

Table 3:- Monthly income and financial assets

Monthly Income / Financial Assets	House	Mutual Fund	Fixed Deposit	Equity Share	Gold	LIC	Total
5000-15000 (10)	1	2	5	1	1	1	11
15000-25000 (19)	6	7	9	5	4	12	43
25-35 (12)	3	4	3	3	3	5	21
35-45 (2)	0	2	2	2	0	0	6
45-55 (2)	1	1	0	0	0	0	2
55 above (5)	1	1	0	1	0	2	5
Total	12	17	19	12	8	20	88

We have applied chi-square test on the data to observe the significance of the data found and tested hypothesis 3. The critical value of χ^2 is $\chi^2_{0.05} = 18.1075$. Where degree of freedom = (no. of rows -1) X (no. of columns-1) = 5 x 5 = 25. The calculated χ^2_{cal} value for the above table is $\chi^2_{cal} = 37.65$ at 95% confidence level the χ^2_{cal} is more than $\chi^2_{critical}$ value. Therefore we are accepted the null hypothesis and conclude that **Financial assets for various financial assets in independent of monthly income.**

Association between MBA specialization and financial assets

From table it is observed that respondents having an MBA specialization in finance is in mostly invest are fixed deposit followed equity share and mutual fund marketing respondent are invested mostly LIC and mutual funds those in the HR invest equally in-house and mutual fund. Operation specialization are invested in LIC followed by fixed deposit is respondents are gold and LIC in equally invest.

Table 4:- MBA specialization and financial assets

MBA specialization / Financial assets	House	Mutual Fund	Fixed Deposit	Equity Share	Gold	LIC	Total
Finance (19)	2	7	11	7	2	6	35
Marketing (17)	6	7	3	3	4	8	31
HR (8)	3	3	2	2	0	2	12
Operation (3)	1	0	2	0	0	2	5
IT (3)	0	0	1	0	2	2	5
Total	12	17	19	12	8	20	88

We have applied chi-square test on the data to observe the significance of the data found and tested hypothesis 4. The critical value of χ^2 is $\chi^2_{0.05} = 23.856$. Where degree of freedom = (no. of rows -1) X (no. of columns-1) = 4 x 5 = 20. The calculated χ^2_{cal} value for the above table is $\chi^2_{cal} = 35.17$ at 95% confidence level the χ^2_{cal} is more than $\chi^2_{critical}$ value. Therefore we are accepted the null hypothesis and conclude that **Financial assets for various financial assets in independent of MBA specialization.**

Association between knowledge above personal and financial assets

From the table are observed that respondents Basis knowledge above personal are invest mostly fixed deposit followed by LIC and mutual funds. Intermediate knowledge personal are invest in house followed by LIC. Mutual fund and fixed deposit those in the knowledge above personal of advance this invest in equity shares and LIC expert of knowledge above personal in invest mostly like mutual funds, equity and share and LIC.

Table 5: knowledge above personal and financial assets

knowledge above personal / Financial assets	House	Mutual Fund	Fixed Deposit	Equity Share	Gold	LIC	Total
Basic (19)	1	6	10	3	1	7	28
Intermediate (20)	9	7	7	3	5	8	39
Advance (9)	2	2	2	4	2	3	15
Expert (2)	0	2	0	2	0	2	6
Total	12	17	19	12	8	20	88

We have applied chi-square test on the data to observe the significance of the data found and tested hypothesis 4. The critical value of χ^2 is $\chi^2_{0.05} = 18.60$. Where degree of freedom = (no. of rows -1) X (no. of columns-1) = 3 x 5 = 15. The calculated χ^2_{cal} value for the above table is $\chi^2_{cal} = 28.87$ at 95% confidence level the χ^2_{cal} is more than $\chi^2_{critical}$ value. Therefore we are accepted the null hypothesis and conclude that **Financial assets for various financial assets in independent of knowledge above personal.**

CONCLUSION

Most of the financial planning in various financial assets in made by working age group is 18 to 25 years. Followed by age group are 25 to 35 years.

The mostly income 55 above thousands are planning of investing more in these financial assets which offer more returns and are more risky whereas 45 to 55 thousand investing in safe financial assets.

Male are financial planning mostly prefer of LIC and fixed deposit whereas features in prefer of financial planning are fixed deposit and LIC both genders are same level of financial planning.

The basic knowledge above personal are invest in fixed deposit and intermediate knowledge personal are invest mostly house and LIC. Advance personal knowledge in equity share invest, expert like invest LIC, equity share and mutual funds.

The MBA specialization respondents are invest mostly in finance specialization, followed by marketing and HR specialization.

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A STUDY ON COMPARATIVE ANALYSIS OF EQUITY FUNDS

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ABSTRACT:

Saving and Investing is the more important in this fiercely competitive World. It's important to save money, but more important than that is to invest these savings into something which gives a decent return. Investment depends on person to person. While somebody wants security, others might give more weightage to returns alone. Somebody else might want to plan for his child's education while somebody might be saving for the proverbial rainy day or even life after retirement. With objectives defying any range, it is obvious that the products required will vary as well. Indian capital market provides various type of investment scheme like-Different type of Insurance, Bonds, Investment in shares, Debentures, Warrants and Equity funds. Indian Equity Funds industry offers a plethora of schemes and serves broadly all types of investors. The range of products includes equity funds, diversified fund, sector fund, Index fund, tax saving fund, debt, liquid, gilt and balanced funds, hedge fund. There are also funds meant exclusively for young and old, small and large investors. Among various financial product equity funds make sure the minimum risk and maximum return to the investors. Investors of all categories could choose to invest on their own in multiple options but opt for Equity Funds for the sole reason that all benefits come in a package. The Equity Fund industry is having its hands full to cater to various needs of the investors by coming up with new plans, schemes and options with respect to rate of returns, dividend frequency and liquidity. Equity funds are mostly depends on Indian equity market. That's why it is very important issue to choosing profitable equity funds. This study deals with the selected equity funds that are offered for investment by the various fund houses in India. This study focused on the analysis of selected equity funds schemes in terms of risk-return relationship. Objective of this research is analyze the comparison of selected equity funds scheme with the help of statistical parameters such as(beta, alpha, standard deviation, Sharp ratio, Treynor Ratio).

Keywords: Equity fund, Statistical parameter, risk return,

INTRODUCTION:

In today's world, savings are an important part of the life of people. Every individual does saving considering his income received per month and the various expenses to be covered from the income received.

For achieving savings objectives, people search for various savings options. Government of India helps in this regard by opening various savings options like Savings in Post Office (Recurring Deposit, Kisan Vikas Patra etc.), Public Provident Fund Scheme (PPF) in various Nationalised Banks of India and also in Indian Post Office, opening of Savings Bank Account, Fixed Deposits for certain period etc. These savings scheme help the people to achieve their Savings Objectives, but there is one main shortcoming in these savings. These savings initiated by Government, have a very small rate of return and do not give large savings income after their term is over. Due to this, even though high patience is kept for getting good returns people do not get results as are expected by them.

There are other savings options also, like investment in Shares, Debentures in Stock Exchange etc. and these investments have high returns. Investment means inserting money or time or effort in some financial or other scheme to earn advantage after certain span of time. Investment in shares and debentures give high returns, but they have high risk along it and patience required for getting returns and as the time to receive gain through sale may be long. Risk involved in this means the Investment made in Shares when sold may not receive the same price at which they were purchased and person may receive the amount at low rate as compared to the price at which they were purchased. Also to gain properly from Investment in Shares the investment has to be done systematically in different shares so that the proper returns are achieved.

For an individual achieving this proper combination is difficult, hence the concept of Mutual Fund came. Mutual Fund means investment funds which are managed professionally and which collect money from investors to purchase financial instruments. The basic advantages of Mutual Funds is that it provides a higher level of diversification, economies of scale, gives liquidity and is managed by professional experts.

There are various types of Mutual Funds in India. They are classified based on Asset Class, based on structure, based on investment goals, based on risk and specialized mutual funds. My dissertation gives the details of Equity Fund and covers a comparative analysis of Equity Funds.

LITERATURE REVIEW

Mr. Sahil Jain and Dr. Aditi Gangopadhyay of Department of Mathematics, Indian Institute of Technology Roorkee, India, had done analysis on Equity Mutual Funds in India. A total of 45 schemes of 2 private sector companies and 2 public sector companies was studied over the period from April 1997 to April 2012. It was made using risk-return relationship and Capital Asset Pricing Model (CAPM). The analysis showed that HDFC and ICICI had been the best performers, UTI average performer and LIC was the bad performer which gave below-expected returns on the risk-return relationship.

S Debasish, also conducted performance of Equity-based Mutual Funds in Indian Scenario. In his analysis, he took 23 schemes offered by six private sector mutual funds and three public sector mutual funds and studied over the time period April 1996 to March 2009 (13 years). He conducted analysis on the basis of mean return, beta risk, co-efficient of determination, Sharpe Ratio, Treynor Ratio and Jensen Alpha. The analysis showed that Franklin Templeton and UTI were the best performers and Birla Sunlife, HDFC and LIC mutual funds showed poor below-average performance when it was measured against risk return relationship basis. (Source – KCA Journal of Business Management.)

Dr. Naliniprava Tripathy, studied performance evaluation of Equity Linked Savings Scheme. She studied performance of 31 tax planning schemes in India from the period from 1994-1995 to 2001-2002. She evaluated the performances in terms of six performance measures viz., Rate of Return measure, Treynor's measure, Sharpe Measure, Jensen Measure, Sharpe Differential Return and Fama's Decomposition measure. The results showed that the fund managers were not successful in reaping returns in excess of the market or making certain that efficient diversification of Portfolio occurred.

RESEARCH GAP

From the literature review, we can see that the even though many funds have been considered in the analysis, still they have not bifurcated them into Midcap Fund or Longcap Fund. This consideration would have shown the results in a more proper way.

Also, analysis of Equity Linked Savings Scheme, shows only one part of the Equity Schemes. If other types of funds would have been considered, it would have shown more good results.

OBJECTIVES OF STUDY

- 1) To study comparative analysis of Equity Fund using data interpretation.
- 2) To learn the ratios in mutual funds like Benchmark, Standard Deviation, Sharpe Ratio, Sortino's Ratio, Beta Ratio and Alpha ratio.

RESEARCH METHODOLOGY

Research Methodology means theoretical analysis of the field of study. It consists of the analysis of the methods and principles associated with the subject of study.

Target of Study –

The dissertation focuses on comparative analysis of Equity Fund and Mutual Fund by considering factual data of two funds HDFC Equity Fund and Reliance Income Fund.

Data Collection –

Primary Data & Secondary Data :

The primary data and secondary data has been collected from financial web sites.

Type of Research Methodology:

Conclusive Research –

Conclusive research is provide information which is useful in reaching conclusions or decision-making. It is quantitative in nature, i.e., to say in the form of numbers that can be quantified and summarized.

DATA ANALYSIS, DATA INTERPRETATION & HYPOTHESIS TESTING

For conducting comparative analysis of Equity Funds, we will follow the following steps –

Table 1: A benchmark means a reference point through which the performance and stock allocation of a mutual fund schemes comparison is made. It is also known as the benchmark index of the scheme.

Sr No.	Fund	Rating	Launch	Expense Ratio (%)	Benchmark	Benchmark Index (Col G)	3 Year Return (Col H)	Difference [Col H - Col G]
1	ICICI Prudential Banking and Financial Services Fund	5 Star	Aug-08	2.13	S&P BSE Finance TRI	23.23	26.32	3.09
2	SBI Banking & Financial Services Fund - Regular Plan	5 Star	Feb-15	2.47	S&P BSE Finance TRI	23.23	24.96	1.73
3	Edelweiss Exchange Traded Fund-Nifty Bank	Unrated	Dec-15	0.13	S&P BSE Bankex TRI	23.85	24.22	0.37
4	SBI ETF Nifty Bank Fund	4 Star	Mar-15	-	S&P BSE Bankex TRI	23.85	24.1	0.25
5	Kotak Banking ETF Fund Regular	4 Star	Dec-14	0.18	S&P BSE Bankex TRI	23.85	24.09	0.24
6	Reliance ETF Bank BeES	4 Star	May-04	0.19	S&P BSE Bankex TRI	23.85	24	0.15
7	Tata Banking and Financial Services Fund - Regular Plan	3 Star	Dec-15	2.68	S&P BSE Finance TRI	23.23	22.71	-0.52
8	Reliance Banking Fund	3 Star	May-03	2.14	S&P BSE Bankex TRI	23.85	22.08	-1.77
9	Mirae Asset Tax Saver Fund - Regular Plan	5 Star	Dec-15	2.34	S&P BSE 200 TRI	16.12	21.85	5.73
10	Invesco India Financial Services Fund	4 Star	Jul-08	2.74	S&P BSE Finance TRI	23.23	21.56	-1.67

From the above table, we can see, that this table gives information of Benchmark Index and Returns from last three years. We can see that ICICI Prudential Banking and Financial Services Fund has outperformed, as its Return 26.32 is higher than Benchmark Index of 23.23. Similarly, Mirae Asset Tax Saver Fund – Regular Plan has also outperformed. SBI Banking & Financial Services Fund – Regular Plan, Edelweiss Exchange Traded Fund-Nifty Bank, SBI ETF Nifty Bank Fund, Kotak Banking ETF Fund Regular and Reliance ETF Bank BeES have performed a little better. But, Tata Banking and Financial Services Fund – Regular Plan, Reliance Banking Fund and Invesco India Financial Services Fund have underperformed. We can see from Difference column that the difference in Return and Benchmark Index is negative.

1) Riskiness –

We will now look into the risk involved in these funds with reference to above table –

i) Standard Deviation –

Standard Deviation value gives the volatility of the fund’s return in relation to its average. The higher is the number, the more volatile will be the fund’s returns. Investors mainly prefer funds with lower volatility.

It is calculated as –

Standard Deviation = Square root of Variance

Variance = (Sum of squared difference between each monthly return from mutual fund and its mean / number of monthly return data from mutual fund – 1).

From the below table, we can see that ICICI Prudential Banking and Financial Services Fund has is most volatile fund among all the ten funds and Mirae Asset Tax Saver Fund – Regular Plan is least volatile fund among the ten funds. The SBI Banking & Financial Services Fund – Regular Plan, Tata Banking and Financial Services Fund – Regular Plan and Reliance Banking Fund are also volatile but less volatile as compared to ICICI Prudential Banking and Financial Services Fund. The Edelweiss Exchange Traded Fund-Nifty Bank, SBI ETF Nifty Bank Fund, Kotak Banking ETF Fund Regular, Reliance ETF Bank BeES have volatility nearly at the same level.

Table 2:- Standard Deviation, Sharpe Ratio, Sortino Ratio, Beta Ratio and Alpha Ratio.

Sr No.	Fund	Standard Deviation	Sharpe Ratio	Sortino Ratio	Beta	Alpha
1	ICICI Prudential Banking and Financial Services Fund	19.14	0.98	1.36	1.02	1.8
2	SBI Banking & Financial Services Fund - Regular Plan	17.62	1.04	1.34	0.93	2.77
3	Edelweiss Exchange Traded Fund-Nifty Bank	16.73	1.02	1.49	0.96	0.94
4	SBI ETF Nifty Bank Fund	16.71	1.01	1.49	0.96	0.85
5	Kotak Banking ETF Fund Regular	16.72	1.01	1.48	0.96	0.84
6	Reliance ETF Bank BeES	16.72	1.01	1.47	0.96	0.76
7	Tata Banking and Financial Services Fund - Regular Plan	18.36	0.88	1.37	0.89	1.24
8	Reliance Banking Fund	17.99	0.85	1.04	0.96	-0.87
9	Mirae Asset Tax Saver Fund - Regular Plan	13.26	1.1	1.57	0.98	5.26
10	Invesco India Financial Services Fund	15.95	0.94	1.23	0.88	0.23

ii) Sharpe Ratio –

It measures how efficiently the mutual fund has performed in consideration of risk taken by it. The greater is this ratio, the better would be the risk-adjusted performance. A negative ratio will show that a risk-less asset better perform than the security which is being analysed.

From the investors point of view, the higher is this ratio, the more better is the mutual fund.

This ratio is calculated by taking the return of the portfolio and subtracting from it the risk-free return and dividing the result (the excess return) by the standard deviation of the fund.

Sharpe Ratio = Total Return From Mutual Fund (-) Risk Free Rate / Standard Deviation of Mutual Fund

From the above table, we can infer that, Mirae Asset Tax Saver Fund - Regular Plan has the highest Sharpe Ratio as compared to all other funds taken into consideration. The other funds have low Sharpe Ratio as compared to all other funds.

iii) Sortino Ratio –

This ratio is statistical tool which measures the performance of the investment in relation to the downward deviation.

This ratio is calculated as –

Sortino Ratio = $\frac{R - R_f}{\sigma_d}$

Where,

R = Expected return.

R_f = The risk free rate of return.

σ_d = Standard Deviation of Negative Assets Returns

A large sortino ratio shows that there is a low chance of probability of a large loss.

From the above table, we can see that, Mirae Asset Tax Saver Fund - Regular Plan, which has highest Sortino Ratio has low chance of probability of a large loss. All other funds have a low ratio as compared to Mirae Asset Tax Saver Fund - Regular Plan.

iv) Beta Ratio –

This ratio measures fund’s volatility as compared to that of a benchmark. It tells how much would a fund’s performance would swing as compared to a benchmark.

It is calculated as –

Beta = (Standard Deviation of Fund / Standard Deviation of Benchmark) x R-Square

Lower beta means the fund gives more predictable performance as compared to similar funds in the market.

From the above table, we can infer that Invesco India Financial Services Fund is better than all other funds because it has a lower Beta Value of 0.88 as compared to the Beta Values of other fund taken in consideration.

- v) **Alpha Ratio –**
Alpha ratio is a performance ratio which measures risk-adjusted performance of a portfolio which intends to help investors determine the risk-reward profile of a mutual fund.

It is calculated as –

$$\text{Alpha} = \{(\text{Fund return} - \text{Risk free return}) - (\text{Funds beta}) * (\text{Benchmark return} - \text{risk free return})\}.$$

A positive alpha means that the fund has outperformed with reference to its benchmark index and negative alpha means the fund has underperformed.

From the above table, we can see that Mirae Asset Tax Saver Fund - Regular Plan has outperformed as it has highest Alpha ratio of 5.26 and Reliance Banking Fund has underperformed as it has Alpha ratio of -0.87.

FINDINGS

- 1) From the comparative analysis of the above equity funds we can find that the Mirae Asset Tax Saver Fund - Regular Plan has outperformed when analysed through Benchmark, Standard Deviation, Sharpe Ratio, Sortino Ratio and Alpha Ratio.
- 2) The Reliance Banking Fund has underperformed when analysed through Benchmark, Sharpe Ratio, Sortino Ratio and Alpha Ratio.
- 3) The Mirae Asset Tax Saver Fund - Regular Plan, did not score only in Beta ratio as it not score the lower ratio value which is preferable in this ratio.

CONCLUSION

- 1) The Mirae Asset Tax Saver Fund - Regular Plan, from the analysis shows as a good performer and from the point of view of Investors, they will get a good return against their investment.
- 2) The Reliance Banking Fund and ICICI Prudential Banking and Financial Services Fund are not a good performer and investments made by investors may not yield a good return for them.
- 3) This study gives the details of the various considerations which we need to consider for taking a final decision in which Equity Funds should we invest and in which we should not invest.

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खेलों में भाग लेने वाले शहरी एवं ग्रामीण छात्रों के मनोवैज्ञानिक घटकों का अध्ययन

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सारांश

छात्रों के लिए तो खेलकूद अपरिहार्य है। इससे उनका मस्तिष्क जागृत रहता है तथा उनके हृदय में संयम, दृढ़ता, गम्भीरता, एकाग्रता एवं सहयोग की भावना का उदय होता है। खेलकूद के अभाव में छात्रों का शारीरिक और मानसिक विकास अवरुद्ध हो जाता है उनमें आत्मविश्वास की कमी हो जाती है जो उन्हें अन्ततः अनुशासन हीन बना देती है। किशोर अवस्था में बालक तथा बालिका में अतिरिक्त शक्ति होती है खेल कूद से उनकी अतिरिक्त शक्ति को आसानी से सरचनात्मक कार्यों की ओर मोड़ दिया जाता है जिससे उनकी अतिरिक्त शक्ति का सही उपयोग हो जाता है।

खेलकूद आपस में प्रेमपूर्वक मिलजुल कर रहना, आपसी वैर-भाव समाप्त करना तथा विभिन्न जाति व समुदाय के साथ आपसी तालमेल के द्वारा निर्धारित लक्ष्य को प्राप्त करना सिखाता है। जिसके परिणाम स्वरूप सामाजिक सहयोग की भावना का विकास होता है। खेलकूद प्रतियोगिताओं में एक साथ भाग लेने से छात्रों में प्रतिस्पर्धा की भावना के साथ द्वेष भाव को अलग कर एकात्मकता का विकास जागृत होता है। खिलाड़ी खेल में हार जीत की भावना से यह शिक्षा ग्रहण करते हैं जिससे जीवन में आने वाले उतार चढ़ाव, सफलता-असफलता के अवसरों पर सन्तुलन बनाये रखने में सफल हो सकते हैं। खेलकूद से अन्तर्राष्ट्रीय बोध का विकास होता है। छात्रों में समन्वय शक्ति का संचार होता है जिससे मिल जुलकर कार्य करने की प्रेरणा बढ़ती है।

मुख्यशब्द— शहरी एवं ग्रामीण छात्र, मनोवैज्ञानिक घटक, खेल, शारीरिक और मानसिक विकास, खेलकूद प्रतियोगिता

प्रस्तावना

शिक्षा की दृष्टि से खेल उन सब से ज्यादा महत्वपूर्ण है। पुराने शिक्षक समझते थे कि खेलना समय नष्ट करना है। शिक्षा के क्षेत्र में खेल के महत्व को सभी समझने लगे हैं। यह प्रवृत्ति सबसे अधिक व्यापक है। अनुकरण युयुत्सा, विधायकता आदि अनेक प्राकृतिक शक्तियों में खेल की प्रवृत्ति काम कर रही होती है। शुरु में बालक इतना खेलना पसंद करता है, वह बैठा-बैठा कुछ न कुछ किया करता है। खेल एक सामाजिक प्रवृत्ति है। खेल के माध्यम से बालक बहुत कुछ सीख जाता है। खेल अलग-अलग तरह के होते हैं। किसी उम्र में कोई खेल बालक को आकर्षित करता है। किसी में कोई कार्लगुस ने खेलों के पांच प्रकार कहे हैं—

क) परीक्षणत्मक खेल (Experimental play)

ख) दौड़-धूप वाले खेल (Movement play)

ग) रचनात्मक खेल (Constructive play)

घ) लड़ने-झगड़ने वाले खेल (Fighting play)

ड.) मानसिक खेल (Intellectual play)

परीक्षणत्मक खेल वे हैं। जिनमें बालक चीजों को धरने-उठाने में लगा रहता है। इनमें कोई उद्देश्य नहीं रहता। इन खेलों से बालक को अपनी परिस्थिति का ज्ञान हो जाता है। उसकी इन्द्रिय विषयों को पहचानने में लग जाती है। दौड़-धूप वाले खेल बालकों के एक दूसरे के पीछे भागने, पत्थर आदि उठाकर फेंकने के रूप में पाये जाते हैं। इनसे बालकों के शरीर का गठन दृढ़ होता है। रचनात्मक खेलों में लड़के मिट्टी का घर बनाते हैं, रकाउटिंग सीखते हुए पुल बनाते हैं। लड़ने-झगड़ने के खेल कुश्ती जूडो, मुक्केबाजी, फुटबाल, हॉकी आदि हैं।

खेल एक मनोवैज्ञानिक सामाजिक गतिविधि है। यह दोनों गतिविधि मानसिक एवं सामाजिक शारीरिक क्रिया कलापों एवं शरीर रचना विज्ञान के तकनीकी पहलू है। प्रतियोगिता के आधुनिक क्षेत्र में किसी खिलाड़ी की मनोवैज्ञानिक तैयारी उसी तरह महत्वपूर्ण है जिस प्रकार उसकी खेल गतिविधियों का तकनीकी कौशल कोई भी टीम/खिलाड़ी केवल खेल को खेलने के लिए तैयारी नहीं करते हैं, अपितु प्रतियोगिता में विजेता होने के लिए अभ्यास करते हैं। खेल गतिविधियों के कौशल में कुशलता इस बात से आवश्यक नहीं है कि केवल विजेता बने बल्कि यह जरूरी है कि उनके अन्दर खेल भावना एवं खेल जागरूकता का विकास हो जिससे खिलाड़ी अथवा टीम खेल गतिविधियों एवं प्रतियोगिताओं में अपना सर्वश्रेष्ठ प्रदर्शन प्रदर्शित कर सके।

खेल केवल मनुष्य की सम्पदा ही नहीं अपितु पशु-पक्षी भी खेलक्रीड़ाओं द्वारा अपना मनोरंजन करते हैं। खेल किसी बाह्य उत्तेजना अथवा पर्यावरण के दबाव का परिणाम नहीं है। खेल क्रीड़ा की प्रेरणा अन्तः मन से आती है। वास्तव में व्यक्ति जिन प्रक्रियाओं को अपनी अभिरुचि तथा स्वच्छन्द मन से करता है वे अधिक स्थाई होती हैं। खेल वृद्धि एवं विकास का साधन है। “खेल जीवन है तथा जीवन खेल” सिद्धांतों को मानने वाले विद्वान खेल के मौलिक रूप से अनभिज्ञ नहीं हो सकते तथा नहीं वे परिपाटी में खेल की अवहेलना कर सकते हैं। शिशु खेलता है तो आनन्दित होता है, किलकारियां भरता है तो बोलना सीखता है, तोड़फोड़ करता है तो निर्माण करना सीखता है, लड़ता झगड़ता है तो बलवान बनता है, अन्य बालकों के साथ खेलता है तो उसकी बोली, भाषा व्यवहार गम्भीर रूप से प्रभावित होता है।

खेल मनुष्य को प्रकृति की सबसे महत्वपूर्ण देन है। खेल रहित जीवन निरुद्देश्य जीवन होता है। खेल जीवन वृद्धि तथा विकास का द्योतक है। बालक के जीवन से खेल को निकाल दिया जाये तो शेष उसके पास क्या बचेगा। इसका अनुमान लगाना कठिन नहीं है। बौद्धिक विकास पर अधिक जोर देने वाले विद्वानों ने खेल को शक्ति का अपव्यय बताया है। कई विद्वान इस बात से सहमत हैं कि अधिक खेलने से बालक बिगड़ता है तथा उसके व्यक्तित्व का वास्तविक विकास नहीं हो सकता, परन्तु आधुनिक शिक्षा प्रणाली में खेल को उचित स्थान दिया गया है क्योंकि आज का शिक्षा शास्त्री यह जान गया है कि खेल ही शिक्षा का प्रथम कारक एवं साधन है। शैशवाकाल व बाल्यकाल में गामक व संज्ञात्री शिक्षण खेल के अतिरिक्त हो ही नहीं सकता है। रांस का कथन है कि खेल एक आनन्द दायक स्फूर्तिप्रद सुजनात्मक प्रक्रिया है जिसमें व्यक्ति अपने आपको पूर्ण रूप से अभिव्यक्त करता है। इसी प्रकार गुड ने कहा है कि खेल एक आनन्ददायी प्रकृति है जो अपने लिए की जाती है। इसमें भविष्य के प्रति संतोष या उद्देश्य नहीं होता। ग्लुक का कथन है कि “खेल वह है जो कुछ हम करते हैं, वह अपनी इच्छानुसार करने को स्वतंत्र है।”

खेल वास्तव में वैयक्तिक तथा सामूहिक स्तर पर राजनैतिक गरिमामण्डन एवं अहम सन्तुष्टि का बनाया हुआ संघर्ष बन चुका है। ओलम्पिक खेल निःसन्देह किसी भी तरह तथा किसी भी कीमत पर अधिकतम पदक उद्देश्य से युक्त एक खेल युद्ध कहा जा सकता है।

पिछले तीन दशकों में खेल प्रदर्शन तेज गति से सुधरा है और इस सुधार में अनेक कारकों का योगदान है। खेल शरीर क्रिया विज्ञान, खेल चिकित्सा, जैव अभियांत्रिकी, खेल मनोविज्ञान तथा ऐसे ही अन्य खगोल विज्ञानों का प्रत्यक्ष सहयोग खेल को उस उत्कृष्टता तक ले आया है जहां पर प्रदर्शन की स्वीकृति शारीरिक उपयोजिता युक्ति तथा तकनीकी पर्याप्त नहीं मानी जाती है। वर्तमान खेल विज्ञानियों ने इन परिधियों के परे देखना प्रारम्भ कर दिया है। चूंकि प्रशिक्षण में शारीरिक प्रयास ज्यादा महत्वपूर्ण होते हैं तथा प्रतियोगिता में मनोवैज्ञानिक प्रयास। अतः खिलाड़ियों को प्रशिक्षण तथा प्रतियोगिता में समान परिस्थितियों में प्रदर्शन करने का विचार कमजोर पड़ रहा है।

व्यक्तित्व शब्द लेटिन शब्द परसोना से लिया गया है जिसका अर्थ है मुखौटा। पुराने समय में ग्रीक में थियेटर में काम करते हुए अभिनेता अपनी पहचान छुपाने के लिए मुखौटे पहनते थे। बाद में परसोना शब्द इस अर्थ में प्रयुक्त होने लगा कि व्यक्ति दूसरों को कैसा दिखता है? अतः व्यक्तित्व का यही अर्थ निकाला गया कि व्यक्ति दूसरों पर क्या प्रभाव छोड़ता है? मानवीय व्यक्तित्व एक जटिल संरचना है जो उद्देश्यों, भावनाओं, इच्छाओं, आदतों, विचारों का एक संतुलन है तथा इनसे ओतप्रोत है। यह अस्तित्व का कुल जोड़ है, जिसमें भौतिक, मानसिक, सामाजिक, भावनात्मक तथा बौद्धिक पहलू शामिल हैं। एक व्यक्ति के व्यक्तित्व से उसकी कल्पना, रूझान, विचार, इच्छाएं, कामनाएं, आदतें, मूल्य, रुचियां तथा विचारों का पता चलता है तथा उसकी समझदारी, उसकी उपलब्धि प्रेरणा, तालमेल का पता चलता है। व्यक्तित्व ही व्यक्ति को सबसे अलग दिखाता है। यह कई गुणों से निर्मित होता है। ये बाहरी लक्षण होते हैं तथा गतिशील बल होते हैं जो कई तरीकों से संघर्षरत है। यह विभिन्न गुणों का संगठन मात्र है। इसी संघर्ष का नतीजा है कि दो व्यक्तियों का व्यक्तित्व एक जैसा नहीं होता।

व्यक्तित्व शब्द का तात्पर्य शारीरिक बनावट, सौन्दर्य और आकर्षण है। प्रायः कहा जाता है कि उस व्यक्ति का व्यक्तित्व सुन्दर है, आकर्षक है, प्रभावशाली है अर्थात् व्यक्ति का बाह्य दिखावा उसके व्यक्तित्व का पर्यायवाची समझा जाता है। मनोवैज्ञानिकों की धारणा के अनुसार व्यक्तित्व सम्पूर्ण मानवीय गुणों का योग है। व्यक्तित्व शारीरिक और मानसिक गुणों के संगठन का सूचक है। व्यक्तित्व में मनुष्य के न केवल शारीरिक बल्कि मानसिक गुणों का भी समावेश होता है। व्यक्तित्व व्यक्ति के गुणों, योग्यताओं, क्षमताओं विशेषताओं आदि से प्रभावित व्यवहार का सूचक है। अतएव “व्यक्तित्व का तात्पर्य शारीरिक संगठन शक्ति, बनावट, मानसिक योग्यताओं, क्षमताओं, अभिरुचियों, अभिवृत्तियों आदि का संगठित व्यवहार है।”

व्यक्तित्व व्यक्ति के आन्तरिक एवं बाह्य गुणों का एक ऐसा संगठनात्मक रूप है जो उसके प्रत्येक व्यवहार को प्रभावित करता है।

व्यक्तित्व लोगों की दृष्टि में एक ऐसा व्यापक प्रभाव है जो व्यक्ति के शारीरिक गठन, सौष्ठव, मुखाकृति के आकर्षक और अोजपूर्ण होने का परिणाम होता है। व्यक्तित्व को बनाने में शारीरिक, मानसिक, बौद्धिक और सामाजिक आदि सभी शक्तियों का योग होता है। व्यक्तित्व न शरीर है, न मस्तिष्क न व्यक्ति का बाह्यरूप। यह तो व्यक्ति के सम्पूर्ण व्यवहार का दर्पण है। व्यक्ति का व्यवहार व्यक्तिगत हो अथवा सामाजिक उसका प्रभाव व्यक्ति के चरित्र पर अवश्य पड़ता है। यह सम्भव है कि व्यक्तिगत व्यवहार सामाजिक व्यवहार से कुछ भिन्न हो। इस प्रकार व्यक्तित्व तो व्यक्ति के विविध व्यवहारों की प्रतिक्रियाओं का प्रतिफल है।

व्यक्तित्व ऐसी प्रतिक्रियात्मक शक्ति है जिसे न तो छुआ जा सकता है, न देखा जा सकता है और ना सुना ही जा सकता है। उसे तो केवल समझा जा सकता है। व्यक्ति का व्यक्तित्व हमारे अंदर एक प्रतिक्रिया उत्पन्न करता है।

शारीरिक शिक्षा की क्रियाओं के द्वारा एक व्यक्ति का व्यक्तित्व निखरता है। इसमें एक अलग प्रकार का तेज जाग्रत होता है जिससे वह अन्य व्यक्तियों से भिन्न नजर आता है। व्यक्तित्व का आत्मज्ञान समूह में रहकर ही होता है। शारीरिक शिक्षा के कार्यक्रमों में समूह भावना का विकास होता है। खिलाड़ी एक समूह में रहकर शिष्टाचार, नैतिकता, आत्म संयम, साहसी, उत्साही, विवेकशील, धैर्यवान आदि गुणों को ग्रहण करता है, जिससे उनका व्यक्तित्व चरित्रवान बनता है। शारीरिक शिक्षा बालकों में अच्छे खिलाड़ी के गुण, दल भावना, राष्ट्रीय भावना आदि पैदा करती है जिससे व्यक्ति का चरित्र ऊँचा और उज्ज्वल बनता है। शारीरिक क्रियाओं के द्वारा बालकों के शरीर में परिवर्तन होता है। मांसपेशियां मजबूत एवं ताकवर बनती हैं। उनके आकार में बदलाव आता है जिससे उनका व्यक्तित्व निखरता है।

उपलब्धि प्रेरणा को एक व्यक्ति के सभी कार्यों के पीछे असली ताकत के रूप में परिभाषित किया जा सकता है। एक व्यक्ति की इच्छाओं और जरूरतों के प्रभाव दोनों उनके व्यवहार की दिशा पर एक मजबूत प्रभाव है प्रेरणा। प्रेरणा अपनी भावनाओं और उपलब्धि सम्बन्धित लक्ष्यों पर आधारित है। (उपलब्धि अभिप्रेरणा के बाह्य, आंतरिक मनोवैज्ञानिक विभिन्न रूप रहे हैं)। व्यक्ति विभिन्न साधनों के माध्यम से अपनी जरूरतों को पूरा करता है। इसके लिये आन्तरिक एवं बाह्य प्रेरणा सभी बुनियादी कार्यों के लिए प्रेरक है। प्रेरणा हमारा वह व्यवहार है जो हमारी इच्छाओं और जरूरतों, जो कि महत्वाकांक्षा की गतिशीलता के लिए जरूरी है।

उपलब्धि अभिप्रेरणा एक प्रक्रिया है जिससे व्यक्ति विशेष किसी क्रिया को सीखने एवं करने के लिए प्रेरित होता है। अभिप्रेरणा सम्पूर्ण शिक्षा प्रक्रिया का आवश्यक एवं केन्द्रीय भाग है अभिप्रेरणा मनो-शारीरिक अवस्था है जो व्यक्ति की आवश्यकताओं को पूरा करते हुये कार्य करवाती है। जब तक व्यक्ति पूरे मन से किसी कार्य में संलग्न नहीं होता है तब तक वह उस कार्य को नहीं सीख सकता है और कार्य में संलग्नता अभिप्रेरणा के बिना असम्भव है। रुचि, आवश्यकता, पुरस्कार एवं पारितोषिक, दबाव, तनाव आदि अभिप्रेरणा की प्रक्रिया को प्रभावित करते हैं। मनोवैज्ञानिकों ने यह बात सिद्ध कर दी है कि व्यक्ति जब तक सीखने के लिए तैयार नहीं है तब तक वह सीख नहीं सकता। और यदि एक बार वह कार्य करने के लिये अभिप्रेरित हो जाये तो व्यक्ति में सीखने की इच्छा इतनी प्रबल हो जाती है कि वह बिना किसी दबाव के कार्य को सीखता एवं करता जाता है। सीखना उसके लिए एक स्वाभाविक प्रक्रिया बन जाती है और इस सम्पूर्ण प्रक्रिया में शिक्षक एक मार्गदर्शक की भूमिका निभाता है। अभिप्रेरणा के द्वारा सीखना व्यक्ति के लिए सरल हो जाता है और सीखने की प्रक्रिया उसे स्वयं के प्रति संतुष्टि और कार्य के प्रति तृप्ति प्रदान करती है।

उपलब्धि अभिप्रेरणा व्यवहार को परिचालित करने वाली मानसिक शक्ति है। यह व्यक्ति की समस्त मानसिक और शारीरिक शक्तियों को चालित करती है। अभिप्रेरणा व्यक्ति को कार्य प्रारम्भ करने और करते रहने के लिए आन्तरिक उत्तेजना प्रदान करती है। मैक्डगैल ने उपलब्धि अभिप्रेरणा को एक वृत्ति कहा है जो कार्य के सम्पादन में सहयोग करती है। प्रत्येक खिलाड़ी या टीम का लक्ष्य विजय प्राप्त करना होता है। खेल में सफलता या विजय प्राप्त करने के लिए शारीरिक क्षमता, खेल कौशल, अच्छा प्रशिक्षण और उत्साह आवश्यक होता है, परन्तु मनोवैज्ञानिकों ने मनःदशा को स्पष्ट करते हुए कहा है कि खिलाड़ी पूर्ण आत्मविश्वास, दृढ़ निश्चय और जीत की भावना से खेले तो वह सफल हो सकता है और ये गुण उसे जीत के लिए अभिप्रेरित करने से ही आ सकते हैं। इसलिए खेल में विजय प्राप्त करने के लिए उपलब्धि अभिप्रेरणा एक आवश्यक कारक है। उपलब्धि अभिप्रेरणा उत्साह, आत्मविश्वास और कुछ कर दिखाने की लातसा दर्शाता है।

उपलब्धि अभिप्रेरणा के सन्दर्भ में विभिन्न मनोवैज्ञानिकों ने कहा है जैसे बुहलर (1919) ने इसके कार्य से प्राप्त खुशी तथा पियाजे (1936) ने इसे चक्रीय अवस्था माना है। अर्थात् एक कार्य में सफलता से दूसरे कार्य में सफल होने की आकांक्षा प्रबल होती है।

मूरे (1938) ने यथाशीघ्र स्वतंत्र रूप से कार्य में सफलता प्राप्त करने की प्रवृत्ति को उपलब्धि अभिप्रेरणा कहा है।

मैक्सिलैण्ड (1915) उपलब्धि अभिप्रेरणा अपनी आन्तरिक विशिष्टताओं के स्तर से प्रतिद्वन्द्विता की और रूझान है। इस प्रेरणा के कारण ही व्यक्ति और अधिक अच्छा कार्य करने के लिए परिश्रम करता है व अपना विशेष स्तर बनाने का प्रयास करता है।

अतः उपलब्धि अभिप्रेरणा के अन्तर्गत निम्न विशेषताएँ आती हैं—

- चुनौतीपूर्ण कार्य को स्वीकार करना।
- विशेष उपलब्धियों को हासिल करना।
- नेतृत्व क्षमता
- आशावादी
- जीवन के लक्ष्यों का निर्धारण

अतः उपलब्धि अभिप्रेरणा उस प्रवृत्ति से सम्बन्धित है जिसके आधार पर मनुष्य उच्च मानदण्ड की सहायता से अपने निर्धारित उद्देश्य की प्राप्ति करना चाहता है। मन, फर्नाल्ड व फर्नाल्ड (1792) ने उपलब्धि अभिप्रेरक से तात्पर्य श्रेष्ठता के खास स्तर प्राप्त

करने की इच्छा से होता है। मैक्सीलैण्ड (1953) ने व्यापक अनुसंधान कर उपलब्धि अभिप्रेरणा की एक महत्वपूर्ण अर्जित अन्तर्नाद के रूप में लिया।

उपलब्धि अभिप्रेरणा सभी व्यक्तियों में समान नहीं पायी जाती। कुछ व्यक्तियों में यह प्रेरणा अधिक होती है कुछ में कम। जिन व्यक्तियों में उपलब्धि अधिक मात्रा में पायी जाती है वे लोग ऐसे कार्यों को करना पसन्द करते हैं जिससे उनकी प्रशंसा हो। हैटकाउसन (1967) के अनुसार अधिक अभिप्रेरणा वाले व्यक्तियों को यदि विशेष उत्तरदायित्व सौंपा जाये तो ये व्यक्ति जिम्मेदारी का कार्य करना पसन्द करते हैं। मैक्सीलैण्ड तथा साथियों ने बताया कि छ्बी फलांक उपलब्धि अभिप्रेरणा की प्रबलता के सूचनांक के आधार पर उच्च प्रबलता लिये हुये अभिप्रेरक वाले व्यक्ति से भिन्न होता है। मैक्सीलैण्ड ने पाया कि जिन प्रयोज्यों में उपलब्धि अभिप्रेरक की अपेक्षाकृत अधिक प्रबलता होती है। वें अपनेनिष्पादन में सुधार करते हैं जबकि कम प्रबलता लिए हुए प्रयोज्य प्रायोगिक स्थिति में अपने निष्पादन में कोई सुधार नहीं करते।

मनोवैज्ञानिक विचारधारा

प्रेरणा जीवन का स्रोत है और प्रेरणा ही मनुष्य को सही मार्ग पर चलने के लिए उत्साहित करती है। प्रेरणा एक मनोवैज्ञानिक विचारधारा में उन वस्तुओं से सम्बन्धित है, जो खिलाड़ियों को किसी कार्य को सीखने में सहायता करती है और उनका मनोबल ऊँचा करके उत्साहित करने में अपना योगदान प्रदान करती है। इस प्रकार प्रेरणा व शारीरिक शिक्षा का सम्बन्ध खिलाड़ी में कुछ सीखने के लिए उसके शौक को उभारने के लिए उत्साहित करना तथा अपने आधारभूत उद्देश्यों को संतुष्ट करने के लिए निरन्तर प्रयत्न करना कहा जा सकता है। प्रेरणा के कुछ महत्वपूर्ण पक्ष हैं, जिनका ज्ञान एक खिलाड़ी के लिए बहुत जरूरी है। इन बातों को ध्यान में रखने से खेलों में निपुणता प्राप्त की जा सकती है। जो खिलाड़ियों की प्रेरणा के बहुमूल्य खजाने हैं 1. रुचि 2. इनाम 3. ध्यान 4. सृष्टि विचार 5. इच्छा 6. आवश्यकता 7. अन्दर का उतावलापन 8. ईर्ष्या 9. रूझान 10. खेलों के कौशल को सीखने की भूख। कोई भी बच्चा अथवा खिलाड़ी तब ही कुछ सीखने के लिए प्रयत्न करता है जब इन पहलुओं में से कोई भी उसकी प्रेरणा के कारण होता है। शारीरिक शिक्षा में प्रेरणा का बहुत ही आवश्यक एवं महत्वपूर्ण स्थान माना जाता है। खिलाड़ी जब तक प्रेरित नहीं होता तब तक वह कुछ सीखने के योग्य नहीं हो सकता और न ही उसमें कुछ सीखने

के लिए शौक ही उत्पन्न होता है। खेलों के प्रति भी बच्चों में प्रेम उत्पन्न करने के लिए प्रेरणा बहुत योगदान देती है। प्रेरणा खिलाड़ियों के अन्दर कई प्रकार की भावनाओं को जागृत करती है, उनको अपना खेल का स्तर उचा उठाने और सुधारने में सहायता करती है। इसके साथ-साथ खिलाड़ी के अन्दर आई त्रुटियों, अभावों एवं कमियों को दूर करने में भी बहुत सहायता करती है।

उपलब्धि अभिप्रेरणा को किन्हीं उपलब्धि मानकों के सन्दर्भ में प्रदर्शन के मूल्यांकन से युक्त परिस्थितियों में सफलता के लिए प्रयास करने के लिए प्रवृत्ति के रूप में परिभाषित किया जाता है। यह व्यक्ति के प्रयासों एवं सुगणित रिस्कयुक्त अवरोधों को पार कर सन्तुष्टि की तरफ चालित करती है। उपलब्धि अभिप्रेरणा तब काम करती है जब व्यक्ति जानता है कि उसकी प्रदर्शन की गणना श्रेष्ठता के किन्हीं मानकों के सन्दर्भ में स्वयं के द्वारा या दूसरों के द्वारा की जायेगी। अन्ततः उसका मूल्यांकन सफलता या असफलता के रूप में किया जायेगा। मोदित भौतिक इनाम जीतने की प्रत्याशा व्यक्ति के प्रदर्शन स्तर को प्रभावित करती है, यह कार्य को और अधिक दक्षता से चुनौती की तरह लेते हुए उपलब्धि भावना की आवश्यकता है।

फ्रेडरिक जे. मैक्डोनल्ड के अनुसार 'उपलब्धि अभिप्रेरणा' का तात्पर्य व्यक्ति के भीतर उस ऊर्जा परिवर्तन से है, जिसमें भावात्मक प्रबोधन तथा प्रत्याशित लक्ष्य प्रतिक्रिया निहित हो। उपलब्धि अभिप्रेरणा के अन्तर्गत तीन तत्व मौजूद होते हैं प्रथम उपलब्धि अभिप्रेरणा का प्रारम्भ व्यक्ति की ऊर्जा परिवर्तन से जुड़ा होता है। द्वितीय उपलब्धि अभिप्रेरणा की दशा में व्यक्ति एक तरह का भावात्मक प्रबोधन प्रदर्शित करता है। तृतीय उपलब्धि अभिप्रेरणा के अन्तर्गत व्यक्ति एक प्रत्याशित लक्ष्य प्रतिक्रिया का प्रदर्शन करता है। वह ऐसी अनुक्रियायें व्यक्त करता है जो उसे अपने लक्ष्य की ओर अग्रसर करती है।

उपलब्धि अभिप्रेरणा का हमारे जीवन में बहुत ही महत्व है क्योंकि मानव की सभी क्रियाओं और मनोविज्ञान में प्रेरणा ही विशिष्ट आधार रखती है। उपलब्धि अभिप्रेरणा मानव-क्रियाओं और मानव-मनोविज्ञान में प्रत्यक्ष अथवा परोक्ष रूप में हमेशा उपस्थित रहती है। यह प्रेरणा शक्ति व्यक्ति के हरेक पहलू में चाहेवह व्यक्तिगत हो, सामूहिक हो, सामाजिक हो, जातीय हो अथवा राष्ट्रीय हो पाई जाती है। जिस व्यवहार अथवा कार्य में व्यक्ति की रुचि, व्यक्ति का उद्देश्य अथवा लक्ष्य निहित होता है वह किसी प्रकार का क्यों न हो उसमें प्रेरणा शक्ति निश्चित रूप से विद्यमान होती है।

जीवन के हर क्षेत्र में तथा कार्यों में उपलब्धि अभिप्रेरणा का प्रमुख हाथ होता है, इसलिए हमारे जीवन में सफलता प्राप्ति अभि-प्रेरणा पर ही निर्भर करती है। अभिप्रेरणा को 'सीखने का हृदय' माना जाता है। मनोवैज्ञानिक अर्थ में प्रेरणा से अभिप्रायः केवल आन्तरिक उत्तेजनाओं से प्राप्त होता है। जिन पर हमारा व्यवहार आधारित होता है। मनोवैज्ञानिक अर्थ में बाह्य उत्तेजनाओं को कोई महत्व नहीं दिया जाता। अतः प्रेरणा एक आन्तरिक शक्ति है जो व्यक्ति को कार्य करने के लिए प्रेरित करती है। यह एक अदृश्य शक्ति है, जिसको देखा नहीं जा सकता है।

अधिकतर शब्दकोशों में आक्रामकता का प्रयोग अहिंसा और उदंडता से होता है। परन्तु खेल में इसका प्रयोग भिन्न अर्थ के लिए किया जाता है। यहाँ इसका अर्थ होता है सकारात्मक और जीत की भावना से ओत-प्रोत होते हुये जोश के साथ खेल का आनंद लेना। वर्तमान समय में खेल में आक्रामकता अति आवश्यक हो चुकी है। एक कुशल प्रशिक्षक खेल में आक्रामकता की

आवश्यकता को समझते हुए प्रशिक्षणार्थियों को इससे अवगत कराता है। यहाँ यह भी ध्यान रखना आवश्यक है कि आक्रामकता की आवश्यकता हॉकी, फुटबाल, वालीबॉल, दौड़, कबड्डी तथा रग्बी जैसे खेलों में ही होती है। जबकि इसके विपरीत गोल्फ, शतरंज तथा कैरम में आक्रामकता के स्थान पर धैर्य और सहनशीलता काप्रयोग किया जाता है।

अभ्यास सत्र के दौरान खिलाड़ी आक्रामकता का प्रयोग प्रेरणा शक्ति के रूप में ही करे। किसी व्यक्ति की आक्रामकता का अनुमान उसके व्यक्तित्व एवंप्रवृत्ति देखने के पश्चात् ही लगाया जा सकता है। खेल में आक्रामकता का व्यवहार सफलता की परिपाटी बन सकता है। खेल में आक्रामकता को हिंसात्मक प्रवृत्ति के स्थान पर सकारात्मक एवं प्रभावशाली तकनीक के रूप में लेना चाहिये।

प्रशिक्षक सकारात्मक मानसिक सोच तथा आक्रामक व्यवहार के साथ मनोवैज्ञानिक पहलुओं से भी परिचित होना चाहिए। वर्तमान समय में खेल शारीरिक श्रम के आधार पर कम, मनोवैज्ञानिक आधार पर अधिक खेले जाते हैं। अन्तर्राष्ट्रीय स्तर पर किसी खेल प्रतियोगिता से पूर्व ही टीम के खिलाड़ियों के बीच मनोवैज्ञानिक दबाव बनाने के लिए वाक्युद्ध प्रारम्भ हो जाता है। कोई भी टीम अपने प्रतिपक्षी टीम को मौका नहीं देना चाहती है। इसके लिए टीमों का प्रतियोगिता में प्रारम्भ से पहले ही मैदान के बाहर आक्रामक माहौल तैयार कर लिया जाता है।

मनोवैज्ञानिक स्थिति से सकारात्मक एवं नकारात्मक दोनों ही तरीकों में खिलाड़ी प्रभावित होते हैं। व्यक्तिगत एवं सामूहिक खेलों में भाग लेने वाले खिलाड़ियों पर मनोवैज्ञानिक स्थिति का प्रभाव अलग-अलग रूप में होता है। सामूहिक होने के कारण समूह का एक खिलाड़ी स्वयं उत्तरदायी होने की संभावना से अधिक विरत रहता है, जबकि व्यक्तिगत खेलों में स्थिति इसके विपरीत रहती है। व्यक्तिगत खेलों में अलग अलग इवेंट या प्रतिस्पर्धा के कारण खिलाड़ी की मानसिक प्रवृत्ति भी अलग होती है, उसकी रणनीति रिप्टर, मध्यम दूरी, लम्बी दूरी या कूद बाधा दौड़, पद चालन आदि से सम्बन्धानुसार होती है। खिलाड़ी अपने विरोधी खिलाड़ी के स्तर को ध्यान में रखते हुए अपने आपको मानसिक रूप से तैयार करते हैं। वे अपने कौशल तथा तकनीकों को परिस्थिति के अनुरूप ढालते हैं। शारीरिक विशेषताओं, इन्द्रिय तीक्ष्णता, प्रत्यक्षीकरण तथा निर्णय लेने की प्रक्रिया, अर्जित कौशल और विकसित योग्यतायें मानव के प्रतियोगिता तैयारी तंत्र को आकार प्रदान करते हैं। उच्चतम तत्परता की स्थितिकार्य संरचना को इच्छित प्रकार से कार्य करने के लिए उत्साहित करती है। परन्तु अभिप्रेरणात्मक प्रक्रिया में परिवर्तित संवेग तथा मनोवृत्तियाँ इससे कहीं अधिक उपलब्धिप्रद होती है। यह खिलाड़ियों के जीवन के किसी भी स्थल पर किसी एक अथवा अन्य संभव गतिविधियों के चयन के लिए उत्तरदायी होती है। यह खेल गतिविधियों को जारी रखने तथा उन्हीं में वर्षों तक अभ्यास तथा प्रशिक्षण प्राप्त करते रहने की स्थिति को प्रभावित करती है। वास्तव में अभिप्रेरणा किसी खेल क्रिया से सम्बद्ध होने, उसको वरीयता देने, गतिविधि में लीन रहने, लगातार प्रयास करते रहने तथा प्रदर्शन की समुचितता के लिए जिम्मेदार होती है।

आक्रामकता का तात्पर्य व्यक्ति के उस व्यवहार से है जो वह दूसरे व्यक्ति या व्यक्तियों पर शारीरिक आक्रमण, दूसरे व्यक्तियों से लड़ाई-झगडा करके उन्हें गाली-गलौच आदि देकर दबाना चाहता है। इस प्रकार वह दूसरों को चोट पहुँचाना, दुःख देना अथवा नष्ट करना चाहता है। आक्रामकता की यह प्रवृत्ति जन्मजात न होकर अधिगम के फलस्वरूप व्यक्ति में विकसित होती है।

आक्रामकता का व्यापक अर्थ बालक या खिलाड़ी के उस व्यवहार से प्रदर्शित होता है जब वह द्वेष भावना से सशक्त शत्रुतापूर्ण हमला करें। यह हमला प्रतिशोध की भावना से या उत्तेजना के कारण हो सकता है। लेकिन खेल गतिविधियों में आक्रामकता के व्यवहार को नुकसानदायी नहीं कहा जा सकता, क्योंकि खेल गतिविधियों में खिलाड़ी अपने कौशल के प्रदर्शन हेतु तथा जीत की भावना से आक्रामकता को अपनाता है जिससे वह विपक्षी दल के खिलाड़ियों पर दबाव बनाता है। इस तरह उसकी आक्रामकता का स्वरूप शारीरिक भी हो सकता है या फिर मौखिक भी हो सकता है। जो खिलाड़ी जानबूझकर शारीरिकरूप से दूसरों को हानि पहुँचाता है जैसे लड़ाई-झगडा करना, गाली-गलौच करना अफवाहें फैलाना, ये सब आक्रामकता के विपरीत प्रभाव को दर्शाता है। शारीरिक शिक्षा की गतिविधियों में एक शिक्षक या कोच के द्वारा इस प्रकार के आक्रामक व्यवहार को सही दिशा की ओर परिवर्तित कर बालक में व्याप्त आक्रामता को उसके खेल कौशल के विकास हेतु काम लेने का प्रयास किया जाना चाहिये। आक्रामकता का व्यवहार बालक की प्रवृत्ति होती है।

आक्रामकता आम तौर पर बचपन और किशोरावस्था पर आधारित सिद्धान्तों के माध्यम से जानी गई है। आक्रामकता के सबसे अधिक और प्रभावी सिद्धान्त सामाजिक अध्ययन से सम्बन्धित है। इसमें बालक की सकारात्मक और नकारात्मक आक्रामकता को उसकी अलग-अलग क्रियाविधियों के सम्पन्न होने पर दर्शित व्यवहार के माध्यम से पहचाना जाता है। सकारात्मक आक्रामकता में उसका व्यवहार उसके स्वयं के तथा समूह के प्रति लाभदायक होता है। जबकि नकारात्मक व्यवहार स्वयं तथा समूह के लिए नुकासानदायी होता है। बचपन में शारीरिक आक्रामकता एक अपेक्षाकृत स्थिर घटना है ये लड़के तथा लड़कियों में अलग-अलग स्वरूप में परिलक्षित होती है। छोटे बालक अपनी आक्रामकता को आम तौर पर मारकर, खींचकर धक्का देकर प्रकट करते हैं। इस दौरान ही यदि उन पर ध्यान दिया जाये तो बढ़ती उम्र के साथ आक्रामकता को सकारात्मक दिशा की ओर अग्रसित किया जा सकता है। यदि इसकी ओर ध्यान नहीं दिया गया तो उसके नकारात्मक परिणाम परिलक्षित होते हैं। जैसे बालक का आपराधिक गतिविधियों में भाग लेना।

आक्रामकता को शुत्रतापूर्ण हानिकारक और विनाशकारी व्यवहार के रूप में परिभाषित किया गया है। यह एक भावना है, एक मकसद एक दृष्टिकोण है, या एक निदान है बल्कि आक्रामकता आन्तरिक स्थिति के लिए एक प्रतिक्रियात्मक व्यवहार है। यह

दृढ़ता पूर्वक संदेह है कि आक्रामकता आनुवांशिक कारकों एवं सामाजिक कारकों का परिणाम है। आक्रामकता अपने व्यापक अर्थों में शत्रुतापूर्ण या हमला जैसी सशक्त स्वाभाविक प्रतिक्रिया है। यह या तो प्रतिशोध में या उत्तेजना में प्रकट किया जा सकता है। वास्तव में आक्रामकता पूर्ण व्यवहार छात्रों द्वारा जानबूझकर शारीरिक रूप से मानसिक रूप से या सामाजिक रूप से दुर्भावना पूर्ण दूसरों को नुकसान पहुंचाता है। खेल गतिविधियों में बालक जब इस तरह का व्यवहार करता है तो उसका प्रभाव उसके खेल कौशलों पर पड़ता है। आक्रामकता के कारण वह खेल में विजय प्राप्त करता है। वास्तव में खिलाड़ियों में आक्रामकता के कारण गंभीरता एवं सक्रियता का विकास होता है। आक्रामकता की स्थिति में खिलाड़ी कभी-कभी मौखिक रूप में भी अपना संप्रेषण प्रतिद्वन्द्व पर डालता है। यह एक व्यावहारिक स्वरूप है। जो कि परिस्थितियों के अनुरूप प्रकट होता है।

जिस तरह खेल की विभिन्न गतिविधियों से बालक या मनुष्य अपनी शारीरिक एवं मानसिक थकान दूर करने का प्रयास करता है उसी तरह यदि खेल गतिविधियों में नियमित भाग लेकर अच्छा प्रदर्शन करना हो तो यह नितान्त आवश्यक है कि खिलाड़ी शारीरिक स्थिति के साथ साथ मानसिक रूप से भी स्वस्थ हो। खेल में उच्चतम प्रदर्शन करना या किसी कौशल को अच्छे ढंग से कुशलतापूर्वक सम्पन्न करना है तो यह जरूरी है कि खिलाड़ी शारीरिक व मानसिक रूप से स्वस्थ मजबूत व प्रसन्नचित्त हो। व्यक्ति की मनोस्थिति को उसका व्यक्तित्व उपलब्धि अभिप्रेरणा एवं आक्रामकता भी पूर्ण रूपेण प्रभावित करती है। जिसके परिणामस्वरूप उसकी खेल एवं अन्य क्रिया कलाओं पर सकारात्मक एवं नकारात्मक दोनों रूपों में मनोवैज्ञानिक स्थितियों का प्रभाव पड़ता है। अच्छे खेल प्रदर्शन एवं स्वस्थ रूप से किसी कार्य या गतिविधि हेतु योग्य व्यक्तित्व उपलब्धि अभिप्रेरणा खेल एवं कार्य में बहुत सहायक होती है। जिसके माध्यम से व्यक्ति अपने व्यक्तित्व को निखारता है।

उपरोक्त वर्णित परिस्थितियों के सिंहावलोकन के संदर्भ में यह कहना अधिक समीचीन होगा कि खिलाड़ियों में चाहे वे व्यक्तिगत खेल में भाग लेने वाले हो या सामूहिक खेल में भाग लेने वाले दोनों के लिए व्यक्तित्व उपलब्धि अभिप्रेरणा व आक्रामकता सभी मनोवैज्ञानिक पक्ष नितान्त महत्वपूर्ण होते हैं।

निष्कर्ष

खेल गतिविधियां कोई सी भी हो चाहे व्यक्तिगत हो या फिर सामूहिक। लेकिन सबसे पहली बात होती है भाग लेने वाले का पूर्णतः स्वस्थ होना। शारीरिक स्वास्थ्य के साथ साथ मानसिक स्वास्थ्य भी अच्छा होना चाहिये। व्यक्ति या समूह के लिये यह आवश्यक है कि वह मनोवैज्ञानिक रूप से मजबूत हो। इससे लम्बे समय तक बेहतर परिणाम व उच्च स्तरीय प्रदर्शन की प्राप्ति होगी। खिलाड़ी मनोवैज्ञानिक रूप से स्वस्थ रहे इसके लिए आवश्यक है कि उनका व्यक्तित्व सुदृढ़ हो, आक्रामकता का स्तर भी सकारात्मक हो, उपलब्धि अभिप्रेरणा अच्छे परिणाम प्राप्ति के लिए सदैव प्रेरणा स्रोत का कार्य करती रहे। खिलाड़ी उपलब्धि के नये नये कीर्तिमान स्थापित करता रहे। अच्छे खेल प्रदर्शन के लिये मानसिक स्थिति का प्रभाव अधिक होता है। उपलब्धि अभिप्रेरणा खिलाड़ी को उनकी खेल प्रतियोगिताओं तथा प्रतियोगिता विशेष में विजेता होने के लिए लगातार प्रेरित करती है तथा उसमें सफलता के प्रति लगाव तथा असफलता के प्रति आक्रामकता एवं भय का संचार भी करती है जिससे खिलाड़ी लगातार श्रेष्ठतर प्रदर्शन हेतु तैयार रहता है। चूंकि प्रत्येक प्रतियोगिता में खिलाड़ी अपने आपको अन्य खिलाड़ियों से बेहतर सिद्ध करने हेतु अभिप्रेरित होते हैं।

आधुनिक युग में खेल को वैज्ञानिक रूप दे दिया गया है। विभिन्न प्रकार एवं विभिन्न स्तर की खेल प्रतियोगिताओं के कारण खेल व्यवसाय बन गया है। प्रत्येक खिलाड़ी टीम और आयोजक खेलों में सफलता और विजय की लालसा रखते हैं परन्तु सफलता बहुत कम को प्राप्त होती है। खिलाड़ियों के व्यवहार में जो उतार-चढ़ाव आते हैं वे भी चिन्ता का विषय हो गये हैं। जो खिलाड़ी अपने गृह मैदान में जितना अच्छा प्रदर्शन करते हैं बाहरी मैदान में और विशेषकर प्रतियोगात्मक खेल में उनका प्रदर्शन औसत से भी कम होता है। कुछ खिलाड़ियों को खेल प्रतियोगिता के समय मनोविकार प्रभावित करते हैं जैसे चिन्ता, भय, निराशा, चोट लगने की संभावना, पराजय आदि। इन विकारों के कारण उनका खेल प्रदर्शन और उपलब्धि प्रभावित होती है। उपलब्धि अभिप्रेरणा के सम्बन्ध में वाटसन (1982) ने कहा कि "उपलब्धि अभिप्रेरणा खिलाड़ी की उस विशेषता की वह मात्रा है जिसके अनुसार प्रतियोगितात्मक स्थिति को स्वीकार करता है।"

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