

PRESENT STATUS OF THE TAI KHAMYANG LANGUAGE IN ASSAM AND THE WAY AHEAD

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ABSTRACT

The North Eastern state of Assam, India is home to people belonging to different groups and ethnicities. One such group is the Tai Khamyang population of Assam. They belong to the great Tai race. They practice Theravada Buddhism and have their own distinct language and culture. They started permanently migrating to Assam from Myanmar towards the end of the 18th century. The Tai Khamyang language belongs to the Tai Kadai language group and is spoken by less than fifty people in Assam. The Tai Khamyangs of Assam have adopted Assamese as their lingua franca and the language is nearing extinction. This has led to a sense of identity crisis among the Tai Khamyangs of Assam. The paper aims at studying the present status of Tai Khamyang language, its problems and about attempts being made for its revival.

Keywords: Language, Tai, Tai Khamyang, Assimilation, Revival, Assam

I. Introduction

Tai Khamyangs of Assam belong to the greater Tai race. The Tai people are scattered living in different parts in China, Burma, South East Asia, Assam and Arunachal Pradesh. Though the Tai Khamyang migration to Assam started as early as the 13th century, they started permanently migrating to Assam towards the end of the 18th century. At present there are about eleven Khamyang villages scattered all over the districts of Jorhat, Charideo, Tinsukia and Golaghat. There are some Khamyang villages in Changlang and Namsai districts of Arunachal Pradesh. Their population in Assam is estimated at around three thousand five hundred.

Language is one of the most important symbols of group identity. As a means of communicating values, beliefs and customs, it has an important function of fostering a feeling of group identity and culture. The Tai Khamyang people speak a dialect which belongs to the Tai Kadai family. Sources suggest that the Khamyangs were able to preserve their language and culture till the second decade of the 19th century. However; they started forgetting their language within a few decades after their arrival to Assam. The assimilation with the Assamese speaking native populace took place to such an extent that within a period a few decades the Tai Khamyang language and culture was on the verge of extinction as the Khamyangs have

accepted Assamese as their lingua franca (Chetia, 2005).

II. Objectives

- i. To study about the present status of the Tai Khamyang language of Assam.
- ii. To study about the revival of the Tai Khamyang language of Assam.

III. Methodology

Empirical data has been collected from Chalapather and RohonshyamGaon (villages) in Charaideo district of Assam. The data is principally collected by the accepted method of social sciences like observation, interview and informal chatting. Secondary data such as books and magazines have also been consulted.

IV. Tai Khamyang Language

The Tai languages form one branch of the Tai-Kadai family (Edmonson & Solnit (eds.) 1997:1). Tai is itself usually grouped into three sub-branches, viz., South western, Central and Northern (Li, 1977). In Assam, several varieties of South-Western Tai are still spoken (Morey, 2006). Tai Khamyang language also belongs to the Tai-Kadai language family spoken by only a few speakers in some districts of Assam and Arunachal Pradesh. Tai Khamyangs have their own script and a rich literature. They brought their script along with them when they migrated to Assam from in the eighteenth century. They called their script as *Lik-Tai* or Tai script. Most of their literary works are written in their own script. The script has thirty five letters out of which seventeen

are consonants and eighteen are vowels. Their literature can be divided as secular and non-secular categories. The non-secular literature mainly deals with the religious scriptures. Almost all the parts of *Tripitaka* (Buddhist scriptures) are translated in their language.

Apart from this, their non-secular literature also includes scriptures on Tai Khamyang indigenous religion. The secular literature of the Tai Khamyangs includes vast number of subjects such as astrology, astronomy, folklores and folktales, medicines etc. Religious books mainly include Lik Ho Tham (Dharma Sirsak), LikAbhidhamma, (Parts of Tripitaka), Lik Hong Khon (Book of calling back lost Khon). Non-Religious or secular literature mainly includes LikPetang (Book on Astrology), LikSattua (Tai Khamyang Buranji or historical chronicle which is written in Assamese) and Thamma - Sat (comes from Dharma Shastra meaning Customary Jurisprudence).

V. Assimilation and present status of the language

Sources suggest that the Khamyangs were able to preserve their language and culture till the second decade of the nineteenth century A.D. People could interact in Tai language, men and womenfolk wore traditional Khamyang dresses and ornaments and indigenous Tai festivals were celebrated with full fervor. According to Late UngmaPangyok who was born around the 1860's, the Khamyang could not speak Tai language fluently, though they could understand the language (Bailung, 2014). It thus becomes eminent that the Khamyangs started

to forget their language within a few decades after their arrival to Assam.

There are only a few people left who can speak the Tai Khamyang language properly. According to SIL Ethnologue, the Tai Khamyang language is spoken by about fifty speakers in Pawaoimukh village of the Margherita subdivision. However, the number of fluent speakers is less than ten. The researcher came across only two fluent speaker of Tai- Khamyang language, one each in Chalapather and RohonShyamGaon. Tai Khamyang language has been assigned the 'dying' status on the ethnologue EDIGS scale (Expanded Graded Intergenerational Disruption scale). The dominant language spoken by the Tai Khamyangs of Assam is Assamese. (Centre for Endangered Languages, Tezpur University). Inter community marriages can also be considered as one of the reasons for the near about extinction of the Tai Khamyang language. There are about 43.4 percent of inter community marriages in Chalapather ShyamGaon and 43.7 percent in Rohon ShyamGaon. Mothers are generally believed to be the propagator of languages. In such cases Assamese language became the lingua franca of such families as it was the common language of understanding. Pali is very popular among the Tai Khamyangs of Assam mainly for religious reason. The Tai Khamyangs are Buddhists and as most of the Buddhist scriptures are written in Pali, it is also being taught to the youths. It is because of this reason that the early generation preferred to learn the Pali than their own language. There is a Pali school in Chalapather ShyamGaon which was established as early as 1948 A.D.

Table No: 1 - Inter Community Marriages in Chalapather and Rohon ShyamGaon

Sl. No	Villages	No. of Marriage within the Community	Percentage	No. of Marriage outside the Community	Percentage	Total No. of Marriages
1	ChalapatherShyamGaon	103	56.6	79	43.4	182
2	RohonShyamGaon	45	56.3	35	43.7	80

Source- Field work -2019

Table 1 suggests that out of 182 marriages in Chalapather ShyamGaon, 103 marriages are within the community with 56.6percent. 79 marriages are outside the community with a percentage of 43.4. Out of the 80 marriages in

Rohon ShyamGaon, 45 marriages are within the community with 56.3percent. 35 marriages are outside the community with a percentage of 43.7.

Table 1.1-Community wise distribution of Inter Community Marriages in Chalapather and Rohon Shyam Gaon

Sl.No	Community	No. of Marriage in ChalapatherShyamGaon	Percentage	No. of Marriage in RohonShyamGaon	Percentage
1	Tai Ahom	42	53.16	9	25.71
2	Assamese	11	13.92	3	8.57
3	Adivasi	1	1.27	0	0.00
4	Baruah Buddhist	8	10.13	1	2.86
5	SonowalKachari	3	3.80	0	0.00
6	Mishing	1	1.27	2	5.71
7	Singpho	4	5.06	7	20.00
8	Bodo	1	1.27	0	0.00
9	ThengalKachari	1	1.27	0	0.00
10	Tai Khamti	3	3.80	6	17.14
11	Tai Turung	2	2.53	1	2.86
12	Tai Phakey	1	1.27	1	2.86
13	Tai Aiton	0	0.00	1	2.86
14	Chakma	1	1.27	0	0.00
15	Konyak Naga	0	0.00	1	2.86
16	Bihari/Sah	0	0.00	1	2.86
17	Karbi	0	0.00	1	2.86
18	Nepali	0	0.00	1	2.86
	Total	79	100.00	35	100.00

Source- Field work -2019

Table 1.1 shows community wise distribution of inter community marriages. The highest number of inter community have occurred with the Tai Ahom community with a percentage of 53.16 in ChalapatherShyamGaon and 25.71 in RohonShyamGaon.

A list prepared by UNESCO has mentioned about forty two languages or dialects in India that are endangered and that are heading towards extinction. Tai Khamyang language is also mentioned in that list (The Hindu, Feb, 18, 2018). However it is listed as Tai Nora language as the Tai Khamyangs were also known as Nora in the past. It could thus be said that if appropriate steps are not taken for the preservation and propagation of the Tai Khamyang language then it would go into oblivion within a short period of time. The Tai Khamyang people traditionally use the Tai script for writing. Like the Tai Khamyang language, the Tai script is also going into oblivion as there are only few people who can read and write the Tai script. The researcher came across only two fluent speakers of Tai Khamyang language in both the villages. They are – Meuhum Chowlu (Female, 70) from ChalapatherShyamGaon and JunbalaShyam (Female, 82) from RohonShyamGaon.

Though the early Khamyang literature is written in Tai script, most of the present literature is written in Assamese language. There are only a handful of people who can read and write the Tai script. Adoption of Assamese language in Tai Khamyang literature was natural as Assamese became the lingua franca of the Tai Khamyang people in due course of time. This was mainly due to their assimilation with the majority of the Assamese speaking population. As most of the Buddhist scriptures are written in Pali script, they are taught to read and write in Pali too and hence it was given more importance in the past.

VI. Attempt at revival of the language and the way ahead

It thus becomes evident from the above discussion that the Tai Khamyang language is almost on the verge of extinction. The present generation has realized that it is high time that the indigenous language should be revived. Attempts are being made by the Tai Khamyang youth and intelligentsia to revive the language. Language workshops are being organized in different Tai Khamyang villages from time to time. A four day Workshop on Tai Khamyang language under Assam Paramita's (Branch of South Korea's Sejong Paramita) Identity

Development Project(Under Endangered language programme) in Pawoimukh Khamyang village in Tinsukiadistrict from 9th to 12th July ,2019.As mentioned earlier the highest number of Tai Khamyang language speakers are from Pawoimukh Khamyang village. Students from different Tai Khamyang villages participated in the programme where they were taught to read and write the Tai Khamyang language. Besides, the 'Phung LaiKhamyang 'has taken initiatives in organizing language workshops in many villages from time to time.

Activities of Phung Lai Khamyang- Phung Lai Khamyang(Khamyangcultural society with head office at Chalapathar ShyamGaon) is a socio- cultural organization engaged is preserving and propagating the Tai Khamyang language and culture. Since its inception in 2012, the is engaged in organizing Pangson or workshops to teach Tai Khamyang language, song and dance to the young generations. Till now it has organized several such workshops in RohonShyamGaon, BalijanShyamGaon, Na ShyamGaon etc. Here is a list of activities of Phung Lai Khamyang since its inception.

- i. Tai Khamyang language and culture workshop at Chalapathar in July,2012.
- ii. Language workshop in RohonShyamGaon in December 2012.
- iii. Workshop on Tai language and culture at RajapukhuriShyamGaon from 2nd to 8th July 2013.



Tai Khamyang Language Workshop heldat Powaimukh Shyam village (Assam)

VII. Conclusion

From the above discussion it becomes evident that the Tai Khamyang language is nearing extinction.If proper steps are not taken for

- iv. Workshop on Tai Khamyang language and culture for Na Shyam,Balijan and Betbari ShyamGaon in Balijan ShyamGaon from 12th to 18th July 2013.
- v. International Mother tongue day was observed by Phung Li Khamyangand the people of PowaimukhKhamyang village in Tinsukia district, Assam on 21st February 2018.
- vi. Language workshop at Pawoimukh for Tai Khamyangs of Assam and Arunachal Pradesh in July 2019.
- vii. Regular Tai classes at Chalapathar ShyamGaon from September 2019.

Besides the above mentioned efforts, the Tai Khamyang people are making individual efforts to revive the language.Most of the young generation children address their relatives in their native tongue i.e. Luk chai-Son, Chai- elder Brother, Pou-Father, Mei-Mother, Luk Sao-Daughter, Pi- elder Sister etc.The Tai Khamyangs have also started celebrating the Tai New Year (Poi Pee Mau) as a community festival.They organize the elocution competition in Tai Khamyang language on the occasion with a view to promote the nearly extinct Tai Khamyang dialect. Music is a great means of promoting any language .Few music enthusiast like Pyoseng Chowlu from Chalapather Shyam Gaon and Shamet Wailoung from RohonShyam have recorded Tai Khamyang songs and uploaded them in YouTube to popularize the language among the masses.



preserving the language, it will soon become extinct like the many other languages spoken by microscopic minority.There are many reasons responsible for the present condition of

the Tai Khamyang language. Too much assimilation with the native populace and inter-caste marriages in large numbers are to mention a few. Though the early Khamyang literature is written in Tai script, most of the present literature is written in Assamese language. There are only a handful of people who can read and write the Tai script. Adoption of Assamese language in Tai Khamyang literature was natural as Assamese became the lingua franca of the Tai Khamyang people in due course of time. This was mainly due to their assimilation with the majority of the Assamese speaking population. Not everything

is lost though. Attempts are being made by individuals and socio-cultural organizations like Phung Lai Khamyang to revive, promote and preserve the Tai Khamyang language. The government should also take adequate measures for the preservation of language. Qualified linguists should be given the responsibility for the preservation of the language. They can work in collaboration with the few remaining Khamyang language speakers. Regular language workshops should be organized in all the Khamyang villages of Assam with a view to preserve and propagate the language.

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QUALITATIVE ANALYSIS OF ICT KNOWLEDGE AND ACADEMIC ACHIEVEMENT OF B.ED STUDENT TEACHERS

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ABSTRACT

Information Communication Technology has become more complex, more accessible in different field of human activities. The digital literacy to help them use technology application and use technology to meet personal needs or collective. Technological literacy emphasizes the knowledge of how hardware and software work and can be used. Digital literacy emphasizes how knowledge and skills applied to solve specific tasks such as those in educational activities. This, however, may not be possible without the ICT knowledge and the ICT skills developed during the prior technological literacy courses. The literature review related to this area may give suitable inputs for future research areas that influence ICT. This subtopic covers Knowledge of ICT awareness of ICT or ICT literacy, digital literacy, e learning and computer awareness among different students' categories and their achievements or excellence in subjects. Present papers analyses the data collected from the B. Ed student teachers related to their ICT Knowledge and their academic achievement. Empirical evidence proved that there is a correlation between ICT Knowledge and Academic achievement of B.Ed student's teachers.

Keywords : ICT, ICT Knowledge, Academic achievement, Student teachers

Introduction

Educational systems worldwide are under increasing pressure to use the new Information and Communication Technologies to teach knowledge and skills in the 21st century classroom. The UNESCO World Education Report (1998), Teachers and Teaching in a Changing World' describes the radical implications of Information and Communication Technology in conventional teaching and learning. It predicted the transformation of knowledge in teaching learning process. Even it is highlighting how teachers and learners access knowledge and information.

Information and Communication Technology provides powerful tools to transform the present isolated, teacher-center and text-bound classrooms into rich, student-focused and interactive knowledge environments. The process of designing and implementing successful ICT enabled teacher education programs is the key to the wide range of educational reforms. Teacher education institutions face the challenge of preparing a new generation of teachers with effectively use of ICT based new learning tools in their teaching practices. For many teacher education programs, this daunting task requires Acquiring new resources expertise and careful planning. Integration of ICT into teacher education

provides the guidelines for the development of a high-quality strategic technology plan. For using ICT benefits in learning, the teachers and teacher trainees need to possess the skills and competencies to use these ICT tools in their learning. Teacher Education institutions must provide leadership in determining how the new technologies can used in the country's culture, needs, and economic conditions. To accomplish these goals, teacher education institutions must work closely and effectively with teachers, administrators, national or state educational agencies, teacher unions, business and community organizations, politicians and other experts in the educational system. Teacher education institutions also need to develop strategies. They plan to enhance the teaching-learning process within teacher education programs and ensure that all future teachers are well prepared to use the new learning tools. To meet these challenges, schools/Institutions must embrace new ICT tools for learning and teaching. They must also move towards the goal of transforming the traditional paradigm of learning.

Review Related Literature:

Irina Malinina (2015)the purpose of the study was to identify key factors having a significant impact on teachers' ICT skills. The main tools used in this research were questionnaire, interview, and observation. The questionnaire

consisted of thirty questions grouped into three fields: demographic data, teachers' ICT knowledge and skills and application of ICT in the classroom. Besides closed questions, some open ones helped to gain more information about teachers' attitude towards using ICT, their fears about its possible adverse effect and challenges they must face while introducing ICT at their lessons. As many as 116 responses received from the Department of Czech Language and Literature, Palicki University Olomouc, Czech Republic. The research showed that most foreign languages teachers had the necessary knowledge, above basic or intermediate ICT applications. Many teachers viewed the teacher development courses on ICT as valuable, and the teachers were quite optimistic about ICT.

Sattam Allahawiah (2015) took 232 teachers at Southern Colleges of Balqa Applied University as a sample and studied the factors affecting their use of ICTs. This study indicated that teachers had a high level of knowledge and skills, and most respondents use ICT in teaching activities confirming the availability of computer and internet to the majority of respondents. The regression analysis (average $t = 3.63$) showed that the skills in using ICT explained the extent to which faculty members used ICT. It also confirmed the improvement in using these technologies due to in-service courses aimed at increasing teacher's familiarity and knowledge about ICT.

Charles P. Akpan (2014) found out the influence of ICT competence on lecturers' job efficacy in two Nigerian universities. The sample of the study consisted of 500 university teachers randomly sampled from a population of 1,795. Data for the study were collected using ICT Competence and Job Efficacy Questionnaire (ICTCJEQ). The data analyzed using Chi-square and One-way Analysis of variance (ANOVA) statistical techniques. The study results revealed that male and female lecturers did not differ significantly in their ICT competence level. Lecturers with high ICT competence were more efficacious in classroom instruction, research/publication, communication, and record keeping than those with moderate and low ICT competence levels. This study revealed that the level of ICT

competence of lecturers significantly enhanced their job efficacy. It directed the University management, to provide ICT facilities in lecturers Office to enhance their job efficacy and encourage lecturers to participate in ICT training programs.

Denzil Chetty (2012) The College of Human Sciences in the University of South Africa conducted a research survey to estimate the teachers' ICT competencies. A total 132 academics taken part, representing all departments within the college. The research highlighted the teaching faculty's ICT competence status, the types of ICTs currently used in the college, the frequency of use, and how they used in teaching and learning practices. The challenges met by the teaching faculty due to their low level of ICT knowledge and skills and their remedial measures were recorded.

Objectives

- To find out the relationship between ICT knowledge of B.Ed. student teachers and Their academic achievements for the background variable based on gender, locale and type of management of colleges.
- To determine whether there are differences between background variables of Gender, Locality and Type of Managements of B.Ed. College student teachers in ICT Knowledge.

Major hypothesis

- There is no significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the total sample.

Sub hypothesis

1. There is no significant relationship between ICT knowledge of Male and Female B.Ed. student teachers and their academic achievements.
2. There is no significant relationship between ICT knowledge of rural and urban B.Ed. college student teachers and their academic achievements.
3. There is no significant relationship between ICT knowledge of aided and private B.Ed. college student teachers and their academic achievements.

Methodology of the Study

The normative survey is a sort of research that tries to figure out what the current standard or usual condition or practice is. As a result, the normative survey approach was determined to be appropriate for this investigation

- Random-sampling techniques used to get a sample representative of the population. Random sampling is a technique in which every member of a population has an equal probability of existence chosen. A total of 300

B.Ed. college student teachers used in this investigation.

Research Develop tools used for the Study

- ICT Knowledge inventory for B.Ed. student teachers

Data Analysis

H₁ - There is no significant relationship between ICT knowledge of Male and Female B.Ed. student teachers and their academic achievements.

Table - 1
Correlation between ICT Knowledge and Academic Achievements for the Background Variable - Male

Variables	Mean	SD	r	r ²	t	Significance Level (0.01)
ICT Knowledge	14.428	2.89459	0.513228	0.267391	8.99	significant
Academic achievement	261.655	89.81969				

Table 1 shows the correlation between independent variable ICT Knowledge and dependent variable academic achievements of B.Ed. student-teachers for the background variable – Male B.Ed. student-teachers, the ‘r’ value obtained shows (r = 0.513228) amoderate positive correlation between the sevariables. The calculated ‘t’value is 8.99, which greater than the table value. It found that the relationship between these Variables is significant even at 0.01 level of significance. It inferred that there is a significant relationship

between 1CT knowledge B.Ed. student teachers and their academic achievements for the Male B.Ed. student teachers.

Therefore, the formulated hypothesis that there is no significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the Male B.Ed. student teachers rejected.

In conclusion, there is a significant positive correlation between ICT knowledge and academic achievements among the Male B.Ed. student teachers.

Table - 2
Correlation between ICT Knowledge and Academic Achievements for the Background Variable-Female B.Ed. Student Teachers

Variables	Mean	SD	r	r ²	t	Significance Level (0.01)
ICT Knowledge	13.172	2.889310	0.633838	0.403024	12.14	Significant
Academic achievement	312.438	83.73807				

Table2 shows, the correlation between independent variable ICT knowledge and dependent variable academic achievements of B.Ed. student-teachers (r = 0.633838) a substantial positive correlation between these variables. The calculated ‘t’ value is 12.14, which greater than the table value. This

indicated that the relationship between these variables is significant even at 0.01 level of significance. Hence, the formulated hypothesis that there is no significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the Female B.Ed. student teachers rejected, and it inferred

that there is a significant relationship between ICT knowledge and their academic achievements for the Female B.Ed. student teachers.

In conclusion, from the result that there is a significant positive correlation between ICT

knowledge and academic achievements among the Female B.Ed. student teachers.

H₂. There is no significant relationship between ICT knowledge of rural and urban B.Ed. college student teachers and their academic achievements.

Table - 3

Correlation between ICT Knowledge and Academic Achievements for the Background Variable- Rural B.Ed. Student Teachers

Variables	Mean	SD	r	r ²	t	Significance Level (0.01)
ICT Knowledge	13.16276	2.949680	0.550679	0.3041962	10.96	Significant
Academic achievement	270.3533	94.57572				

Table3 shows, the correlation between independent variable ICT knowledge and dependent variable academic achievements of B.Ed. student-teacher for the background variable – Rural B.Ed. student-teachers, the obtained ‘r’ value shows (r=0.550679) a moderate positive correlation between these variables. Calculated ‘t’ value is 10.96 Which greater than the table value. This showed that the relationship between these variables is significant even at 0.01 level of significance.

Hence, the formulated hypothesis that there is no significant relationship between knowledge of B.Ed. student teachers and their academic achievements for the B.Ed. student teachers rejected and inferred that there is significant relationship between ICT knowledge and their academic achievements for the rural B.Ed. student teaches.

In conclusion, there is a significant positive correlation between ICT Knowledge and academic achievements among the rural B.Ed. student teachers.

Table - 4

Correlation between ICT Knowledge and Academic Achievements for the Background Variable- Urban B.Ed. Student Teachers

Variables	Mean	SD	R	r ²	t	Significance Level (0.01)
ICT Knowledge	15.71	2.694042	0.411041	0.153630	5.12	Significant
Academic achievement	311.958	77.97702				

Table4 shows ,the correlation between independent variable ICT knowledge and dependent variable academic achievements of B.Ed. student-teachers for the background variable – Urban B.Ed. student-teachers, the ‘r’ value obtained shows (r = 411041) a moderate positive correlation between these variables. Calculated ‘t’ value is 5.12, which greater than the table value. This indicated that the relationship between these variables is significant even at 0.01 level of significance.

academic achievements for the urban B.Ed. student teachers rejected and inferred a significant relationship between ICT knowledge and their academic achievements for the urban B.Ed. student teachers.

In conclusion, there is a significant positive correlation between ICT knowledge and academic achievements among urban B.Ed. student teachers.

H₃ . There is no significant relationship between ICT knowledge of aided and private B.Ed. college student teachers and their academic achievements.

Hence, the formulated hypothesis that there is no significant relationship between ICT knowledge of B.Ed. student teachers and their

Table - 5

Correlation Between ICT Knowledge and Academic Achievements for the Background Variable Aided B.Ed. College Student Teachers. (N=350)

Variables	Mean	SD	r	r ²	t	Significance Level (0.01)
ICT Knowledge	13.34337	2.98432	0.562458	0.32693	11.36	significant
Academic Achievements	276.1647	95.7878				

Table 5 shows, the correlation between independent variable ICT Knowledge and dependent variable academic achievements of B.Ed. student-teachers for the background variable – aided B.Ed. college student-teachers, the obtained r-value shows a moderate positive (r = 0.562458) a moderate positive correlation between these variables.

Calculated ‘t’ value is 11.36, which is greater than the table value. This indicated that the relationship between variables is significant even at 0.01 level of significance.

Hence, the formulated hypothesis that there is no significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the aided B.Ed. student teachers, is rejected, and it is inferred that there is a significant relationship between ICT knowledge and their academic achievements for the aided B.Ed. student-teachers.

In conclusion, there is a significant positive correlation between ICT knowledge and academic achievements among aided B.Ed. student teachers.

Table - 6

Correlation between ICT Knowledge and Academic Achievements for the Variable – Private B.Ed. Student Teachers (N-250)

Variables	Mean	SD	r	r ²	t	Significance Level (0.01)
ICT Knowledge	14.857	2.765742	0.394535	0.153421	5.32	Significant
Academic achievement	306.502	77.86405				

Table 6 shows, the correlation between independent variable ICT access and dependent variable academic achievements of B.Ed. student-teachers for the background variable - Private B.Ed. college students, the obtained ‘r’ value shows (r=0.394535) a moderate positive correlation between these variables. Calculated ‘t’ value is 5.32, which is greater than the table value. This indicated that the relationship between these variables is significant at 0.01 level of significance.

Hence, the formulated hypothesis that there is no significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the Private B.Ed. College students rejected, and it inferred that there is a significant relationship between ICT knowledge of B.Ed. student teachers and their academic achievements for the Private B.Ed.

College students. In conclusion, there is a significant positive correlation between ICT knowledge and academic achievements of B.Ed. student teachers for the Private B.Ed. college student- teachers.

Findings

1. ICT knowledge among background variables: The findings showed no difference between Males and Females about ICT knowledge. This might be due to the supply of varsity ICT curriculum transaction without gender disparities within the state. Within the case of the sort of management of Private B.Ed. colleges are better in ICT knowledge than Aided B.Ed. colleges. Private B.Ed. colleges are giving utmost care to ICT education in their colleges. This may be the

rationale for the results.

Educational Implications

• This study's findings have implications for teaching and learning ICT subjects, their evaluation and assessment, and future initiative associated with ICT education and infrastructure development towards creating a well-connected society. it is recommended that schools provide enough facilities for college students hands-on experiences. Teachers should incorporate productive computing activities in their teaching using spreadsheets, databases, and programming, besides purposive web searching. Rural internet centers should

established for the ICT access of scholars. Evaluation, monitoring, and maintenance of ICT programs are a requirement to confirm their effectiveness and efficiency in Teacher education institutions. The maximum effect would be the emergence of more ICT proficient personnel contributing to the country's event.

Limitations of the Study

• The study is limited to B.Ed. student- teachers, and a sample of 600 B.Ed. student teacher of 4th semester. • Even though many factors are involved in ICT within Gymnasium students' education, the current study confined to the knowledge, access, and attitude towards ICT of B.Ed. student- teachers.

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A STUDY OF CONVENTIONAL LEARNING TECHNIQUE AS PART OF EXPERIMENT IN SOCIAL SCIENCE TEACHING

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ABSTRACT

The term “teaching method” refers to the general principle, pedagogy and management strategies used for classroom instruction (Teach.Com, 2016). Teaching methods are general techniques for organizing instructions and implementing curriculum. These methods and strategies are often rooted in educational theories which predict behaviors under certain pedagogical conditions. Over the years, educationists have come to group teaching methods into two primary categories or “approaches”, namely teacher-centered and student-centered. The formal comprise traditional teaching approaches which are generally teacher-directed and follow cookbook steps of activities and demonstrations (Harris & Johnson, 2001) while the later refers to methodologies that actively involved the learner in the design and implementation of classroom instruction. The traditional approach, often referred to as “chalk and talk” method, involves direct instruction by the teacher whose primary role is to pass knowledge to students and conduct testing and assessment. Student-centered approaches consider the teacher as a facilitator and a guide who allows students to play participatory role in their own learning process (Teach.Com, 2016). The student-centered approach employs strategies such as inquiry, cooperative learning, and peer instruction. If “conventional teaching” were to be a worldwide movement, it would have been right to conclude that it has been condemned over and over across a wide range of jurisdiction. Here in this paper researcher tried to prove that there is difference of achievement level in the control group only. While the teaching method is same but there will be different grasping power in students. If the high achiever of traditional experimental group supported by the new way of learning technique definitely academic achievement will be high in irrespective of subject. The present paper provide the knowledge about the present issue.

Keywords: Secondary School, Social Science, Learning technique, Traditional learning

Introduction

Social Science learning develops critical thinking, analysis and conceptual clarities which can be attained through experiential learning. According to National Educational Policy 2020 practical and experiential learning lead to promoting 21st century skills of creativity and critical thinking in the children. Constructivism Involves experiential learning in social science education enabling the children to gain conceptualization and develop various skills.

Improving social science education is a necessary setup to achieve the productivity and economic strength. Keeping this in mind Government of India brought some changes in school education particularly through 'New Education Policy'. As everyone agrees that social science is the queen and servant of all subjects. It is necessary to give special attention and priority to social science education at school level.

At the secondary stage, students begin to pursue the structure of social science as a discipline. Familiar with the characteristics of social science, carefully defined terms and concepts, to represent them, nicely stated

prepositions, and proof justifying prepositions has never been a popular subject students tend to conclude that on balance, too much work compared to the career options it promises. Most social science students, and especially those in the developing countries, end up as performers in their class at secondary are at the higher secondary level. As a result, few students only are interested in social science. Data for most countries are incomplete. The available statistics carried out in secondary schools 10 to show that the percentage of students interested in social science out of total enrollment remains so low. The new teaching methods and techniques are evolving in the present is good news for the education field.

The present study concentrating on to prove the above statement in this paper researcher going to analyses the data which collected from the traditional learning sub groups. average, above average and below average groups were differ from their academic achievement in Social Science. The researcher going to prove the differences between the traditional sub groups.

At the secondary stage, students begin to pursue the structure of social science as a discipline. Familiar with the characteristics of

social science, carefully defined terms and concepts, to represent them, nicely stated prepositions, and proof justifying prepositions has never been a popular subject students tend to conclude that on balance, too much work compared to the career options it promises. Most social science students, and especially those in the developing countries, end up as performers in their class at secondary are at the higher secondary level. As a result, few students only are interested in social science. Data for most countries are incomplete. The available statistics carried out in secondary schools 10 to show that the percentage of students interested in social science out of total enrollment remains so low. The new teaching methods and techniques are evolving in the present is good news for the education field.

Review Literature

Cynthia Nicole McWright (2017), has conducted research on “A Comparative study of teaching Chemistry using the 5E Learning Cycle and Traditional Teaching with an outsized English Population during a Middle-school setting”. the aim of this research was to work out if middle-school students’ chemistry knowledge and interest are often increased by using the 5E learning cycle. The study was a quasi-experimental design with an impact group and an experimental group. The control group was the lecture teaching group, and therefore the experimental group was the 5E learning cycle group. The independent variables were the 5E learning cycle group and therefore the lecture teaching strategy group. The dependent variables measured were student content knowledge, science attitude, capturing the most idea, student inquiry, and student relevance. The last three dependent variables were from the ESTEEM instrument. The study was quantitative intentionally. Both groups got the ESTEEM student outcome assessment daily. Both groups got Form A of the scholar Attitude Survey before the study beginning and Form B of the scholar Attitude Survey upon completion of the study. Each group was given a pretest and posttest for every mini-unit taught. Both tests were an equivalent for every group, and therefore the pretest and posttest were identical whenever. because the sample of study 61 eighth-grade students participated.

The results showed that there was no statistically significant difference between the 2 teaching methods. However, each research question yielded varied results that either supported or negated the 5E learning cycle method. These factors demonstrated that 5E learning within this study showed benefits that enhanced learning but also deficits that would hinder student growth. Therefore, it had been concluded that the scholars within the study showed an overall gain in learning and interest in science but no statistically significant differences were supported by the info.

Terenzini, Cabrera, Colbeck, Parente, and Bjorklund (2013) looked at how active and collaborative learning methods in undergraduate engineering courses differ from typical lecture and discussion approaches in undergraduate engineering courses and their ability to market the event of students’ engineering design, problem-solving, communication, and engagement skills. Evidence for the study comes from 480 students enrolled in 17 active or collaborative learning courses/sections and 6 traditional courses/sections at six engineering schools. Results indicate that active or collaborative methods produce both statistically significant and substantially greater gains in student learning than those related to more traditional 49 instructional methods. Even when disparities in pre-course student characteristics were adjusted, these learning advantages persisted.

AnnapuranaPrusty (2006), Utkal University, Bhubaneswar, Orisa, conducted research on “Effectiveness of ITMT on the teaching of learner’s achievement in social science”. ITMT of teaching has been found to be effective on learner’s achievement within the three subject areas of science (History, Geography, and Civics). The impact of ITMT was found to be better than of the normal method of teaching on learner’s achievement in Geography, History, and Civics. The impact of ITMT was found to be better than that of the normal method of teaching on the learner’s generalization ability. another impact of ITMT was found to be better than that of the normal method of teaching in enhancing learner’s concept attainment ability. Researcher collected many reviews directly related to the research topic on experimental

study of learning techniques. The findings of the research also stated there is a difference between experimental and control groups. But there was no provable analysis of data related to the sub groups of traditional learning groups. Based on this research gap the present article highlighting the deference’s between difference level of achievement like average, above average and below average.

Objectives

1. To seek out difference between the mean achievement score of Above average, average, and below-average students in Social science who have learned through the traditional learning techniques.

Sample

The research sample consisted of 134 students belonging to single school which has four sections in the 9th standard. The school situated in Bangalore south, urban district. Intact classes were selected, and the random assignment of treatment was done. The three experimented and one control group was created for the study. It named as G1, G2, G3 and G4. The G4 which consist out of 134, the group of 35 students were considered as traditional learning group.

Tools used

- Raven’s Progressive Matrices to test the intelligence.
- Achievement Test for the selected two units for classroom transaction. The achievement test was constructed, and their reliability and validity were established. Collected data were analyzed by using SPSS 20.

Hypothesis

H1. there's no significant difference among the mean achievement score of Above average, average, and below-average students in Social science who have learned through the Traditional learning technique.

- **H_{1,1}** - There's no significant difference between the mean achievement score of Above average and average students in Social science who have learned through the traditional learning technique.
- **H_{1,2}** - There's no significant difference between the mean achievement score of Above average and below-average students in Social science who have learned through the traditional learning technique.
- **H_{1,3}** - There's no significant difference between the mean achievement score of Average and Below-average students in Social science who have learned through the traditional learning technique.

Table 1

In conventional learning methodologies, an ANOVA table represents an achievement score of above average, average, or below average.

Groups	S.S	d.f	M.S	f-value	sig.
BG (Between the Groups)	262.292	2	131.146	109.307	.000
WG (With in the Groups)	38.394	32	1.200		
Total	300.686	34			

The above table from the ANOVA output, (ANOVA) is the key table because it shows whether the overall F ratio for the ANOVA is significant. Note that our F ratio (109.307) is significant (p =.001) at the .05 alpha level. When reporting this finding – we would write, for example, F(2, 32) = 109.307, p < .01. The Findicates that we are using an F test (i.e., ANOVA). The 2and 32 are the two degrees of freedom values (df) for the between groups

“effect” and the within-groups “error,” respectively. The 109.307 is the obtained F ratio, and the p < .01is the probability of obtaining that F ratio by chance alone. F tables also usually include the mean squares, which indicates the amount of variance (sums of squares) for that “effect” divided by the degrees of freedom for that “effect.” We also should report the means and standard deviations so that our readers can see what groups were low

and high. Remember, however, that if you have three or more groups (such as in our variables) we will not know which specific pairs of means

are significantly different, unless we do a post hoc test or an a priori comparison test.

Table 2

Post hoc table mean of achievement score of Above-Average, Average, and Below-Average of traditional learning techniques. (Multiple Comparisons)

Controlgroup1	Control group1	M.D (mean difference)	S.E (std. error)	sig.	Interval of Confidence (99%)	
					L.B	U.B
Below Average	Average	-3.468*	.438	.000	-4.86	-2.08
	Above Average	-6.785*	.461	.000	-8.25	-5.32
Average	Below Average	3.468*	.438	.000	2.08	4.86
	Above Average	-3.317*	.469	.000	-4.80	-1.83
Above Average	Below Average	6.785*	.461	.000	5.32	8.25
	Average	3.317*	.469	.000	1.83	4.80

At the 0.01 level, the mean difference is significant.

Interpreting the Post Hoc Tests

The Multiple Comparisons table is showing the results for the Bonferroni post hoc tests. Since the assumption of homogeneity of variance was met in our data – we only need to review the Bonferroni test. The information for the first glance is, the above table is rather intimidating – however, there is only certain pieces of data that we need to make our conclusion. First locate the (I) group (let's start with below average) – then locate the (J) group (let's look at the first line, average) – this is the Below average group being compared to the average group. In the next column, Mean difference (I-J) – we find the mean difference for these two groups (i.e., Below average's mean = 9.01 and Average Group's mean = 12.46, therefore $9.01 - 12.46 = 3.468$). The next column of interest is the Sig. column, which tells us the p value ($p = .001$ in this case). The p value is then compared to the alpha level to make the determination of whether this pair is significantly different. Notice that there is a degree of redundancy in this table – so we are only interested in the unique pair comparisons. Further review of the table reveals that the Below average ($M = 9.01$) is significantly different from the above average ($M = 19.29$), with a mean difference of 6.785 and a p value of .000. Also, the average group ($M = 12.46$) is significantly different from the above average group ($M = 19.24$),

with a mean difference of 3.317 and a p value of .001.

Findings

Effectiveness of traditional learning techniques with the subgroups mean achievement score of above average, average, and below-average students in social science. – the F value of the subgroups of cooperative learning ($F=109.307$) says it has more significant. Because the actual F value is greater than table value. The Post Hoc test output says that below average ($M = 9.01$) is significantly different from the Above average ($M = 19.29$), with a mean difference of 6.785 and a p value of .000. Also, the Average Group ($M = 12.46$) is significantly different from the Above Average Group ($M = 19.24$), with a mean difference of 3.317 and a p value of .001. It can conclude that More significance difference can identify in the Above average and below average group. Scores are significant at 0.01 level. Comparison of mean achievement scores of boys and girls of General Practicing group showed that they did not differ significantly on the total, knowledge level and application-level achievement scores.

Implication and Conclusion

The educational implications in general and implications for the teaching of Social Science stemming from the findings mentioned above and the conclusion of this study are given

below.

- Different learning techniques are flexible and provide guidelines for generating and implementing suitable learning techniques for achieving the desired learning goals or tasks in Social Science.
- The present researcher has developed and validated learning techniques. This was an attempt to translate learning theory into practice, and it has proved to be practical and actual classroom through experimentation. Along with the learning technique, the relevant learning techniques and learning materials are also validated. Therefore, they are useful for Social Science teachers and teacher educators as model/sample lesson plans and learning

materials based on constructivism.

- The Education department can develop similar lesson packages, learning materials with expert committee support, experienced team of competent teachers and field testers for the ready use of in-service Social Science teachers.

Finally, the researcher concludes with hope that this study provides empirical evidence to corroborate the recommendations made by the National Curriculum Framework for School Education (NCF-2005) about the constructivist methodology for school education and help the present system of social science education of secondary level to shift from the traditional learning process of the constructivist approach to learning process.

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TEACHING OF LITERARY TEXTS FOR THE LEARNING OF FRENCH LANGUAGE IN INDIA**S. Bohra¹ and T. Yadav²**Department of Languages, Manipal University Jaipur
¹shellybohra@gmail.com, ²tanuja.yadav@jaipur.manipal.edu**ABSTRACT**

Literature is closely associated with language learning. Literature is represented through the varied form of language and the language is taught through the textbooks. Since years, the textbooks are significant tools in teaching language. Among the various texts used in the textbooks, this research paper aims to explore the necessity of literary texts in the textbooks of the French language for the secondary class. For this purpose, we have analyzed the textbooks proposed in the curriculum of the secondary class. The study revealed that literary texts facilitate the teaching of the French language.

Keywords: Literature, French textbooks, curriculum, culture, and civilization

Introduction

It has been rightly said, "*Literature is the sine qua non of the language*". The objective of this research paper is to explore the necessity of French literary texts in the learning of the French language the textbooks used for secondary class. This research paper will demonstrate how literary texts help to improve the learning of French in an effective manner. For this purpose, the textbooks proposed in the curriculum of secondary class have been taken into consideration for the research. The study revealed that literary texts enhance the teaching and learning of French language in schools.

French language and Indian education system

In India, the French language was inherited by the colonies like Pondicherry, Chandanagar, and Mahe. The French language still occupies an important place in the education system of Pondicherry. At present, the French language is taught as the first foreign language in India. In the Indian education system, till 1989, the French language was taught as a compulsory first foreign language in schools. Later it began to be taught as an optional language in schools while as a compulsory language in the hotel and tourism sector offered by colleges and universities in India. There are different education systems in India that function at the state and national level like the CBSE (Central Board of Secondary Education), ICSE (The Indian Certificate of Secondary Education), IB (International Baccalaureate), IGCSE (International General Certificate of Secondary

Education, Cambridge University) and State board (State Government Recognized Board). In this research paper, we will discuss the two boards IB and CBSE, particularly because in these two systems/ boards, French is taught as a foreign language in India.

The CBSE, Central Board of Secondary Education in India, is a renowned education system that prepares the students for competitive exams facilitating their entrance in the different universities of the world. Under the CBSE curriculum, languages are proposed to the students from class 6th onwards. The proposed languages are: Sanskrit, German, French, and Spanish. A student has to opt for one of these languages along with Hindi and English. Students learn the selected language for three successive years and then they study two languages in the next two years that is in secondary classes (9th and 10th). The students have to choose between Hindi and the third languages (Sanskrit, German, French, and Spanish). From now onwards the language chosen is learned as a second language. The CBSE proposes different activities to improvise the teaching of languages. The objective of learning languages is both communicative and cultural. The council offers different language activities to reinforce the communicative skills through the learning of language besides the summative and formative assessments. The exams and projects are based on oral and written exercises. The teaching of French language serves to develop the four competences- listening, speaking, reading and writing. Thus the textbooks prescribed by the

school play an important part in acquiring the linguistic competences.

The IB (International Baccalaureate) is meant for the International school system. It includes educative programs.

1. Primary Program, PYP (from kindergarten till class 5)
2. Middle Years Program, MYP (from classes 6 to 10)
3. Diploma Program, (classes 11 to 12)

The IB program is based on the practical application of knowledge acquired. This program furnishes a wide variety of subjects that helps to eventuate in global development. The IB tests the knowledge of students and not their memory and rapidity. The International Board program offers different languages like Hindi, French, and Spanish from the age of five or six years. So the student in the IB program learns a language of his own choice as a second or supplementary language under the four competencies-listening, speaking, reading, and writing. The learning of language is based on oral and audiovisual communication right from the beginning of the classes. The language courses become much rigorous. These courses are based on the four competencies –Listening, Speaking, Reading and Writing. The evaluation at the secondary level is based on the concepts, the content, and the competencies as well. According to CECRL (Common European Framework for Languages), the students who complete the IGCSE in French (at the secondary level) acquire the linguistic competence between the A2 level to B1 level, meanwhile, the students who achieve their diploma IB (at the senior secondary level) acquire the linguistic competence of B2 level.

School textbooks of French in India

The sociocultural theory of Vygotsky states that the construction of knowledge in the mind of learners takes place in a social or cultural context. Cultural tools and artifacts correspond to another facet of sociocultural theory. A textbook is one such didactic tool in the training of learners and teachers. The textbooks work within an institutional framework. In a foreign language, a textbook is a cultural document that allows giving special importance to the culture of the learner while broadening their perception of the culture of

the other. It serves as a medium in the transmission of knowledge and the target language. Different boards like the CBSE, State Board, IB, IGCSE, etc. prescribe/ propose different textbooks in their schools. School textbooks in India, are generally published by the NCERT (National Council of Educational Research and Training), an organization attached to the Ministry of Education. The NCERT is responsible for educational research, the design of textbooks and the establishment of mechanisms, and the monitoring of procedures for the approval of textbooks.

The textbook of French prescribed by the CBSE for the students of class IX pursuing French is "Entre Jeunes". Along with the textbook, there is no workbook or any supplementary reader. The student can use other published materials for exam preparation to add to his knowledge. There is no prescribed textbook for French in the IB program. The students have a wide variety of textbooks to choose from like "Cambridge IGCSE French as a Foreign Language" and "Cambridge IGCSE French, third Edition." Cambridge IGCSE French" is one such suggested book for teaching and learning French in the IB program for students of class IX. These textbooks are composed of a lot of 'fabricated' and 'authentic texts' to introduce the learner to the French civilization. Now we will analyze the literary texts present in the textbooks –Entre Jeunes and Cambridge IGCSE French recommended for the students of class IX in India.

Literary Texts in teaching French as a foreign language

Literary text or Literature is a term that originated from the Latin word *Litteratura* which means "writing with letters". Literature in the textbooks can be in the form of extracts of novels, plays, poems, short stories, and song lyrics. The literary text is didactic support that can mingle all three, the aesthetic code, the linguistic code, and the cultural codes. It enhances the communication in French, through cultural exchanges thus promoting dialogue between different nations and cultures. In the words of Simone de Beauvoir, "It is through the literature that one understands better a foreign country". Literary texts in foreign language textbooks highlight the

intersection of values and beliefs which would undoubtedly contribute to the affirmation of their identity and at the same time to learning about diversity. Mme de Stael remarks, "Literature is the expression of society". Literary texts, procreated as a meeting point of different universes, are privileged revealers of multicultural visions of the world. Prof R. Vengatramane in the webinar, **L'exploitation didactique de la nouvelle indienne traduite en français dans l'enseignement-apprentissage du français langue seconde en Inde** held on 21st August 2020 emphasized that Literature helps a learner to develop an understanding of other cultures, to become aware of "difference" and to develop tolerance and understanding; on the other hand, these texts can deal with universal themes such as exile and alienation, love, couple, individual and society, etc. which are not always covered in the disintegrating world of FLE textbooks. A literary text contains more information on how people react to, speak, and respond in different situations. The literature used in the textbooks helps to simulate dialogues that sound quite natural and provide a range of situations that gives a natural background and the required tone. The knowledge of unknown literature enhances the motivation of students. Literature gives access to authentic documents. The students can distinguish between the kind of language used in literary texts and non-literary texts i.e authentic documents. At the same time, students can understand linguistic structures and words and their meanings in different contexts and texts. Students can explore several lexical, morphosyntactic, or semantic dimensions through these texts. Literary readings help students develop their creativity and critical thinking. Students get familiarized with new syntactic structures and can connect ideas thus enhancing their writing skills. The presence of literary texts in language textbooks helps to reinforce the learning of students as well as a teacher in both the field of language as well as literature. Lazar states literary texts as an impulsive power to study a foreign language. In addition, it is not only a tool conducive to the teaching of the foreign language and civilization, but it also allows the learner to reflect on the unspoken of the author

and to wonder about the cultural values that are part of its content. In the opinion of H. Besse The literary document in the language class should not be conceived, in our opinion, as a place for teaching language, civilization, or critical theories, but as a place of learning in which students can explore all the possibilities (acoustics, graphics, morphosyntactic, semantics) of the foreign language and all the connotative, pragmatic and cultural potentialities that are inscribed in it.

Challenges while teaching French as a foreign language through literature

The various challenges met by the teachers while teaching literary texts to language students are: the texts are difficult to understand; they are subjective and less adapted for teaching grammar. The vocabulary utilized in these texts is not pragmatic. In the traditional methodology, literary texts were translated and were studied for cultural objectives. In the methodologies that followed, literature was not given importance. The language was learned for a communicative purpose. In the communicative approach, the literature becomes important with the introduction of authentic documents. According to Morlat, "the literary text, seen as an authentic document, is used to develop reading comprehension skills and as a trigger for learners' oral expression." A variety of textbooks based on the communicative approach do not have texts adapted to it. They focus on language acts in authentic communicative situations. Moreover, students are not interested in reading literature as in many textbooks; literature is introduced at the higher levels and not from the very beginning. Taking an example of the textbook, "Mauger Bleu", it was used for many years in the schools and colleges to teach French. This textbook introduced literature in its 4th volume. The learners find it difficult to read the literary text owing to their level of language (particularly the beginners).

Analysis of school textbooks of French as a foreign language

The objective of analyzing the school textbook of French is to study deeply the texts and trace the literary texts in the textbook. Here the

textbook prescribed for studying French in school namely "Entre Jeunes" prescribed for the students of the secondary class. The current textbook is a revised version. It aims at encouraging students to reflect upon what it means to understand a language and how to use language in different contexts. It also incorporates meaningful experiences of learning French based on the daily lives of students and provides an input-rich environment in the Indian context. Commencing with the "Table of Contents", we find the division as theme, grammatical notions, communication, and socio-cultural components. All these aspects are further strengthened through the four basic skills of language learning i.e. listening, reading, writing, and speaking. The book contains four units and each of the units further contains three lessons all of which are based on a particular theme. There is a particular pedagogical pattern in each lesson, it begins with a text or a dialogue followed by the oral and written exercises under the heading, A TOI (for you to do). There are several interactive activities. The grammatical elements are present throughout the lessons which will enable the learners to test their skills. Each lesson includes references to socio-cultural elements and objects from France and Francophone countries. It enhances the understanding of France and its culture. We find many references to India as well. There are a lot of fabricated texts and some authentic documents too. But if we speak about the text on literature then we find just one poem in the book, written by Jean Luc Moreau titled "Si" at the end of the lesson. There are colorful images that describe day to day life of the people of France. The book furnishes the learner with ample vocabulary but linguistic structures are limited. There is absolutely no literary text in the textbook "Entre Jeunes"

The textbook "Cambridge ICSE" is split into 5 sections. Each section is further broken into units. These units are split into spreads. Under the spreads are various exercises and activities, namely learning objectives, speaking exercises, reading exercises, writing exercises, phonics exercises, grammar, and listening material exercises. Several authentic documents represent the culture and civilization of France and French-speaking countries in this textbook. The colored illustrations and rich linguistic content make it a complete material of communicative approach for the advanced level learners. But the literature does not find a place in this textbook.

Conclusion

It is observed that there are considerably less literary texts in the current textbooks of French as a foreign language (for the students of class 9th). The textbooks have the texts in the form of a dialogue, or a fabricated text, or at times a communication of day today life in French and a few authentic documents. But the knowledge of the student through these texts remains to superficial communicative skills. In learning a foreign language, the language is not complete unless the teacher does not know the socio-cultural and historical aspects of that particular language. These aspects are reflected in its literature. Literary texts deepen the understanding of language. They form an indispensable part in a textbook of French as a foreign language, owing to their aesthetic, linguistic and cultural quality. They can be introduced in the textbooks of French language in the National and IB Curriculum for learners who are in the advanced stage of learning French. Literature can be introduced right from the initial years of study in the form of short stories, poems, or songs. The judicious selection of the translated texts of literature that are present in the mother tongue can also prove helpful.

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COMPARATIVE ANALYSIS OF THE STRUCTURE OF TEXTBOOKS OF FRENCH AS A FOREIGN LANGUAGE: PARTICULAR REFERENCE TO TEACHING FRENCH IN JAIPUR, RAJASTHAN

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ABSTRACT

Textbook is an inevitable tool in teaching and learning of foreign language. The efficacy of the textbook depends on its structure and the structure emphasizes the need for language competencies to be learned by foreign language learners. The textbooks used in schools and universities in Jaipur are written by both, Indian as well as French writers. But there is a vast difference in the structure of the textbooks of French as a Foreign Language of the two countries, India and France. A writer has the knowledge of the needs and language skills to be acquired by his learners so he organizes the structure of the textbook in the same manner. The study of the textbooks of the two countries will allow us to find the structure and the methodology which could facilitate and deepen the learning of the French language in the learner.

Keywords: *textbook, structure, learning, teaching, skills, methodology*

Introduction

Nowadays, when the transmission of knowledge and competencies in a language class is characterized by the use of digital tools, we cannot ignore the presence of a textbook. A textbook remains an integral part of teaching and learning French. Bertochhini and Constanzo in the textbook, **Manuel de formations pratiques pour le Professeur de FLE** state

"The teaching of French as a foreign language (FLE) is closely linked to the use of the textbook"

A textbook serves to provide linguistic and cultural details directly to students. According to Cuq "A textbook is a didactic work (book) which is commonly used as a teaching aid".

The learner can consult the textbook very easily and at any time to facilitate his understanding and production in the French language. The evolution of the different methodologies is marked by the presence of different textbooks which outlined the teaching of French as a Foreign Language. As quoted by Estelle Riquois in her article, **Évolutions méthodologiques et matériels didactique complémentaire en FLE**.

"With or without black and white or color images, these textbooks have become essential elements of learning processes, but also of teaching methods"

So the textbooks form an important element in the teaching and learning of French as a foreign language.

The teaching of foreign languages, particularly French progressed gradually in India, over the years. The increase in Indo-French exchanges in the field of learning French as a Foreign Language (FLE) led to the introduction of several textbooks of French as a foreign language. In India, more precisely in Jaipur, innumerable textbooks have been introduced to facilitate the learning and teaching of French as a Foreign Language. The French language was introduced for the very first time in the year 1982 in Jaipur, in "Maheshwari Public School" and the textbook used was Mauger Bleu. Then the teaching of the French language began at the University of Rajasthan in Jaipur. Later teaching and learning of French as a Foreign Language became part of the curriculum in schools and universities in Jaipur. Since 1982, we are using textbooks of French as a foreign language written by French writers and later composed by Indian writers. The expensive textbooks and the difficulty of adapting the textbooks made in France led to the launch of Indian textbooks of French as a Foreign Language. The Indian textbooks are Ailes (Ranjit M.), En Échange (Raddi N, Paranjpe A), Mantra, Malli, Entre Jeunes (Mishra V), Synchronie (Madangobalane K), etc. At present, French is taught using French textbooks and Indian textbooks in the schools and universities in Jaipur. The French textbooks are more authentic, more varied and, livelier while the Indian textbooks are in local color with which we can identify well. So, it is

necessary to choose a textbook that adapts to the teaching situation. It is necessary to say that the teacher and the learner must be comfortable in teaching and learning French as a Foreign Language. It is observed that the French textbooks are immersed in the French environment and culture with pictures and authentic documents. This overflowing presence of French culture sometimes becomes difficult and even boring if the learner hasn't visited France. Teachers are obligated to show the videos associated with the content of the lesson to facilitate understanding and motivate the students. The French textbooks compiled by Indian writers emphasize learning the French language in the Indian environment. These types of textbooks help learners in learning French as a Foreign Language but they are not acquainted with the French culture due to the lack of authentic documents and images of France. For example, "Synchronie", a textbook composed by an Indian writer.

In this paper, I will compare two French language textbooks, "Connexions" and "Synchronie". Both textbooks are quite used in university education by A1 level learners / Certificate courses in Jaipur. The first book "Connexions" is prescribed for the learners of "University Five Year Law College", Jaipur and the second book "Synchronie" is used by learners of "Manipal University Jaipur". They are aimed at the same type of learner which is an "adult or adolescent". The structure takes on a considerable and necessary function in a FLE textbook. The structure of a textbook is organized around a table of contents and its component unit.

Therefore, in this article, we will do a comparative analysis of two FLE textbooks by comparing the different elements such as the organization and presentation of the textbook, the methodology, the presence of authentic documents, the vocabulary, the grammar, and the intercultural aspect. The two textbooks of French as the foreign language are "Connexions" (Part 1) written by Regine Merieux and Yves Loiseau and "Synchronie" (Part 1) written by K. Madangobalane. First, we will explore the layout and organization of the two textbooks. The first textbook "Connexions" is a fairly modern method. The first edition of this textbook was published in

2004. This textbook is based on the "Communicative Approach" methodology. According to Bertocchini, Costanzo "The objective of teaching a foreign language is no longer that of making the learner attain a skill which is as close as possible to that of a "native speaker", but of making him attain the communicative competence which he needs through the mastery of a certain number of speech acts (or communicative functions)". This textbook exhibits at least one real picture or comic strip on each page with dialogues and exercises, literary extract, newspaper article, letter, email. If we are talking about the listening part, we can listen to the dialogues, interviews, even songs or messages on an answering machine. Learners can develop their four communicative skills - listening, speaking, reading, and writing with this textbook. When we read the table of contents, we find the communicative objectives and cultural objectives to acquire with each lesson. These objectives are as per the Common European Framework of Reference (CEFR) for languages. The table of contents of this textbook demonstrates the division of each lesson with the objectives to be achieved in oral, written, grammar and vocabulary, then phonetics and civilization. With this textbook, the learner can understand the French culture and he can communicate in real communication situations. Even the visual aspect of the textbook is quite didactic and practical. The learner could also take the DELF / DALF exam.

The edition of the "Synchronie" textbook was first published in 2011. So this is a fairly recent textbook. According to Professor K. Madangobalane in his article entitled, **Le CECR en Inde: Synchronie** "Synchronie favors an action perspective". So the textbook is based on the "task based approach" in meeting the needs of the learner as stated by Evelyn Rosen in the **Dictionnaire Pratique du CECR**. The textbook does not follow the common CEFR levels. The savoir-faire (ability to acquire new knowledge of a culture) is explicit. The textbook is not developed with a workbook. It is provided by websites to harness intercultural skills and shows pictures in a large proportion of South India. Except pages devoted to the comparative study of the

culture of the two countries which is not enough. Moreover, there are no authentic documents. By seeing the table of contents, we see that each lesson is linked to the savoir-faire and grammar sections.

The textbook "Connexions" addresses the theme of the French cultural aspect. Apart from the lesson, there are pages on French culture and civilization. For example in this textbook, we find a photo showing the French channels with remote control and a map of France showing the French-speaking countries and regions. The textbook "Synchronie" offers to learn French in the local Indian color or in the context of the Indian culture of South India. The proposed themes are: at the beach -Marina, at the airport-Kamaraj, at Nalli's, these are places located in the south of India; even the North Indians have a limited knowledge of these places. There is no connection with French culture.

"Connexions" is an inductive method. The learners identify the rules of grammar to do exercises although the content of the grammar in "Synchronie" is quite heavy from the first lesson. Indian learners learn grammar through the traditional methodology used in building this grammar part. Then there are a lot of exercises which are based on grammar.

Both French textbooks, "Connexions" and "Synchronie" give a small vocabulary dictionary towards the end of the textbook. For example in "Connexions", we find the lexicon of different types of French games such as pétanque, tarot, belote outside of the lesson. The lexicon is more effective in "Synchronie" if we talk about Indian themes but insufficient in the French environment. The Indian learner

will have no idea how to stamp a train ticket by following the dialogue at Central Station located in Chennai.

The term 'civilization' is used instead of 'culture' in the "Connexions" method. The pages devoted to culture show the geography of France, the outings of the French, French meals, festivals in France. The current images contribute to the learning of very pleasant and effective intercultural aspects. On the other hand, we observe that except for a few pages or photos on French culture, the intercultural aspect is very less in the textbook "Synchronie". With this textbook, we find that the learners only learn the French language but lack the knowledge of France and its culture.

Conclusion

To conclude, we can say that the textbooks of French play a considerable mediating role in the teaching of French in the university environment in India (in Jaipur). It must motivate learners and teachers, encourage learners to develop learning styles, stimulate interaction and establish proximity between foreign learners and the French people. In India, we cannot strictly follow the CEFR rules in teaching and learning of French as a Foreign Language. We have to go to the traditional methodology according to the needs of the learners. If learners become demotivated during the FLE course, we are forced to go away from the CEFR rules to maintain their interest. But the presence of authentic documents and images related to the French culture motivate the learners to learn and even communicate in the French language.

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DYNAMICS OF INCOME GENERATION FROM FOREIGN TOURIST ARRIVALS TO INDIA

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ABSTRACT

Tourism sector is playing pivotal role in the Indian economy. The covid-19 has become one of the lacuna for the growth of the tourism industry. The paper attempts to know the impact of Covid-19 on the foreign tourist arrivals and foreign exchange earnings. The seasonal indices were calculated to know the maximum number of foreign tourist arrivals during different months of the year. There is a crawling growth in foreign tourists to the country, government has to take necessary initiatives to increase the growth of the foreign nationals by following the covid-19 protocol guidelines.

Keywords: Covid-19, Arrivals, Exchange, Growth rate, Index.

Introduction

Indian tradition and culture is comprised of travel and tourism. The segment of the Indian economy is having tourism industry as one of the important and emerging sector which is contributing to the growth of the economy of the country. In the recent days the tourism is given a major importance as it not only generates the revenue but also the employment to the various stake holders embedded in the spherical of tourism industry which leads to the eradication of the unemployment as well as development of various infrastructures in and around the tourist spots of the country. As per the estimates of the United Nations World Tourism Organization which has forecasted that International tourism will grow at the average annual rate of 4 per cent. Due to the uniqueness of the nation in terms of natural places and cultural significance, the country India has got its own importance in the world tourism map. According to the reports of Ministry of Tourism, Government of India, Tourism is one of the third largest industry which is having around ten million people who are getting the employment directly or indirectly. This is because India is considered as the center of spiritualism. India is such a country which is having with different religions of people such as Hinduism, Islam, Buddhism, Sikhism and Jainism. Many followers of the religious belief have built various heritage monuments across the nations which has made its uniqueness for the

attraction of the people not across the country but across the globe.

The paper attempts with the following objectives

01. To study the growth rate in foreign tourist arrivals.
02. To study the growth rate in foreign exchange because of foreign tourist arrivals.
03. To study the seasonal indices of foreign tourist arrivals and foreign exchange earnings.

Methodology

The study is based on the secondary information that is related to the foreign tourist arrivals and foreign exchange earnings for the period from 2001 to 2020. The information related to arrivals and exchange earnings were obtained from various publications, annual reports of Ministry of Tourism, Government of India. In order to arrive at the meaningful results following statistical tools were used for the study

01. Regression analysis
02. Seasonal Indices
03. Percentage analysis

Results and Discussion

Table 1 presents growth rate of foreign tourist arrivals to India. It can be observed from the table, highest growth rate was found to be in the period of 2000 to 2010 with the compound annual growth rate of 10.37 per cent, while for the year 2011-2020 the growth rate was found to be 8.08 per cent and growth rate for the

overall period was registered to the tune of 5.27 per cent. The decrease in growth rate in arrivals of foreign tourist arrivals during the period of 2011 to 2020 was due to the effect of covid-19 in the year 2020, which made a sudden decrease in the arrivals of the foreign tourist arrivals to the country. This effect is observed on the various stake holders of the tourism industry as a whole. Alone for the year 2020 the decrease in arrivals of foreign nationals for the purpose of tourism expressed with the negative trend of more than 15 per cent during the entire year. Crawlily, even though the famous tourist spots such as Taj Mahal, Agra and many other heritage spots was opened for public in the month of September, 2020 after the nationwide lockdown there was not much demand due to the fear of infection of Covid-19. This impact we would see on the revenue earning of the country by the tourism industry.

Table 2 presents the compound annual growth rate in foreign exchange earnings in India for the last two decades. For the decade of 2001 to 2010 a good revenue was generated with 18.65 per cent while in the last decade of 2011 to 2020 the generation of the revenue was not up to the mark as it is evidenced an annual growth rate of 3.82 per cent per annum. The overall period that is from 2001 to 2020 the compound annual growth rate was to the tune of 6.75 per cent. As highlighted in the earlier context of the paper, Covid-19 has made a tremendous impact on the revenue generation. Foreign tourist arrivals not only focus on the enjoyment of heritage tours of Incredible Indian tourist chain of spots but also on the medical tourism, Spiritual tourism, Adventure tourism, MICE which is nowadays popular for Meetings, Incentives, Conferences and Exhibitions. Majority of the people who come from other nations visit popular hospitals for the treatment of various diseases. The health tourism in India provides world class treatment at low cost, which includes the Indian system of medicine like ayurveda, naturopathy, unani, sidha and allopathy. Indian medical tourism attracts many tourists from the developed world like US, Europe and Middle East regions where medical treatment remains very costly.

The table no.3 presents the seasonal indices of foreign tourist arrivals and foreign exchange

earnings in India for the period from 2001 to 2020. As it is evidenced, maximum arrivals of foreign nationals to the country is observed for the month of January it was 128.26 per cent, February 126.09 per cent, March 108.98 per cent, April 79.91 per cent, May 68.66 per cent, June 75.91 per cent, July 91.00 per cent, August 84.70 per cent, September 78.36 per cent, October 101.72 per cent, November 120.47 per cent and in the month of December to be maximum of 135.94 per cent. Its quiet clear from the table that majority of the foreign nationals visit the country in the winter season as it is found to be best time to visit the reach heritage of the country's resources. The table also depicts the seasonal indices of foreign exchange earnings, as it is observed from the table in the month of January the index number was 109.23 per cent, February 109.07 per cent, March 100.46 per cent, April 90.49 per cent, May 77.35 per cent, June 84.80 per cent, July 102.77 per cent, August 95.31 per cent, September 88.91 per cent, October 97.27 per cent, November 114.10 per cent and December to be 130.25 per cent. According to the Ministry of Tourism, Government of India, the nationals of United States of America are one of the major population visiting the country. As per the reports of the same Ministry, India is considered to be less expensive country for the tourists as compared to other nations which enforces the nationals to stay in the country more number of time than the usual.

The paper also highlights the issue of e-tourist visas in the country to the foreign tourist nationals at the major airports for the last four years which can be depicted in the table no 4. As it can be observed from the table, New Delhi being the national capital majority of the tourists from other country first reach New Delhi and then they start moving towards the other parts. For that reason for all the four years the issue of e-tourist visas was more in the New Delhi Airport with more than 40 per cent of the share. Even during the covid period of 2020, as it is observed the major share was of the New Delhi airport with 36.36 per cent of the total visas issues in the year. During the year 2020, around 8,37,721 people visited the country and obtained the e-Tourist visas of which the majority of them took in New Delhi Airport after their arrivals, this was followed

by Mumbai with 15.60 per cent, Goa 11.64 per cent, Chennai 6.82 per cent, Bengaluru airport to be 6.03 per cent and so on. This indicates

that even though there is a surge in the decrease in arrivals compared to the other years there was demand from the e-tourist visas.

Table 1. Growth Rate of Foreign Tourist Arrivals To India

SI No	Year	CAGR (%)
01.	2000-2010	10.37
02.	2011-2020	8.08
03.	2000-2020	5.27

Table 2 Growth Rate In Foreign Exchange Earnings In India

SI No	Year	CAGR (%)
01.	2001-2010	18.65
02.	2011-2020	3.82
03.	2001-2020	6.75

Table 3 Seasonal Indices Of Foreign Tourist Arrivals And Foreign Exchange Earnings In India From 2001-2020

(In Percentage)

SI No	Months	Seasonal Index of foreign tourist arrivals	Seasonal Index of foreign exchange
1	January	128.26	109.23
2	February	126.09	109.07
3	March	108.98	100.46
4	April	79.91	90.49
5	May	68.66	77.35
6	June	75.91	84.80
7	July	91.00	102.77
8	August	84.70	95.31
9	September	78.36	88.91
10	October	101.72	97.27
11	November	120.47	114.10
12	December	135.94	130.25

Table 4 Major Airport-Wise Arrival Of Foreign Tourists Availing E-Tourist Visas In India

Airport/Years	2017	Percentage	2018	Percentage	2019	Percentage	2020	Percentage
New Delhi	751339	44.27	1046663	44.16	1230400	42.02	304599	36.36
Mumbai	328936	19.38	439532	18.55	484694	16.55	130717	15.60
Bengaluru	89514	5.27	159003	6.71	217549	7.43	50499	6.03
Chennai	113415	6.68	164429	6.94	208155	7.11	57102	6.82
Dabolim (Goa)	134842	7.95	134163	5.66	171226	5.85	97533	11.64
Cochin	74462	4.39	81910	3.46	105197	3.59	33831	4.04
Hyderabad	44857	2.64	63814	2.69	83207	2.84	19109	2.28
Kolkata	43616	2.57	63804	2.69	81983	2.80	22757	2.72
Tiruchirapalli	Nil		Nil		55825	1.91	16960	2.02
Ahmedabad	Nil		Nil		38930	1.33	13912	1.66
Trivandrum	26912	1.59	30834	1.30	16864	0.58	Nil	
Amritsar	23586	1.39	31722	1.34	15841	0.54	Nil	
Others	65696	3.87	154067	6.50	251137	8.58	90702	10.83
Total	1697175	100.00	2369941	100.00	2928303	100.00	837721	100.00

Conclusion

Even though the country is facing a serious restriction of covid -19, the information of the year 2020 about the arrivals indicate that after lockdown and opening up of some of the tourist spots, there is a crawling increase of the nationals to the country to the rich heritage sites. In order to enhance the growth of the revenue, with the covid protocol as like other

sectors have started in order to sustain the government has to take necessary policy issues to see that the foreign nationals on arrival are guided with the necessary guidelines as well as the tourist spots which are opened in the country. At the same time necessary directions may be initiated to the authorities of the tourist spot to maintain the covid-19 protocol for the visitors.

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LA REPRÉSENTATION DE LA FEMME DANS L'INGRATITUDE DE YING CHEN

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ABSTRACT

Cet article tend à se concentrer sur le portrait de la femme dans le roman "L'Ingratitude" (1995), écrit par Ying Chen, une écrivaine migrante d'origine chinoise au Québec. Ce roman dépeint l'image de la femme à travers son protagoniste, Yan-Zi, qui se suicide en raison de la rigueur de la société patriarcale Chinoise. Une société où une femme (la mère) joue le rôle de protectrice de la culture et des traditions. Le désir individuel des femmes n'a pas sa place dans la société. Les femmes sont censées être dans le cercle du foyer et sécuriser la lignée familiale en faisant preuve de la chasteté et de la vertu. Yan-Zi essaie de briser ces griffes traditionnelles mais échoue. Son désir d'être libre prend fin avec sa mort. Par conséquent, à l'ère de la modernité, où les femmes chinoises désirent être libérées, cette liberté semble s'estomper, quand elles visent à voler au-delà des normes du patriarcat.

Mot clés- Ecriture migrante, L'Ingratitude, Femme, Société Chinoise, oppression,

Introduction

L'Ingratitude est un roman extraordinaire qui est considéré comme l'un des œuvres les plus réussies de Ying Chen, publié en français et en anglais, qui est traduit dans de nombreuses langues telles que l'espagnol, le chinois, l'italien, le serbe et apprécié par les lecteurs du monde entier. Ce roman est également apprécié par les critiques qui prennent les lecteurs à un niveau différent. Dans ce roman, Ying Chen a soulevé de nombreuses questions essentielles à l'aide de son écriture.

À première vue, les lecteurs tentent de relier ce roman à sa propre histoire de vie, en tant que fille qui a quitté son pays à l'âge de 28 ans en 1989 et s'est installée à Montréal pour la meilleure fortune. Comme elle maîtrise la langue française, elle a préféré l'utiliser comme moyen d'écrire ses romans. Mais l'étude approfondie de ce roman montre qu'il ne s'agit pas seulement d'une histoire d'immigration d'un endroit à un autre endroit ou d'un monde à un autre, ses thèmes tels que les déplacements, les conflits de souvenirs, l'exil, etc., aident à désigner l'intérieur problèmes. L'un des principaux problèmes qu'elle soulève à travers son roman est "La femme et son statut dans la société patriarcale traditionnelle" en Chine.

Pour donner vie au roman, elle tisse tous les fils de l'histoire dans la périphérie Chinoise. Elle ne veut pas limiter son roman à une culture ou à un public, et en gardant à l'esprit les lecteurs, elle évite d'utiliser excessivement les noms et les lieux d'une culture afin que son roman puisse connecter le public de masse. Tout en parlant de ses écrits, elle écrit dans son

roman "Quatre Mille marches", que "J'ai tenté... d'attirer l'attention des lecteurs sur la destinée individuelle plutôt que sur la destinée collective, sur les différences personnelles plutôt que sur les différences qui ne prétend pas l'objet culturel" (Chen 2004).

Elle sait très bien qu'il est vraiment difficile pour les lecteurs de comprendre ou de ressentir l'esprit des autres cultures et la seule façon de toucher leur âme est le langage. Par conséquent, elle utilise le français non seulement pour exprimer la condition terrible des femmes, mais révèle également le pouvoir patriarcal en Chine. Elle a bien raconté la relation entre les femmes et la société patriarcale à travers la relation entre mère et fille dans L'ingratitude car les mères (femmes) jouent un rôle important pour hériter du patriarcat d'une génération à l'autre. Comme Jaime O'Dell le dit dans sa thèse "Récits transgressifs : genre et révolte dans deux romans québécois de Ying Chen" que "whether [Chen's] work is set in the East or the West, the content and focus of the work are not particular to one nation but rather cross oceans, borders, time periods, and doorways to transcend a specific culture or history" (O'Dell 2004).

Dans notre étude, j'explorerai le personnage principal de L'Ingratitude, Yan-Zi. Comment elle essaie de se libérer des griffes de la société dominée par la souveraineté masculine dans laquelle elle est née et a grandi. Dans ce roman, sa mère représente comme le sauveur du patriarcat dont les yeux dominateurs ont toujours suivi sa fille et ce contrôle étendu a

forcé Yan-Zi à choisir la solution extrême pour satisfaire sa propre subjectivité. Ce roman dépeint l'exil intérieur du protagoniste qui la détache de ce monde physique. Mohar Daschadhuri décrit l'exil dans son article "*L'exil et le fantastique dans l'œuvre de Ying Chen et d'Ananda Devi*" que "L'exil ne se définit pas comme un phénomène du déplacement physique, c'est aussi un exil intérieur" (Daschadhuri 2020). *L'Ingratitude* a une fin ambiguë où la décision de Yan-Zi de mettre fin à sa vie à la recherche de sa propre existence parmi les gens autour d'elle est accomplie. L'histoire de Yan-Zi est une combinaison de culture, de personnes et de sociétés. Il représente également le statut réel des femmes aux prises avec la domination de la société patriarcale. Jack Yeager a expliqué dans son analyse sur *L'Ingratitude* de Chen que "*L'Ingratitude* pourrait être lu comme un récit de la séparation et du déracinement, de l'exil et de la perte de la famille et du pays d'origine... le passage de la jeune fille vers le suicide pourrait symboliser l'immigration d'un pays à un autre" (Yeager 2004 : 141).

En expliquant son nom, Yan-Zi, le personnage principal de ce roman, a déclaré que sa mère avait déjà revendiqué son droit sur le corps de Yan-Zi avant de donner naissance, en lui donnant le nom d'un oiseau. En chinois, "Yan" est un oiseau s'appelle "hirondelle", et "Zi" fait référence à "beau", "élégant" ou "gracieux". Tout en décrivant sa vie à l'ombre de sa mère, elle évoque la possession de sa mère sur elle et dit: "Avant moi, maman avait élevé des oiseaux en cage. Elle avait eu nourris le matin, caresses le soir, promenés les dimanches, toujours en cage, et enfermés de temps en temps dans la salle de toilette pour les punir d'avoir trop crié" (Chen 1995:58). Elle a mis davantage l'accent sur la possession de sa mère et dit: "m'a conçu et nommé Yan-Zi. Je déteste ce nom d'oiseau" (Chen 1995:58). Ici, elle compare sa position dans la famille à l'oiseau dans une cage qui représente directement le statut des femmes dans la société patriarcale. Elle n'a aucun contrôle sur son propre corps car il est dirigé par sa mère. Elle n'a pas la liberté de se déplacer pour son propre plaisir. Elle n'a pas le droit de se déplacer qu'entre les trois lieux : sa maison, son travail et le café

Bonheur. Elle se sent à l'intérieur d'une cage invisible fabriquée par sa mère.

De plus, tout en décrivant les caractéristiques de l'oiseau peu profond, sur lequel son nom est donné, elle dit que c'est un petit et bel oiseau qui peut être facilement capturé par l'homme et peut être facilement couvert par la main d'un adulte. Le narrateur de l'histoire, Yan-Zi, explique comment elle est devenue une marionnette de la main de sa mère, pas même en tant qu'enfant mais aussi en tant qu'adulte. Elle dit : "Elle avait l'habitude de moi prendre la main en traversant la rue. Elle saisissait en entier cette main vivante comme s'il s'agissait de son portefeuille [...] A l'occasion des réunions de famille aussi, elle me tenait la main de force [...] Ses doigts pressaient fortement ma paume. J'avais peur que ses ongles solides ne déchirent ma peau et ne s'enfoncent dans ma chaise" (Chen 1995:109-110).

Il est très étrange que le nom de l'oiseau hirondelle donné à Yan-Zi, soit un oiseau qui migre et ait une capacité de voler si haut dans le ciel, c'est pourquoi le contrôle de la mère sur sa fille semble peut-être plus agressif et oppressif. La relation entre mère et fille rappelle l'existence du patriarcat où la mère ou la dame suprême ont le pouvoir de transmettre les valeurs et les cultures traditionnelles à leurs générations futures. L'impitoyabilité et le comportement oppressif de la mère pour contrôler sa fille n'importe où et à tout moment dans le roman *L'ingratitude* représentent le rôle important de la mère qui contribue à renforcer le patriarcat dans la société. Lori Saint-Martin explique le caractère de la mère comme "a woman whose sense of self and of her femininity has been damaged beyond repair, a victim who lashes out at the daughter she loves and wants to spare her own fate at the same time as she takes care to inflict that very fate on her" (Saint-Martin 2001).

Dans le roman, la mère de Yan-Zi présente une image négative mais en réalité, elle n'est pas une mauvaise personnalité qui aime la violence. Elle est juste un représentant de la société chinoise qui a perdu sa grandeur et essaie maintenant de la regagner. Ying Chen décrit dans son roman "*Quatre mille marches*", que la civilisation qu'elle a quittée était celle qui "a atteint son sommet il y a environ mille ans, puis elle n'a cessé de se dégrader, de

descendre la pente, de s'anéantir. Aujourd'hui elle n'est plus [...] qu'un tas de ruines nostalgiques”(Chen 2004).

C'est la représentation d'un ancien régime qui était jadis dominé et prospéré avec la règle absolue sur un immense territoire, mais maintenant il n'y a que des ruines de croyances là-bas qui sont le symbole de l'oppression et de la violence. Cela ressemble à la lutte pour retrouver le pouvoir perdu et il faut se battre pour sa propre survie. Elle se bat pour faire passer son existence de l'ancienne à la nouvelle vie. Comme l'écrit Ying Chen, “une existence qui m'a semblé développée dès avant ma naissance” (Chen 1995 : 31).

Lori Saint-Martin explique dans son ouvrage “*Infanticide, Suicide, Matricide et Mother-Daughter Love : Suzanne Jacob's L'obéissance et Ying Chen's L'ingratitude*” que Yan-Zi ne représente qu'un sujet qui doit obéir au social hiérarchie. Elle écrit qu'un “hierarchy of authority: king, superior, father, son, all of whom the daughter must obey, in addition to obeying her mother in her father's absence” (Saint-Martin 2001).

On peut vraiment dire que pendant tout le XXe siècle, le statut des femmes est encore inconnu. Elle n'a pas le droit de prendre une décision concernant sa propre vie, par exemple, ses loisirs, son éducation, son mariage ou même sa routine quotidienne sont également prédéterminés. Des droits entiers sur son sort n'appartiennent qu'aux autorités de la hiérarchie sociale. Yan-Zi écrit: “Avant de me mettre au monde, maman avait des idées précises concernant mon devenir”(Chen 1995 : 111).

Ce “devenir” devient pour elle le “devoir” qu'elle ressent comme un lourd fardeau. Elle lutte contre ce “devenir” qui décide du rôle des femmes dans la structure sociale dominée par les hommes. Par conséquent, elle dit que “Il fallait détruire cette reproduction à tout prix”(Chen 1995 : 111).

Elle a en outre ajouté dans le roman que “les traîtres à leur simple continuant, morts comme vivants, à vagabonder, à voir en exclusivité du cycle de la vie, à être partout et nulle part”, (Chen 1995 : 150), Yan-Zi peut être condamnée par certaines personnes en raison de sa décision de mettre fin à ses jours, mais on peut également voir que cette vie particulière

l'a poussée dans une situation où la mort est la seule option qui lui reste pour s'échapper.

Elle n'a qu'une seule façon de condamner sa mère qui est “à ne pas être”(Chen 1995 : 150). Elle veut se libérer des liens de sa mère qui décide de son “devenir”. Par conséquent, comme solution ultime, elle choisit de se suicider de libérer à cette oppression physique et mentale.

La mort de Yan-Zi (en se suicidant) dans le roman a mis en lumière la terrible condition des femmes dans la société Chinoise. Michael Phillips et des données recueillies par l'Organisation mondiale de la santé, Robert Neal rapporte dans son ouvrage “*Suicide in China Gives Unexpected View on Americans Who Kill Themselves*”, que la Chine a le taux de suicide le plus élevé au monde et représente 30% des suicides dans le monde. C'est le seul pays où plus de femmes se suicident que d'hommes, et l'incidence la plus élevée concerne les jeunes femmes vivant dans les zones rurales. Il continue d'expliquer qu'aux États-Unis, il existe une perception selon laquelle il faut être en quelque sorte malade, mentalement ou physiquement, pour se suicider, mais qu'en Chine, le suicide est considéré comme un choix acceptable dans une situation de désespoir et peut parfois même être considéré comme honorable. (Neal 1998)

Ying Chen souligne que ce qui peut sembler être une mesure extrême à l' “occidental” moyen est un choix viable pour une personne dans une société qui valorise le tout avant tout et l'individu de manière négligeable. Martine-Emmanuelle Lapointe explique que “tout ramène aux devoirs familiaux, au sacrifice de soi pour le bien de la tribu”, et continue, “La mémoire culturelle est ici dominée par moins de valeurs familiales, matriarcales, que tente de rejeter la narratrice”(Lapointe 2004).

Comme nous le voyons, il est clairement visible dans le roman *L'Ingratitude* où Yan-Zi remarque que “L'enseignement de ses parents était gravé dans sa mémoire à tel point que, sommé de choisir entre sauter par la fenêtre ou laisser du riz dans son bol, il ne donnerait pas tout de suite sa réponse”(Chen 1995 : 122).

Nous pouvons voir ici la structure patriarcale profondément enracinée dans la périphérie sociale dans laquelle nier les valeurs, les traditions, aller à l'encontre de la famille ou de

la société est similaire à un acte criminel. Si l'on doit choisir entre aller à l'encontre de la famille (société) ou se suicider, alors l'idée de se suicider semble meilleure. À travers ses écrits dans *L'Ingratitude*, Ying Chen représente la position réelle des femmes dans la société dans laquelle elle critique la société en décrivant le suicide d'une jeune fille, Yan-Zi. La société qui oblige les femmes à ne choisir qu'une option sur deux. D'un côté, il y a la vie mais pleine de douleur et de souffrance et de l'autre, la mort attend mais pleine de paix. Par conséquent, choisir entre la vie et la mort ne peut être considéré comme un choix à tout prix. Il y a plusieurs femmes en Chine qui veulent désespérément adopter la mort et elles sont également forcées de se suicider en leur reconnaissant que leur vie est la raison de tous les problèmes et la mort est le seul moyen de s'en sortir. Les femmes dans la société ne sont pas considérées comme des individus et cette pensée se généralise dans la société pour se transmettre aux générations

Ying Chen écrit dans *L'ingratitude* que "Ils tiendraient encore dans leurs principaux principes en bambou avec lesquels ils avaient frappé ma mère, enfant, pour qu'elle apprenne à se soumettre et aussi à s'impose dès le moment venu. Les enfants doivent comprendre, me diraient-ils me pointant de leur règle, que la vraie force s'acquiert dans l'humilité, que la gloire n'est pas possible sans discipline et que la vraie vie est toujours autre. D'un geste las, Kong-Zi secouerait la tête: "Les femmes et les médiocres sont les plus difficiles à traiter." Lao-Zi, de son côté, fermer les yeux: "Qui confronte se brise"(Chen 1995:105).

Il s'agit d'un cycle continu qui se transmet aux générations (des parents aux enfants) au sein d'une famille. La mère joue un rôle important pour renforcer la transmission de ces valeurs et traditions aux filles. La manière de transmettre ces valeurs et un contrôle fort sur les filles font des jeunes femmes la victime de celles qui nient vivre dans des conditions aussi insupportables ou qui ne sont pas en mesure de faire face à cette cage invisible qui les entoure.

Ying Chen a ajouté : "A ces mots, une foule de jeunes suicidées se mettraient à larmoyer ensemble. Une force de se confronter en vain à leurs parents, épuisées, elles avaient choisi de se jeter à l'eau. "elles, devraient encore sentir

l'odeur familière de cette rivière qui empoisonne notre ville"(Chen 1995:105-106).

Le sentiment d'être piégé dans une cage incite les femmes à rechercher leur liberté en saluant la mort. Il y a beaucoup de gens qui condamnent cet acte de femmes et portent plusieurs accusations contre elles. Yan-Zi suggère dans le roman que le sens de la mort est simplement d'éviter le rôle forcé des femmes, qu'elles ne veulent pas devenir. Elle dit: "D'une époque à l'autre, il y a des morts différentes: pesantes ou légères, héroïques ou lâches, valables ou inutiles, vertueuses ou immorales. La mort est devenue une choisie comme les autres ont été attribués à un prix qui varie selon leur humeur "(Chen 1995:15).

Yan-Zi décide de se suicider au lieu de vivre une longue vie et cette décision est basée sur sa conviction de la liberté en ce qu'elle pense que "ne pas être" lui donnera la liberté de "ne pas devenir". Elle pense que sa mort mettra fin à l'héritage de sa mère et c'est le seul moyen par lequel elle peut la punir.

Mais sur ce point, un fait intéressant ressort de sa mort : est-ce un suicide ou juste un accident ? Elle ne parvient pas à se suicider en avalant les pilules. À la fin du roman, elle est plutôt, de façon surprenante, écrasée par un camion en fuyant son fiancé. L'ambiguïté de sa mort a posé la question de son suicide. Soit elle s'est jetée délibérément dans le camion, soit ce n'était qu'un accident. Cependant, le plus important est de comprendre "l'ambiguïté" Tout au long de ses préparatifs de suicide, Yan-Zi affiche une hésitation à traverser l'acte final. Elle dit qu'elle cherche "le moment et le bon endroit pour faire la bonne chose"(Chen 1995:142), et elle a ajouté "Je dus encore une fois retarder mon projet"(Chen 1995:143).

D'une part, elle veut mettre fin à sa vie, mais d'autre part, son hésitation montre son affection pour sa propre vie. Cela montre clairement que si quelqu'un veut avoir son propre contrôle sur sa vie, elle doit nécessairement choisir une seule option qui est le suicide. Il indique également les racines du patriarcat dans les valeurs de la société qui ne permettent pas de libérer les femmes de ses mains.

Dans toute l'histoire de *L'ingratitude*, Yan-Zi dit encore et encore qu'elle veut se venger de sa mère et elle l'a mentionné avec ironie et ironie en écrivant ses notes de suicide à sa mère.

Cependant, elle essaie de se tenir à l'écart des émotions lors de l'écriture de la lettre mais des enseignements du patriarcat que sa mère lui a donnés, toujours en mouvement dans son esprit. Cette situation de son esprit la ramène à son infériorité où elle doit obéir au commandement de sa mère qui rend une fille digne de la société. Elle dit : "Je relus ma lettre. Un sentiment confus et inattendu me remonta à la gorge. Il voit transforma vite en larmes chaudes mouillée. Cette lettre mensongère, cette fausse déclaration d'amour à maman me semblait maintenant devenue une choisie sincère. Je voulais la frapper très fort - oh ! combien elle le méritait ! Je pliais sous les coups futurs ne j'aime pas maman en m'accablant moi-même. Jamais sûr ne devrait trahir sa mère, maman m'en avait bien avertie " (Chen 1995:141).

Il est très intéressant dans le roman que Yan-Zi envisage de détruire sa mère, la représentante du patriarcat tout au long du roman. Elle veut mettre fin au pouvoir de sa mère en exploitant les valeurs et essaie de détruire tout le système dans lequel elle est engagée. Mais lorsque nous ouvrons les couches du roman, nous constatons que les plans de Yan-Zi d'exposer sa mère en se suicidant ont échoué. Sa mère empêche avec succès la vérité sur le suicide de Yan-Zi. Il y a toujours une ambiguïté autour de sa mort mais on peut dire qu'en fin de compte, elle réussit à se libérer de la vie oppressive et impitoyable dans laquelle sa position est comme un objet inférieur. Juste avant de conclure le roman, elle déclare : "Quel soulagement enfin de se trouver hors de ce jeu interminable, d'être à l'abri du temps, de ce bouillonnement rythmé des amours et des rancœurs, des plaisirs et des ennuis, des naissances et des morts, des parents et des enfants [...]"(Chen 1995:154).

La mort de Yan-Zi lui donne le sentiment d'un sujet, elle n'est plus considérée comme un objet dans la société où elle est née. Elle a passé toute sa vie à agir comme une marionnette qui a tout fait pour plaire à sa mère et aux gens qui l'entourent. Elle dit: "Que deviendrais-je si je n'étais pas plus sa fille? [...] Une personne sans parents est misérable comme un peuple sans histoire. Pour qu'on puisse nous évaluer facilement et puis nous traitons avec justesse, il nous fallait faire la preuve de notre appartenance"(Chen 1995:112).

Ying Chen raconte très précisément la condition des femmes dans la société chinoise dans son roman. Elle révèle que les femmes n'ont aucun droit dans sa propre vie. Elle appartient toujours à quelqu'un d'autre: avant le mariage des parents et après le mariage, elle devient la propriété de son mari. Comme Chun, son fiancé, l'explique avec force: "Je suis ton grand loup, tu es mon petit lapin, ne songe jamais à t'enfuir, tu m'appartiens, tu intentions, tu m'appartiens, à moi seul [...]"(Chen 1995:110).

C'était le moment quand Yan-Zi décidaient de s'échapper de Chun. Maintenant, elle n'est pas du tout passive pour tous pour qui elle n'était qu'un objet. Elle devient active et semble passer d'objet à sujet.

Conclusion

L'Ingratitude de Ying Chen représente une analyse fascinante de la condition des femmes dans une société Chinoise patriarcale. Toute la structure de la société est conçue pour garantir l'existence du patriarcat, où les femmes jouent également un rôle essentiel en tant que mères et matriarches, mais leur objectif réel est de transmettre les racines du patriarcat dans les générations futures. Psychologiquement, ils sont également les victimes du système social. Ils sont appréciés, honorés et récompensés lorsque leurs actes soutiennent une société masculine dominante et ne font que des efforts pour la renforcer de quelque manière que ce soit. Ils sont également punis physiquement, mentalement et émotionnellement, s'ils tentent de briser les chaînes de la structure sociale, les forcent même à admettre la mort. Ici, Yan-Zi est présenté comme un exemple qui est devenu la victime d'un tel système.

Le nom de Yan-Zi donne l'image de l'oiseau hirondelle qui vole si haut dans le ciel. Elle trouve sa liberté en croyant "ne pas être et ne pas devoir devenir" qui la libère de la cage de sa mère. Maintenant, elle est libre de voler comme un oiseau hirondelle n'importe où sans la direction des autres. Elle peut désormais choisir son propre chemin et ses propres directions. Ying Chen explique dans son roman "*Quatre mille marches*" que "Je regarde la nuée d'oiseaux passer au-dessus de ma tête. Ces êtres si légers et connaissant si bien leur mais m'inspirant toujours quelque envie de

l'imiter, de sentir mes propres membres devenir des ailes”(Chen 2004).Elle trouve sa liberté en allant à l'encontre de ses racines, il est évident

qu'elle ne l'obtient qu'en sacrifiant sa vie mais elle a ce qu'elle veut.

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THE (RE) CONSTRUCTION OF IDENTITY IN YING CHEN'S "LES LETTRES CHINOISES"

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ABSTRACT

The migration, either voluntary or forceful, always poses a question of identity in the host country of migrants. An identity that is completely based on their acceptance, rejection, absorption and their alignment with the norms and culture of the host country. These migrant writers are always in the search for a space to create their identity in the geographically and culturally different country. This article focuses on the analysis of the issues related to the identity of migrants in French-speaking literature, particularly, in Quebec, through the novel "Les Lettres Chinoises" (1993) written by Ying Chen. She is a writer of Chinese origin who chooses the French language as the medium of expression for her works. She portrays the quest of identity in her novel "Les Lettres Chinoises" through its characters that represents the notion of hybrid identity in the periphery of Quebec. There is always a search for similarity of the life and culture of their mother country in the host country.

Keywords: Migration, displacement, identity, exile, alienation, assimilation

Introduction

The last two decades of the twentieth century are significant for this constant migration and Quebec is known for the several waves of immigration since the 1960s. This enormous growth in immigration has changed the various themes of the literature and the new kind of themes came in appearance. As Daniel Chartier(2008) identified the major themes relating to migrant writings, namely the themes of displacement, identity, otherness, memory, exile, immigrant culture and the hybrid, become the major part of migrant literature. Interculturality and transculturality are integral concepts in the novels of migrant writers. Such changing scenario of literature gives the birth of a new term "Migrant writing". Robert Berrouët-Oriol et Robert Fournier define this term in their study "L'émergence des écritures migrantes et métisses au Québec", that "les écritures migrantes forment un microcorpus d'œuvres littéraires produites par des sujets migrants : ces écritures sont celles du corps et de la mémoire ; elles sont, pour l'essentiel, travaillées par un référent massif, le pays laissé ou perdu, le pays réel ou fantasmé, constituant la matière première de la fiction" (Oriol et Fournier 1992 :17).

In this article, we intend to examine the notion of cultural belonging and the quest for identity that form a hybrid identity in the novels of Ying Chen, a migrant writer. We are going to study a kind of comparison between the culture of

origin of Ying Chen and the culture of the host country (Quebec in Canada) through her second novel "Les Lettres Chinoises"(1993). Ying Chen is more associated with the transcultural period of Quebec migrant literature. But the novel "Les Lettres Chinoises" is the symbol of the aspect of Interculturality.

For the execution of our work, we study the theories of identity construction as well as the relationship between language and identity construction. For example, a Chinese migrant in Quebec, cannot be fully considered a Canadian or Quebecois due to his/her origin, language, history of family lineage, memory, culture, and racial entities. Therefore, in Ying Chen's writing, the feeling of being uprooted is usually triggered when she arrived in Canada. She chooses to express her feelings of uprooting in her novel in the foreign land which is the medium of her writing. A unique portrayal of the personal experiences at the heart of the novel is seen as a salient feature of her writing. The narration of this personal experience in her novels shows the construction of oneself and one's identity.

It was the time when authors of different origins settled in this territory and published their works very frequently. These writers represent the feeling of otherness in Quebec society. Many writers from Europe, South Asia, Haiti, the Maghreb and Latin America have emerged among the native writers of Quebec and explore the evolution of identity in Canadian society by reflecting on their

communities. Writing and exile have been interconnected since the origin of migrant literature. Several writers of different origins have settled in Quebec. They left their country of origin for better opportunities and adopted the French language rather than their mother tongue. Migrant writers always try to identify their own existence in the adopted geographic and cultural periphery, where language plays an important role in their identification. The search for their own existence that exists within migrant writers and its components evokes the theme that significantly indicates the problems of migrants due to cultural interbreeding.

In Quebec, the French language has its cultural value in the society and is the first sign of identity, so the problem of identity is directly linked to the choice of a language. In this communication, we are going to talk about a migrant writer like Ying Chen, born in China in 1961 in Shanghai. She graduated in literature and specialized in French at the University of Shanghai. In 1989, she moved to Montreal to continue her higher studies in French. Her first novel, "La Memoire de l'eau", was published in 1992. Through her first novel, she told the story of contemporary China. In 1993, she released her second novel "Les Lettres Chinoises". She belongs to a different genre of Quebec migrant literature and represents China and its culture through her novels. She chooses to write in French but the influence of her own mother tongue is still visible in her novels, such as the use of Chinese proverbs and words literally translated into French, the characterization of characters who are still in conflict with their past and the representation of collective memories that represent the social and cultural differences between China and Quebec. All of this uncovered confirm the sense of exile and the search for identity in her novels that is clearly evident in her writings.

"Les Lettres Chinoises" is an epistolary novel that contains the exchange of 57 letters between Shanghai and Montreal. She explores the nostalgia of her characters who left their country and settled in Montreal as an immigrant. *Les lettres chinoises* confirms the experiences of migration and exile through the letters of three main characters: Sassa, from Shanghai; Yuan, fiancé of Sassa from Montreal; and their mutual friend Da Li, from

Montreal. The presence of Chinese proverbs, the character's name and places, words, culture, traditions, sense of being foreigner and migration issues clearly show the theme of memories of the past which represents her affection for her roots.

This novel is a bridge between memories of the past and the present. Through her writings, she exposes the problems of migration, geographic separation, confrontation between different cultures, traditions and exile. She uses the Chinese characters Yuan, Sassa and Da-Li to address French speaking society where Chinese names are completely new and exotic. Here, the reference to Chinese names shows its origin. The mental agony of the characters shows that they live in different memories and identities. It also shows us that North Americans are unaware from the feeling of immigration and of being foreigner. Yuan writes to Sassa in 23 letter of this novel that "ils feraient de meilleurs émigrants parce qu'ils aiment l'indépendance et la nouveauté"(Chen 1993 :59). Yuan says that these North Americans are "conquerors. They decide the fate of others and rule the world. They are far away from this feeling of migration. So this novel explores the difference between the life in China and in North America. The one who has absolute freedom because they own the world. They are not aware of the problems of immigrants and on the other hand, those who are still related to their traditions and culture.

In *Les Lettres Chinoises*, Yuan represents the cultural hybridisation due to his dual identity. After his arrival to Montreal, Yuan tries to adapt the new habits and perspectives as per his occidental present (Quebec). Yuan expresses his faded identity that is now divided in pieces : "Mais je pense qu'en quittant une ville où l'on a vécu quelque temps, on sent une partie de sa vie se perdre d'un seul coup dans le nuage que l'avion traverse. Le vide en soi devient sans borne"(Chen 1993 :59). As Daria Samokhina's work "Le phénomène de l'hybridité et du mimétisme dans des espaces narratifs du Maghreb : une identité, est-elle possible?" analysed the fragmented identities in Maghreb stories and highlighted the concept of "Identity disorder" given by Jacques Derrida that portrays the situation of Yuan. According to Derrida "the subject seeks a stable identification

by means of a culture, a people, a language or a space." In this context, Yuan's arrival in Montreal put him in the dilemma of identity. As, He says : " Il y avait sûrement quelque chose en moi qui l'a poussé à me souhaiter [bonne chance]. Peut-être ma coiffure, ou le style de mon manteau, ou mon air timide et indécis, ou encore mon accent? Dans cette ville étrangère, quelqu'un m'a donc souhaité bonnechance dès le premier moment"(Chen 1993 :12). Thus, an unknown ambiguity is appeared that stimulates the notion of foreigner. As he(Yuan) is a foreigner in the eyes of Canadian and on the other side, he is a Chinese for her fiancée Sassa and for Da Li. Therefore, his identity is stucked in between two different places:Shanghai and Montreal, where his physical appearance plays a significant role.At the end of this novel, he transformed himself and portrays a culturally hybrid figure. A hybrid figure who reflects both Chinese and American values and sensibilities. Yuanexpresses his Chinese past and Western present in the novel that "Je sais que je suis en train de vivre une métamorphose qui peut-être ne me mène nulle part Ce n'est pas mauvais, mais pas du tout, de vivre comme les Américains. Seulement, je n'ai pas vécu en vain toutes ces années à Shanghai. Je suis marqué pour la vie. Dans ce cas-là, si je ne reste pas fermement moi-même, si je n'essaie pas de rester Chinois, je ne serai rien du tout"(Chen 1993 :133).

The adaptation of the French language strengthens her writing to express her reflections on migration, culture and social phenomena. Ying Chen writes to address the French-speaking world in Canada. But she did not ignore to give a reflection on the words, and their uses according to the different languages. In this novel, Ying Chen uses quotation marks to express words such as love, freedom, openness, stranger, duty and rights. The reason for emphasizing these words is to inform the reader about the different meanings of words in China and Montreal. For example, the word "amour" "Love" indicates that the meaning of a word changes according to the different culture of the countries. In the 31st letter, Da Li tells Sassa that she is in love with a man who is already engaged and having physical relationship with him. The author writes this

word in italics to inform readers that "to be in love" in China and "to be in love" in Montreal have a different meaning. Sassa replies in the 34th letter that "tu n'es plus une vraie Chinoise, mon amie, en livrant ainsi tes sentiments à un homme déjà fiancé"(Chen 1993 :86).Da-Li knows that having any kind of physical relation before marriage is considered as a crime in China and when she tells her best friend about it, Sassa gets angry and says that you have forgotten your culture and everything that our master Confucius taught us and now you are not a real Chinese. The above sentence clearly means the difference between the tradition of the two countries.

The word "Liberté" "freedom" also has a new meaning. Sassa writes in the 24th letter of this novel that "Depuis ton départ, on dirait que le mot "liberté" n'est pas plus aussi péjorative qu'auparavant.Il n'est plus synonyme d'irresponsabilité,d'immoralité ou même de criminalité.On parle maintenant d'une bonne et d'une mauvaise liberté"(Chen 1993 :61).Ying Chen uses Chinese proverbs in her novel "Les Lettres Chinoises" and translates it literally into French which ties her to her culture and mother tongue. for example

"les plantes sans racines ne vivent pas"(Chen 1993 :66)

"on ne voyage pas quand ses parents sont en vie"(Chen 1993 :28).

"Il n'est pas plus facile de quitter son pays que d'y rester"(Chen 1993 :36)

These proverbs are meaningless to French readers. Therefore, they should be attentive while reading the text. From the author's perspective, the use of Chinese proverbs wins out near her native China. So, it can be clearly stated that the elements used by Ying Chen to write the novel "Les Lettres Chinoises" compose it in a different kind of writing and represent the themes of displacement and rupture of memories which always raise the question of identity.

Here, Ying Chen further clarifies the traditional image of China surrounded by its cultural borders. She mentions that the Chinese are bound by their social treaties and that they cannot cross them. But on the other hand, this new world where she lives is full of freedom and enthusiasm. She mentions that the meanings of the words change according to the

change of country as the main characters of this novel experience the difference in culture, modernity and freedom in the lives of North Americans.

In the novel's first letter, Yuan expresses his feelings about "belonging" and "identification", which connect this novel to the idea of exile, emigration and immigration. This sense of belonging "and" identification "emerges on the theme of "Être en étranger" "being a foreigner". In the first letter of this novel, Yuan expresses his feeling as an immigrant. He says : "quand tu te retrouves parmi des gens dont tu ignores jusqu'à la langue, et surtout quand on te demande tout le temps de quel pays tu viens"(Chen 1993 :10). Ying Chen talks about the her first feeling of exile and of being a migrant in a new country. Yuan leaves China and chooses Montreal for the best opportunities, but this voluntary exile also raises the question of belonging and identity. As a migrant, he reveals his affection for his origin, China. Ying Chen has tried to unveil her migration experience through this novel. When Sassa asks Da-Li about the person's identity and says: "Ce quelqu'un est-il Chinois ou un étranger ?"(Chen 1993 :56)

Da-Li responds to Sassa in the 25th letter and talks about her opinion on an unknown person. She has admitted that she is in a relationship with a man whose identity is unknown. She says that her question is wrong. Instead of asking "étranger" "foreigner", she should ask "ce quelqu'un est-il un non- étranger ?"(Chen 1993 :64)Da-Li explains to Sassa that she is a foreigner in Montreal. She is afraid of non-strangers. Therefore, she uses "non-foreigner" for the citizens of Montreal. She feels like a

foreigner in Montreal that shows, despite their belonging to Canadian society, migrants are still treated as foreigners.

Conclusion

The construction of the self- Identity is a continuous process that put the migrants in the dilemma where they are always found themselves in between the duality or feeling of family and foreignness. The adoption of the host language is not enough for being the part of native society, there is always a racial factor that resist them to be the part of the social formation of the host countries and their own actual identities always keep them attach with their roots. Thus, the creation of dual or hybrid identity take place. As, Sherry Simon(1999)states about the cultural hybridity in her essay " *Hybridité culturelle* ", that " [I]'identité hybride [...] est construite à la fois sur la mémoire et sur l'oubli" (Simon 1999:23).These two components(memory and oblivion) of the certain identity, form by its socio-cultural factors, and the process of coming out from these sentiments pave the path for the formation of one's identity, not fixed but still in construction. In the words of Sherry Simon (1999): "[I]'hybride est la créature du moment, un événement"(Simon 1999:32). Therefore, till the end of the novel,the identity of characters seems fragmented. In the works of Ying Chen, we find the same kind of duality or hybridity because of that she could not detach herself from her roots although she voluntarily chooses to stay in Quebec for her entire life, becoming like the original inhabitants of Quebec.

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PROTEIN BINDING DRUG-DRUG INTERACTION BETWEEN ROSUVASTATIN AND GLIMEPIRIDE**Vijayabhargava K.* and P. Rajeswarao Rao**Department Of Pharmacology, A.U. College Of Pharmaceutical Sciences Andhra University,
Visakhapatnam, Andhra Pradesh, India
vijayabhargava@rediffmail.com**ABSTRACT**

The goal of the current investigation was to evaluate the potential for pharmacokinetic interactions of Rosuvastatin and glimepiride at the drug distribution level through protein binding displacement mechanism. Both the drugs are highly used in the clinic for management of diabetes and hypercholestermia. Previous investigation hypothesized the possibility of such interaction at the protein level leading to elevated concentration by displacement mechanism. The current investigation was carried by rapid equilibrium dialysis approach in a high throughput mode. Results indicate no meaningful or significant interaction among the two tested compounds and conclude no possible drug-drug interactions at the plasma protein level.

Keywords: Protein binding, displacement reactions, Rosuvastatin, Glimepiride, Rapid equilibrium dialysis (RED)

Introduction

Once administered, drugs undergo disintegration, dissolution and get absorbed in the body by various pathways and drug transporters present in the intestinal lumen and enter into systemic circulation. In the systemic circulation, the drug (s) are exposed to variety of proteins to which these drugs bind and the level or degree of such binding play a major role in affecting the drug disposition. The degree of binding to plasma proteins influence the therapeutic efficacy of the drug as the drug bound to proteins cannot bind to target tissues to produce their desired therapeutic response^[1]. Among the wide variety of proteins in the systemic circulation exemplified by globulins, lipoproteins, glycoproteins etc. Albumin, the major component of plasma is present at higher levels than other proteins and plays a very significant role in determining the level of drug distribution as majority of drugs discovered so far preferably bind to albumin^[2,3]. Drugs which show their binding towards albumin, when administered together, may enter into an interaction mechanism known as displacement reactions which are commonly involved and causative reasons in many pharmacokinetic drug-drug interactions. Such mechanism usually occurs due to preferential binding or competitive binding towards the same site on the Albumin, known as the albumin binding site^[4]. Such interactions are

concentration dependent and tend to be influenced by the systemic levels of the co-administered drugs. However, in majority of the cases such interactions are competitive in nature. But in some cases such interactions can be non-competitive as well and such strategies are also utilized to develop novel drugs as in the case of protein degraders widely under development.

Also, the unbound concentration or the free drug concentrations determined experimentally serves an important parameter in determining the PK/PD correlation and dosage predictions in humans.

In general displacement reactions occur when the administered drugs have binding affinity towards the same plasma proteins and a slight change in the concentrations of the victim drug by the perpetrator drug could produce a clinically meaningful effect especially in the case of chronic administered drugs. The displaced drug will lead to adverse reaction outcomes by the displaced drug and such reactions become peril when the therapeutic index is narrow^[5,6].

Rosuvastatin and Glimepiride are two majorly used drugs in the management of obesity and diabetes. These drugs are used in combination at various approved doses in the clinic. Hence a chance for drug-drug interaction exists. Since these are extremely potent drugs and chronically used it becomes mandate for

researchers to explore the possibility of any liabilities arising upon chronic usage.

Earlier experiments conducted in rats concluded a chance for the displacement reaction at the protein level upon co-administration^[7]. Hence the major objectives of the current research involve the determination of protein binding of drugs individually and in combination at therapeutic concentrations and observe whether an interaction really exists at the plasma protein level. The current experimentation involves the use of rapid equilibrium dialysis approach to estimate the binding parameters in a high throughput mode^[8].

Materials and Methods

Materials

Rosuvastatin calcium and Glimepiride were obtained a gift sample from Nosch laboratories Ltd (Hyderabad, India). Phosphate buffer saline tablets, Carbamazepine, Celecoxib, Formic acid were purchased from Sigma-Aldrich Co. (St Louis, MO, USA). HPLC-grade acetonitrile was obtained from the Merck Co. (Darmstadt, Germany). Rapid equilibrium dialysis inserts were purchased from Thermo scientific LLC, USA. Orbital shaking incubator was from Eppendorff, USA. Rat plasma was obtained from male Wistar rats (in-house) and human plasma was freshly collected from blood bank. DMSO was obtained from SRL, Mumbai. De-ionized water was purchased locally. All other chemicals and apparatus used for this study were obtained from standard suppliers.

Study groups

The studies were conducted under two phases and Four experiments were performed altogether in each matrix.

Tier I or Phase I studies involved generation of baseline protein binding for both Rosuvastatin and Glimepiride in rapid equilibrium dialysis approach. The second set of studies was conducted to assess the effect of Glimepiride on Rosuvastatin protein binding. Rosuvastatin and Glimepiride were incubated together. Glimepiride was incubated with Rosuvastatin at a concentration obtained in multiple dose human cohort studies at the maximum

recommended dosage for humans as outlined in FDA label^[9].

Experimental methodology

Phase-I studies

The incubation was done in duplicates ($n = 2$). One mL of plasma (Wistar rat and Human) obtained, as outlined above, was dispensed into individual micro centrifuge tubes. To these, working stock solutions of Rosuvastatin and Glimepiride were added such that final concentrations in the incubation were $1.0 \mu\text{M}$. Mixed gently and then loaded onto red chamber (plasma chamber) of the RED insert. Before this step, the RED inserts were loaded onto the Teflon base plate, and $350 \mu\text{L}$ of freshly prepared phosphate buffer saline was added to the white chamber of the RED insert. The base plate was then sealed with a transparent adhesive sheet. The base plate with the inserts was placed into orbital shaking incubator maintained at 37°C and 100 rpm. The incubation was carried out for 6.0 hours. After 6.0 h, a sample was withdrawn from both the plasma chamber and buffer chamber into microcentrifuge tubes. Then the samples were matrix normalized (for plasma samples, equal volume of phosphate buffer saline were added and vice versa). Vortex mix and precipitated using acetonitrile containing the internal standard (a mixture of carbamazepine and celecoxib prepared at 100 ng/mL). Samples were vortex mix for 2.0 minutes, centrifuged at 10000 rpm for 10 minutes and the supernatants obtained were transferred into pre-labelled vials for LC-MS/MS analysis.

Phase-II protein binding

(Drug –interaction study)

In this study, Rosuvastatin and Glimepiride were co-incubated in Wistar rat and human plasma to assess the displacement mediated at clinically relevant concentration of Glimepiride on Rosuvastatin protein binding to plasma proteins. Rosuvastatin was incubated at $1.0 \mu\text{M}$ as like in the earlier study. However, the plasma contained $1.2 \mu\text{M}$ of Glimepiride (therapeutic concentration of Glimepiride). The experiment as mentioned under Phase-I studies was repeated in this manner to assess the

changes in the binding potential of Rosuvastatin in the presence of Glimepiride.

Bio-analysis

A suitable fit for purpose bioanalytical method was employed for the analysis of Rosuvastatin, and Glimepiride. The analyses were performed using HPLC coupled with mass spectrometry. The HPLC system consists of Agilent 1100 coupled to API-4000 quadrupole mass spectrometer. Mobile phase consists of 0.1 % (v/v) formic acid in water and acetonitrile (100 % v/v) under pump A and Pump B. Separation achieved on Water's Xterra C18, 3 μ , 4.6 X 100 mm HPLC column at a flow rate of 1.0 mL/min. Gradient program was used for the analysis and the total run time was 6.0 min. Rosuvastatin was monitored in positive mode while Glimepiride was monitored in the negative ion mode.

The retention time for both Rosuvastatin and Glimepiride were 4.20 and 3.60 min

respectively. The gradient program followed was as follows:

Total time (min)	Mobile phase A %	Mobile phase B %
0.01	90	10
1.50	90	10
2.50	10	90
3.50	10	90
4.50	90	10
6.00	90	10

Quantification performed by using the analyte to internal standard peak area ratio using Analyst 1.6.1 version software. Rosuvastatin was monitored at 482.19 \rightarrow 133.1; Glimepiride was monitored using the m/z of 489.59 \rightarrow 350.12. Carbamazepine used as internal standard was monitored using the m/z of 237 \rightarrow 194, and celecoxib at the m/z of 380.08 \rightarrow 316.31 was used as internal standard for Glimepiride.

Mass spectrometry parameters

MRM transition	Rosuvastatin	Glimepiride	Carbamazepine	Celecoxib
Q1	482.19	489.094	237	380.08
Q2	133.1	350.12	194	316.31

Data analysis

Samples from the study were analyzed for their analyte to internal standard area ratio to measure or determine percent unbound or total percent bound to plasma proteins.

Unbound fraction (f_u) of test compounds was calculated as given below

$$f_u = P_u/P_t$$

Where: f_u is unbound (free) fraction

P_u -Peak area ratio of test compounds in buffer samples

P_t is peak area ratio of test compound in plasma samples

Results

Rosuvastatin, and Glimepiride were incubated in rat and human plasma to determine the percent protein bound to plasma proteins using Rapid equilibrium dialysis inserts. At the concentrations tested (1.0 μ M) both Rosuvastatin and Glimepiride showed high degree of protein binding to rat and human plasma proteins as given below (Table 1).

In Phase II study the presence of Glimepiride did not produce any change in the binding of Rosuvastatin signifying no liable interaction at the protein binding level (Table 2). Similarly, the binding of Rosuvastatin was also not changed in the presence of Glimepiride-again no possibility of interaction or displacement reaction (Table 3).

Table 1: Protein binding of Rosuvastatin and Glimepiride in rat and human plasma

Analyte	% Protein bound	
	Rat Plasma	Human Plasma
Rosuvastatin	93.2 \pm 0.26	91.4 \pm 7.82
Glimepiride	99.7 \pm 0.03	99.8 \pm 0.50

Table 2: Influence of Protein binding of Glimepiride on Rosuvastatin in rat and human plasma

Analyte	% Protein bound	
	Rat Plasma	Human Plasma
Glimepiride	99.6 ± 0.02	99.7 ± 0.04

Table 3: Influence of Protein binding of Rosuvastatin on Glimepiride in rat and human plasma

Analyte	% Protein bound	
	Rat Plasma	Human Plasma
Rosuvastatin	94.9 ± 0.49	91.1 ± 0.55

Discussion

Displacement of administered drug by means of another co-administered drug can induce changes in the pharmacokinetics of the displaced drug. For some drugs with narrow therapeutic index such interactions will pose severe drug-drug interactions and requires monitoring or may attract warnings from the regulatory agencies.

The current research was conducted to determine the effect of Glimepiride on protein binding of Rosuvastatin. Both the test drugs are highly bound to plasma proteins and in the clinic are widely recommended to manage diabetes and underlying hypercholesteremia. Hence, a possibility for protein binding drug-drug interaction exists between the two drugs as they display high protein binding in individual protein binding studies.

The study evaluated the potential for significant displacement of Rosuvastatin upon

co-administering Glimepiride through displacement mechanism. However, there was no observed displacement or a change in the binding potential of Rosuvastatin in both rat and human plasma.

Both the test compounds Rosuvastatin and Glimepiride bind predominantly to albumin. Albumins have two main drug binding sites characterized as Sudlow site I and Sudlow site II which bind drugs selectively^[10]. Rosuvastatin primarily binds to the site I and Glimepiride may binds to site II and hence no observed interaction. However, this assumption requires further investigation.

Conclusion

In summary, our in-vitro experiments conclude no effects on Rosuvastatin protein binding by glimepiride or vice versa and a possible drug interaction in the clinic via displacement mechanism of protein binding rarely exists.

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SOCIO-ECONOMIC STATUS OF HAJONG TRIBE RESIDING IN DALU BLOCK, WEST GARO HILLS MEGHALAYA**Y. M. Sangma¹ and T. R. Jeyaraaj²**^{1,2}Department of Economics, Annamalai University, Annamalai Nagar, Tamil Nadu, India,
¹yilanthungsangma@gmail.com, ²trjeyaraaj@yahoo.com**ABSTRACT**

As per the 2011 census, the tribal population constituted about 8.6% of the total population in India. The main objective of the study is to address the socio-economic status of Hajong tribes in Dalu Block, West Garo Hills Meghalaya. The Socio-economic status plays a vital role in determining an individual's health and society as a whole. To examine the respondents' socio-economic status, Udai Pareekh's Revised Scale has been adopted with slight modification as per the need of the study. The findings of the study reveal that the respondents belong to five categories of classes, namely Upper Class (2%), Upper Middle Class (4%), Middle Class (32%), Lower Middle Class (58%), and Lower Class (4%). It can be concluded that the majority of the respondents belonged to the lower middle class. The findings of the study can help the policy makers in designing suitable effective policies and programmes in improving their socio-economic backwardness.

Keywords: Tribes, Hajong tribes, Socio-economic status, Udai Pareekh's revised scale

Introduction

As per the 2011 census, the tribal population constituted about 8.6% of the total population in India. The indigenous peoples are found mainly in the seven states of northeast India and the central tribal belt stretching from Rajasthan to West Bengal. There are more than 700 tribes reported under Article 342 of the Constitution of India, spread across various states and union areas of the country. More than half of the population of the scheduled tribes is concentrated in the states of Madhya Pradesh, Chhattisgarh, Maharashtra, Odisha, Jharkhand, and Gujarat. Tribes are known for their honesty, simplicity, integrity, hospitality, and love of nature. They are mainly live in the forest, hills, rural and isolated regions of India. Due to their distinctive culture, geographical isolation, backwardness, and shyness in contact with the community at large, they face many social, economic, and health-related problems. The Socio-Economic Status (SES) is a combined overall economic and social measure of an individual's work experience, the economic and social status of an individual or family in relation to others. The SES of a family is commonly analyzed by examining the household's income, education of an earner, and occupation. At the same time, for an individual's SES, only their attributes are assessed. "The socio-economic status was the position an individual occupies in a society concerning the amount of cultural possession,

effective income, material possession, prestige and social participation" Ovwigho (2011). The SES is also an essential determinant of an individual's health, nutritional status, mortality, and morbidity. The SES also affects accessibility, affordability, acceptability, and actual use of available health facilities Aggarwal et.al.(2005).

Hajong Tribe

The Hajong people are considered to be an ethnic group from northeast India and the northern parts of Bangladesh. Most Hajongs are concentrated in India and are mainly engaged in agricultural activities. In Meghalaya, they are primarily inhabited in the south west and on the western border of the West Garo Hills District. At the same time, some Hajong villages are located in the Eastern and Western Khasi Hills, and some also live in different districts of Assams (*South West Garo Hills District*). Hajong has the status of a Scheduled Tribe in India (Registrar General & Census Commissioner India, 2017) and is the fourth populated tribal ethnicity in the Indian state of Meghalaya.

Objectives

The main objective of the study is to understand the socio-economic status of the Hajong Tribe residing in Dalu Block of West Garo Hills Meghalaya, India.

Materials and Methods

A descriptive research design was adopted in the study. There are 177 villages under the Dalu block. According to census 2011, the total population of the Dalu block was 51220 consisting of 177 villages. The majority of Hajong tribes reside in the two villages of Dalugaon and Chandoboi. Hence, these two villages were selected for the study. A total of 50 samples, i.e., 25 respondents each from these two villages, were collected using simple random sampling through the personal interview method. It is to be noted that only the head of the family has been interviewed for the study. To analyze the respondents' socio-economic status, Udai Pareekh's Revised Scale for rural areas has been adopted with slight modification as per the need of the study.

Udai Pareekh's Revised Scale

It seeks to assess the socio-economic status of the rural population. This scale has nine components that determine the individual's socio-economic status. After scoring the individual items, the total score is summarized, and the class is interpreted. The key components used in this scale include (1) Caste/Tribe (2) Occupation (3) Education (4) Land (5) Social participation (6) House (7) Farm power (8) Material possessions (9) Family member. If the score of the respondent range is > 43 , it was considered that the respondent belonged to the Upper Class. Likewise, score ranges between 33-42 was considered as Upper Middle Class, 24-32 as Middle Class, 13-23 as Lower Middle Class, and the score < 13 was considered as belonging to Lower Class Gururaj MS et. al.(2015).

Results and Discussion

Component 1: Caste/Tribe

Hajong people have the status of a Scheduled Tribe in India. Hence, all the 50 respondents in the study have given a score of 1.

Component 2: Occupation

Occupational status is one of the components of socio-economic status (SES), representing the power, income, and educational requirements associated with various positions in the occupational structure. It has an

advantage over the other indicators of SES, which are most commonly educational attainment and personal or family income

Table 1. Distribution of respondents based on occupation

Sl. No.	Occupation	Score	No. of Respondents	%
1.	No work	0	4	8
2.	Labourer	1	39	78
3.	Business	3	5	10
4.	Cultivation	5	1	2
5.	Service	6	1	2
	Total		50	100

Source: Primary Data Collected and Computed

The study on the occupation of the respondents (Table 1) indicates that the majority (78%) of the respondents are engaged in labourer activities, followed by business (10%), independent profession, and service with 2% each. Surprisingly, the study also reveals that 8% of the respondents are not engaged in any occupation.

Component 3: Education

Education also plays a significant role in income. Education increases the average earnings of an individual. A person with higher education has better occupational and economic outcomes. On the contrary, lower levels of education are primarily associated with higher unemployment rates and lower earnings.

Table 2. Distribution of respondents based on Education

Sl. No.	Education	Score	No. of Respondents	%
1	Illiterate	0	23	46
2	Can read and write	2	4	8
3	Primary	3	3	6
4	Middle	4	7	14
5	High school	5	13	26
6	Total		50	100

Source: Primary Data Collected and Computed

Table 2 shows the academic qualification of the respondents. The findings indicate that 46% of respondents were illiterate. The highest qualification of the respondents was up to high school level (26%). The study also reveals that among the respondents, no one has graduated and above graduation level. Similar findings were observed by Kumari et. al. (2018) for Tharu tribes in the Bahraich district of Uttar Pradesh in India. They found that more than

half (53.38%) of the respondents were illiterate. Only 2.80% of the respondents have completed graduation and above level of education.

Component 4: Land Holding

The land is one of three significant factors of production in economics and is considered to be an essential input for housing and agricultural production. Thus, the land is the backbone of improving an individual's socio-economic status as it provides substantial economic and social benefits.

Table 3. Distribution of respondents based on Land Holdings

Sl. No.	Land	Score	No. of Respondents	%
1.	<1 acre	1	40	80
2.	1-5 acre	2	7	14
3.	5-10 acre	3	1	2
4.	10-15 acre	4	1	2
5.	≥20 acre	6	1	2
	Total		50	100

Source: Primary Data Collected and Computed

As shown in Table 3, the findings of the study indicate that the majority (80%) of the respondents have less than 1 acre of land. Only 20% of respondents have one or more than one acre of their land.

Component 5: Social Participation

Social participation refers to relationships within and between families, social groups, and neighborhoods. It plays a significant role in the development of one's social status in society.

Table 4. Distribution of respondents based on Social Participation

Sl. No.	Social participation	Score	No. of Respondents	%
1.	None	0	14	28
2.	Member of one organization	1	36	72
3.	Member of more than one	2	-	-
	Total		50	100

Source: Primary Data Collected and Computed

Table 4 shows the study on the social participation of the respondents, which reveals that 28% of the respondents does not involve in any social participation. It also indicates that

72% of the respondents have only participated in one organization.

Component 6: House

Housing conditions have a direct influence on an individual's health. Housing conditions are considered one of the mechanisms through which social inequality translates into health inequality.

Table 5. Distribution of respondents based on Housing

Sl. No.	House	Score	No. of Respondents	%
1.	Hut	1	17	34
2.	Kutch house	2	21	42
3.	Mixed house	3	11	22
4.	Pucca house	4	1	2
	Total		50	100

Source: Primary Data Collected and Computed

Table 5 shows the distribution of respondents based on housing type. The Table portrays that 42% of the respondents live in kutch houses, 34% live in a hut, 22% in mixed houses, and only 2% live in pucca houses.

Component 7: Farm Power

The majority of the population in rural areas, especially the tribals, depend on agricultural activities as their primary source of livelihood. It is essential to study about their availability of farm power to measure their socio-economic status.

Table 6. Distribution of respondents based on Farm Power

Sl. No.	Farm power	Score	No. of Respondents	%
1.	No draught animals	1	24	48
2.	1-2 draught animals	2	12	24
3.	3-4 draught animals	4	10	20
4.	5-6 draught animals	6	4	8
	Total		50	100

Source: Primary Data Collected and Computed

As shown in Table 6, the findings of the study indicate that 48% of the respondents do not have any draught animals. 24% of respondents

have 1-2 draught animals; 20% own 3-4 draught animals. Only 8% of respondents have 5-6 draught animals.

Component 8: Material Possessions

Material possessions have a direct impact on social life. It serves as a symbol of identity on a social level. Thus, the study has considered the material possessions of the respondents to analyze their socio-economic status.

Table 7. Distribution of respondents based on Material Possessions

Sl. No.	Material possessions	Score	No. of Respondents	%
1.	Cycle	1	22	44
	No Cycle	-	28	56
	Total	-	50	100
2.	Chairs	3	48	96
	No Chairs	-	2	4
	Total	-	50	100
3.	Mobile phone	4	46	92
	No Mobile phone	-	4	8
	Total	-	50	100
4.	Television	5	23	46
	No Television	-	27	54
	Total	-	50	100
5.	Refrigerators	6	7	14
	No Refrigerators	-	43	86
	Total	-	50	100

Source: Primary Data Collected and Computed

Table 7 shows the distribution of respondents based on material possessions. It reveals that the respondents do not have any bullock cart and radio in their house. 44% of the respondents have a cycle, 96% have chairs, 92% have a mobile phone, 46% own a television, and only 14% have refrigerators.

Component 9: Family Member

The increase in the number of family members increases the family's total income, but when we look into the family's per capita income of the family, it tends to decline. As a result, a more significant proportion of their income goes to necessities and less on luxuries.

Table 8. Distribution of respondents based on the number of Family Member

Sl. No.	Family member	Score	No. of Respondents	%
1.	Up to 5	2	38	76
2.	>5	1	12	24
	Total		50	100

Source: Primary Data Collected and Computed

As shown in Table 8, the findings of the study reveal that the majority (76%) of the respondents were living with 5 or less than 5 members of the family. Only 24% of the respondents have more than 5 members in the family.

Overall Socio-economic Status of the respondents of Hajong Tribes

Sl. No.	Category	Score	No. of respondents	%
1.	Upper Class	>43	1	2
	Upper Middle Class		4	4
2.	Middle Class	33-42	16	32
	Lower Middle Class		29	58
3.	Class	13-23	2	4
	Lower Class		50	10
	Total		0	0

Source: Primary Data Collected and Computed

Conclusion

The present study emphasized that there is a scope for development in tribal areas in India. From the study, it can also be concluded that the Hajong tribes of Dalu Block West Garo Hills Meghalaya belonged to five categories: Upper Class, Upper Middle Class, Middle Class, Lower Middle Class, and Lower Class. As shown in the Table above, the overall socio-economic status of the respondents of Hajong tribes indicates that only 2% of the respondents belonged to the upper class, 4% were upper middle class, 32% were middle class, and 4% belonged to the lower class. The majority (58%) of the respondents belonged to the lower middle class. The Socio-economic status plays a significant role in determining an individual's health and society as a whole. Hence, the present study's findings can help the policy makers design suitable and effective policies and programmes in improving their socio-economic backwardness.

Ethical Consideration

Permission to conduct the study was taken from the Block Development Officer. Covid-19 SOP guidelines of the Government of Meghalaya were adhered to in collecting data from the respondents, and consent from the respondents was also taken while conducting the study.

Acknowledgements

I want to express my sincere gratitude to my research supervisor Dr. T.R. Jeyaraaj for his

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TREE BIOMASS CARBON AND ITS IMPORTANCE IN AN URBAN INDUSTRIAL AREA

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ABSTRACT

Carbon sequestration through biomass seems to be economical and feasible option. For urban ecosystems, very little data available to assess whether urbanization leads to an increase or decrease in biomass carbon pools. Trees in urban areas offer the double benefit of direct carbon storage and stability of natural ecosystem. Pimpri-Chinchwad is a major industrial hub and hosts one of the biggest industrial zones in Asia. For present investigation Pimpri-Chinchwad industrial areas two industries were selected i.e. Tata Motors, Chinchwad, and Tata Motors, Pimpri, with the objectives of quantifying the total carbon sequestration by perennial vegetation. The tree biomass at Chinchwad unit has accumulated 98.85 t of carbon stock in sampled area; and after extrapolation it was 5874.51 t. The Pimpri unit showed equally thick vegetation and sequestered 570 t of carbon in sampled area. After extrapolation the carbon stock was found to be 12,415.08 t. At both units, total 68 of perennial vegetation were reported in sampled plots. The most abundant species was *Leucaenaleucocephala* with a carbon value of 323.63 t. The total amount of carbon was 18667.8 t at two selected industries of 150 ha.

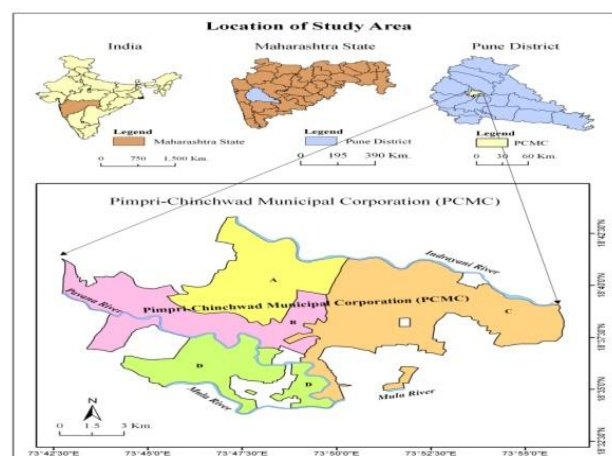
Keywords: PCMC city, Industrial area, Carbon sequestration, tree biomass, Carbon stock.

Introduction

Woody vegetation in particular can be a noteworthy carbon storage pool and its importance tends to increase with urban forest maturity [1,2]. Many studies have analyzed the benefits, costs, and carbon storage capacity associated with urban trees. These studies have been limited by a lack of research on urban tree biomass, as urbanization increases globally, it is becoming important to more accurately evaluate carbon dynamics in these systems. In urban areas, trees have been one of the most well studied organic carbon pools [3]. Greenhouse gas (GHG) emissions from industry represented almost 30% of global GHG emissions in 2010 and around 75% of that is energy-related [4]. India is a fast developing Asian country which needs more efforts on carbon sequestration projects on biomass carbon pool especially in urban areas. Therefore, this study is going to focus on biomass carbon pool of industrial urban woody vegetation in Pimpri-Chinchwad Municipal Corporation (PCMC). PCMC is a major industrial centre, particularly for automobile manufacturing. It is home to one of the world's largest four-two-wheeler manufacturers – Bajaj and Tata, also has a main software industries developed as a big tech park. PCMC and Pune,

when viewed as a unified geographical unit, make up one of India's largest industrial areas. The city forms a continuous urban stretch, and contains a thriving industrial belt that primarily consists of engineering and automobile industries. Majority of the industries are developing green zone/pockets in their vicinity as a part of norms laid down by the concerned authorities. These green belts/pockets are larger sinks of atmospheric carbon dioxide [6]. Therefore, industrial zone is very important source for study of carbon stock estimation. In present study biomass carbon pool was evaluated in two selected industries (Tata Motors, Chinchwad, and Tata Motors, Pimpri).

Study Area



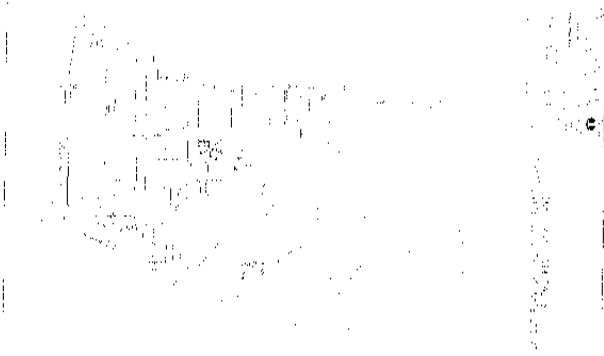


Figure 1a: Study Location- PCMC; Tata Motors Pimpri plant;

Pimpri-Chinchwad Municipal Corporation (PCMC) urban area for present investigation was chosen as study area with total geographic area of 181 km². The PCMC area is bounded by 73° 40' E to 73° 55' E longitudes and 18° 30' N to 18° 45' N latitudes (Fig. 1). The city is situated towards northeast of Pune and 160 km from Mumbai and located on the eastern side of Western Ghats. The topography is almost flat with an altitude ranging from 530 m to 566 m. The base rock throughout the area is Deccan Trap Basalt. The land use map has been shown in fig. 1. The establishment of large-scale core industries has led to the growth of ancillary and small-scale industries in and around this industrial belt of PCMC city. The Tata Motors, Chinchwad was established in the year 1966 on 130 acres area. When it was established the area was almost open with scrubland. The Tata Motors, Pimpri unit was also established simultaneously in the year 1966 on 1160 acres area, out of which 245 acres was under plantation. When the Pimpri unit was established this area was almost barren. The company have taken the initiative to green this barren land. Tata Motors has created a haven for many species of rare migratory birds and plant species using its recycled water. Thousands of trees have been planted in the Lake house as an effort to reduce the carbon intensity in the atmosphere. Horticulture department, a full-fledged division of Tata Motors, Pune Plant, looks after the Lake house and its vicinity. Since its conception, the Lake house has earned the reputation for being the only green industrial belt with a rich biodiversity in the whole of Pune district [7].

Materials and Methods

The random sampling method was used for measuring the above ground vegetation in period of 2012-2014. In every plot, plants diameter or girth at breast height (DBH or GBH) and total crown height was measured, this parameter represents the volume or height of a tree, which can be converted to biomass per unit area (tonnes/hectare or tonnes/hectare/year). The breast height in DBH was recorded at 130 cm above the ground. Tree height was measured by using instrument 'Abney level' but which was not suitable for dense vegetation where visibility was limited. Belowground biomass was estimated by the Root:Shoot ratio relationship. The total industrial area covers about 12.33 km² (7.23%) of the Pimpri-Chinchwad Municipal Corporation. The selected total industrial zone area is about 150 hectare. In all 86 plots of 25x25 m size were laid [-1766061994].

Result and discussion

We have laid 14 sampling plots (25x25m) in Tata Motor's Chinchwad unit for quantification of biomass and its carbon content. The green belt accumulated 98.85 t of carbon stock in sampled area (0.9 ha); and after extrapolation to entire area, it was 5874.51 t. The carbon stock at Chinchwad unit was 112.97 t ha⁻¹. At Pimpri unit we have laid 72 sampling plots (25x25m). Tata Motors (Pimpri) showed equally thick vegetation and sequestered 570 t of carbon. After extrapolation the carbon stock was found to be 12,415.08 t (Table 1). The carbon stock at Pimpri unit was 126.68 t ha⁻¹. Altogether, the above-ground and below-ground biomass was 1,106 t and 288 t respectively (Fig.2). The biomass estimated was 1,394 t. Based on the biomass total carbon stock was estimated to be 669 t. In all 68 trees and shrub species were reported in sampled plots. Out of these the most abundant species was *Leucaenaleucocephala* (tree number 1821) with a carbon value of 323.63 t. It was one of the major biomass carbon stocks in industrial zone. Mean above-ground biomass of the plant species from the sampled area was 15 t and below-ground biomass 3.90 t. The total mean biomass was 18.90 t and carbon stock was 9.07 t (Fig. 3).

Figure 2: AGB, BGB, total biomass, and total carbon stock in woody vegetation stock in woody vegetation

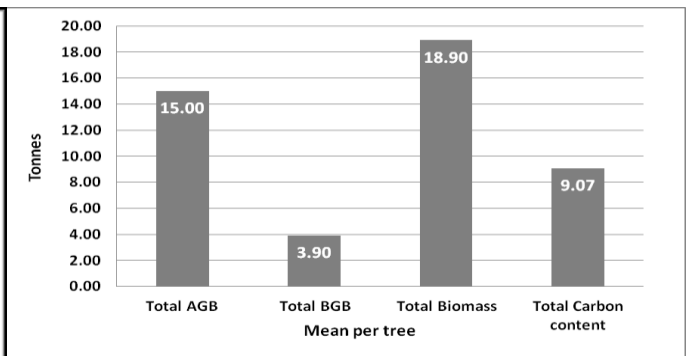
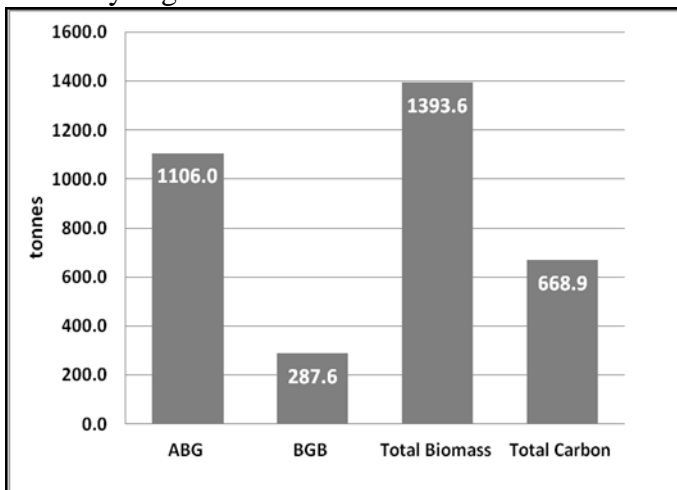


Figure 3: Mean total biomass and carbon stock in woody vegetation

Table 1: Total carbon stock in sampled area and extrapolated values (t ha⁻¹)

Sites	Total Area (ha)	Quadrats	Sampled area (ha)	Carbon stock (t)	
				Sampled areas	After extrapolation
Tata Motors, Chinchwad	52	14	0.9	98.85	5874.51
Tata Motors, Pimpri	98	72	4.5	570.08	12415.08

Table 2: Top ten Species-wise distribution of mean and total biomass, and carbon stock

Species name	Number of trees	AGB /tree (t)	BGB /tree (t)	Biomass /tree (t)	Carbon /tree (t)	Total Carbon (t)
<i>Leucaena leucocephala</i> (Lam.) de Wit.	1821	0.294	0.076	0.37	0.178	323.632
<i>Gliricidia sepium</i> (Jacq.) Walp.	596	0.375	0.098	0.473	0.227	135.203
<i>Peltophorum pterocarpum</i> (DC.) K.Heyne	536	0.24	0.062	0.303	0.145	77.908
<i>Delonix regia</i> (Hook.) Raf.	43	1.046	0.272	1.318	0.633	27.205
<i>Azadirachta indica</i> A.Juss.	50	0.576	0.15	0.726	0.349	17.426
<i>Eucalyptus globulus</i> Labill.	74	0.365	0.095	0.46	0.221	16.333
<i>Albizia lebbeck</i> (L.) Benth.	17	1.224	0.318	1.543	0.74	12.587
<i>Ficus religiosa</i> L.	19	0.751	0.195	0.946	0.454	8.629
<i>Pongamia pinnata</i> (L.) Pierre	31	0.434	0.113	0.547	0.263	8.145
<i>Acacia nilotica</i> (L.) Delile	62	0.175	0.045	0.22	0.106	6.555

Thousands of trees have been planted in this zone as an effort to reduce the carbon intensity

in the atmosphere. The plantations in the industries are of great interest as potential greenhouse gas mitigation. A total of 205.77 t

C ha⁻¹ was stored in above and below-ground tree biomass in sampled plots of both industrial area. After extrapolation, the AGB value was 30865.12 t, BGB value 8025 t and total biomass was 38891.25 t; whereas the sequestered amount of carbon was 18667.8 t at two selected industries of 150 ha.

Our analysis of above ground biomass of trees in the PCMC city of industrial zone suggests that the industrial zones have the potential to reduce the emission of carbon a few by growing plantation in their vicinity with proper maintenance. These green belts/pockets help to reduce air pollutants, provide cooling effect, and create aesthetic value. The Tata Motors shoulders the responsibility of conservation and protection the natural vegetation and biodiversity. The Pimpri unit has preserved the existing natural surroundings in which it operates; and the concept of environmental conservation and restoration was implemented successfully. The Lake house area of Tata Motor's Pimpri unit is the best example of this. When the Pimpri unit was established this area was almost barren. The company have taken the initiative to green this barren land. Tata Motors has created a haven for many species of rare migratory birds and plant species using its recycled water. Thousands of trees have been planted in the Lake house as an effort to reduce the carbon intensity in the atmosphere. Horticulture department, a full-fledged division of Tata Motors, Pune Plant, looks after the Lake house and its vicinity. Since its conception, the Lake house has earned the reputation for being the only green industrial belt with a rich biodiversity in the whole of Pune district. A tree nursery was created, and

simultaneously several fast-growing trees were planted to create a green area as quickly as possible (Source: Tata Motors Ltd.). cyclopentanone was used (2b, 92%, entry 1). We next plan to synthesize other indole derivatives to prove the broader applicability of our green protocol.

Conclusion

The above analysis in PCMC shows that the plantation done by industrial zone, which accumulates large amount of carbon in their biomass, other industry should come forward in greening the city and their own premises as well. In PCMC cities (Tata Motors) such work greatly influenced by other industrial sectors, both within and outside the country in an urban area. This carbon pool study of tree vegetation in PCMC cities was not addressed up till now. The industrial zone has accumulated sizable amount of carbon in its woody vegetation. The extrapolated value of sequestered amount of carbon was 18667.8 t at two selected industries. Our results are based on one time field measurement. However, long-term measurement of biomass is necessary for more accurate and precise results. We strongly recommend to the municipal authority as well as respective industry to take the carbon credits against the sequestered carbon in the form of biomass.

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FISCHER INDOLE SYNTHESIS CATALYZED BY PHOSPHOMOLYBDIC ACID IN POLY(ETHYLENE GLYCOL) (400) AS RECYCLABLE REACTION MEDIUM

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ABSTRACT

A novel poly(ethylene glycol)-400 (PEG-400) mediated and phosphomolybdic acid (PMA) catalyzed methodology for indole synthesis is described. The Fischer indole synthesis is achieved with the various simple carbonyl compounds in good yields under relatively mild conditions in PEG-200, -400, and -600. The reaction of cyclohexanone (**1a**) as a model compound with phenylhydrazine in PEG-400 using PMA (5.0 mol%) as a catalyst gave tetrahydrocarbazole (**2a**) in high yields at 50 °C within 10 min.

Keywords: Fischer indole, phosphomolybdic acid, PEG

Introduction

A literature survey revealed that the work on heterocyclic compounds began in the 1800s, parallel with the development of organic chemistry [1]. After the 1950s, extensive research was conducted in the field of heteroatom-containing moieties. Heterocyclic chemistry is one of the most complex yet interesting and intriguing branches of organic chemistry that is ubiquitous in our daily lives. Over ten million hits were displayed for 'heterocyclic compounds' on google search engine.

Heterocyclic compounds are of particular interest in medicinal chemistry, and this has catalyzed the discovery and development of modern heterocyclic chemistry [2]. The indole ring system represents one of the most abundant and important heterocycles in nature [3,4,5]. Found in a hugely diverse array of biologically significant natural compounds, from a simple chemical such as the neurotransmitter serotonin to complex alkaloids such as the clinically used anticancer agent mitomycin C (**Figure 1a-b**) [6]. Additionally, several important synthetic drugs contain an indole motif, including sumatriptan and rizatriptan (**Figure 1c-d**) [7].

Literature Review

Several methods have been reported on the synthesis of indole moiety, non-catalytic methods include the more classical Reissert, Madelung, Leimgruber–Batcho, and

Furstnerindole synthesis [8]. Albeit, Fischer indole synthesis remains one of the most versatile and widely employed methodologies for the preparation of indole containing medicinal agents [9]. The growing interest in recent years in green chemistry approaches motivated us to explore a novel catalytic system that is not only economical but also has recyclability towards indole synthesis.

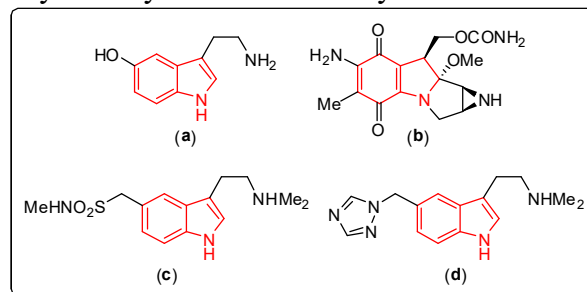


Figure 1. Naturally occurring indoles: (a) serotonin, (b) mitomycin C; synthetic drugs: (c) sumatriptan, (d) rizatriptan

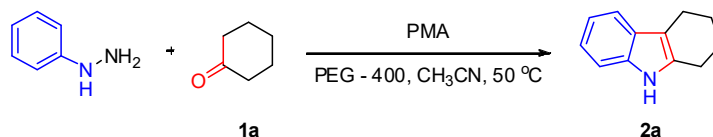
Recently, there have been several publications on the utility of heteropoly acids (HPAs), as environmentally friendly and economically viable solid acids. Unlike traditional solid acid catalysts, HPAs are soluble in water and other protic solvents; on the other hand, they can be recovered in the solid form once the reaction gets completed by a simple workup procedure. Indeed, HPAs have been widely used as catalysts or catalyst supports for biomass conversion [10]. Among HPAs, PMA ($H_3PMO_{12}O_{40}$) is one of the economical, recyclable, and commercially available catalysts [11]. Another critical viewpoint of

green chemistry is to focus on a naturally kind convention where the response medium can be reused and reused [12]. Enormous efforts continue in this direction, and already several protocols are being practiced as efficient alternatives to the “not so efficient” traditional methods of older times. Keeping in mind the challenges posed by traditional solvents and also the limitation of non-conventional solvents (ionic liquids, scCO₂, etc.), a program was undertaken by us and others where the biologically compatible PEG was demonstrated to be a recyclable solvent for various transformations [13,14,15,16,17,18]. Herein, we describe the use of a simple and widely available polymer, PEG and optionally its derivatives as non-toxic, inexpensive, and non-ionic liquid solvents and PMA as a catalyst in a Fischer indole approach.

Result and discussion

To begin with, indole synthesis was carried out with cyclohexanone **1a** as a model compound under the blank condition in acetonitrile (3.0 mL) as a conventional organic solvent. This reaction did not proceed after stirring for 12 h

(Table 1, entry 1). The reaction at the identical condition at 50 °C for 12 h also did not proceed to indole derivative **2a** (entry 2). The reaction in the presence of 5.0 mol% of PMA at rt and 50 °C found to be sluggish (entries 3 and 4). The reaction performed using PEG-400 (0.5 mL) as a cosolvent completed within 1 h to yield 91% of indole **2a** indicating the effect of PEG (entry 5). An increase in the ratio of cosolvent, PEG-400 (1.0 mL) improved reaction time and proceeded to **2a** within 30 min. (entry 6). Surprisingly, the reaction with 2.5 mol% catalyst also proceeded to yield **2a** in 91% with a reaction time of 40 min (entry 7). The reaction in PEG-400 (3.0 mL) at the room temperature did not proceed (entry 9). However, the same reaction under the identical conditions at 50 °C completed within 10 min (entry 10). Comparison of the entries 9 and 10 indicates the impact of temperature on the cyclization. We also examine the Fischer indole synthesis in PEG-200 and -600 (entries 11 and 12).



Scheme 1. Fischer indole synthesis with cyclohexanone (**1a**) and phenylhydrazine

Table 1. Fischer indole synthesis with cyclohexanone (**1a**) and phenylhydrazine under different reaction conditions.^a

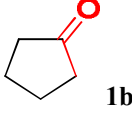
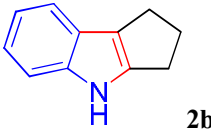
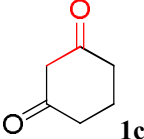
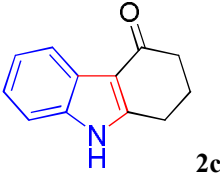
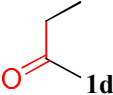
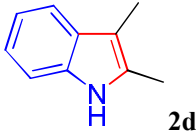
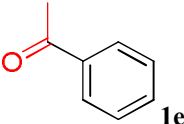
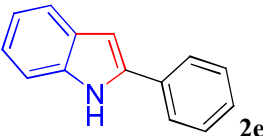
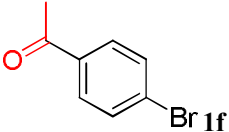
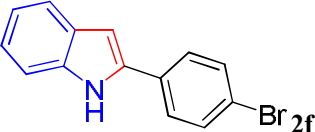
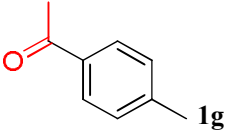
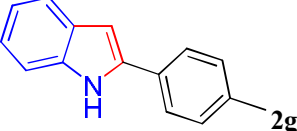
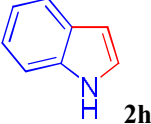
entry	solvent (mL)	cosolvent (mL)	temp (°C)	catalyst (mol%)	time (h)	yield (%) ^b
1 ^c	Acetonitrile (3.0)	-	rt	[blank]	12	-
2 ^c	Acetonitrile (3.0)	-	50	[blank]	12	-
3	Acetonitrile (3.0)	-	rt	5.0	12	traces
4	Acetonitrile (3.0)	-	50	5.0	12	76
5	Acetonitrile (2.5)	PEG-400 (0.5)	50	5.0	1.0	91
6	Acetonitrile (2.0)	PEG-400 (1.0)	50	5.0	30 min	92
7	PEG-400 (2.0)	Acetonitrile (1.0)	50	2.5	40 min	91
8	PEG-400 (2.0)	Acetonitrile (1.0)	50	5.0	20 min	90
9 ^d	PEG-400 (3.0)	-	rt	5.0	24	-
10	PEG-400 (3.0)	-	50	5.0	10 min	91
11	PEG-200 (3.0)	-	50	5.0	10 min	90
12	PEG-600 (3.0)	-	50	5.0	20 min	91

^aAll reactions were carried out on a 2.0 mmol reaction scale of cyclohexanone (**1a**) with 2.2 mmol of phenylhydrazine and 5.0 mol% PMA in PEG-400 and acetonitrile at rt and 50 °C. ^bIsolated yield. ^cEnamine in traces. ^dEnamine in 55% yield.

We further examined the Fischer indole synthesis by using a series of different carbonyl compounds such as aldehydes and ketones (**Table 2**) [19]. For comparison, smaller ring

size keto substrate, cyclopentanone was used (**2b**, 92%, entry 1). We next plan to synthesize other indole derivatives to prove the broader applicability of our green protocol.

Table 2. Fischer indole synthesis with various carbonyl compounds (**1**).^a

entry	compound	product	yield (%) ^b
			2
1	 1b	 2b	92
2	 1c	 2c	82
3	 1d	 2d	82
4	 1e	 2e	88
5	 1f	 2f	84
6	 1g	 2g	90
7	CH₃CHO 1h	 2h	72

^aAll reactions were carried out on a 2.0 mmol reaction scale of carbonyl compound (**1**) with 2.2 mmol of phenylhydrazine and 5.0 mol% PMA in PEG-400 (3.0 mL) at 50 °C. ^bIsolated yield.

The reaction with 1,3-cyclohexanedione smoothly provided **2c** in good yield (82%, entry 2). Similarly, other ketones such as ethyl methyl ketone (**1d**) and acetophenone (**1e**) provided good yields of indole derivatives **2d** and **2e** respectively (entries 3 and 4). Under

identical conditions, other para-substituted ketone substrates were examined and we successfully achieved **2f** and **2g** from their ketone substrates **1f** and **1g**, respectively (entries 5 and 6). The reaction with the acetaldehyde **1h** also proceeded effectively in 30 min to yield indole **2h** in 72% (entry 7). In most of the methodologies, cosolvents play a

dramatic effect on reactivity, selectivity, and ultimately on the yield of the product. To check the effect of the PEG-cosolvents system on the Fischer indole reaction, we performed a series of reactions in different cosolvents (polar protic/aprotic/non-polar, **Table 3**). We did not observe any noticeable effect of cosolvents in the case of our methodology. However, a slight

decrease in the reaction time was observed when we move from non-polar to polar solvents (entries 1-7). Presumably, the good miscibility of PEG-400 with the polar solvents results in a more homogenous reaction mixture and eventually lesser reaction time. Additionally, PMA is easily soluble in most polar organic solvents.

Table 3. Fischer indole synthesis with cyclohexanone (**1a**) and phenylhydrazine in the presence of various cosolvents.^a

entry	cosolvent	time (min)	yield (%) ^b
			2
1	Cyclohexane	45	91
2	Diethyl ether	45	91
3	Dichloromethane	40	90
4	2-Propanol	30	90
5	THF	30	89
6	Ethanol	30	91
7	<i>N,N</i> -Dimethylformamide	20	90

^aReactions were carried out on a 2.0 mmol reaction scale of cyclohexanone (**1a**), phenylhydrazine (2.2 mmol), and 5.0 mol% PMA in PEG-400 (2.0 mL) and various cosolvents (1.0 mL) at 50 °C. ^bIsolated yield.

The search for alternative reaction media to replace volatile and often toxic solvents commonly used in organic synthetic procedures is one of the important principles of green chemistry. So to check the eco-friendliness of PEG, we recycled PEG-400 several times (**Table 4, Figure 2**) [20]. The reaction proceeded cleanly with consistent results, although a weight loss of 4% of PEG-400 was observed from cycle to cycle due to mechanical loss. The plausible mechanistic pathway may involve the activation of amino of phenylhydrazine via oxygen of the hydroxyl group of PEG. The role of PMA presumably is to activate carbonyl carbon of the ketone/aldehyde and to expedite the attack of phenylhydrazine and subsequent cyclization to give the final indole product.

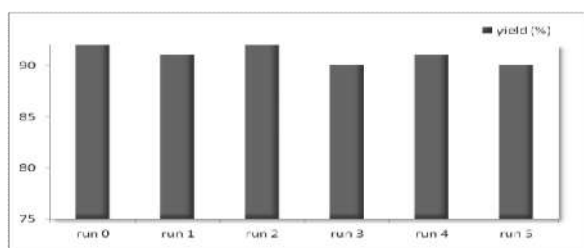


Figure 2. PEG-400 recycling ability

Table 4. PEG-400 recycling ability^a

Run	0	1	2	3	4	5
yield (%) ^b	92	91	92	90	91	90

^aAll reactions were carried out on a 5.0 mmol reaction scale of cyclohexanone (**1a**) with 5.2 mmol of phenylhydrazine and 5.0 mol% PMA in PEG-400 (8.0 mL) at 50 °C. ^bIsolated yield.

Conclusion

In summary, PMA found to be an efficient catalyst in the presence of PEG as the green solvent. In conclusion, a simple, effective, and environmentally benign methodology towards the synthesis of various 2,3-substituted indoles has been reported. Here PEG acts as a clean solvent whereas, PMA as a catalyst in significantly enhancing the intramolecular cyclization. Our protocol is a practical approach that uses PEG as a readily and customarily available media with economical and recyclable property. Moreover, the workup procedure is easy and convenient without any major equipment. Notably, our procedure does not require any Lewis acid/base catalyst. The experimental procedure is very simple and convenient, and

besides, our methodology did not require any aqueous workup, thereby avoiding the generation of toxic waste. Our focus is additionally to create a unused cleaner strategy towards the amalgamation of organically dynamic compounds that are in advance.

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19. Typical procedure for Fischer indole synthesis. Cyclohexanone (**1a**, 196 mg, 2.0 mmol) was added to phenylhydrazine (238 mg, 2.2 mmol), PMA (182 mg, 5.0 mol%) in PEG-400 (3.0 mL). The mixture was stirred for 20 min at 50 °C. The reaction mixture was monitored on TLC and then was extracted from the organic phase with ethyl ether (5.0 mL x 3). The organic layer was dried over anhydrous sodium sulfate and evaporated under reduced pressure. The residue was purified by flash column chromatography (silica gel) (5% EtOAc/hexanes) to obtain 1,2,3,4-tetrahydro carbazole (**2a**, 311 mg, 91%). (Note: extraction with cyclopentyl methyl ether instead of ethyl ether can be employed however former provided 5-6% lower yields of indole**2a**)
20. Poly(ethylene glycol)-400 recycling procedure. To the recovered crude PEG (8.0 mL) was added distilled ethanol (10 mL) and passed through a very short pad of silica gel and activated charcoal. The colorless organic layer was evaporated under reduced pressure. PEG was further dried under high vacuum overnight and used for the next run.

IS POLITICS HEALTHY FOR STUDENTS?**D.N. Laroija¹ and K. Senthil Kumar²**¹Department of Political Science, Annamalai University, Chidambaram, Tamil Nadu, India²Department of Political science, Alagappa University, Tamil Nadu, India,
loriyadolly@gmail.com, drkksk@gmail.com**ABSTRACT**

Student is a worldwide marvel. Sound considering students will prompt Healthy politics and a solid vote based situation. Youth can be the light transporters to get a nation freed from social financial and political inclines if they are basically earnestly loved by the teachers and the educators in the schools and the colleges. Students of today are the future gatekeepers of our country's predetermination. They are the disintegrates and developers of future India. Political awareness is, hence, a key factor adding to the development and improvement of a country. Student of India should develop a wonderful feeling of control, which would one say one is of the fundamental essentials of vote based system should students participate in governmental issues? It has been perhaps the most astounding inquiries before our national leaders. The paper aims to examine the fact whether the politics is healthy for students or not.

Keywords: Student politics, Democracy, Advantages & Disadvantages etc.

Introduction

Student of today are the more drawn out term gatekeeper of our countries fate. Political consciousness is, hence a fundamental factor adding to the extension and advancement of a sound prominent attitude with respect to future mainstays of the state. In any case, for no situation should these youngsters and ladies are permitted to be utilizes as a feline's paw of the egotistical and self-trotted trashy politicians. Students should develop an eminent feeling of discipline, which is one in every one of the essential fundamental requirements of democracy. Should students partake in politics or not, has been one in every one of the principal perplexing inquiries before all countries. Individuals who go against the support of students in governmental issues contend that politics might be a filthy game. It upsets the inward feeling of harmony of students. It makes gatherings and gatherings and leads of permanent hatreds. Also, individuals who support the interest of students in politic contend that education doesn't mean simple literacy. It implies a total and each one round advancement of character. Investment in legislative issues makes an understudy alert to what exactly going on in his nation and along these lines his general surroundings. It additionally creates in him the characteristics of leadership. Maybe than being a bashful, timid, savant, he develops into a forceful,

ruling and ready young fellow who realizes the way of taking on the conflict of life.

Research questions

1. Understand the meaning of Student politics?
2. Is politics healthy for Students?

Research objectives

1. Understanding the meaning of Student politics.
2. Tosurvey is politics healthy for Students.

Methodology

In this paper data for present study is collected mainly through primary sources the main principles of data collection are utilized:

- Face to face interview with the national community so as to add passage the need and significance of student politics.
- Telephonic meeting email and other interpersonal network sites have additionally been utilized to record the perspectives on respondents to come to fair-minded end results.
- Secondary data for the current examination is to be gathered from books, diaries, articles and other applicable datadistributed day by day week after week fortnightly and web sources.

Statement of the problem

Student politics upgrades student's comprehension of different political ideas, for example, power state political commitment and the connection between the individual and the political framework. So, students can examine leaders and political structure dispassionately and fundamentally with the assistance of the knowledge on political affairs. Students are the awesome recognized kinds of political frameworks which can be outfitted towards an advancement of population. Students can all the more likely check and condemn the imperfections of political exercises and can guarantee the consequences of good political execution. It is consistently the intriguing issue for the discussion; is politics healthy for students. So this paper centers on the significance of student politics.

Literature review international and national

- The craft constructed by **Surinder Kumar Pattinaik** in the year of 1982 entitled as "**Student politics and voting behavior**" He analyzed that Student politics and unrest, especially the growing phenomenon of student radicalism, has lead to the reappraisal of interest in student politics in many countries. Almost every other day we come across newspaper reports on the same incidents of student agitation and their indulgence in disruptive activities in one or the other university campus.
- Another book tailored by "**Rachel Brooks**" in the year of 2017 entitled as "**Student politics and protest**" The author explored a number of common themes, including: the focus and nature of student politics and protest; whether students are engaging in fundamentally new forms of political activity; the characteristics of politically engaged students; the extent to which such activity can be considered to be 'globalized'; and societal responses to political activity on the part of students.
- A research paper on "**Student's politics in the third world countries**" written by "**Phillip.G**" in the year of 1984 published in "**Asian journal of social**

science". The paper highlighted a comprehensive approach as to the evolution of student politics in India as well as in communist, socialist and third world nations. The author has analyzed categorically the impact of student politics and the merits and demerits of the same.

- Another article written by "**Phillip G**" in the year of 2007 published in "**International handbook of higher education**". The author recognized the Student movements and organizations at the postsecondary level have an immense and sometimes ignored impact not only on students and student cultures but also on academic institutions and sometimes on society. The foremost visible student organizations are activist political movements, which received considerable attention particularly within the aftermath of the volatile 1960s. Activist movements haven't only had a big impact on universities, but have occasionally created social unrest and sometimes revolution. However, there are many varieties of less dramatic student organizations, starting from cultural and social organizations (including fraternities and sororities) to student publications, newspapers and athletic groups. This book is principally concerned with those organizations that have an impression on politics, culture and society. It doesn't handle the purely social element of extra-curricular life—although for several students this can be the foremost important aspect—or with the changing attitudes and values of students, which can influence the scope and nature of organizational life. It focused on the organizational aspects of extra-curricular life in higher education and stresses those parts that have a wider impact on both the university and society.

Discussion

Student politics is concerned with concerns and challenges affecting student welfare, academics, and governance. Student activism is when students work to bring about political, environmental, economic, or social change.

Student groups have influenced larger political events, despite their focus on schools, universities, curricula, and educational preparation student groups have influenced greater political events. Politics envelops all exercises identified with securing and holding power in an administration or affecting the activities and Policies of governance. Political movement implies dynamic cooperation taking out parades putting together open Meetings, yelling's political mottos, denouncing one gathering for endorsing another. Today numerous students include in such exercises. It's simply that they need a stage to believe their voice and offer their considerations with others. This stage is given by the colleges and universities which structure the favorable places for groundbreaking thoughts musings, convictions and pioneers. Students who have comparable political and social belief systems meet up to frame student associations.

The students associations can be considered as the partners of the state and public level ideological groups. The understudy associations have never been quiet onlookers to the changed improvements in the country. Throughout the long term the nation has seen dynamic support and reaction from the student networks on the political and social issues, foul play and violations. They have never dread to stand firm on a specific issue. Without a doubt students politics form a structure a significant segment of a students learning. In the lap of majority rule government the students comprehend their privileges in a superior manner. Maybe than simply gulping the course readings. They have a firsthand down to earth openness to the working of a popular government.

The student community is the most reformists, lucid, propelled and dynamic portion of the nation's populace. This new age politics in a manner advance sound rivalry. Be that as it may, tragically in the new years there have been situations where the students associations have taken lawfulness in their grasp because of conflicts between the political belief systems. The colleges and universities have transformed into justification for the intermediary battles among the national parties. At some point this takes a monstrous shape as brutality and wrongdoing in the grounds. All these hamper

the studies and burn through the significant season of the students. The students need to find some kind of harmony between their studies and their political association. They should recall that schools and colleges are instructive organization's not political grounds. The youth is loaded with energy and eagerness and should be channelized the correct way. They are a force to be reckoned with of undiscovered potential. The students ought not to participate in dynamic legislative issues prior to acquiring sound political information and political philosophies. The principle obligation is to secure the interest of the student and to keep up the solid air in the institution. The students associations should focus on a superior tomorrow and a promising future for the young people of the country.

Advantages of student politics

Politics are a great idea to find out about the framework however with the assessments of students structures in their minds of which legislator is acceptable and which politician is terrible. Take Trump for instance. Before the political race everybody at my school HATED him for all explanation that they considered. This prompted contentions and succeeding fellowships to break in moment on account of their political convictions. On the off chance that students can be designers, specialists or lawyers, they can be acceptable legislators as well and can make their compatriots pleased with their support of the country. Schools and colleges are the nurseries for the future politicians. Political contribution can make the students more insightful about the political undertakings all throughout the Planet that they begin pondering the world outside of the circles. Youngsters can coordinate their considerations and make the introduction of their musings well overall. Student politics moves vote based culture in students. It raises their mindfulness about the real working of democracy in a country. Student politics clearly proposed to make students politically mindful and lead them to take part in governmental issues effectively. Mahatma Gandhi properly said, "Any individual who says that they are not keen on politics resembles a suffocating man who isn't keen on water. youth participation is vital for the solid democracy force of youth in

India is about portion of its populace that is younger than 25 so this adolescent force is a strong waterway that is should have been channelized you ought to be propelled with the consuming of energy and requires appropriate collaboration with the components of politics for a superior comprehension of politics. Political associations are set up with honest goals however toward the end people's clouded side takeover and the defects are anticipated.

Disadvantages of student politics

In the event that the attitude of students is brimming with politics they structure a group and they can prod other students their books, and their skin is loaded up with so many waste matter and charts in the time of students we need to peruse hard, at the age teen (after 18years) .The students who are generally keen on their security of occupations and examination work, their awards and all they think politics is a genuine wastage of time, energy and cash. Democracy shows up no more now for individuals, by individuals and of individuals these days it appears to be a long way from individuals, purchase individuals and off individuals particularly the aggressive students take no more interest in politics. Earnest students fear savagery which has occurred in current politics. Some students are detached towards public issues and are learned about politics. They are conceited and desolate and worried about the general public they are not keen on projecting their votes even so it is the incongruity of our confidence that the huge force of the country has gotten themselves far from politics. Numerous students see politics as bad an important and lethargic. The assistant to make changes in the general public through local area administration not participating in legislative issues as they do feel it not appropriate to them.

Conclusion

Student life is the developmental time of one's life. An understudy should foster all such characteristics in him during this period to empower him to have an effective existence. On the off chance that he is avoided politics he is probably going to develop into an unbalanced character. In the event that we study the large portion of them took a

functioning part in politics in any event, during their student days. All in all we can say that a student should participate in politics however it ought not to be a functioning participation. All exercises are acceptable on the off chance that one remaining parts inside sensible cutoff points. Students ought to fundamentally be including in their studies and keep themselves educated regarding what's going on around them. They ought to be set up to join politics just if the circumstance threatens the unity or the freedom of the country. Politics itself isn't sound or unfortunate for students, utilization of politics makes it solid or undesirable if politics is utilized for the improvement of the students and the general public it is solid if politics is utilized for childish purposes it is undesirable excursion students are not keen on it since it is viewed as filthy. Presently, it is hard to articulate any decision for either perspective. A student should partake in politics yet it ought not to be a functioning interest. All exercises are acceptable on the off chance that one remaining parts inside sensible cutoff points. Students ought to, accordingly, give essential consideration to their studies. They ought to, simultaneously, keep themselves educated about what's going on around them.

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ASTUDY ON MARKETING OF SELECTED ZERO BUDGET NATURAL FARMING PRODUCTS WITH REFERENCE TO PUNE, SOLAPUR AND AHMEDNAGAR DISTRICTS IN MAHARASHTRA STATE: A LITERATURE REVIEW

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ABSTRACT

A research was undertaken to study marketing of selected Zero Budget Natural Farming products with reference to Pune, Solapur and Ahmednagar Districts in Maharashtra State. Objectives of the study included studying the concept of ZBNF and marketing of ZBNF products, studying the awareness of ZBNF products among buyers and producers, studying the purchase intentions of consumers for selected ZBNF products like vegetables & fruits, studying the features of the existing marketing strategy used by producers of ZBNF, understanding marketing mix used by ZBNF producers, and finding out the problems of ZBNF while implementing the distribution through traditional channels. This article presents the literature review related to the topic.

Keywords: ZBNF products; Literature review; Marketing strategy; Awareness

Introduction

The word zero budget means no expenses or no credit, without any credit & without spending any money on purchased agricultural inputs. Another term natural farming is a technique of chemical-free agriculture drawing from traditional Indian practices. In other sense, natural farming shows the significance of the synergistic impact of both plant & animal products on crop establishment, to form soil fertility and microorganisms. Natural farming is working with nature produced great food, & keeping healthy over selves, it is also called as do-nothing farming on the grounds that the farmer is considered as a facilitator & the real work can be done by nature. No tillage, no pesticides, no chemical fertilizer in this farming. First time in Japan, M. Fukuoka started work on natural farming, and his outcomes showed that yields from natural farming are similar to chemical farming however without soil erosion also maintains soil fertility for a longer period. There are no external inputs to his experiments and he utilized locally accessible on farm products are utilized. That's why he got negligible or zero cost of cultivation. His outcomes compiled in a book one straw revolution. Natural farming reduces the external inputs to farmland which degenerate the soil nature, rises microbial population, better soil aeration & good water

retention capacity. Controlling of cabbage moth and cabbage worm first time he extricated natural insecticide like pyrethrum from chrysanthemum roots and utilized in his experiment got success on it.

Padma Shri recipient Mr. Subhash Palekar first time adapted this zero budget natural farming (ZBNF) system in the Indian 1990s which is an alternate to the Green Revolution. He was agriculturist belongs to Maharashtra finished his bachelor's degree in agriculture. He contended that the rising cost of these external inputs in farmland was a main cause of indebtedness & suicide amongst farmers in India, and the effect of chemicals & pesticides burning of residues are on the environment & long-term fertility was destroying.

A research was undertaken to study marketing of selected Zero Budget Natural Farming products with reference to Pune, Solapur & Ahmednagar Districts in Maharashtra State. This article presents the literature review related to the topic.

Objectives of Literature Review

The review was carried with the objectives of covering the following literature:

- a) Concept of ZBNF,
- b) Marketing strategy related to ZBNF products,
- c) Marketing mix related to ZBNF products,

d) Distribution and other issues related to ZBNF products.

Review of Literature

1) Harini et al. (2021) conducted a research in Vizianagaram district of Andhra Pradesh. In Vizianagaram district, the major crops grown under Zero Budget Natural Farming (ZBNF) were Paddy, Cotton, Maize, Green gram, Black gram, Bendi, Brinjal, Mango & other crops were grown under small proportions. The majority of the ZBNF practices were applicable to more than one crop with multiple usages of astringents & kashayams for prevention & control of several pests & diseases in different crops. More than three fifth of the ZBNF farmers (65 per cent) have adopted kitchen garden model in their back yard. Majority (85 per cent) of the ZBNF farmers followed maize, paddy and pulse cropping pattern followed by maize, paddy and vegetables cropping system as expressed by 75 per cent farmers.

2) Naik et al. (2021) stated that agriculture is considered the backbone of Indian economy since centuries. Originally India had subsistence type of farming but as the dependence on food grains expanded with increasing populace it had automatically moved to commercial farming. The present form of agriculture is over burdened with inorganic chemicals, pesticides & fertilizers. Hence when a farmer with a small farmland invests on expensive inputs, he is presented to high monetary risk & gets caught eventually into the debt cycle. With such diverse negative effects of commercial farming it has become highly essential to adopt other ways which can prompt better results with negligible effect on natural resources. Anyway, here comes the question that, what are the ways in which low-input farming can be practiced to accomplish good production outputs? The answer for this question is 'Zero Budget Natural Farming' (ZBNF). The idea was first developed in Maharashtra by Subash Palekar. ZBNF, as the name specifies, where the cost of growing & harvesting is zero. It implies that farmers have no need to buy fertilizers & pesticides in order to ensure the healthy growth of the crops & furthermore this system of farming improves

the nutritional value & crop production thus contributing to the food security in the country.

3) Koner et al. (2021) in their paper envisages the economic viability of 2 alternative models of organic farming i.e. Scientific Organic Farming & Zero Budget Natural Farming (ZBNF). In the empirical survey the study considers 2 clusters based on the 2 alternative organic models (i.e. a scientific organic farming model in Burdwan district & a ZBNF model in Purulia district) in West Bengal, India. Performance of these models is assessed by considering 3 important parameters i.e. cost of cultivation, yield & income. Evidences uncover that the organic farmers under both models have encountered a reduction in per hectare production cost & yield for their crops in the post-conversion period. Evidences likewise recommend that farmers adopting ZBNF model in Purulia were able to upgrade their income, whereas the income decreased significantly for the farmers practicing scientific organic farming in Burdwan. Furthermore, a comparative in-depth analysis of performance is carried out between these 2 alternative models in order to recognize the factors that can impact their long-term sustainability. Results demonstrate that long term sustainability of the organic model is conditioned upon the interchange of agro-climatic conditions & various other socio-economic factors.

4) Veluguri et al. (2021) studied that input-driven agriculture has led to an epidemic of impoverishment, farmer suicides, & environmental degradation in India, yet has additionally shown consistent staying power in Indian politics. The researchers examine the case of organic farming policy adoption to investigate this paradox. In particular, their objective was to assess how the state-wide Zero Budget Natural Farming (ZBNF) program (now officially known as Community Managed Natural Farming) in Andhra Pradesh, India came to be. Proof was drawn from government documents, in-depth interviews with stakeholders, field notes from a ZBNF workshop & farmer interactions. Results recommend that advocacy of civil society networks, emphasis on rural livelihoods, champions within the bureaucracy, and the twenty year history of consensus building

around agroecology all played a main role in the adoption of the ZBNF program in this state. Given the chance of scaling up ZBNF at the national level, their analysis of the enabling environment is particularly timely.

5) Pazhanisamy (2021) explained that the importance of eating nutritious & chemical-free foods is progressively expanding. Consumers are willing to pay more for high-quality produce. To accomplish economic empowerment, farmers should seize this entrepreneurial potential. In this context, one such attempt by a farmers' interest group was inspected. In the paper, the formation as well as behavior of the group, along with the group dynamics of the group members, were examined and discussed. Using the case study process, first-hand information was collected through a well-planned interview program, in-depth interviews with community participants, & the researcher's crucial discoveries. The Group Dynamics Index (GDI) was created to evaluate the dynamics of a group of people. This paper aims to uncover a better agricultural method for poor & marginal land owners in order to increase their benefits. Farmers are being motivated to invest less & develop more under the zero-budget natural farming scheme. Dashparniark&Jivamrut, which are made from cow dung & urine, are utilized by farmers. This has resulted in improved soil beneficial macro & micro flora and fauna, as well as a 40 to 45 % reduction in agricultural costs. Farmers make a lot of cash as they go to the shop to sell their products. This has revived the conventional mixed-cropping method & reduced farmers' dependence on the demand for seeds & inputs.

6) Walker et al. (2021) in their paper presents the utilization of thematic collages as a methodological innovation to participatory photography as a research framework. Participatory photography was utilized to understand the subjective "off-script" motivations behind the partial or full adoption of ZBNF (Zero Budget Natural Farming) by members of women's self-help groups in Andhra Pradesh, India. The adding of thematic collages to existing participatory photography methods was created as a mechanism to better support the dialogic generation of new Freirean "generative themes" for examination by a

group. Further, the utilization of thematic collages invites the assimilation of "renegade" or non-thematic images into participant group analysis. Zero Budget Natural Farming (ZBNF) is an agricultural practice that has become an extension priority in Andhra Pradesh, India. It emphasizes the utilization of defined chemical-free inputs & regenerative farming methods as a holistic approach toward socio-ecological resilience. As a portion of an interdisciplinary research project, this participatory photography design was guided corresponding to a soil science experiment in 3 geographically distinct agroecological zones in Andhra Pradesh. The researchers show how participatory photography, with the novel addition of thematic collages, can be assimilated into interdisciplinary research as a method to find the underlying motivations to embrace agricultural practices & participate in agricultural movements like Zero Budget Natural Farming (ZBNF).

7) Ranjan et al. (2021) stated that agriculture is an important as well as indispensable sector in India for the sustenance and development of the Indian economy. Farmers are relied upon inorganic or external chemical inputs like pesticides & fertilizers which lead to contamination of groundwater as well as other water related ecosystems. It additionally leads to reduction in soil fertility over time. Overuse of fertilizers, pesticides or other chemical inputs is a serious issue for the health of farmers across India. In order to guaranteeing food security by reviving Indian agriculture in environmentally safe manner and to release farmers from debt cycle, ZBNF (zero budget natural farming) can be a viable solution. It discards utilization of all the chemical inputs & depends on natural way. Zero budget natural farming has mainly 4 pillars that are 'Bijamrita', 'Jivamrita', 'Acchadana' (mulching) & 'Whapasa'. It implies no money is spent to purchase inputs such as pesticides & fertilizers. Zero budget farming promises to exorbitantly lessen production costs. Zero budget farmers depend on soil conservation techniques, mulching, natural pesticides & fertilizers. Due to continuous retention of crop, residues renewal of the soil fertility & it helps in maintaining the soil health. Management of pest & diseases is a

critical segment in zero budget natural farming crop production systems. In ZBNF (zero budget natural farming), formulae for fungicides i.e. sour buttermilk (khatti lassi), 'Sonthastra' for pest management i.e. 'Brahmastra', 'Agniastra', 'Neemastra', 'Dashparni ark'. ZBNF permits farmer to develop chemical free as well as healthy & safe food.

8) Kumar et al. (2021) stated that the world today is finding ways & means to have an agriculture production system which doesn't depend on synthetic chemical fertilizers & chemicals, yet on a system which is based on the utilization of natural products, doesn't make our natural resources viz. the water, the land and the air toxic. This production system has additionally to be eco-friendly, sustainable, remunerative & should not compromise with the future generations. Organic farming, Zero budget Natural Farming (ZBNF) of Subash Palekar & utilization of Compost & Vermi compost are thus now preached & practiced all around the world to produce safe & healthy food & to invert the damage done to the precious natural resources. The present endeavor is an investigation of the use of vermi compost in bringing sustainability & benefit the cold arid Ladakh region.

9) Mohanapure et al. (2020) examined that the 'Green Revolution' due to conventional farming prevailed due to adoption of improved varieties of seeds, chemical & synthetic fertilizers, pesticides & farm machineries incorporation. Attributable to this it leads a serious concern related to human health & soil texture & fertility. Accordingly, there's a need to move towards the sustainable farming which is environmentally acceptable & economically viable. This article edifies chaos caused in agriculture & health due to current conventional farming and its adverse impacts. It gives the present fact, scenario, & solutions, an alternate to completely destroy rising crises in Indian agriculture. Investigating an alternative solution, Zero Budget Natural Farming (ZBNF) is found the only way to manage this issue in the integrated & sustainability of natural resources. The method of Zero Budget Natural Farming (ZBNF) in present-day agriculture enlightened several concepts, ideas, & processes to be effectively

used for the long term sustainability of Indian farming. ZBNF's system of approach is basically based on the natural ecosystem which incorporates compost and green manure, seed rotation, biological pest control, & mechanical cultivation. The 4 wheels of ZBNF's are most common & cost-effective namely Acchadana, Jivamrita, Bijamrita, and Whapasa. The significance & practicability of ZBNF is though time memorable but their advantages are never-ending. Thus efforts are made to describe the ZBNF system, sustainability & utility for Indian farming practices.

10) Korav et al. (2020) studied that 60 % of the Indian populace will experience severe food deficiencies by 2050. Increased food production is earnestly required, however the high cost of production, and fluctuating prices in the market are driving farmers into debt. ZBNF (zero budget natural farming) is the best solution to decrease the input cost of farmers. The word zero budget signifies "no credit" & natural farming signifies "growing of crops without chemicals". First time in the world, Japanese agriculturist M. Fukuoka created natural farming & a similar trend was made in India by Mr. Subhash Palekar, he began the ZBNF concept & made successful in south India. 523,000 farmers have effectively changed over to ZBNF in Andhra Pradesh and one lakh farming houses in Karnataka. This concept works on 4 concepts they are jeevamrith, mulching, bijamrith, & soil aeration. These 4 concepts assist with better soil health, expanded microbial population, & upgraded crop yield. Different astras used to control pest infestation in natural farming. Here the researchers discussed that ZBNF requires low input cost, good soil health management, & focused on major opportunities & challenges to embrace ZBNF & what are the policies need to improve this system.

11) Tarale et al. (2020) specified that farmers in India don't get a fair price for their yield. The deal is via middle agents which does not help farmers in making a good profit. Furthermore, farmers are opting farming practices that incur high input costs to them by utilizing chemical pesticides. The aim of this research paper is to build an android application for recognition of agriculture produce utilizing Deep Learning to give a

platform for farmers to sell & give them a decent amount for their produce. At the consumer end, the consumers are guaranteed 100 per cent fresh produce that is chemical-free by embracing Zero Budget Natural Farming (ZBNF). This project will be carried out in the buying–selling platform for agricultural products. The application will be enhanced to show the price of the product when the farmer projects his phone camera onto his produce. He can acknowledge the deal if he is getting a decent amount for the produce & thus totally remove the involvement of middle agents. In general stores, the cashier manually enters the code or scans the barcode attached to the product to print the bill. Sometimes, the fruits and vegetables might not have barcodes. By utilizing this application, items can be recognized based on their appearance alone. Rather than entering the code or scanning the barcode manually, the phone camera is projected onto the product; the application then identifies the product. It works even if they are in front for a short period & are not absolutely still.

12) Sain et al. (2020) studied that ancient farming methods with yogic techniques are reported as the zero budget sustainable method for seed germination, cultivation, plant growth, & harvesting. It raises the crop yield resulting in enhanced production & improved soil fertility. The Brahma Kumaris' Raja Yoga Meditation (BKRYM) technique rejuvenated by Raja Yoga Education & Research Foundation (headquartered at Mount Abu, Rajasthan, India) is scientifically proven not only for an enriched quality of farm produce but also for the welfare of farmers who practice this meditation. A drive was taken in the Indian Finance Budget (July 2019) to propose & present Zero Budget Natural Farming (ZBNF), which promotes sustainable yogic agriculture. Indian Council of Agricultural Research (ICAR), Scientific Research of India, and Union Agricultural Ministry are additionally promoting this concept of yogic farming, however the farmers & researchers are not much aware of this holistic concept, which should be acknowledged & adapted to the particular social-cultural settings. BKRYM based yogic agriculture is a unique technique of farming which assists in the sustainable

development of the agro-ecosystem. This paper is aimed to investigate the various studies, which shows that yogic-farming technique (BKRYM + Organic farming) is much effective & superior to standard organic farming & chemical-based farming in terms of improving seed germination, plant growth, nutritional values, soil health, profitability along with farmers' well-being & lessening plant diseases, fungal & slug attacks & germination time.

13) Münster (2020) stated that the emergence of alternative agricultures creates a circumstance of agronomical pluralism, in which farmers need to choose between radically different & incommensurable styles of farming. The chapter focuses on how Subhash Palekar, the inventor & leader of Zero Budget Natural Farming involves with the scientific mainstream in agricultural research. The researcher argues that alternative agriculture in India react to a crisis among small-scale farmers for which they partly blame the particular scientific of agriculture in the wake of the green revolution. Natural farmers evaluate agronomical sciences for their dependence on chemistry at the expense of microbial understanding & for their absence of appreciation of traditional agricultural practices. Natural Farming's engagement with Green Revolution science is projected in nationalist terms of Indian tradition opposing the onslaught of Western imperialist science.

14) Smith et al. (2020) analysed that under current trends, sixty per cent of India's population (>10 per cent of people on Earth) will experience severe food deficiencies by 2050. Expanded production is desperately needed, but volatile prices & high costs are driving farmers into debt. Zero budget natural farming is a grassroots movement that intends to improve farm viability by decreasing costs. In Andhra Pradesh alone, 523,000 farmers have converted 13 per cent of productive agricultural area to Zero budget natural farming (ZBNF). In any case, sustainability of ZBNF is questioned because external nutrient inputs are restricted, which could cause a crash in food production. Here, the researchers showed that ZBNF is likely to lessen soil degradation & could give yield advantages for low-input

farmers. Nitrogen fixation, either by free-living nitrogen fixers in soil or symbiotic nitrogen fixers in legumes, is probably going to give the significant part of nitrogen available to crops. Be that as it may, even with maximum potential nitrogen fixation and release, only 52–80 per cent of the national average nitrogen applied as fertilizer is expected to be supplied. Consequently, in higher-input systems, yield penalties are possible. Since biological fixation from the atmosphere is conceivable only with nitrogen, ZBNF could restrict the supply of other nutrients. Further examination is required in higher-input systems to ensure that mass conversion to zero budget natural farming (ZBNF) doesn't limit India's capacity to feed itself.

15) Ankush et al. (2020) stated that agriculture is an important sector in India. It is imperative for the sustenance and growth of the Indian economy. A large portion of the farmers vigorously rely upon inorganic external chemical inputs such as fertilizers & pesticides that defile groundwater & other water-dependent ecosystems, lessen soil fertility over time. The continuous utilization of pesticides & chemicals is a major issue for the health of farmers across India. Central government's guarantee to double farmer's income by 2022, with the similar one aspect being considered is natural farming methods such as the ZBNF (Zero Budget Natural Farming) given by Shri Subhash Palekar, for which he was honored with Padma Shri. 'Zero budget' signifies without utilizing any credit, and without spending any money on purchased inputs such as pesticides & fertilizers. Zero budget farming promises to drastically reduce production costs. Zero budget farmers use soil protection techniques, mulching, natural pesticides & fertilizers. The principal methods of Zero budget natural farming has basically 4 pillars Bijamrita, Jivamrita, Acchadana (Mulching) and Whapasa. Palekar additionally gave formulae for Fungicides, for example, Sour buttermilk (Khatti Lassi), Sonthastra for pest management i.e. Brahmastra, Agniastra, Neemastra, Dashparni ark. Saptdhanyankur ark additionally been utilized for shining in fruits, vegetables and seeds. By utilizing ZBNF, farmer will be able to develop chemical free food.

16) Naik et al. (2020) in their research work mainly focused on comparative economic analysis of Zero Budget Natural Farming for Kharif Groundnut under Central Dry Zone of Karnataka. The reason of conducting the study is to analyse the cost of cultivation for Zero Budget Natural Farming (ZBNF) with other treatments. This is mainly because farmers are confronting high cost of cultivation by practicing conventional farming as it is highly relies upon external inputs. ZBNF is low cost technology where, farming is practiced by utilizing beejamrutha, jeevamrutha, mulching & whapsa etc. The Groundnut experiment was led at ZAHRS, Babbur Farm, Hiriyyur during Kharif 2019-2020 in order to estimate economics for various treatments. Every treatment was having different input usage. For calculating economics of every treatment, conventional cost of cultivation method was followed (i.e. calculation of Fixed cost, Variable cost, Gross returns, Net returns and B: C). The outcomes of economic analysis revealed that the per hectare yield (17.46 q/ha) total cost (53,019), gross returns (88,871), net returns (35,852) & B: C (1.68) were observed to be highest in RPP among all treatments i.e. OPS, ZBNF, and Control. The cost of cultivation of ZBNF 22.55 % is lesser than RPP. The B: C ratio was observed to be more in ZBNF (1.66) than OPS (1.58). This is because of highest cost for purchase of extra quantity of FYM in case of OPS. It is concluded from the study that RPP was best treatment amongst all treatments. This is because of highest yield, net returns & B: C was found in RPP treatment when contrasted with all treatments. In the economic point of view, there was decrease in total cost in case of ZBNF with fewer yields when contrasted with RPP.

17) Meek et al. (2020) studied that rate of farmer suicides are skyrocketing among agrarian societies. The researchers analyze the role of Zero-Budget Natural Farming (ZBNF) as a form of grassroots intercession in this crisis. Leaders of an Indian agrarian social movement known as the Karnataka Rajya Raitha Sangha contend that educating farmers about Zero-Budget Natural Farming has the potential to improve financial autonomy, mitigate the farmer suicide issue, & eventually

contribute to food sovereignty. Synthesizing insights from the political ecologies of health & education, their analysis recommends that farmers' livelihoods are stronger after their change to ZBNF, & that their wellbeing is improved.

18) Kharwal et al. (2020) stated that a field experiment was conducted in Randomized Block Design (RBD) during Kharif season 2018-2019 to assess the impact of inorganic, organic & Zero Budget Natural Farming (ZBNF) on 15 selected genotypes of adzuki bean for growth parameters. Huge differences in the plant height, pods per plant, number of branches, seeds per pod and seed yield were acquired in genotypes as well as various production systems (organic, inorganic, and zero budget natural farming), whereas no significant difference were acquired in pod length. Simultaneously interaction impact was significant for plant height & seed yield whereas, there were no significant interaction acquired for number of branches per plant, seeds per pod, number of pods, and pod length. The overall finding of this investigation indicated that Zero Budget Natural Farming (ZBNF) production system can be utilized to accomplish better growth & yield of adzuki bean.

19) Kumar et al. (2020) stated that Natural Farming or Zero Budget Natural Farming (ZBNF) has become a turn point of conversation among the government, agricultural scientists, farmers & several other informal groups engaged in agriculture. This is predominantly because of the explanation that there are 2 diametrically opposite school of thoughts on this topic co-existing in the nation. There are scientists who straightaway dispose of the philosophy of Natural Farming. Conversely, its proponents are claiming the method to be panacea for all issues causing distress in Indian agriculture, particularly for smallholders. In order to get the solution for several critical questions, NITI Aayog entrusted the teams at ICAR-CRIDA & ICAR-NAARM to carry out the present examination. The study required both primary survey as well as lab analysis of samples. The primary survey, which incorporated various information related to socio-economic profile, input use, cropping pattern, output marketing, etc. from the Natural

Farming adopters as well as Non-adopters was led by NAARM-team. Simultaneously, plant & soil samples from selected fields of adopter & non-adopter farmers were additionally collected for lab analysis, which was done by the team at CRIDA.

20) Biswas (2020) stated that crisis of Indian agriculture is extremely pertinent at this moment as green revolution is progressively losing its hope. Excessive, trivial exploitation of broods of green revolution has left bad footprints on nation's food security & environmental safety. With the motto to ensure food security by restoring Indian agriculture in ecologically safe way as well as to release farmers from suicides & debt cycle, ZBNF (zero budget natural farming) has come in the picture, which disposes uses of all the chemical farming inputs and depends on natural way of farming viz. rejuvenating soil & crop health through its own practices (jivamrita, mulching, bijamrita, intercropping, bunds, soil aeration, crop diversification, bio-pesticides etc.). ZBNF movement right now is the most famous agrarian movement which started in 2002 in Karnataka & later effectively spread in many states (specially, of South India) of the country through numbers of trainings, demonstrations and different promotional activities. Effective results from farmers' fields of south Indian states like Karnataka, Andhra Pradesh etc. are encouraging & grabbing attention of farmers, private & public organizations towards ZBNF in recent times. However, different controversies regarding its transparency, efficacy, inadequate information, idealisms, practices, even the term 'zero budget' etc. have agglutinated around ZBNF over the years since it debuted. Critics indeed have cited several references of drastic yield reductions with ZBNF (zero budget natural farming) practices in many places. Adequate scientific evaluation or monitoring of ZBNF's failures or successes through multi-locational trials is now therefore the needful, prior to restraining or permitting its run in Indian agriculture.

Conclusion and Research gap

Most of the research on ZBNF is tilted towards technicalities of ZBNF. A study through a marketing perspective employing the classic dimensions like marketing strategy, and

marketing mix is not seen. The literature advocates use of ZBNF but fails to answer basic marketing questions like what kind of buying behavior is seen in case of ZBNF products? This study addresses marketing related questions pertaining to ZBNF vegetables and fruits. Specifically the research questions that are addressed are:

RQ1 – What is ZBNF and how are ZBNF products marketed?

RQ2 – What is the awareness level about ZBNF products among buyers and producers?

RQ3 – What type of purchase intentions are seen for ZBNF products?

RQ4 – What are the features of the existing marketing strategy used by producers of ZBNF?

RQ5 – What type of marketing mix is current used for ZBNF products?

RQ6 - What are the problems while implementing the distribution through traditional channels?

The study endeavors to offer a comprehensive marketing perspective by studying various dimensions like product awareness, buying behavior, marketing strategy, marketing mix and distribution channels.

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CURRENT TREND IN THE FISCAL DEFICIT OF THE UNION BUDGET IN INDIA**M. A. Ganai¹ and P. Nalraj²**^{1,2}Department of Economics Annamalai University
¹drnudasir121@gmail.com, ²Nal_raj1975@rediff.com**ABSTRACT**

The present study analyze the fiscal deficit as an instrument to measure the amount of government borrowing to require the financial position and their budget shortfall. This study traces the major current changes in Indian fiscal system during the period 2019-20, though the unions Government adopt the fiscal rule for reduction the financial crisis during the epidemic period of Covid-19. However the current study also traces the percentage of GDP decrease because of the problem of lockdown during the Covid-19. The paper concludes with discussion on the composition of union government receipts and expenditure position in present scenario and indicated the situation of fiscal and revenue deficit of the government budget.

Keywords: Government Budget, Fiscal and Revenue Deficit, GDP, Fiscal Policy, Covid-19.

1. Introduction

Fiscal Deficit is one of the common drawbacks of the budget in India. This term is broadly study the strength the financial position in union Government in India. But the present scenario fiscal deficit imbalanced the budgetary position in India. It is very important instrument used to measuring the union budgetary position^[1].

1.1 concept of Fiscal Policy in India

Post-independence in India's annual budgetary process has followed five year plans for ensuring long-term economic objectives. This process was under the control of planning commission, but there is no specific provision in the constitution. The plan component has a long term socio – economic goals as determined by the ongoing plan process. Non-plan expenditure is based on the government expenditure for administration, salaries, defence, pension etc. Initially fiscal policy was deriving the development and also sharp progress of budget position in 1980 results the balanced of payment crisis of 1991. After that public debt situation again seemed to head towards unsustainable level around 2000, but India government adopted a new fiscal deficit discipline framework was intrude in 2003, when the parliament passed the Fiscal rule. In terms of tax policy both direct taxes and indirect taxes were focused on increasing revenue from the private sector to fund the public sector and achieve redistributive goals. In 1950-51 near about 6.3 % ratio of GDP was estimated the union government of India. In

1987 – 88 the GDP was recorded to 4.1%.^[2] But in current scenario India adopted the post economic reform that is LPG. After that union government also used fiscal rule policy for improving the condition of Gross Domestic Product in India. The present paper is based on the analyze the current situation Domestic Product, period from 2015- 2020 which is illustration in below table 1.

Table.1. percentage of GDP in India (2015-2020)

Year	% of GDP
2015	7.3%
2016	7.6%
2017	7.6%
2018	6.7%
2019	6.7%
2020	4.9%

Source: www.indexmudi.com

The above table.1 indicates the variation of percentage of GDP from 2015 to 2020. The percentage of GDP rise from 7.3% in 2015 to 7.6% in 2016 and was same to 7.6% in 2017. The percentage also rises to 6.7% in 2018. But the percentage of GDP decreases to 4.9% in 19 due to the financial crisis problem of covid-19.^[3]

1.2 Meaning and Concept of Deficit Financing

When the government expenditure more as compare to government earn (receipts), in this situation called as fiscal deficit. It is used for measure the indebtedness of the government and deficit situation as well. It also measuring governments market borrowing and liabilities under taking.^[4]

Fiscal Deficit: It refers that budgetary situation in which Government total expenditure (Revenue + Capital expenditure) is more than total Receipts (Revenue + Capital Receipts). But it can be symbolically speaking $FD = TE - TR$ and other than borrowings.

Fiscal deficit have also main two branches as follows

Gross Fiscal Deficit: It is that deficit situation in which aggregate expenditure, including net domestic leading and revenue receipts minus the grants. But it can be understand through mathematical equation:

$GFD = \text{Revenue} + \text{Capital Expenditure} + \text{Net Domestic Leading} - \text{Revenue Receipts} - \text{Grants}$.

Net Fiscal Deficit: In this situation Gross Fiscal Deficit is more than Net Domestic Lending thus

$NFD = GFD - NDL$

Budget Deficit: Budget Deficit is that budget situation in which Government budget expenditure minus budget receipts. It can be mathematically interpreted as.

$RD = BE - BR$.

Revenue Deficit: It is that budgetary situation in which Revenue Expenditure is more than Revenue Receipts. It can be best understand through mathematical equation.

$RD = RE - RR$ ($RE > RR$)

Primary Deficit: It is equal to Fiscal Deficit minus Interest Payment.^[5]

Objective

To study analysis the various trends of the government of India to covering the deficit financing in current scenario and also highlights the events of 2019-20, covering the new or current situation of the union budget.

Table 2. Percentage of gross, revenue and primary deficit of union government of India from 2015- 16 to 2019-20

Year	Gross fiscal Deficit	Revenue Deficit	Gross Primary Deficit
2015-16	3.87	2.49	0.66
2016-17	3.49	2.06	0.36
2017-18	3.46	2.59	0.36
2018-19	3.34	2.16	0.25
2019-20	3.34	2.3	0.21

Source: Select Fiscal Indicators of the Central Government, (As percentage of GDP), Handbook of Statistics on Indian Economy 2018-19 and Reserve Bank of India.

The present also analysis the composition of budget estimation from 2015-16 to 2019-2020.^[6]

Methodology

To analysis the trends of deficit finance in India union budget likewise budget deficit, primary deficit, fiscal and revenue deficit as per estimation of GDP has been analysis by using time series secondary data. This analysis is based on secondary data which is collected from secondary sources like Statistics handbook on Indian economy (2018-19), Reserve Bank India and Economy survey in India^[7]

Further study analyse the fiscal deficit and percentage share of components of budget with total expenditure and total receipts.^[8]

Current Fiscal Situation In India

On the basis current budgetary position in India first in 2003 India adopted the fiscal responsibility rule in order to improve the condition of fiscal discipline. Under this Act government of India targeting and aiming to achieve 3.0 % deficit in 2020- 21. But in 2019-20, it stood at 3.7 % significantly above the 3% target. In 2008 there is one global crisis (GFC). As for as this scenario the fiscal deficit packed at 6.6 % during this period. After that we can noticed that the fiscal deficit should be reduced in each successive year. But suddenly one of the problem took place i.e. Covid-19 lockdown, that is one of the most drawback of the indian economy to reduce the Gross Domestic Product.^[9] But this paper analysis is interpreted through the schedules, graphs and charts.

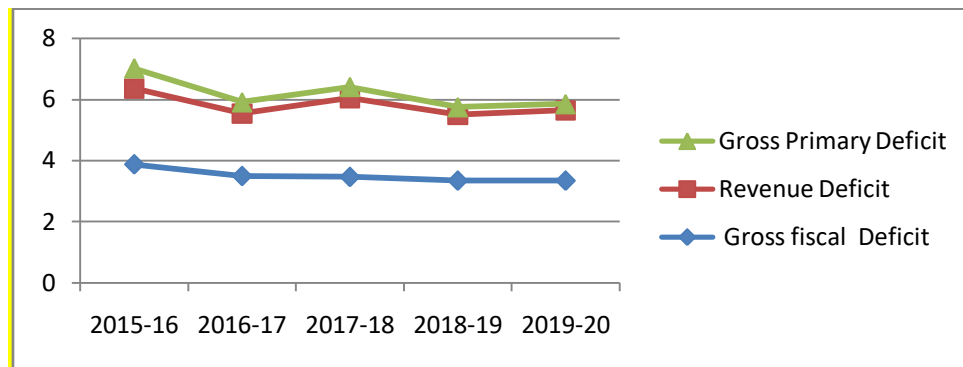


Figure- 1

From the period 2015-16 to 2019-20, the contribution of defence, interest payment and subsidies, as percentage of Revenue Expenditure rose to 29%, 10% and 17% in 2015-16. Which can be illustrating through pie-chart?

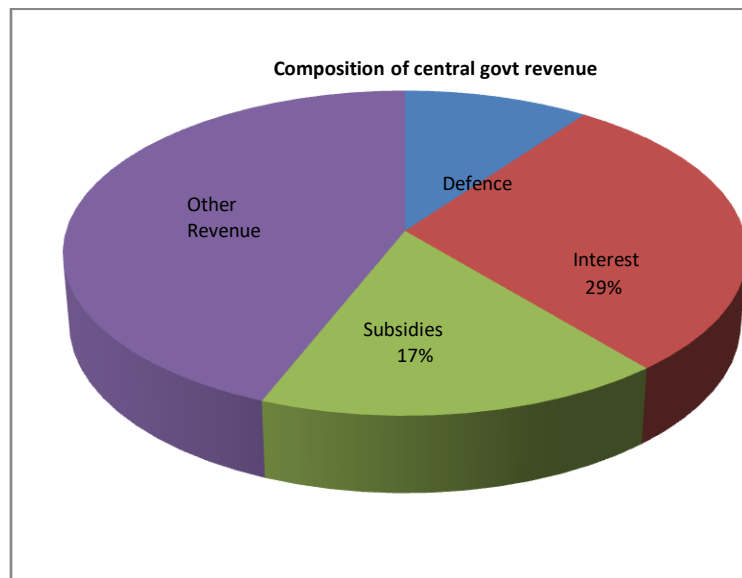


Figure 2

Source: Author's Calculation by using database from Table 1.

From the same contribution of Defence, subsidies and interest payment decline to 8%, 27% and 14% in (2019- 20) respectively. This can be also illustrating through pie-chart.

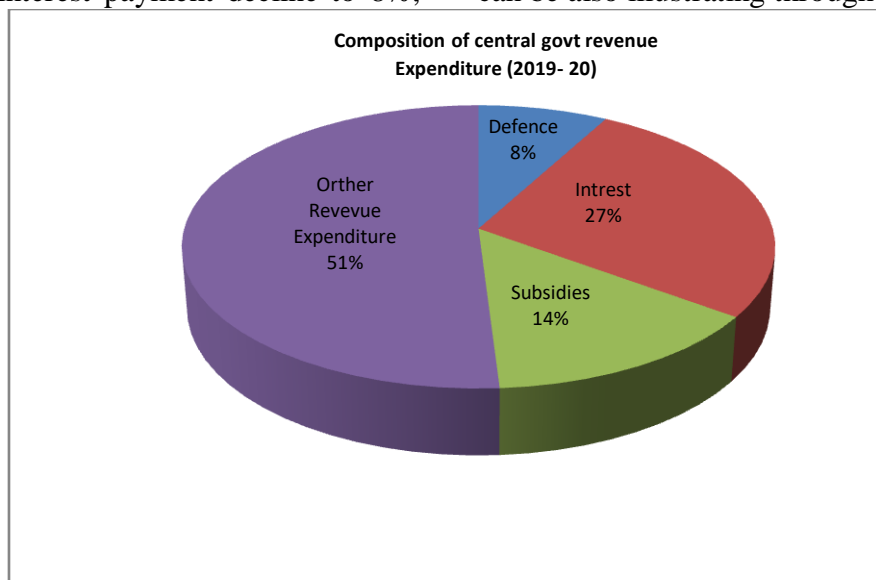


Figure 3

Source: Author's Calculation by using database from Table 1.

This paper also used for check the percentage composition of Revenue Receipts of union government in India during the current period

2015-16 to 2019-20 which can be interpreted through pie- chart.

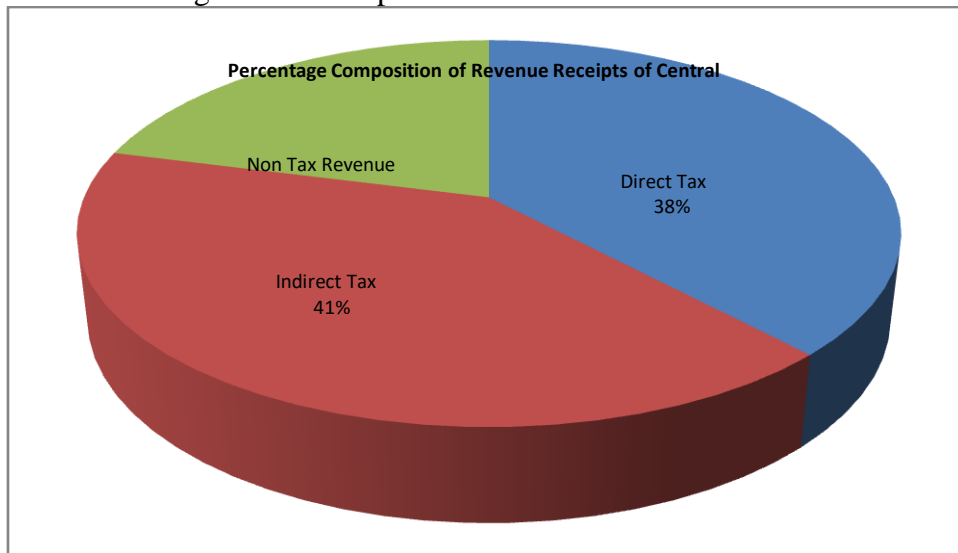


Figure 4

Source: Author’s Calculation by using database from Table 1

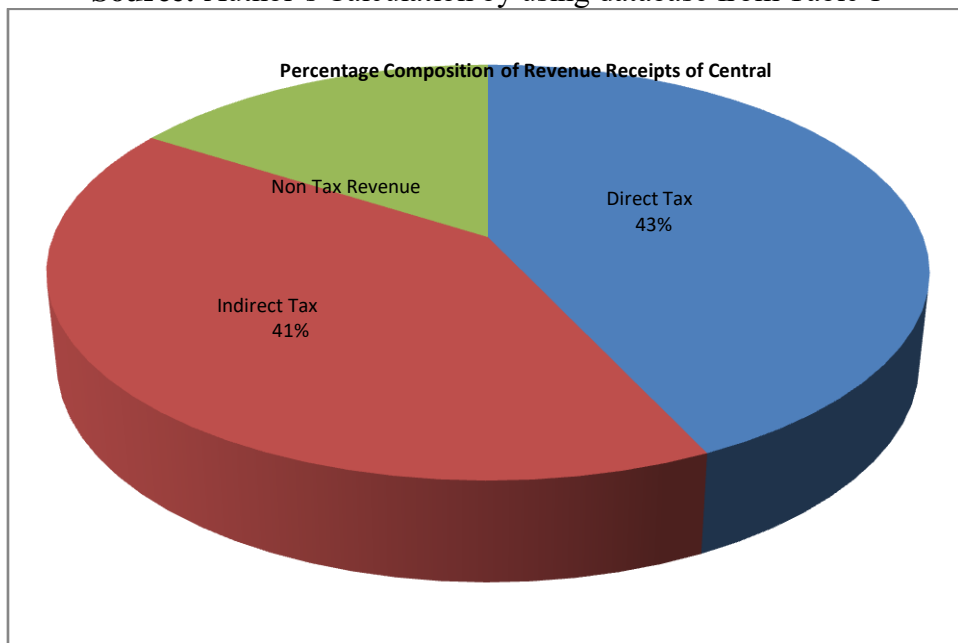


Figure 5

Source: Author’s Calculation by using database from Table 1.

Fiscal Situation of India in Covid- 19

Actually Covid-19 is a pandemic or health crisis, this crisis has rattled the world economy. In India government has promote the 1.7 trillion fiscal packages to control the pandemic crisis. Under this situation, fiscal policy can provides relief to those most impacted by the shutdown. In some its full potential.^[10]

As for as concerned the deficit situation in post Covid-19 is measured to spread the pandemic will impact the fiscal deficit situation has been divided into two channels were as first is

allocation of sizable portion of their budget to fight the pandemic which include expenditure on health and social security. Second part include the enforced lockdown and containment measure will lead to full in economy activity and it will be also lead to a fall in GDP as well as tax collection. So that it will be check the expenditure go up, but the tax receipts will also go down. As in same case in GDP go to the down word direction and deficit exceed because of due to pandemic global crisis Covid-19.^[11]

Conclusion

Overall during 2015- 16 to 2019- 20, it seen that the Periods of Financial Problems and also the latest the problems and of lockdowns due to pandemic covid-19. But the union government led to take steps to promote to introduce and adopt economic reform and use the fiscal to

ensure that the Fiscal Deficit stood at more reasonable level. However since 2015- 16 Union Government has under taken fiscal policy for the purpose to reduce fiscal deficit and also adopt the fiscal policy to exceed the percentage of GDP leading to more resilient economy.^[12]

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PUBLIC SERVICES DELIVERY THROUGH M-GOVERNANCE: JAMMU & KASHMIR GOVERNMENT INITIATIVES

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ABSTRACT

The "Mobile Service" initiative of Government of India followed by union territory of J&K aims at streaming mobile governance in the country, received much attention as a new paradigm for delivery of public services through electronically, especially via electronic and mobile gadgets. The mobile service was geared up in J&K in the year of 2003. The successive governments in J&K took many initiatives of mobile governance for better delivery of services to their citizens. The paper aims to examine the initiatives of the government of J&K for public services delivery through Mobile Governance and challenges associated with it.

Keywords: M-Governance, Technocracy, Mobile Apps.

Introduction

The United Nations has taken the initiative that is mobile governance a sub domain of electronic governance to boost the reachability access to public services for users. The Mobile governance is being adopted by all developed and developing nations of the world and India is not an exception. The world's largest democratic nation India notified mobile governance in the gazette of India in Feb, 2012. M-Governance a revolutionized the whole world. It means not a replacement for E governance but supplement to E governance (Julia Manner et.al 2012). It means the use of mobile phones, headsets with wireless internet connection to perfect and refine the government services and strengthen peoples reach. It created a new dawn for people (anytime, anywhere, Michael Schermann et.al). As compared to other technological blessings the mobile phone is much cheaper and accessible in most of the rural areas in India. The mobile has now millions of subscription base; Government of Jammu and Kashmir are promoting and using the mobile services for delivering the e governance services in different areas. The mobile technologies are persistently trending, more channels may be added in the future as the need arises. The main objective of the mobile governance consists easy interaction, better service to the citizens and cost saving etc. It made the channel of communication between government and citizen open and easy. Its aim is to simplify the work and to deliver one stop ecosystem for

providing the services by the government through the mobile handsets. The government of J&K with private public partnership give permission to multiple network service providers to carry out the aims of mobile governance. The objective of this initiative is to provide platform that allows all government departments and agencies to expeditiously start offering their service through mobile phones without having to create their separate mobile platform. The solutions provide by the mobile handsets are beneficial during unforeseen conditions.

The historic category of good governance is government to citizens. It consists all the communications and transactions between the Jammu & Kashmir government that takes place through electronically. We all have staunch belief that mobile governance is much beneficial sub domain of e governance helps the citizens to achieve their needs in a time bound manner electronically. Also the services are pass on through mobile governance must be consistent with the needs and wants of citizen. The subscription base in J&K is continuously increasing and as per the reports reviled by Telecom regulatory authority of India (TRAI). The subscription is reached up to 83, 99,153 and expected to increase more in future. (TRAI).

Research Questions

1. Unearth the reasons for the emergence of mobile governance in J&K.

2. Discuss the initiatives of successive governments in J&K to promote Mobile governance.
3. Mobile applications developed by J&K government and other stakeholders for public services delivery.
4. Understand the challenges and issues in Mobile Governance.
5. How far the mobile governance brought efficiency, transparency & accountability in routine administration.

Objectives of the Study

1. To unearth the initiatives of Jammu & Kashmir Government for prompting mobile Governance.
2. To study the kind of services provided to citizens residing in J&K through mobile governance.
3. To Analysis the reasons for emergence of M- governance & challenges associated it.
4. To determine the role of mobile governance in order to bring transparency and accountability in public services.

Methodology

The paper adopts document and analytical method. Data pertaining mobile governance initiatives taken by the government of J&K by way of implementing numerous M-governance services were collected and analyzed for the study. Further, official publications of Jammu and Kashmir government, other secondary data from books, journals and web sources had also collected for the study.

Discussion

Types of M-Governances

1. **M-government to citizens (MG2C):** This type of service consists the interaction between the government and citizen like online passport, licenses and certificates.
2. **M-government to business (MG2B):** this domain focused on the interaction between the Government to Business Interactions like E-tendering, E- payment and E filling of tax returns.
3. **M-Government to Employees (MG2E):** This is meant for the interaction between the Government to its employee's like public finance management system (PFMS) and no objection certificates etc.

4. **M -Government to Government (MG2G):** This defines interaction between the Governments to its agencies like biometric enabled attendance system-office etc. (Nagaraja K 2016).

Features of m-governance

The mobile governance is evolving day by day and it has much potential to explore & provides services delivery mechanism. It's very swift & easy in order to provide delivery of services through mobile phones. It's an evolving quickly as the new frontier in transforming government and making it extra accessible and citizen centered. It establishes two way communications between the government and people hence strengthening democracy by providing utilization of services. its prominently used in government departments especially in financial services, agriculture, health, education, communication, transportation services etc.. After the launch of 4G technology in India citizens are now able to access all basic services on their mobile phones. As the mobile based technologies are persistently evolving, more channels may be added in future as the need arises. Mobile makes the communication system much easy and accessible for the citizens in Jammu and Kashmir. It allows for many users at one time by sharing a finite amount of spectrum. it allows users to place calls, send texts and receive updates from the internet. It is easy to carry by a person and citizen can visit any site on a mobile device at any time. Mobile phone has a tremendous potency to expand the access and reach public services in Jammu and Kashmir.

Reasons for emergence of M-governance in J&K

Science and technology provides wide range of blessings for human comfort. The first mobile handset was developed by Martin Cooper in 1937. The discovery of mobile phone made the whole world understand the benefits of mobile handsets. It made globe as a global village because it has higher efficiency, productivity, quality, flexibility, ability to communicate in and out of the work place and ability to accept payments wirelessly etc. keeping the infinite number of benefits of mobile handsets

government of J&K working tirelessly and doesn't leave any stone unturned in order to provide the best services to their people in a time-bound manner. Mobile seva facilitates larger people's participation in the decision-making process of Government. Today, technology is advancing citizen empowerment and democracy that once drive their strength from constitution.

Technology is forcing governments to deal with massive volume of data and generate responses, not in 24hrs but in 24 minutes. One cannot deny the dependence on mobile cell phones in every aspect of their lives such technological discovery become an indispensable part of our lives and every generation today has a mobile cell phone which serves a vital role in their lives. The mobile seva needs some important pre-requisite components like network, handset and electricity. The government of J&K an integral part of India has finally taken the initiative of mobile governance in 2004 and made a comprehensive partnership with many service providers like BSNL, Airtel, and Jio etc. for achieving the aim and objectives of M-Governance. Some of the main reasons of emergence are as under :

1. **Topography and Media Coverage:** The topography of J&K is unique and peculiar as compared to other states of India. There are certain LOC strategic areas where there is very least media coverage due to bad conditions of roads, security reasons and lack of transportation. The Government of J&K decided to introduce and promote mobile governance in those areas and keep the life of public aware, safe & secure through mobile governance..
2. **Law & order:** The main job of the government is to maintain law & order in the state. As we know the fact that Kashmir is called land of massacre where stone pelting and violence is perpetual by the youth of Kashmir due to several reasons. The mobile governance helps the agencies to keep their eye on those who violate the law & order. Thus, we can say that for the proper maintenance of law & order in the state the government decided to adopt the mobile governance for smooth functioning and welfare of the state.
3. **Administrative Setup:** Jammu & Kashmir is a region administered by India as a union territory has two administrative capitals .which usually works from May to October in Srinagar secretariat region (Summer capital) while from the month of November-April the capital shifts to Jammu secretariat (winter capital) due to harsh climatic conditions. The government of J&K introduced mobile governance for smooth communication between the headquarters and field agencies in order to carry out the developmental functions and solve the problems.
4. **Natural Calamity:** Sudden occurrences and disasters have a large potential to damage the people as well as their property. The year of 2008 (Earthquake) & 2014 (Flood) made the government realise that m-governance is a best way to help the people during the unforeseen conditions through send them an advance SMS notifications to avoid the damage. Hence, the government of J&K took many initiatives for the mobile governance from time to time in order to help the people through mobile handsets.
5. **Tourism:** Kashmir is commonly regarded as paradise on the earth due to its heart throbbing picturesque landscape. Tourism is one of the main economic industry of the state of J&K, which is worldwide famous for its natural beauty. The tourists from whole world want to see the Kashmir. The mobile governance helps the tourists to book their hotels, ticket booking, track destinations etc. The visit of tourists increases the economy of J&K to large extent. Keeping this view into consideration the Govt of J&K promotes mobile governance for further development.
6. **Terrorism:** Terrorism is a global threat and Kashmir is under the lap of this threat since 1990. Due to militancy there is persistent bloodshed in Kashmir and Pakistan find new roots for delivery of weapons to militants in Kashmir. The mobile governance helps the Indian forces to get the news about militant's habitats. Thus they can easily cripple them. It is to be believed that mobile governance helps the

agencies to decline the rate of militancy and ensures unity, integration and peace in the state after having strong espionage system through mobile handsets.

- 7. Transparency and accountability:** Transparency and accountability are the two main ingredients of E-governance so for that thing the government of J&K took the initiative of M-governance in J&K. The M-governance keeps the administrators on their toes for all their omissions and commissions. Thus they exercise their power in a transparent manner and become answerable to people for all actions. It lessens the corruption in the administration. So, the M-governance is beneficial for transparency and accountability.

Solution on your Mobile Phones

Mobile Governance aims to link all the departments and agencies in order to deliver citizen centred services electronically through mobile channels. These services can be delivered by the romantic features of the mobile handsets. For this purposes the mobile handsets having features alike SMS, IVR, USSD and M- apps. The solutions provided by the mobile handsets are beneficial during unforeseen conditions throughout the country.

The various solutions envisioned under mobile seva are as under

I. USSD:

USSD is an acronym of unstructured supplementary services data it's sometimes referred as "Quick Codes" or "Feature code" it assists the users to interact with the mobile network operator computers. This service is normally used for checking balance, prepaid call back, wap browsing. The USSD helps users to interact directly from their mobile phones by making selection from various menus.

II. CBBS (Cell broadcasting basic services):

Mobile phones brought revolution in the modern world. CBBS is a technique of sending message/notifications to multiple users in a particular area by the authorities. This technique or service is much beneficial during any pre/post disaster management. It's a geo targeted or geo fenced messaging services.

III. Mobile payment services(MPS) :

Mobile payment services providing a golden and beautiful opportunity to the users to do any payment transition electronically from their mobile phones without visiting any bank. It's used in transferring funds to people/organisations that takes place through mobile device.it gives birth to e- payment or cashless economy.

IV. SMS/MMS GATEWAY:

SMS is an acronym of short message service while as MMS is an acronym of multimedia messaging service. Both the services allow the individual to ship and take message in the form of short message or multimedia service transmission. It is helpful during unforeseen conditions. It helps the administration to conduct the daily functions easily. Also it furnishes both push and pull message services for Government and citizen respectively.

V. The IVRS:

IVRS is an acronym of interactive voice response system- is an automated phone system technology that allows users to penetrate information via a voice responsive system of pre-recorded messages without having to talk to the representative. In the context of mobile governance, the IVRS application is intended to serve the C2G and G2C wings of the e-governance model. The important (Passport) and some basic (Ration card) services of the government are compelling services and draw a lot of enquiries from the citizens.

VI. LBS(Location based services):

LBS are an acronym stands for location based services denoting software service which gears geographic data or navigation information for users. It can be used in an agglomeration of context, work, entertainment, personal life, indoor object search etc. It revolutionised the navigation system and assists agencies/persons to track the person's location. In short this service pinpoints the location of anyone (source: india.gov.in)

The J &K Government Initiatives for Promoting M- governance

The Government of Jammu & Kashmir continuously using elbow grease and efforts for the promotion of m-governance in Jammu & Kashmir. The mobile seva in Jammu &

Kashmir was first time geared up in 2004 during the tenure ship of Former Late chief minister Mufti Mohammad Syed (PDP). The aim of the introduction of e-governance is only to simplify the work process. The Government of Jammu and Kashmir made a vision statement of e-governance is:

“Delivery of services at the doorsteps of common man at an affordable cost by using ICT in the process government functioning to bring about simple, moral, accountable, responsive, Transparent (SMART) Governance”

J&K is at the very immature stage of implementation of e-governance initiatives across the various departments of the state. The government's aim is to make Jammu and Kashmir a smart state and keep the service delivery mechanism at the doorsteps of the citizens of J&K in an efficient, time bond, transparent and in responsive manner

1. The Government of India finally designed national E governance plan (NeGP) for using IT services delivery system for the citizens to build a crystal, efficient, accountable government. The policy has clear cut objectives for the states for e governance. The state of Jammu & Kashmir under NeGP scheme has geared up and has put the e governance initiatives in the state on a fast track execution mode. The state has no left stone unturned to make a state a “REAL KHUSHHAL STATE” The Wipro had conducted a survey for the state of Jammu and Kashmir and reported that the state has made a lot of development in terms of e-governance.
2. The Govt of Jammu & Kashmir established the e- Gov. Agency (JAKEGA) which works under the supervision of administrative secretary of information & technology department. The aim of of the agency is to promote transparency, efficiency and effectiveness for delivery of citizen services to common people through electronic devices like mobile phone, laptop etc.
3. The IT policy was made by the government of Jammu & Kashmir in the year of 2004. The policy laid down the establishment of e-governance and

additional IT initiatives also said policy defined the detailed guidelines related to all areas of e governance. It's worth to mention here that the government of J&K revised the IT policy in 2020.

4. National informatics centre has been established in J&K for the promotion 7 contribution of ICT in various fields of administration along with the aim to provide special citizen centred services. The NIC is actively taking part with zeal & Zest in various E-governance projects in different sectors.
5. Another imitative of the government of J&K is setting up of two software technology parks for achieving the targets of e governance. These two parks are situated at Srinagar & Jammu. The purpose of these software parks is to provide uninterrupted and secure technological infrastructure like optic fibre connectivity, broad band connectivity, Wi-Fi access, video conferencing facilities etc.
6. Recently in the year of 2021 the Govt of Jammu & Kashmir launched mobile application “sataraknagrik” anti-corruption bureau with a purpose to facilitate seamless flow of information about corruption and enable citizens to submit their grievances with easy and mobility.
7. Another remarkable initiative of the Government of Jammu & Kashmir developed amobile application for the tourist which helps to increase the tourist footfall in Kashmir. This application assists the tourists in different ways like to find out the navigation of adventurous destinations also it provides sufficient knowledge about Jammu & Kashmir. The application is available in play store by the name of “JK tourist guide for Android”.

**Source: (JK Reports, Kashmir magazine, Kashmir life etc.)
Mobile Applications (m-APPS)**

Mobile application is a computer programme choreographed to run on smart phones. It is intended for productivity assistance like Email calendar etc. There is massive public demand for Apps which caused swift addendum in to other areas such as M-games, GPS, etc. So, there are now millions of apps available some

are free and others have a price. The mobile seva platform disposes Government services over mobile devices using mobile applications installed on the user's handsets. The J&K government and other stakeholders developed many applications which are available in mobile application store for better delivery of services to the people.

Mobile Applications

1. **IFC kashmir flood alert:** This app is developed by irrigation and flood control department. The application assists in examining the gauge level of river Jhelum during flood situation.
2. **Jammu and Kashmir RTO vehicle info:** This app is beneficial for police in order to know about the vehicle details.
3. **J&K water billing app:** Through this app the citizens of J&K may not get their water bills and can pay their bills online.
4. **University of Kashmir:** This Android app enables the students or employees of University of Kashmir to check the different things like notifications, admissions, results, salary etc.
5. **J&K bank mPAY:** This mobile application helps the citizens to fund transfer within bank and other bank, balance enquiry and cheque status.
6. **JK chrome:** This mobile browser was developed by Kashmiri a student helps citizens to browse the different types of information.
7. **Kashmir crown:** This app led the digital revolution brings latest news, exclusive reports of Kashmir.
8. **JK super Kshitij:** This app is for the employees of JK cement.
9. **Grofrills:** Kashmiri online grocery application- virtual super market which delivers the groceries straight to homes.
10. **Kashmir train timing:** This app helps the people to know about time table of all railway stations of Kashmir.
11. **JK tourist guide for Android:** This app is helpful for tourists to know about the tourist destinations of J&K.

(Source: Mobile play store)

Mobile Governance for Transparency & Accountability

Mobile governance has made public services delivery system more efficient and transparent. It assists the citizens to communicate to the government directly without visiting to a government office. Transparency means clearness, openness that information should be 24x7 available that helps to measure the authority's performance and prevent the officials to misuse their power & authority (Ibrahim Kuscheo 2016). The Government of Jammu and Kashmir through mobile governance connects people to internal administration. The mobile phone has a potency to capture and record activities of the officials hence made them answerable and keep them stand on their toes for all omissions & commissions. Hence mobile governance fosters transparency, accountability and builds trust in the government. Hence the mobile governance should be strengthened more and more so that the evils like corruption should be removed permanently from the roots. At last but not least, due to evolving nature of mobile governance the transparency, accountability is getting higher impulse in the administration of Jammu & Kashmir and made democracy much stronger.

Mobile Seva for Law & Order

The J&K Kashmir union territory is an integral part of India and its security lies on the shoulders of India. Mobile phone in the present era is considered as a great tool for maintaining law & order in the state. This security means freedom from threats and Kashmir is under the lap of threat since 1988. The Kashmir insurgency was begun in 1988 and got momentum during 1990s escalated into the most important internal security issue in India. Due to militancy persistent bloodshed is happening in Kashmir. It's to be believed that Pakistan finds new routes and modes of weapon delivery like air drops- to militants in Kashmir. Kashmir has seen an armed insurgency against Indian rule since 1989 and although violence and chaos has gone down considerably in the past few years, there have been occasional attacks by militants. Bombs and guns aside, a smartphone can be a powerful weapon in the hands of terrorists-but it can also provide intelligence

services with the tools to track them down. The smart phone can be the extremist's downfall as well as their best asset in Jammu and Kashmir. The militants came to know that local informers informed the security forces about their location hence militants threw many grenades at a mobile phone towers. The year of 2020 marked a remarkable shift in the trends of militancy indicating a downgrading in lethally despite high recruitment.

Challenges of Mobile Governance in J&K

The recent research demonstrated and interesting focus on the challenges.

1. Infrastructure: The Mobile Governance needs well equipped infrastructure for smooth functioning. IT is very unfortunate that Jammu and Kashmir is not having basic infrastructure facilities like Internet and Electricity. The state is depend on central grants because the state don not have that much potential of economy .Hence, it is the duty of central Government to take this matter in to keen consideration .

2. Cost: E governance or its sub domain needs finance as it is rightly said that finance is oxygen for administration for development. Without finance or cost an administration is like a boat without rudder. All the e-governance projects can't be carried out successfully if there is financial constraint. The J&K is economically weak usually reliable on the funds provide by the union government. Hence union govt must take the matter of financial constraint of J&K into keen consideration for implementing mobile governance in far flung areas. (Preeti Shrivastava, et.al 2014).

3. Privacy and security: The privacy and security is the major requirement for mobile users because the recent Data leak cases threatened the people. Therefore the implementation of M-Governance must have security protocols for safeguarding the interests of all masses. (Dr Deepti Maheshwari et.al 2014).

4. Digital Divide: The Digital divide in the modern era is the biggest challenge for carrying the benefits of mobile governance. The digital means defined the people into two categories i.e. one who have access to internet,

mobile phones and another one who don't have access to internet & mobile phones .This created a gap between the people The digital divide takes form in Rich- Poor, male, female, urban- ruler etc. and this gap needs to be narrowed down. (Sangeeta Jauhari et.al 2014).

6. Lack of Expertise: The Mobile Governance needs bucket of expertise that can ensure the privacy and security to citizens. The Jammu and Kashmir have skilled human expertise deficit this gap needs to be fulfilled for promotions of mobile Governance.

7. Conservative mind setup: For any positive change it is necessary to have flexible and positive mind-set .The traditional and conservative mind-set of people sees the mobile devices as an evil it hampers the growth of Mobile Governance in Jammu and Kashmir .

8. Low ICT literature: For Mobile Governance needs strong IC literacy for prosperous break through. There are some people who do not believe in technology prosperity.

9. Security Reason in J&K: Kashmir is called paradise on earth but in real sense it is called land of massacre. Kashmir is called land of wars usually held between the militants with Indian army forces. This situation leads to virtual curfew or mobile network barring in Kashmir. For smooth functions of mobile governance it demands smooth network connectivity. So the frequent network barring is the biggest challenge in Kashmir, it needs to be solved as soon as possible for smooth m-governance functions.

10. Political will:

For any development process there is a need of political will. The political will can cultivate the prosperity in any state. The development in any state is dependent on political will of the state. The Government must be stable in order carry out the developmental functions. Without the political will the development always remains a split fancies alike. There is always hung parliament in J&K due to different reasons which affects the development to the large extent

11. Language: language is the window of world without it a person is a like a bird without wings. Almost Every content or applications available online is usually in the English format that needs strong grip on English language by the user. So this factor is a challenge to the m –governance especially in those areas where the rate of literacy is very low and people don't have knowledge of English.

12. Electricity: Electricity has infinite uses in our day to day life and plays a vital rule in the field of mobile governance. The electricity is the pre-requisite criteria or component to access the mobile handsets and to enjoy services. The J&K has a good hydroelectricity potential for generating electricity but due to lack of planning and financial constraints the state is still in the state of sorry affairs. The frequent electricity cuts make the people unable to access the mobile phones.

13. Climate: The climate of J&K is very harsh particularly from the month of November to March due to heavy snowfall during these months there is no electricity at all. The heavy snow fall destroys the mobile network towers badly. This situation makes the people unable to access the mobile seva.

14. Barring of Mobile network & Internet connectivity:

The mobile governance needs proper internet connection in order to carry out the day to day functions without internet there is no means of mobile governance. Due to different security reasons the access to internet in Kashmir is snatching from people in the pre text of law and order. The Internet is becoming the town square for the global village of tomorrow. We are all now connected by the Internet, like neurons in a giant brain. In fact the internet became boon and bane for the people today. The hot button issues like ban on beef, terrorist attacks like pulwama, Jatagitation, and abrogation of special status of J&K made the government to think always to go for the network barring. This barring laid down titanic effect on the lives of students and businessman in different ways. After the long period of time now in the month of Feb, 2021 the internet 4G services has been restored in

Kashmir it remained suspended since 5th August, 2019 when centre ended the special status of state. it was also a long pending demand of the regional political parties to restore the services, which impacted the students and businessman. Finally The Jammu and Kashmir administration issued an order allowing the restoration of high-speed mobile internet services in the region, a move that came more than 17 months after 4G facilities were snapped ahead of the Centre's controversial decision to withdraw the erstwhile state's special status. Now the state is converted into union territory and is an integral of India. It's worth to mention here that access the internet is citizen's fundamental right and it should not be taken away in the pre text of law and order.

(Source: www.greaterkashmir.com & ([www.kashmirtribune.in/Kashmir magazine.com](http://www.kashmirtribune.in/Kashmir%20magazine.com)))

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Conclusion

M- governance in Jammu and Kashmir is to provide efficient and effective government services through mobile devices technology. Mobile governance is one of the important elements of the government in the present times whether to provide public services to the

people of the state. It establishes a way of communication between the government and people. One can't deny the dependence on mobile cell phones in every aspect of their lives. The m-governance has been geared up in Jammu and Kashmir for several unique reasons like boosting up of the tourism, maintain law & order, cripple terrorism etc. However, the services need some requirements on part of users like privacy, quality and accessibility etc. The m-governance contributes in reducing costs and greater coordination & communication.

M-government is a value added service and a complementary to E-government that facilitates the services delivery to rural areas and for emergency notifications. Its key attribute is mobility, where citizens can access services anywhere and anytime. When the government of J&K started launching many initiatives for M-governance, it has become one of the emerging service delivery mechanisms due to its potentiality of ICT. Till now, the government has implemented various initiatives with different projects (JAKEGA, Satarnagriki, Mobile Apps etc) in J&K. M-governance is still at a new stage and still needs more improvement to get a better M-governance. Currently, M-governance in J&K is still facing challenges in both

management and technology. The mobility of M-governance opened doors for diverse benefits and applications. Although designing and implementing M-government brings up some of the challenges to government like digital literacy, privacy, security, internet connectivity and accessibility.

M-government technology will be accepted if it is designed and implemented properly and its services can be introduced in an easy way to users. The paper covers the strategy that could be accepted by the government of J&K in order to make M-governance successful and get acceptance by all citizens. At last but not least, the youth of Kashmir should understand the benefits of science and technology and they must shun the gun culture and stone pelting. War and violence is not a solution to any generation, what the solution is i.e. maintenance of peace which is always backed by the development and prosperity. The review of challenges calls for future work on each issue discussed, where researchers can experientially and empirically explore such areas. Finally, M-governance is advancing like a snowball with the new smart phones, which open doors for more advanced options for E-government services.

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FROM VICTIMIZATION TO EMPOWERMENT: A STUDY OF GITHA HARIHARAN'S THE THOUSAND FACES OF NIGHT

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ABSTRACT

Githa Hariharan, a clarion voice of the voiceless Indian women, aptly articulates the traumatic experiences of Indian women fettered by patriarchal ideology, in her literary compositions. Most of her female protagonists protest against the social constraints that curb their freedom and individuality, cast off the stereotypical roles and identities assigned to them by the patriarchal society, assert to establish a unique identity, undergo a journey towards self-actualization, and finally succeed in their attempts to carve their own destiny. The novelist finds the notions regarding "ideal womanhood" as man-made constructs that impede women from identity creation and realizing their inner potentials. In her debut novel, The Thousand Faces of Night, the novelist effectively highlights the inner desires of Indian women to renounce their subordinate position in patriarchy and acquire a "new" identity revealing traits of resilience, audacity, and determination in their attitude and comportment. Having drawn inspiration from women belonging to different social classes and generations, the author skillfully explores the struggles of Devi, Sita, and Mayamma to establish themselves as "individuals" amidst patriarchy and restricting social constraints. Reflecting the realities of the patriarchal society, the writer interprets the emotional turmoil of Indian women, voices for women empowerment, and enlightens her readers with the notion that women should acknowledge and celebrate their feminine self-hood. This research paper aims to explore how Devi, Sita, and Mayamma undertake a progressive journey from victimization to self-empowerment in Githa Hariharan's The Thousand Faces of Night. Highlighting the excruciating ordeals of these women characters, the writer proclaims a dawn by making them apprehend the power politics, protest patriarchal expectations, and finally attain self-realization.

Key words: patriarchal ideology, subjugation, emancipation, victimization, self-actualization, power politics, gender exploitation

Githa Hariharan, a clarion voice of the voiceless Indian women, aptly articulates the traumatic experiences of Indian women fettered by patriarchal ideology, in her literary compositions. Her debut novel, *The Thousand Faces of Night*, the winner of the Commonwealth Writers' Prize in 1993, depicts the passive sufferings of Devi, Sita, and Mayamma, who struggle for their survival in the patriarchal social structure. The novelist skillfully juxtaposes the experiences of these three women who belong to three different generations and concurrently gives expression to their dreams, aspirations, and innate efforts to carve an identity of their own. Blending myth with the tale, the writer has made her magnum opus a distinct one. The author endeavors a psychological exploration of these woman characters and categorizes them into different categories based on their responses to various notions, particularly to the institution of marriage. Most of her woman characters seem to wage "a gendered, existentialist fight against invisibility and inability, challenging authority, stereotypes, icons and sexist values" (Jancy James 104).

Sita Ram Jaiswal in "The Role of the Writer Today," aptly defines the role of a writer which seems more befitting to Githa Hariharan: "The role of a writer is to feel the pulse of the society, know its sickness and suggest such cures as are in consonance with its culture" (14). In this regard, Githa Hariharan too reflects the realities of the patriarchal society, interprets the emotional turmoil of Indian women, voices for women empowerment, suggests creating unique identities breaking the shackles of the different standards set for women, and eventually offers suitable remedies for the maladies women suffer from, in her literary creations. She believes and supports the notion that women should realize their inner potential, explore the possibilities, challenge the patriarchal predilections, and be strong and confident. She provides them with a ray of hope and accordingly motivates them to undertake a journey from subjugation to emancipation. Kaustav Chakraborty in "From 'Reading Myth' to 'Mythic Reading': Githa Hariharan's 'Re-vision' of Myths in *The Thousand Faces of Night*," rightly observes the psychological transformation perceptible among women: "... the women in India not

unlike women elsewhere, have begun to move toward self-perception, self-expression and self-determination, slowly indeed and not entirely against tradition, but within the family bindings”(49).

Devi, the central character of the novel, her mother Sita, and her caretaker, Mayamma are victimized in different ways by the male-dominated society. Being sandwiched between the age-old customs and their individuality, they struggle hard to realize their inner aspirations and achieve an equal and independent status that would facilitate their self-realization and empowerment. In this regard, Rama Nair in “The Art of Fiction: A Note on the “Prelude” of Githa Hariharan’s *The Thousand Faces of Night*,” opines that: “Realism and fantasy interplay in the narrative to focus on the emerging self. It is a self that endures suffering, but it is a suffering that leads to self-understanding and an inward strength to break loose from past thoughts and experiences that are negative” (174).

Devi, right from her childhood, enjoys listening to mythical stories from her grandmother which leaves an everlasting impression on her psyche and plays a pivotal role in redefining her feminine identity. Mythical characters like Gandhari, Mansa, Amba, Damayanthi inculcate certain socio-cultural values, character traits, and strategies of survival in her. The qualities Devi admires in these mythical figures get registered in her psyche. Day dreaming “more and more about female avengers” (40), Devi imagines herself to be a woman warrior ordained for the liberation and social upliftment of the suppressed gender, and exhibits traits of resilience, bravery, and physical strength: “I lived a secret life of my own; I became a woman warrior, a heroine, I was Devi. I rode a tiger and cut off the evil magical demons heads” (41). Her childhood days were mythically nourished with the stories of “superhuman warriors, men and women destined to lead heroic lives of golden splendors” (27). Highly spirited, Devi strives to liberate women from the clutches of patriarchy. At the same time, her grandmother helps Devi identify herself with the mythical characters and thereby gradually prepares her to lead a life of an “ideal woman” in future incarnating qualities like sacrifice, chastity, tolerance, and fidelity in her.

Devi is quite unaware of the fact that such myths highlighting “ideal womanhood” indirectly support and nourish patriarchal ideologies. Though the myths condition her psyche and obligate her to accept the stereotypical notion that an “ideal woman” should possess qualities like tolerance, sacrifice, submissiveness, docility, meekness, and acceptance, the heroic lives of some mythical characters sow the seeds of courage, resilient spirit, endurance, and rebellious spirit in her. At times, she rejoices in visualizing herself as Durga or Kali with the supreme power to destroy the evil. She wishes to exercise all her powers by protesting against patriarchal supremacy.

Devi begins her married life with Mahesh with lots of dreams, hopes, and aspirations. However, when she realizes that her dreams are far from the existential reality, she becomes a victim to emotional estrangement, isolation, frustration, and identity crisis. Her psychological confinement to the conventional gender roles impedes her from realizing her potentialities, capabilities, and exploring new possibilities. She witnesses boredom and emotional estrangement in her childless married life: “I spend hours every afternoon, opening dusty rooms and cockroach-ridden cupboards” (59). She believes that having children would diminish the vast emptiness she felt in Mahesh’s house: “Perhaps I will raise a brood of joyous, wild children, who will run pell-mell in this quiet garden... They will indulge my fantasies of childhood, but will know better” (53). When Devi expresses to Mahesh her sense of boredom and her desire to “look for some kind of a job” (55), he denies saying “there is so much for you to do at home” (56) and “what will you do when the baby comes?” (65). Her father-in-law, Baba, a Sanskrit professor, offers her emotional support and often narrates her stories from Hindu scriptures highlighting the significance of the vows and responsibilities bound to a woman in a family. Devi finds the themes delineated in the stories focusing on the code of conduct a woman is expected to follow and interprets that the stories “always have for their centre-point an exacting touchstone for a woman, a wife” (51).

The psychic influences of the stories narrated by her grandmother and father-in-law, compel her to accept and emulate the behavioral patterns of an “ideal woman,” remind her subjugated and marginalized status in the society, and thereby forbid her from establishing an identity of her own. Devi’s predicament seem to reverberate the notion of Simone de Beauvoir that “one is not born, but rather becomes, a woman” (The Second Sex 295). Though an American returned modern girl, Devi finds it arduous to carve her own destiny for her life is predestined and predetermined by patriarchal predilections. In this regard, Tripti Garg in “Narrative Techniques in Githa Hariharan’s The Thousand Faces of Night,” rightly remarks:

The novel causes the reader’s encounter with the truth that howsoever the female may get educational capacities, howsoever the society become modernized, but the females will be exploited in all the ages and their condition will remain as stagnant as it was years ago during the mythical age. (61)

It is only after several trials and tribulations, Devi understands the reality that the stories “were a prelude to my womanhood, an initiation into its subterranean possibilities” (51). The constant clash between her western education and the inherited socio-cultural values lands her in chaos. She realizes that her western education has not equipped her for “the vast, yawning chapters of her womanhood” (54). Her perception regarding the institution of marriage is: “A marriage cannot be forced into suddenly being there, it must grow gradually like a delicate but promising sapling” (49). Unable to find happiness in married life and to shed off the patriarchal ideologies related to “ideal womanhood,” she becomes completely disillusioned and thwarted. Mahesh’s insensitivity towards Devi and his inability to acknowledge her identity result in their marital discord: “This is what comes of educating a woman. Your grandmother was barely literate. Wasn’t she a happier woman than you are? What is it you want?” (74). To assert her individuality, Devi breaks her bond with Mahesh and wishes to liberate herself from the accepted social patterns and values. Her chaotic mindset finds solace in the company of Gopal, a musician, which too ends in disappointment

and aggravates her present situation. Encaptivated by the “blissful numbness”(78) of Gopal’s music, she decides to find a path out of the “lush prison” (78) she is being entrapped. Existential anguish drive her to perceive Gopal as her “ideal companion” who could acknowledge her identity and eventually hopes to “soar high on the crest of Gopal’s wave of ragas” (95). Hence she takes the overhasty and haphazard decision to leave Mahesh and live with Gopal. Probably she is misconstrued that by ending her relationship with Mahesh she is rejecting the stereotypical societal expectations that deprived her identity and individual aspirations. After a while, her life with Gopal seemed like a kite “that had snapped free of its string” (129) and felt alienated “in her isolated corner, an outsider forever on the fringes of a less ambivalent identity”(135). Finally, with grim determination and resilient spirit, she decides to leave the musician and lead her life with her mother “to stay and to fight, to make sense of it all” (139). The protesting mythical figures loom large in her memory and eventually she imitates the revolting and rebellious spirit of those characters to emancipate her “self” from the power politics. Carving a unique identity of her own, she emerges as an independent, strong-willed, and resolute individual:

Suitcase in hand, Devi opened the gate and looked wonderingly at the garden, wild and over-grown, but lush in spite of its sand-choked roots. Then she quickened her footsteps as she heard the faint sounds of a veena, hesitant and childlike, inviting her into the house. (TFN 139)

From the above statement it is clear that her life long quest to establish a distinct identity gets completed when she reaches her home. Thus, she liberates her “self” from the restrictions laid down by the roles and identities imposed on her and gets transformed into an empowered woman.

Sita, Devi’s mother who belongs to the second generation, is an ideal mother, daughter, and daughter-in-law and lives to the expectations of the male-dominated society. The novelist depicts her as a “ woman who did not complain, a woman who knew how to make sacrifices without fanfare” (103). Being an ardent lover of music, she enjoys playing

veena. Veena offers solace and serenity to her soul. However, as a newly wed, she is compelled to sacrifice her passion to play veena. Her father-in-law commands her to “Put that Veena away. Are you a wife, a daughter-in-law ?” (30). The patriarchal society does not approve an “ideal woman” nourishing individual needs and desires and instead advocates her service for the whole family. Sita, being burdened with the patriarchal expectations, suppresses her artistic inclinations: “We never saw her touch the veena again. She became a dutiful daughter-in-law the neighbors praised, and our household never heard that heart-rending music again”(30). Heart-broken, she pulls down the strings of veena from the wooden base and thereby expresses her protest against patriarchy. With single-minded dedication and intense struggle, she attains the goal of being an “ideal” housekeeper and thereby “embraced her destiny” (29).

Later, she emerges as an individual with distinct views and indomitable will. She boldly sends her daughter to pursue her studies in America. Though a widowed mother, with meticulous preparation and efficiency, and “with the same eloquent hand” (16), she arranges the marriage of her daughter. With progressive thoughts and actions, she employs a variety of survival strategies so that she will not land again in “a soiled ground of life devoted to being the ideal woman” (107). Being more focused on future than the past, she “banned her mind from trading in memories, confessions, judgements, the what-could have been” (107). She becomes a strong woman who seems more focused on “order, reason, progress” (26) and takes every decision like a “veteran chess player” (14). Though she “listened to every bit of advice as if she had never heard it before,” she did “exactly what she wanted” (23). She once again starts playing veena and thereby pleases and rejuvenates her soul with the divine music. Her transition from a passive sufferer to an emancipated individual is clearly discernible towards the end of the novel. Initially, Sita could not accept Devi’s decision to live with Gopal, for she felt that Devi “had torn her respectability, her very name to shreds” (108) and hence “spent her rage, her acrid bitterness

on the over-pruned plants” (108). However, when Devi reaches her home, she could listen to the music of veena and is extremely happy to find her mother waiting for her. Approval of Devi’s decision and her warm gesture towards Devi clearly indicate her approval to let her daughter be true to her own “self.”

Mayamma, the caretaker at Mahesh’s house, is an old widow. As a young woman, she accepts her destiny without any protest and remains a passive sufferer in the patriarchal society. Finding no happiness in her marriage life, she lives to satisfy the needs and expectations of her family. Her mother-in-law imposes penance and ignominy upon her for her delayed conception. Surrendering her self-esteem, she encounters hardships in various forms. Being an archetypal woman, Mayamma humbly accepts her fate, never voices her grievances, and never questions the patriarchal politics. When her husband leaves her after eight years of married life, she is completely shattered for she is left all alone with her son, with no emotional and financial support. Though victimized by the society and her family, Mayamma, with determination and indomitable will, brings up her son as a single parent. Years later, destiny chases her in the form of the unexpected death of her spoilt son. Completely broken down, she decides to leave her village: “The day he died, Mayamma wept as she had not done for years. She wept for her youth, her husband, the culmination of a life’s handiwork: now all these had been snatched from her”(82). Despite such agonizing situations, she reveals her inner strength by bouncing back to normalcy. Her act of burning her horoscope before she leaves the village symbolically suggests her shedding off her old identity and marks the acquiring of the new: “She burnt it along with the body of her son, and left the village by the first bus, next morning” (82). After undergoing a series of transformations, she emerges as a “new woman” revealing traits of resilience, courage, hope, and determination. Finally, she excels in the art of survival and thus asserts: “I have learnt to wait, when to bend by back, when to wipe the rebellious eye dry” (126). Her transformation is so evident that when Devi decides to leave Mahesh, Mayamma as a “strong woman” supports Devi’s bold decision, motivates her to realize

her dreams, inspires her to take the path of progression, and thus acts as a facilitator to the transformation of Devi:

I say, go, Devi, search for that forest you crave in your delirious youth. Go deep, deep, into its hollows and into the wild terrors of its dark stretches. My words wing in a different direction and build a nest for the coming of night. Yours, thirsty, seek the river, miles away, where the dim forest gives way to a clear, transparent flood of light. (TFN 126)

To sum up, Githa Hariharan, a torch bearer to women's emancipation, skillfully depicts how Devi, Sita, and Mayamma undertake a progressive journey from victimization to empowerment in *The Thousand Faces of Night*. She clearly presents how societal expectations ordained for women in a male-oriented society restrain her from realizing her inner potentials and carving a unique identity. The novelist creates a ray of hope among the subjugated and

marginalized women by suggesting novel methods of acquiring a liberated identity. She challenges the patriarchal ideology and advocates women to be audacious and independent to be reborn as a "new woman" and attain individualistic empowerment. She wants her women to break the constraints of culture, myth, and religion, and thereby reconstruct their identity. She attempts to awaken the consciousness of women and thereby facilitates their struggle for self-realization. Though all the women characters in the novel encounter various ordeals of exploitation, they finally shatter their stereotypical identities, learn different survival strategies, reveal their inner strength of womanhood, and eventually reconstruct their identity. From passive suffering, they undertake a journey to apprehension of power politics, protest of patriarchal ideology, and finally reach the stage of self-realization.

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NOVEL PROPERTIES OF NANOSTRUCTURED COPPER FERRITE**M. R. Patil¹ and R. R. Mistry²**^{1,2}Department of Physics, Deogiri College, Aurangabad (Affiliated to Dr. B.A.M.U., Aurangabad) Maharashtra, India.²ranjeetphy04@rediffmail.com**ABSTRACT**

In this work, copper ferrite nano crystalline powder was prepared by sol gel method. The nitrate-citrate gel was prepared from metal nitrates and citric acid solution of ratio 1:3. The result showed that nitrate citrate gels exhibit a self propagating behaviour after ignition in air at room temperature. The as-prepared powder was annealed at 550°C for 6 hrs. The phase composition and structural properties of sample was investigated by X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM). The result shows single phase of tetragonal structure with the reflection the sample planes (220), (311), (400), (422), (440) and (511). The D.C. electrical conductivity decreases with increase of temperature ensuring the semiconducting nature of the ferrite.

Keywords: Copper ferrite; Sol-gel auto combustion; nitrate-citric acid fuel; d.c. electrical conductivity.

Introduction

Ferrites have broad range of applications depending upon their properties. The fundamental properties of ferrites such as structural, electrical and magnetic etc have been the subject of tremendous interest to Physicist, Chemists. The academic interest in the study of ferrites is due to the fact that they are the most important electronic and magnetic ceramics. The potential applications of ferrites in electronics, computer and microwave technologies have focused the curiosity of many research workers on these materials. The beneficial properties of the spinel ferrites mainly depend upon the chemical composition, preparation methods, sintering temperature, nature of the additives and their distribution [1]. Ferrites have been need extensive study due to their wide range of application and their importance. They exhibit interesting structural, electrical and magnetic properties which depend upon the nature of ions and their charge, the preparation method and its associated parameters [2].

Nickel ferrite is an inverse spinel ferrite and has a very high electrical resistivity and very low eddy current losses [2]. Cobalt ferrite is a hard magnetic material. Cobalt ferrite has been widely studied due to its high electromagnetic performance, mechanical hardness, excellent chemical stability, high coercivity and moderate saturation magnetization, which make it a very importance for the electronic components used in computers, recording device scards [3–5]. Zinc ferrites (ZnFe₂O₄)

have a normal spinel structure with the space group Fd3m, and they have opened up a new frontier area of material science and technology. Copper ferrite (CuFe₂O₄) is one of the most important spinel ferrites because it exhibits phase transitions, changes semiconducting properties, chemical and thermal stabilities, tetragonality variation when treated under different conditions. It is used in electrical switching [6]. It is used in the wide range of applications in gas sensing [7], catalytic applications [8–9], lithium-ion batteries [10] high density magneto-optic recording devices, bio-processing, color imaging, ferrofluids and magnetic refrigeration [11, 12].

Moreover, CuFe₂O₄ assumes great significance due to its high electric conductivity, high thermal stability and high catalytic activity for O₂ evolution from alumina–cryolite system used for aluminum manufacture [13]. CuFe₂O₄ is to exist in tetragonal and cubic structures. Under slow cooling Copper ferrite crystallizes in a tetragonal structure with c/a lattice parameter ratio of about 1.06. Tetragonal phase of Cu ferrite has inverse spinel structure with almost all Cu²⁺ ions occupying octahedral sublattice, whereas Fe³⁺ ions divide equally between the tetrahedral and octahedral sublattices [14]. The stable tetragonal structure is at room temperature and convert to cubic phase only at a temperature of 360°C and above due to Jahn–Teller distortion. The cubic structure possesses a larger magnetic moment than that of the tetragonal one due to more cupric ions (Cu²⁺) at tetrahedral sites in cubic

structure as compared to in the case of tetragonal structure [15,16].

There are rarely reported the synthesis of tetragonal copper ferrite powders. The correlation between the magnetic, catalytic properties and the microstructure of the produced tetragonal copper ferrite need intensive work.

Experimental Materials

Copper nitrate ($\text{Cu}(\text{NO}_3)_2 \cdot 9\text{H}_2\text{O}$), ferric nitrate ($\text{Fe}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$), citric acid ($\text{C}_6\text{H}_8\text{O}_7$) $\cdot\text{H}_2\text{O}$ all 99% pure analytic reagent grade are used as received.

Synthesis

Nanostructured copper ferrite was synthesized using sol-gel process.

Preparation of fine powder of copper ferrite

Copper nitrate and ferric nitrates were taken in desired ratio and dissolved in deionized water at room temperature. The solutions were constantly stirred at 90°C for 2 hours in order to get homogenous solution. An aqueous solution of citric acid was mixed in metal nitrates solution. The mixed solution is then heated at 90°C for 2 hours. The ammonia was also added in the mixed solution to maintain pH at 9. The temperature of the mixed solution was again increased to 110°C , which results in the gel formation. After some time, the self ignitions starts and dried gel burnt in a self propagating combustion process to obtain fine particles of copper ferrite[17]. The powder was

washed with distilled water and dried at 100°C . The fine powder of copper ferrite was further annealed at 550°C for 6 hours.

Characterizations

The XRD pattern of the sample was measured in a Philips diffractometer using $\text{CuK}\alpha$ radiation. The morphology of the particles was observed using scanning electron microscope. IR measurements were carried out at room temperature in the range from 200 up to 1000 cm^{-1} by using an infrared spectrophotometer (Perkin Elmer, Model 883).

Result and Discussion

XRD Analysis

The X-ray diffraction pattern (XRD) of the synthesized material was found to be a tetragonal spinel structure similar to that of bulk copper ferrite [13]. The X-ray diffraction patterns for copper ferrite was sintered at 550°C are shown in fig.1. The X-ray pattern show sample is existence of the single phase of tetragonal structure with the reflection the sample planes (220), (311), (400), (422), (440) and (511).

It is observed that all the peaks corresponds to the tetragonal structure of copper ferrite and indicates the single phase of the particles. The reflections characteristics of the spinel phase are not intensive, which may indicate low crystallinity or small particle size.

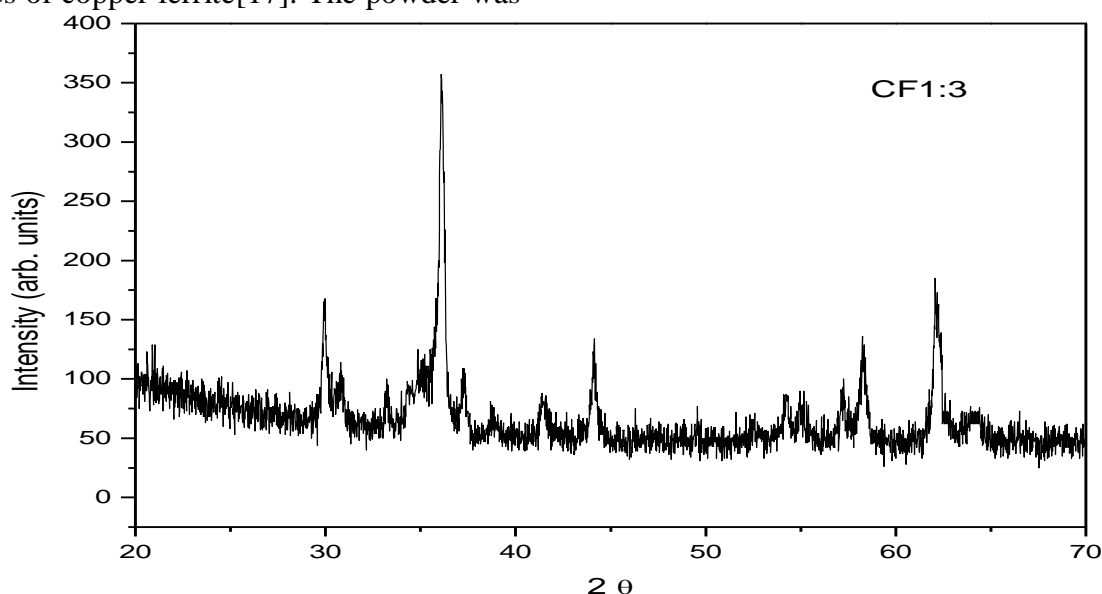


Fig.1: X-ray diffraction patterns for CF 1:3

Besides the spinel phase, reflection characteristics of phase $\alpha\text{Fe}_2\text{O}_3$ copper in the XRD spectrum. Similar XRD pattern was observed by Irena Szczygiel and his colleague [14]. Table 1 gives the values of interplanar

spacing obtained from XRD data. The values of interplanar spacing 'd' and Millar indices (h, k, l) were used to determine the lattice parameters of the sample under investigation.

Table 1 Interplanar spacing (d) for CF 1:3

Plane (h k l)	d
(220)	2.979
(311)	2.486
(400)	2.049
(422)	1.690
(440)	1.451
(511)	1.582

The average crystalline size for sample can be estimated by Sherrer equation i.e.

$$D_{h,k,l} = k\lambda / (B_0 - b_0) \cos\theta$$

Where, k is a constant, about 1, generally considered as 0.89;

λ - Wavelength of X-ray radiation,

B_0 - full width at half height of XRD peaks,

b_0 - natural width of XRD spectrometer, generally replaced by full width at half height of standard sample and

θ - Diffraction angle.

Table 2: Lattice constant (a), X-ray density (dx),

Bulk density (d), Porosity (P) For CF 1:3

Ferrite	Lattice Constant (\AA)		dx (gm/cm^3)	d (gm/cm^3)	p %
	a	b			
CF1:3	8.225	8.712	5.399	4.426	18.02

The experimental density was found using Archimede's principle, given by

The values of bulk density (experimental density), X-ray density and porosity are given in Table 2.

Ferrite	G (nm)	T (nm)
CF1:3	27.77	31.66

Weight of sample in air

$$\rho_{\text{exp}} = \frac{\text{Weight of sample in air}}{\text{loss of weight in distilled water}}$$

The X-ray density was determined using the following relation;

$$\rho_{\text{X-ray}} = 8M / Na^3$$

Where, M- is molecular weight of the sample, N is Avogadro's number and a -is the lattice parameter.

The percentage porosity of sample was calculated by using the following relation;

$$\text{Porosity} = (\rho_{\text{X-ray}} - \rho_{\text{exp}}) / \rho_{\text{X-ray}}$$

SEM Analysis

The scanning electron micrographs of copper ferrite sample is shown in Fig.2. The well defined microstructure can be observed from the photograph. The average grain size is about 27.77 nano-meter exhibiting a fine grained microstructure with respect to that of the ferrite powder prepared by conventional route. The value of grain size obtained from SEM image is presented in Table 3. **Table 3:** Grain size (G), Particle size (t) for CF 1:3

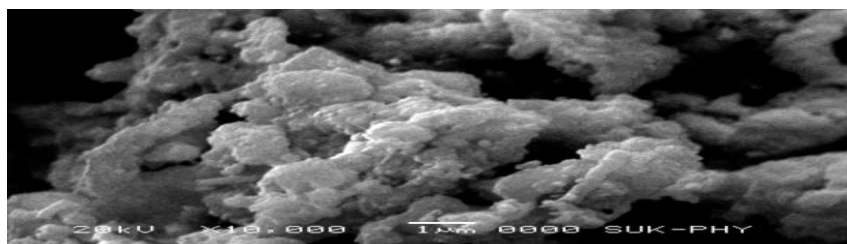


Fig. 2: SEM image of copper ferrite

D.C. Electrical Resistivity

The D.C. electrical resistivity measurements were performed on disc shaped pellets of 10 mm diameter and 3 mm thickness using two probe techniques. The resistance 'R' of sample was measured using chromel-alumel thermocouple. The resistivity (ρ) was determined using pellet dimension resistance of the sample. Fig.3 depicts the variation of

logarithm of resistivity as a function of reciprocal of temperature. The resistivity decreases with increasing temperature obeying Arrhenius relations. Similar behaviour of resistivity was reported in the literature [12]. The resistivity ρ decreases with increasing temperature exhibiting semiconducting behavior.

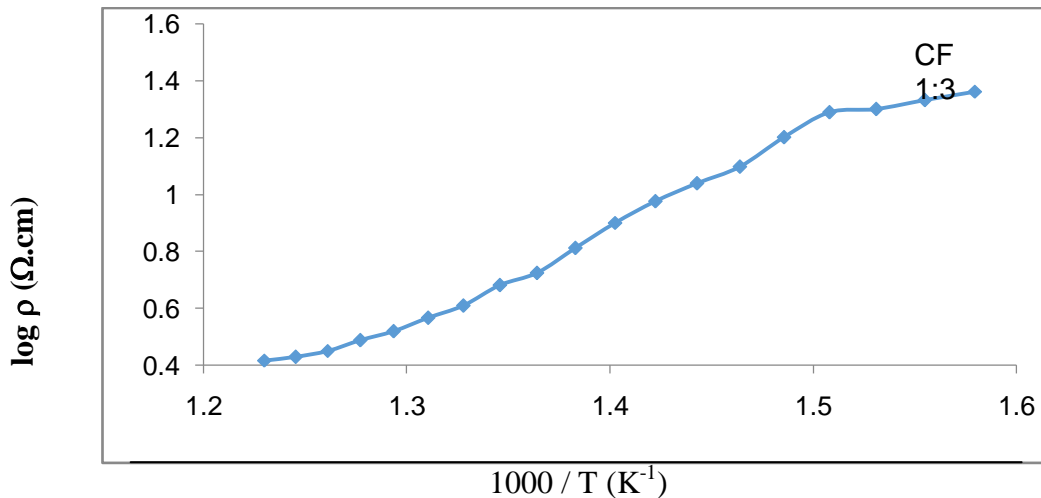


Fig.3: d.c. electrical resistivity

Conclusions

In order to prepare copper ferrite spinel system with good crystallinity and stoichiometry, we investigated the structural and electrical properties and drew the following conclusions.

1) We successfully synthesized mono-phase

spinel tetragonal structured copper ferrite

2) SEM observation showed that the product powder is nanocrystalline structured.

3) The D.C. electrical conductivity decreases with increase of temperature ensuring the semiconducting nature of the ferrite.

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SCOPE AND APPLICATIONS OF DIFFERENTIAL EQUATIONS MODEL IN DYNAMICAL SYSTEMS

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ABSTRACT

This paper provides a brief introduction to differential equations models in dynamical systems, particularly to examples of science in our daily life, physics, chemical sciences environmental sciences, exponential growth and decay related differential equations, their solutions

Keywords: differential equations, dynamical systems.

Subject Code Classification: MSC (2010): 34-XX, 37-XX.

Introduction

Well-known applications of Differential equations are in engineering and modern science extensively in biology to study biochemical reactions, population dynamics, organism growth etc. The process of writing a differential equation to model a physical situation is described as Modeling. Differential equations model is description of dynamical systems i.e. systems that change in time according to some fixed rule using differential equation. For such a system, the independent variable is t (for time) instead of x, meaning that equations written as

$$\frac{dy}{dt} = t^3 y^2 \quad \text{Instead of } y' = x^3 y^2.$$

In addition, the letter y is usually replaced by a letter that represents the variable under consideration, e.g. M is for mass, P is for population, T is for temperature etc.

Literature Review

Many of the differential equations that arise in the natural and social sciences are happened to be separable type of differential equations. In this paper we describe applications of such type of equations.

This paper is concerned with presenting differential equations models deals with the dynamical systems and basic and useful methods of solving differential equations.

Result and discussion

a. Exponential Growth and Decay

The most common differential equation in the sciences is the following. Following is the

differential equation which is the Natural growth equation:

$$\frac{dy}{dt} = ky \quad \text{Where } k \text{ is a constant.}$$

The solution of it is in the form $y = y_0 e^{kt}$ where $y_0 = y(0)$ is the initial value of y.

The constant k is called the rate constant or growth constant, and has units of inverse time (number per second). The sign of k governs the behaviour of the solutions.

- If $k > 0$, then the variable y increases exponentially over time. This is called exponential growth.
- If $k < 0$ then the variable y decreases over time, approaching zero asymptotically. This is called exponential decay.

Similarly, given a growing variable $y = y_0 e^{kt}$ ($k > 0$).

We can measure the rate of exponential growth using the doubling time, i.e. the amount of time that it takes for y to grow to twice its original value. The doubling time can be obtained by substituting $y = 2y_0$ and then solving for t.

Illustration 1

A cell is growing exponentially with a doubling time of 3.00 hours. If there are 5000 cells initially, how long will it take for the cell culture to grow to 30,000 cells?

Solution

$$y = y_0 e^{kt} \quad \text{Now we have } 2y_0 = y_0 e^{kt}$$

gives $k = (\log 2)/3$
 As $y = y_0 e^{kt}$
 $30000 = 5000 e^{kt}$
 Gives $t = 7.75$ Hrs.

Example: Consider a sample of a certain radioactive isotope. The atoms of such an isotope are unstable, with a certain proportion decaying each second. In particular the mass M of the sample will decrease as atoms are lost, with the rate of decrease proportional to the number of atoms. We can write this as a differential equation.

$\frac{dM}{dt} = rM$, where r is a constant of proportionality. It follows that the mass of the sample will decay exponentially with time:

b. Separable Differential Equations

Separable Differential Equations can be expressed in separable form and easily solved.

Illustration 2

Torricelli’s Law: Water is being drained from a spout in the bottom of a cylindrical tank. According to Torricelli’s Law, the volume V of water left in the tank obeys the differential equation: $\frac{dV}{dt} = -k\sqrt{V}$, where k is a constant.

Find the general solution to this equation.

Solution

We can solve this differential equation using separation of variables. We get

$$\int \frac{dV}{\sqrt{V}} = \int -k\sqrt{V}$$

$$\int \sqrt{\frac{dV}{V}} = -\int kdt$$

we get $2\sqrt{V} = -kt + C$
 which gives $4V = (c - kt)^2$

i.e. $V = \frac{1}{4}(c - kt)^2$

Illustration 3

In 1974, Stephen Hawking discovered that black hole emits a small amount of radiation, causing them to slowly evaporate over time. According

$M = M_0e^{-rt}$, where M_0 is the mass of the sample at time $t=0$.

One important measure of the rate of exponential decay is the half life. Given a decaying variable: $y = y_0e^{-rt}$ ($r > 0$)

The half life can be obtained by substituting

$$y = \frac{y_0}{2}$$

$$\frac{y_0}{2} = y_0e^{-rt} \text{ and then solving for } t.$$

to Hawking, the mass M of a black hole obeys the differential equation

$$\int \frac{dM}{M^2} = \int -\frac{k}{M^2}$$

where $k = 1.26 \times 10^{23} \text{ kg}^3/\text{year}$. Find the general solution to this equation.

Solution

$$\int \frac{dM}{M^2} = \int -\frac{k}{M^2}$$

$$\int M^2 dM = \int -kdt$$

$$\int \frac{M^3}{3} = -kt + c$$

$$M^3 = -3kt + C \text{ where } C=3c$$

Hence

$$M = \sqrt[3]{(C - 3kt)}$$

Conclusion

In this article we have presented function of differential equations in environmental related issues. In this article, we have sketched a framework where prevalence enabling us to perform mathematical modeling has a role. We have illustrated some aspects of this role. More general conceptual framework can be designed and hopefully developed mathematically.

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IS NUCLEAR DISARMAMENT MANDATORY TO ACHIEVE WORLD PEACE?**A. A. Shaigojri¹ and C. Subramanian²**^{1,2}Dept. Of Political Science, Annamalai University, Tamil Nadu, India.¹Aadilhassan1995@gmail.com**ABSTRACT**

Present age is the age of science and technology today armament and war, because of their totally destructive power, have come to be regarded as the biggest danger for mankind. Disarmament means elimination of all types of weapons. It includes everything which has to do something with the limitation, reduction, abolition or control of certain or all armaments through the voluntary agreements of two or more states; today nations are spending millions of dollars for the achievement of mass destructive weapons. Nuclear weapons including atom bomb, nukes etc. are explosive and destructive due to fission or fusion. The worlds can never forget the Hiroshima and Nagasaki episode. The aim of the research is to examine that is nuclear disarmament mandatory for achieving world peace.

Keywords : Disarmament, Cold war, NPT, Peace, BOP, etc.

Research Questions

1. Understanding of disarmament?
2. What are the agreements associated with the disarmament?
3. Why India is not the member of NSG?
4. Is disarmament mandatory to achieve world peace?
5. Discuss the merits of disarmament?
6. Highlight the report of UNHRC about nuclear weapons and its connection with violation of right to life?

Objectives of study**The present study aims to**

1. Understanding of disarmament.
2. To scatter light on those agreements associated with disarmament.
3. To portray the issue of NSG with special reference to India.
4. To analyse the weather the disarmament is mandatory to achieve world peace.
5. To identify the violations due to armament.
7. TO highlight the report of UNHRC about nuclear weapons and its connection with violation of right to life.

Materials and Methods

In this paper data for present study is collected mainly through primary sources. The three main principles of data collection were utilized:

1. Interview with local, national, international community with a view to identify the need of disarmament in the present era.
2. Telephonic, E-mail, & other social network sites have also been used to record their

views of respondents to arrive at unbiased conclusion.

3. The historical and current writings (secondary sources) consisted journals, reports of UN etc. have been used to develop a framework of study and to arrive at unbiased conclusion.

Literature review

- **“Kunci wright”** in his research paper (**conditions for successful disarmament published in the journal of conflict resolution volume 7, no 3**) has emphasized the importance and need of disarmament. According to him armament can end the human race while as disarmament is backed by complete security. He said all the nations of the world need to make a policy of disarmament for long survival.
- **“Palmer and Parkin”** in their research paper examined that if armaments leads to war, then it means disarmament would lead to peace.
- The book entitled as **“Nuclear Disarmament: A critical assessment”** Wittenby **“Olav Njolstad, Bard Nikolas Steen”**. In this book the authors explained the process of disarmament for world peace and also shed light on the ways and means for disarmament.
- The report made by **“UN Human rights in the year of 2018”** concluded that the threat or use of Nuclear weapons violates the right to life.
- The book entitled as **“ Why Nuclear Disarmament Matters” written by” Hans Blix”** in the year of 2008 provides ponoropanoramic analysis about the

weapons of mass destruction for the cultivation of world peace.

- **“Nuclear Disarmament: Towards a nuclear weapon free world”** written by **“SverreLodgaard”** published in the year of 2020 dubbed disarmament a pearl for all nations helpful for lessens political tensions, facilitates policy cooperation and dieminshes the risk of nuclear war.

Introduction

Disarmament is old concept has been in use as an instrument to achieve international security for long time. Disarmament means elimination of all types of weapons, abolition or control of certain or all armaments through the voluntarily agreements of two or more states. Armament is regarded as a biggest danger to mankind and has become a threat to world peace. It reduces international tension and creates an environment of peaceful coexistence. Human rights can only survive by disarmament. Peace means absence of war or nation states respect each other’s territorial integrity and soverghnity. Peace believes on on the mantra of live and let others live. There are two schools of thought who scattered light on armament and disarmament.

Realists: This school of thought believes that Armament would help in establishment of global peace.

Idealists: This school of thought believes that race for armament led to fear and anarchy hence it is most important cause of disturbing world peace. The US intervention in Iraq and Afghanistan, 9/11 attack in the beginning of 21st century to control armaments has only promoted hostility and disturbed world peace. The concept of world peace means that the people of all nations would feel secure and should enjoy their freedom without any threat. The non-violence will give rise such a state of happiness were the mind and heart of the people would enjoy their liberty and will motivate the people of all nations to cooperate with each other. The whole globe became aware since the dreadful episode of bombing of Japanese cities Hiroshima and Nagasaki in 1945. The Nuclear power or armaments brought disadvantages like nuclear bombs or few disasters in Chernobyl in 1986 and Fukushima in 2011. Armaments or nuclear

weapons are highly hazardous not only to nearby citizens but also nations can accidentally led to disaster with a massive destruction also can destroy the environment and wildlife for centuries.

According to the bulletin of the Atomic scientist’s nuclear notebook, the total number of nuclear weapons worldwide is persistently increasing for increasing the nation’s power, status and security. But majority of countries want to eliminate the existential threat of nuclear weapons. The world peace can be achieved through disarmament and arms control. On a whole, technology is beneficial to mankind especially on energy issue. Meanwhile it is also life threatening hazards to all species on earth. The desired goal of humanity is disarmament and peace. The champions of disarmament focused on partial disarmament and the general disarmament is the ultimate goal. The stock piles of weapons posed a threat to peace and development. Disarmament made the people conscious that no weapon can remove the fear of the world holocaust. The poverty is a global issue in large parts of the world. So, investment on military industry can further increase the poverty and can escalate social tension at the global level. The devastating impact of the armament made the people anxious for world peace and disarmament. Disarmament helps to prevent wars and easing tension between nations. We have entered in the era of globalisation where we have to deal with various global concerns. We must believe on factism and save our beautiful planet earth and this is possible all due to disarmament.

Initiatives for Disarmament

Disarmament in General assembly: The general assembly focused on international peace and security with principles of disarmament and regulation of armaments under 11 of the UN charter. There is a committee entitled as the disarmament and international security committee concerned with disarmament. There is commission created by General assembly in 1952 entitled as United Nations disarmament commission as a goal to discuss disarmament questions. There was a special session on disarmament in

the year 1978, 1982, and 1988 calling for disarmament.

The United Nations conference on disarmament focused on comprehensive programme of disarmament. The first disarmament agreement was signed on 1817 known as Rashbogot agreement. In 1899 there was first international conference on disarmament held in Hague passed resolution that funds must be diverted for developmental process rather than manufacturing of armaments. Another conference held in 1907 in Hague. The conference failed to stop the contemporary growing arms race. The UN general assembly in 1946 founded the United Nations atomic commission was asked to make detailed procedure and report for the elimination of weapons and development of strategies for the peaceful use of Atomic energy for the developmental process. The disarmament has infinite number of benefits that is why there is regular conference on disarmament in every year. The recent conference on disarmament was held in Geneva from 20, January to 27, March 2020.

Disarmament and Balance of power

The science and technology made the nation capable in nuclear capability. The developed nations of the world have a great potential to increase their strength of armaments which in turn become a nervousity for those nations who do not have access to technology due to financial constraints. This gap created a tension of balance of power between have and have not's. Hence, disarmament is a device of maintaining peace. The basic principles of balance of power are that no state or group of states should become so powerful that may become a threat to international peace. Disarmament is a romantic term that has a tendency to tailored balance of power to achieve global peace with mantra of live and let others live peacefully. The purpose of balance of power is to minimise the war and preserving the security of states. Disarmament helps the weaker states to live happily and can resolve a balance of power.

NPT

The Non-proliferation treaty of nuclear weapons is a land mark international treaty

signed on 1968 by five nuclear weapon countries-USA, USSR, UK, France and china. The treaty allows only nuclear states to have nuclear weapons state and stop others from acquiring them. According to this treaty a nuclear state is one, who exploded and manufactured nuclear weapons prior to 1 Jan, 1965. It bestowed power to 5 states while restricting the others. Pakistan, India, North Korea, Israel and south Soudan do not signed this treaty and dubbed it as discriminative. The majority of the states claimed the treaty is lacking universality hence it would be dangerous for those states having less nuclear capability. India in 1974 conducted a nuclear test called Smiling Buddha in order to show the world that India have too nuclear capability but can use it for energy generation. The unfortunate part of this treaty is that it is made by P5 of the UNO so must be backed by universality. If such treaties would be based on universality then the aim of disarmament is possible to a large extent.

LTBT

Another land mark treaty in favour of disarmament is called Limited test ban treaty or partial test ban treaty signed in 1963 by the USA, USSR and UK. This treaty put ban on testing nuclear weapons in atmosphere, underwater and outer space. The main aim of this treaty was arms control and restricts the testing of nuclear weapons and radioactive substances. The treaty has been signed and ratified by 123 states while as 10 states have not signed and ratified this treaty. The non-ratification by the states is a challenge to disarmament. If such treaty will be signed by all states with proper ratification by their parliament then the dream of disarmament can be achieved and world will live in the lap of prosperity and happiness.

CTBT

The most beautiful treaty called as comprehensive Test Ban treaty – a multilateral treaty signed in 1996 aimed to bans all nuclear tests for both military and civilian purpose in all environments its. The treaty has 185 signatories and 169 have ratified it. The 16 states have signed but not ratified it. China, Egypt, Iran, Israel and US have not ratified the

treaty. While as India, North Korea and Pakistan have not signed it due to certain security reasons. The nature of this treaty has the tendency to bring the disarmament in to the real picture if it will be signed and ratified by all the nations of the world.

NSG

The Nuclear supplier group founded in 1974 affiliated with international atomic energy agency is a multilateral union aims to prevent and control the export of material and technology that can be utilize for manufacturing of nuclear weapons. After its establishment in 1974 after India's (Smiling Buddha Nuclear test) which proved that India has a nuclear technology and turned to weapons development. During the tenure of President Barack Obama supported the India's participation in the NSG. However china is persistently opposing India's membership on the basis of non-signatory status of India. Pakistan is strongly supported by china and Turkey but without signing NPT cannot be granted. Since India is not the signatory of NPT, even after becoming a member of NSG cannot procure enrichment and reprocessing (ENR) technology and goods from the nuclear suppliers group.

The NSG and its nature laid down sound principles i.e. is non-proliferation of nuclear weapons and restrict the export sensitive items that can proliferate nuclear weapons. It consists more than 40 member's aims to prevent nuclear trade for peaceful and commercial purpose. The NSG and its objectives clearly defined the pros and cons of nuclear weapon. Such initiative infused the new ray of hope of elimination of weapons. Disarmament will get more impulse if NSG is implemented with full form and spirit.

Advantages of disarmament

- Disarmament can promote global peace.
- Disarmament eliminates the risk of war.
- Disarmament enhances the life of global commons or world heritage.
- Disarmament can promote the economy of the nations.
- Disarmament facilitates good food, education and health for the citizens.
- Disarmament is good for security.
- Disarmament lessens the political tensions.
- Disarmament can cultivate the cooperation among the nations.
- Disarmament can end the terrorism forever.
- Disarmament can help the citizens of world to live peacefully.
- Disarmament can prevent armed conflict and violence.
- Disarmament can save the countries resources.
- Disarmament re-enforces the idea of nationalism.
- Disarmament can make the world border less.
- Disarmament or elimination of nuclear weapon can reduce the cancer development.
- Disarmament helps to get rids from global hunger because money will be diverted to developmental process.

Is disarmament mandatory to achieve world peace?

Disarmament is old phenomenon its genesis is connected with the WWI and WWII. These two wars can never be forgotten in the human history because it affected the human lives. Obviously war is bad thing because it involves killing or injuring people. The war is not a solution to anything neither war gives any benefit to any nation who are indulged in war. During the wars weapon can be used but the utilization of these weapons yield only one result i.e. destruction and devastation of environment. The war only includes loss of economic resources, loss of productivity and damaged humans and military personnel's. It is estimated that 84 million people were killed during world war second. Man is a peace loving by nature and hates all those things which are devastative in nature. After the outcome of two great wars a new thinking was developed among the citizens of the world. The new thinking is nothing but only peace. Having armament has number of disadvantages:

1. Expensive to build.
2. Non-renewable.
3. Links with cancer.
4. Risk of disaster.
5. Produce radioactive waste.

6. Destroys countries economy.
7. Impact on human life.
8. Terrorism.

All the above mentioned problems always create havoc and chaos in the human lives. The new rational thinking has been popped up among the minds of people and that pop up is disarmament-a device for maintain peace. It means complete elimination of weapons in the global level for better living. The notion of disarmament is liked by everyone because only it can bring the peace and prosperity. This notion became much popular after the 2nd world war. The United Nations Organisation and other international agencies took the initiative for the disarmament process because it is clear now armament leads to war and disarmament would lead to peace. However through mutual agreement to limit arms or disarmament can open up communication between states. Disarmament is a big shackle which halts the development of nation and is considered as danger to democratic process. The technology has brought human being into a new world and now majority of the countries wants to eliminate the extential threat of nuclear weapon. The global peace is the concept of complete happiness and freedom and on the otherhand armament or proliferation of nuclear weapons is a threat to democratic process. Non-proliferation of nuclear weapons is a solid motivational tool which can cooperate the people each other with trust and security. On a whole nuclear technology is beneficial to mankind especially on energy issue. Meanwhile it is also life threatening hazards to all species on earth. The UNO need to take active stand for complete disarmament, much progress has not made in this direction. The new situation is very dangerous due to scientific and technical ability to make weapons; the new weapons are more powerful and dangerous than the atomic bombs dropped on Hiroshima and Nagasaki. If we estimate the all nuclear power constructed by different countries, it may destroy the whole world.

The maintenance of peace can be achieved only due to disarmament. Peace is a situation in which all people get equal opportunities of development and there is no social, economic and political exploitation. In international

relations peace means that the nation states respect each other's territorial integrity, sovergnity and promote cooperation based on mutual benefit. There are other various devices of maintaining peace like international law, international organisation, collective security and international morality.

At last but not least armaments lead to fear and anarchy. The US intervention in Iraq and Afghanistan in the beginning of 21st century to control armaments has only promoted hostility and disturbed world peace. The aim of disarmament can only be achieved to establish a new security concept based mutual trust, mutual benefit, equality and cooperation. The international community take the following steps for disarmament:

1. The nuclear weapon states should reduce their existing strength of nuclear weapons and to stop manufacturing of new weapons.
2. All the nuclear countries should surrender nuclear weapons under UN observation.
3. All the nuclear states should give in written that they would not use their weapons against non-nuclear states.
4. All the nuclear states should withdraw their nuclear weapons stationed outside their territories.
5. All the nuclear weapon states must support the initiatives to establish nuclear weapon free zone.
6. The non-proliferation treaty of nuclear weapons should be implemented properly so, as to make treat universal.
7. All the non-signatory and non-ratified states must ratify and sign the CTBT for peace.
8. The UN should enact a law with force so, as to keep eye on those who will break the theme and spirit of disarmament.
9. There should be law of "Report submission" yearly by the nations towards UNO about their nuclear strength.
10. The disputes and conflicts should be resolved through negotiations without war or using weapons.

The whole world believed and has a ray of hope that disarmament can save the future generation and can accelerate the global economy. So disarmament is mandatory to achieve the world peace. Hence, it should be

implemented as soon as possible for long survival. Without disarmament the whole world is in the lap of threat, danger and destruction.

Why disarmament is not possible

In the era of 21st century the whole world wants to live in the state of peace and wants to protect their territorial integrity and sovereignty. So, security became the main issue for all the nations of the world. The main aim to keep nuclear arsenal and not go for disarmament is only deterrence. No, country of the world in reality is ready to take a chance to go for full disarmament process because of future threat and loss. As we know terrorism is a global issue and persistent in many parts of the world. Every nation wants to keep themselves safe and secure from the terrorist threats so, they keep nuclear arsenal for their safety purpose. Until and unless the terrorism will not remove from the bud of the root the disarmament will remain a dream and will never come in to the existence. The on-going terrorist attacks are the biggest challenge for the disarmament.

The political distrust among the nations is also another hurdle in the way of disarmament like India and Pakistan. The nations having great potency of science and technology are the champions of manufacturing of armaments for trade in order to get more and more money. In the present era a nation having a nuclear technology became a source of trade to earn more and more money like North Korea supplies weapons to Pakistan. The maintenance of hegemony of the nations is another obstacle in the way of disarmament.

Nothing is impossible in the world as the word impossible itself, said that I am possible. Disarmaments have number of advantages for all the nations of the world. It can cultivate the peace in real sense and will provide the people a chance to live in a peace. Everything is possible especially the process of disarmament is possible after cooperation among the nations of the world.

Ways and Means to achieve disarmament

Rectification on treaties

The term rectification means to take official consent by the Government of the country. It

binds and puts legal obligations on nations in accordance with laws and regulations. The international treaties like NPT, CTBT should be very transparent and universal. The universality makes the nation understand the importance of disarmament and other global issues. The treaties on disarmament is not signed and ratified by states due to several reasons. The complete ratification by states can help us to achieve goal of disarmament.

Mutual trust

Mutual trust refers the confidence that every state will fulfil its obligations. It holds states together. The disarmament is possible with the help of mutual trust between nations. The world must have a belief that we are dependent on each other to achieve a common purpose.

Equality & cooperation

Trust, equality and cooperation can help the large extent in order to achieve goal of disarmament. All the nations of the world are equal hence they need to cooperate with each other to solve the different issues. Without cooperation no goal can be achieved in the human history. Synchronization of efforts can yield the better outcomes. Disarmament is the biggest challenge for the whole world but can be achieved due to cooperation and coordination among nations.

Non-interference

Interference always leads to war and non-interference always leads to peace. There should be no interference by the countries to each other. Interference cultivates tension, conflict then war. The world needs to follow the principle of non-interference for peaceful survival. The disarmament can be rooted out through the principle of non-interference.

Non-aggression

Non-aggression means a situation in which countries avoid fighting each other. The non-aggression always tends to peace. The country should not attack with each other but to take a pledge of non-aggression. If the countries will stop to attack with each other ultimately new thinking will develop that can make the process of disarmament successful.

Confidence Building

It's a process in which countries share their ideas & information with their rivals. They share their military intentions and military plans. It's most effective process of developing relations with other countries in the contemporary world. The confidence building can prevent the wars and human destruction. If there will be complete confidence building than their will be no war and no war means no weapons and no weapons means disarmament.

Adopting policy of peace

Peace means absence of war and state of happiness. The peace can be achieved through various ways and one way is the disarmament. Peace facilitates social, political & economic development of the nation. All the countries should enact the policy of peace for better survival. The countries peace policy can help to cultivate the disarmament.

Negotiation not a war

Marker Follet rightly said that integration is key & final product to to achieve the integration. The success of negotiation has multiple examples of success. All the countries must solve their disputes and conflicts through the peaceful negotiation. Peaceful negotiation can prevent wars and hostilities. The disarmament can be achieved for world peace only due to negotiation not by the wars

UNHRC concluded- there is violation of right to life due to nuclear weapons

The UNHRC reported that the article 6 of the international covenant on civil and political rights that humans are free and have freedom of life and liberty and this right should be protected and respected by everyone. But it is very unfortunate that the right to life of human beings has been violated which caused premature death of humans due to armed conflicts and use of nuclear weapons. According to this report when two countries squabble with each other it is the human who suffers. The report made it clear that human rights and human dignity must be protected and respected at any cost because nothing is worth than human resource. Hence, this right is a perquisite for the enjoyment of all other human rights. The committee made it clear

that threat or use of nuclear weapons is a violation of right to life. It is indiscriminate, cause of destruction of human life. The committee recommended that the country should stop testing, acquiring, transferring nuclear weapons and must destroy the existing stock piles. The states must follow the obligations in order to achieve the aim of disarmament. The international court of lawyers against nuclear arms that the use of nuclear weapons is incompatible with respect right to life.

The process of disarmament should be strengthening by nuclear abolition movements. The problems can be solved by other methods without weapons. So, to achieve the aim of nuclear disarmament. The committee made it clear that the world can be sustained for longer time due to non-proliferation and disarmament. Apart from that thing the committee affirmed that the testing, deployment, production and possession of weapons should be prohibited and should be recognised as crimes against humanity. The civil societies of the world are doing tremendously job for the welfare of people without using weapons. The worlds should understand that problems can be solved and aims can be achieved without using armaments. The war between the nations always results the violation of human rights & killings of humans without any crime. War is not a solution but peace is. Infact, the committee made it crystal clear that NPT, CTBT should be implemented without any discrimination which, can yield the disarmament to the large extent. Such things needs mutual trust and cooperation between the countries.

NAM & Disarmament:

The existence of armaments in the world created a new history in international security hall. Since the aspects of these nuclear armaments, there have been tremendous efforts to bound and eliminate the weapons in order to make the world free from the threats of destruction. The Non-alignment movement is imperative and lofty actor for achieving peace and security. It became much influential due to persistent negotiations about nuclear disarmament. Non-alignment movement once

upon a time to challenge bipolarity is still relevant in the modern era. These third world states have a significant role in nuclear disarmament. The Non-alignment movement made several requests to the international agencies to review the provisions of NPT. NAM became a famous political actor in the framework of NPT review conferences. The main aim of the NPT conferences is complete elimination of weapons. In the 1990s review conferences NAM was discontented and pronounced its dissatisfaction with the nuclear powers for not moving in line with their guarantees and implementing discrimination in the course of the treaty.

In 2000, review conference thirteen practical steps were taken for complete disarmament. These thirteen steps were accepted by NAM. In the 2010 review conference NAM asked to speed up the interactions of NPT. In 2015 NAM declared that nuclear weapon states have not made any progress in eliminating their nuclear weapons. The NAM countries clearly said that state need to declare their national energy and fuel cycle policies. The NAM said that NPT treaty must move to good faith to achieve disarmament. NAM member states announced that achieving disarmament is not possible until the strategic issues of regions are resolved. The nuclear proliferation is dangerous and threat to international peace. The NAM played a vital role especially since 1995 for Non-proliferation of weapons. 3rd world states called upon the nuclear weapon states to negotiate a no- first use agreement also nullification of nuclear weapons with a specified time frame. The concept of no- first use agreement is to prevent wars and to bring disarmament in to the picture. The NAM focused on strategic partnerships with international players including USA and Russia for disarmament. The NAM in reality developed new security concept based on mutual trust, equality and cooperation.

The NAM had taken initiatives and action at United Nations general assembly and urged the swift and urgent action in the field of proliferation weapons in a time bond framework and said that all the NAM member countries are active supporters of disarmament and called upon that the disarmament initiative

should be taken by nuclear weapon states. Its members are active champions of nuclear disarmament and called upon the nuclear weapon states to these initiatives. The head of the states of NAM urged the nuclear weapon states to provide universal legally binding negative security assurance to all non-nuclear weapon states. The heads of the state in the conference of disarmament adhoc committee proposed that international cooperation is the first step in the peaceful use of nuclear energy and should not hinder to nuclear technology for peaceful purpose of developing countries. They were against the international atomic energy agencies technical cooperation programme as a tool of political purposes in violation of the IAEA statute.

The NAM announced that non-proliferation should be clear and should not impose restrictions to use the technology for their continued development. The head states of NAM called for fulfilling obligations of all nations that is prohibiting the development, testing and deployment of nuclear weapons. The head of the states called for ratification of non-signatory states to achieve the free weapon zone. They expressed the view that attacking should be stopped because it is a grave violation of international principles of UN and IAEA. So non-proliferation of weapons or disarmament needs comprehensive multilateral negotiations.

India the founding father of NAM committed to the policy of no first use against nuclear weapon states and no use against non-nuclear weapon states. India is a key partner in global efforts towards disarmament and strengthening the non-proliferation order. NAM believed that non-proliferation of nuclear weapons can be achieved gradually or step by step process. It can be attained through universal commitment and agreed multiple frame work after meaningful dialogues among all states possessing nuclear weapons, for building trust and confidence.

Conclusion

Disarmament has no of benefits that is why the issue is evolving day by day all the nations of world weather developed or developing realised that peace is having much economic, social, political benefits etc. Peace prevents

the all types of exploitation guarantees better survival and human rights .The peace believes on live and let others live peacefully. The dreadful episode of Hiroshima & Nagasaki can never be forgotten by the people .To get from such dreadful incidents disarmament is the need of the hour. Disarmaments will divert all money to the country's economic development .The resources of the country can be saved through disarmament. Terrorism the global issue can be end forever through disarmament. It will make whole world without war & borderless with full safety and security and can lessen or vanish the political tension. Disarmament should be accepted and implemented by all nations of the world without further questions & dialogues.

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Result and Findings

- ✓ All the countries of the world should come forward to support for disarmament so that the world will became free from fear and threat of war.
- ✓ All the nuclear countries should sign an agreement that they cannot use weapons in war and particularly against the non-nuclear countries.
- ✓ UNO should have to play a key rule for disarmament and made a strong law and there should be penalty for those countries that violates the law.
- ✓ UNO must have to come forward and make strong initiatives for disarmament So, that there will be no loss or injury of human beings.

- ✓ UNO should have its own army to keep eye on nuclear countries and to fight against the aggressor state and against those who violates the law.
- ✓ Nuclear armed export should be stopped and no further testing for nuclear armaments.
- ✓ Each nation should respect the territory, integrity and sovereignty of another nation.
- ✓ In order to protect the world from destruction, all the nuclear countries should go for disarmament.
- ✓ There must be cooperation among the nations to promote peace.
- ✓ All the countries of the world must have to sign the NTP, CTBT and LTBT.
- ✓ No nation should interfere in the matter of another nation because interference can lead the hatredness among the nations.
- ✓ Developed countries should have to accept the India's foreign policy like Non-aggression, mutual respect and peaceful co-existence.
- ✓ The leaders of the should have to focus on the issues like hunger, terrorism, environmental concerns and climate change.
- ✓ There should be equality and mutual understanding among nations which can lead towards the better, peaceful and happy world.
- ✓ The mantra of live and let live others happily are only possible because of disarmament.
- ✓ Equal representation should be given to every nation and there should be no superiority and inferiority among the nations.
- ✓ The education and awareness are the key elements to make the people understand the disarmament and its upcoming benefits.
- ✓ The sustainable goals can be achieved to the large extent by the nations through disarmament.
- ✓ Technology should be used for peaceful purpose.
- ✓ Human rights are violated in the pretext of armaments, Hence disarmament will lead to respect of human rights.
- ✓ The existing nuclear equipment's should be used for peaceful purpose and there will be

- total ban on nuclear testing and manufacturing.
- ✓ Disarmament can remove the gap of economic disparity and will make the whole world egalitarian.
 - ✓ Disputes should be resolved peacefully through negotiations rather than escalating the war.
 - ✓ All the nuclear countries should surrender their nuclear weapons under UN observation.
 - ✓ The health of the living people will be better through disarmament because nuclear explosion leads to cancer development.
 - ✓ Disarmament will make the foreign relations between countries stronger.

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LANDSCAPING THE FRONTIER: THE COLONIAL GAZE IN JAMES JOHNSTONE'S MANIPUR AND NAGA HILLS

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ABSTRACT

One of the foremost ways through which the colonial eyes construct the colony as a subordinate space is to imagine it as a certain kind of landscape. Northeast India, which was an important theatre of the British colonial spatial politics was framed not only as a military or economic frontier of the Empire but often as a symbolic antithesis to everything the white man claimed to represent. This paper seeks to explore this politics of transforming the northeast into a symbolic landscape of otherness in James Johnstone's Manipur and Naga Hills (1896), a pioneering text of colonial travel and expedition in the eastern frontier of British India.

Keywords: landscape, colonialism, northeast, frontier, travel

Introduction

Exploration and expedition narratives is an important genre of colonial discourse and also a key site colonial space-production. The colonial traveler often pioneers the appropriation of space and hence, exploration and travel texts emerge as a key instrument of sighting, imagining and eventually asserting claims over territories visited by the traveler. The act of seeing and imagining by the colonial traveler always leads to the transformation of spaces into a certain kind of landscapes. It explains how landscape emerge as a key trope of space-production in colonial travelogues. Taking this as a point of departure, this paper seeks to explore the politics of landscape production in James Johnstone's *Manipur and Naga Hills* (1896), a pioneering text of colonial travel and expedition in the eastern frontier of British India.

The construction of landscape in colonial travel texts often starts with an imagined encounter that precedes the real encounter. It is often seen that the traveler keeps fantasizing about the site to which s/he travels even before he starts his journey. Although this exercise is common to every travel experience, what marks fantasy by the colonial traveler is an overpowering sense of apprehension. Often the destination is visualized as dystopias and hence, as potential threat. Taking this as a point of departure, this paper moves on to examine the politics of landscape construction in the text under review.

Literature Review

Before probing deeper into the concept of landscape, it is necessary to trace the development of the concept. In *Iconography of Landscape* (1988), cultural geographers Denis Cosgrove and Stephen Daniels mention that landscape originated in fifteenth-century Italy as an artistic genre or mode of painting. It derives, to a great extent, from the linear perspective which was a newly invented technique for enframing three-dimensional material space on the two-dimensional canvas. It is also endorsed by John Wylie in his book *Landscape* (2007). The use of landscape as an ideological tool in the service of power has been explored by Ann Bermingham in *Landscape and Ideology: The English Rustic Tradition 1740—1860* (1986). Barrell explores how stock-scenes like “laborers at work” are used within British painting traditions, as tools to naturalize hegemonic structures (3). The view that a landscape is a tool in the hands of hegemonic forces is also reiterated by Don Mitchell in his book *The Lie of the Land: Migrant Workers and the California Landscape* (1996).

In his study *Social Formation and Symbolic landscape* (1984), cultural Geographer Denis Cosgrove explores how as a particular artistic way of enframing space, landscape functions as an instrument to assert strategic command and control over space (85). Cosgrove views landscape primarily as a “way of seeing, a composition and structuring of the world so that it may be appropriated by a detached

individual spectator to whom an illusion of order and control is offered through the composition of space according to the certainties of geometry” (55). In other words, landscaping is nothing but a way space is ordered, disciplined and subordinated. The colonial frontier is one of the foremost sites of this landscape-performance and the colonial ruler-traveler is often central to this exercise.

Given the view that landscape is essentially an ideological arrangement to facilitate metaphorical and material appropriation of space, it is necessary to approach it from a broader perspective. Instead of viewing a landscape as an aesthetic enframing of space, it is important to recognize that the production of landscape involves multiple strategies or practices some of which are not so explicit. W. J. T. Mitchell's *Landscape and Power* (1994), endorses the view that a landscape is a performance.

In colonial discourse in general and travel and expedition narratives in particular, a landscape is often used as a political trope to challenge preexisting claims over the colony as well as to convert the same from a state of orderlessness to that of discipline and order. This explains why it is important to view travel and expedition writing as a key site of landscape production within colonial projects. It assumes greater significance in the light of the fact that landscapes in colonial discourse are viewed primarily as products of what Mary Louise Pratt in the book *Imperial Eyes: Travel Writing and Transculturation* (1992), refers to as the imperial gaze. What characterizes the imperial gaze, is its eagerness to “look out and possess” (7). Pratt elucidates the colonial technologies of landscape construction and visual arrangement of sights highlighting the rhetorical convention based on the sweeping visual mastery of a scene. Pratt terms it as the ‘monarch of all I survey’ mode (201). This convention is regularly used in the studied narratives. Often the writer-traveler positions himself in vantages of privilege to ‘survey’ the landscape in ways that combine spatial arrangement with the strategic, aesthetic, or economic valorization of the landscape. What is suggested is that colonial exploration writing primarily driven by the imperatives of foray and possession. It explains why landscapes in

travel and expedition writings are almost always framed as surveys. This explains why M L Pratt views imperial travel and expedition discourse primarily as a “discourse of accumulation” (192).

In colonial travel and expedition writings, the colony is regularly transformed into a geography of difference which often involves the strategic use of metaphors. Landscapes produced in this manner serve as the discursive prelude to imperial attempts at containing and regulating a supposedly hostile otherness. In a way, landscapes are used to transforming space into a geography of difference and thereby as an instrument to back the territorial claims of the Empire. In short, colonial travel and expedition writing is an important site to transform the colony into a geography of difference and otherness.

Landscapes in Johnstone

James Johnstone's text represents the northeast in an evidently dystopian light. Even before he begins his voyage to the eastern frontier, Johnstone writes: “I knew a large part of the district well, as one of the most malarious in India” (2). The very initial view of the hills transforms these spaces into a pathological grid and by implication, a differential geography. This instance illustrates the popular colonial practice of imposing, in a cartographic manner, of Eurocentric medical and pathological labels on colonized landscapes and their subsequent appropriation. It is important to recognize that identifying or marking the Naga Hills as a malarious district is not an innocuous material reference. It also prepares passages for European corrective or remedial intervention and hence a potentially dominated space in those pathogenic hill territories. It is possible to suggest that there is a sustained attempt at prefiguring or foreshadowing of the to-be-encountered space as a to-be-overcome space. To sum up, the transit or in-between passage from the metropole to the fringe is used to reinforce the trope of un-ease that regularly haunts the frontier landscapes in these texts. In fact, the very proposal to visit the frontier evokes a response in them which is only suggestive of the air of unease the frontier as an imagined landscape is associated with.

Johnstone also responds to his new assignment with certain disinclination and cynicism.

Johnstone's travel is an enduring dystopian riparian trip to the frontier that sets the tone for the enactment of imperial masculinity (2). As suggested by Metcalf, in colonial writings the frontier is often the site for the parading of "imperial masculinity" (106), which adds to the imaginative appeal of the frontier (145). The same trick is used as a preponderant tool to enframe landscapes in the studied texts. Mary Louise Pratt also identifies enacting scenes of heroic survival as a regular trope of constructing landscapes in colonial travel and expedition writing (392). Exploring the construction of frontier spaces nineteenth century colonial literature in India, Thomas Metcalf in his book observes: "The purely male world of the Frontier evoked for the British, the days of their boyhood where fantasies could be safely indulged, conspiracies imagined, and tribal risings confronted with a display of manly heroism" (147). From the very moment of embarking on his voyage towards the Hills Johnstone's is an attempt to conquer. Of special significance is the triumphant and self-congratulatory tone the scenes of arrival are narrated. Almost in a similar vein that Butler challenges and conquers the "howling," "roaring" and "merciless" Brahmaputra, Johnstone writes: "We halted at Gowhatty for the night, and early in the morning I swam across the river for the second time in my life, a distance of about three miles, as the current carried me in a slanting direction" (3). This could be seen as an attempt at conquering the 'Other'.

A key site of enacting and dramatizing colonial heroism, in travel writings, is the scene of arrival (Pratt 78). Pratt writes: "Arrival scenes are a convention of almost every variety of travel writing and serve as a particularly potent site for framing relations of contact and setting the terms of its representations" (78). It is worth looking at the instance when Johnstone dramatizes the play of his mastery and the submission of the colonized.

As we passed some road coolies, I began a conversation with the old Tekla (overseer) in charge, and asked him if he could get me a few oranges. He said, "Oh, no. They are all over." He then

asked me how I came to speak Assamese so well. I said, "I have been in Assam before." He said, "Oh, yes, there have been many sahibs in my time," and he named several; "and then long ago there was a 'BagheKhooah' sahib, I wonder where he is now?" I looked at him and said, "Ami BagheKhooah" (I am the BagheKhooah). The old man gazed equally hard at me for a moment and then ran in front of me and made a most profound obeisance. Having done this, he smilingly said, "I think I can find you some oranges after all," and at once ran off, and brought me some for which he refused to take anything. (4)

It is important to observe the preponderance of such episodes of enacting the colonial charisma and framing the northeast as space in essentially colonising terms. For instance, after landing at Nigrating, the traveler retraces his footsteps to the next station of halt, Golaghat, but always foregrounding the acts of benevolence done by him to the place and its people twelve years ago. The primary objects that fascinate the imperial traveler are the marks of imperial glories printed in the landscape. He writes:

We did not get to Golaghat till long after dark and pitched our tent on the site of the lines of my old detachment, which I had commanded twelve years before. What a change! Trees that I had remembered as small, had grown large, and some that were planted since I left, already a fair size. (5)

Similarly, he writes: "In the morning we received, a perfect ovation. People, who had known me before, crowded to see me and pay their respects, many of them bringing their children born since I had left. All this was pleasant enough and greatly delighted my wife" (5). This is another instance of self-valorization by imperial traveler. This kind of self-valorization is followed by classifying the space into civilized and otherwise. Johnstone writes: "It is always difficult to get one's followers to move from a civilized place, where there is a bazaar, into the jungle, and henceforth our road lay through the jungle, the Nambor forest beginning about five miles from

Golaghat”(5). In this instance, the anti-esthetic of neglect is performed through the trope of the jungle as an absence.

As the traveler approaches the hills, gradually a different landscape emerges. It is the trope of ruin and desertion that are immediately brought into service. Johnstone narrates: “However, off I started, and I hurried on to ... so as not to keep my wife waiting, but when I reached the spot, I found to my amazement that the village had ceased to exist, having, as I subsequently learned, been abandoned for the fear of the Nagas” (5).

In Johnstone, the foraying gaze of the capitalist vanguard is obvious. For instance, he writes: “The Nampooong is situated in a lovely spot amidst fine forest” (6). Again, he writes: The Nambor forest is noted for its Nahor or Nagessur trees, a handsome tree, the heart of which is a fine redwood, very hard and very heavy...it is very plentiful in parts of the forest between the Noonpoong and Golaghat”(6). In another instance of enframing the landscape into imperial visions of incentives, the parading of imperial gallantry and the trope of ruin-landscape, Butler writes:

The next morning, we set out for Borpathar, a village with a fine sheet of cultivation on the banks of the Dunseree...Here again, we received a perfect ovation, the people, headed by my old friend Hova Ram, now promoted to a Mouzadar, coming in a body, with fruits and eggs to pay their respects. The population had sadly diminished since my early days, the people having in many cases fled the country for fear of Naga raids. (7)

With the advancing march what comes forth is further evidence of Naga atrocity written on the deserted landscape. Reaching Dimapur, ruminating on a fine tank Johnstone represents the Nagas as a usurper: “This with many others near it, spoke of the days of civilization that had long since passed away before the Naga drove the Cacharee from the hills he now inhabits”(8). It is followed by an observation on the dilapidated, abandoned state of Dimapur: “It is a strange sight to see the relics of a forgotten civilization, in the midst of a pathless forest” (9). The relics of the old city

wall acts as another evidence of Naga ruthlessness: “History tells us little about the origin of Dimapur, but probably it was once a centre of Cacharee [a tribe in Assam] civilization, and as the Angami Nagas advanced, the city wall was built, so as to afford a place of refuge against sudden raids”(9). Thus, in the text landscapes often enable conjectures and inferences.

An important aspect of the colonial landscape is the rendition of space in highly instrumental terms, almost with cartography like precision and exactitude. Johnstone also appropriates landscapes into a cartographic grid of time table and distance. For instance, he writes: “At last we reached Nigrating, and were landed on a dry sandbank five or six miles from the celebrated tea gardens of that name, and the nearest habitations” (3). It bears more significance in the light of the typical colonial imperative of reconnaissance or military intelligence. The following is an instance of constructing the landscape as a strategic terrain:

For the first eight miles our road was through a level forest country, with the exception of a piece of low-lying grassland, and at a place called Nichu Guard the ascent of the hill commenced. This entrance of the George through which the Diphoo Panee river enters the low lands is very beautiful, the stream rushing out from the hills over a pebbly bottom, and it was a favorite encamping ground for us in our later marches...the road up the hill was in fair condition for men and elephants but did not admit of wheeled traffic. We accomplished the ascent, a distance of four miles, in about two hours, obtaining several lovely views of the boundless forest, on our way.(10)

The instrumental rationality which is the key instrument of the colonial politics of space-production continues to be employed and the traveler continues to transform spaces into administrative cartographies. For instance, the landscape of Samagudting is framed thus:

My first impressions of Samagudting were anything but favourable. It was eminently a “make-shift” place. It had been occupied by us a small outpost,

from time to time, between 1846 and 1851, but it was never fit for a permanent post of more than twenty-five men, as the water supply was bad, there being no springs and only a few water holes which were entirely dependent on the uncertain rainfall...All articles of food were scarce, dear and bad, wood was enormously dear, and to crown all, the place was unhealthy and constantly enveloped in fog. (12)

What is noticeable here, is the itemization of a fully alive social place to the colonial designation of a post. The passage provides an instance of the panoptic landscape the colonial state perpetually pursues where the landscape is appropriated into the hegemonic grid of colonial logistics. In short, it illustrates how the imperial eyes gaze at the colonized landscape predominantly as terrain or strategic space with military suitability. A landscape, in these narratives, usually is nothing more than either an obstacle or prospect but it is always a logistical occasion. A landscape is always cast in terms of its suitability or unsuitability to be converted into colonial utilities, either as a 'post' or 'station'. For instance assuming what Pratt terms as 'monarch of all I survey' vantage Johnstone gazes at Samagudting (in Nagaland) as a military station:

First, though never so cold in winter, as the plains, the temperature was never so high in the hot and rainy seasons; and when the weather was fine, it was very enjoyable. The views from the hills were magnificent. To the south, the Burrail range, from which a broad and undulating valley divided us. To the West, a long stretch of hills and forests. To the east, the valley of Dunseree, bordered by the Rengma and Lotha Naga Hills, a vast forest, stretching as far as the eye could reach with here and there a large patch of high grassland, one of which many miles in extent, was the Rengma Naga hills, a grand elephant catching ground in old times, where many a noble elephant became a victim to the untiring energy of the Bengali elephant Phandits. (14)

Johnstone's is a land-scanning gaze of the capitalist vanguard foraging for opportunities to utilize colonized landscapes. The following

passage is an instance of the employment of the monarchic trope by the traveler:

To the north, the view extended over a pathless forest, the first break being the Doboka Hills. Behind these, a long bank of mist showed the line of the Burhampooter, while on clear days in the cold weather, we might see the dark line of the Bhootan Hills, with the snowy peaks of the Himalayas towering above them. Altogether, it was a sight once seen, never to be forgotten. (14)

Another important component of colonial landscapes in the northeast is the construction of the region as a cartography battling ethnicities. Johnstone constructs the ethnoscape of the Naga Hills with some of the popular modalities of colonial ethnography. He often begins the framing of an ethnoscape by referring to the vagueness of origin of a tribe, an emphasis on their wandering and martial spirit, their utility as imperial utilities and inter-tribal feud. For instance, he writes: "The Cacharees were governed formerly by a race of despotic chiefs" (25). Not only the Cacharees (24-25), Johnson also transforms the Kukis into an ethnoscape (25-26). Here also the emphasis is on their bloodthirsty nature and despotic chiefs. "The Kuki chiefs are absolutely despotic and may murder or sell their subjects without a murmur of dissent" (27). Inter-tribal blood feud is the most visible frame of writing the frontier as an ethnoscape. Johnstone writes: "Blood feuds are common among all the hill tribes, but the system was carried to excess among the Angamis. Life for life was the rule, and until each of the opposing parties had lost an equal number, peace was impossible, and whenever members of one village met any belonging to the others, hostilities were sure to result" (29). This is a case of judging before checking.

As suggested earlier, colonial space is essentially the production of political and social space out of what is viewed as natural space. The construction of landscape, from that perspective, essentially involves the construction of cultural landscapes. Discussing the construction of cultural landscapes Metcalf elucidates the "ordering principles" that determined the construction of space by the

Empire in nineteenth century India. He argues that along with the political right of conquest, another narrative used to legitimize the colonial project was the invention of the colonized as the savage other by constructing the colony as a deviant space (2) through “a range of taxonomies” (5). In other words, colonial discourse created an array of polarities by mobilizing succinct political tropes. Such tropes range from those of “savagery” to those of laziness and “deceit” (6). The reference to the ‘indolence’ and ‘envy’ of people implied a measure of environmental determinism (32). One such preponderant trope to be employed was “oriental despotism” (7), ‘barbarism’ (35), deception (41) etc. For instance, Johnstone describes the food of the Nagahs derogatorily:

All kinds of animals are readily eaten by the Angamis, and those dying a natural death are not rejected. Dog’s flesh is highly esteemed. When a man wants to have a delicate dish, he starves the dog for a day to make him voracious, and then cooks a huge dish of rice on which he feeds the hungry beast. As soon as the dog has eaten his fill, he is knocked on the head and roasted, cut up and divided (32).

The traveler often uses far-fetched conjectures to reinforce the myth of the head-hunting proclivity of the Nagas: “To kill a baby in arms, or a woman, was accounted a greater feat than killing a man, as it implied having penetrated to the innermost recesses of an enemy’s country, whereas a man might be killed anywhere by a successful ambush” (30). It is reiterated again: “Every Naga who was able to murder an enemy did so and received great commendation for it by all his friends” (30). It is the savage temperament of the Nagah that makes him assert: “I attended Kutcherri and heard cases, often with a loaded revolver in my hand, in case of any wild savage attempting to dispute my authority” (19). This shows the extent to which colonial traveler participates in myth-making.

In *Postmodern Geographies*, Edward Soja highlights the instrumentality of space in projects of domination. Interestingly he argues

that a particular type of territorial consciousness is engendered and endorsed by Eurocentric modernity(34). Soja’s observations hold significance for studying colonial space construction especially in the light of the possible collation between Eurocentric modernity and European colonialism. The hypothesis enabling such an observation is that certain metaphors sponsored by Enlightenment-born Eurocentric modernity are regularly made to assist colonialist designs of space-production. It is suggested that colonial clichés like “tropical miasmata”, “oriental indolence” or despotism are illustrative of the ways geographies or imagined landscapes are often mobilized as a tool of othering, hiding beneath the text of “improvement” (Metcalf 17) the will of mastery over it. But whatsoever, it is an overpowering sense of “difference” that marks colonial imagining of the colonized territory (24). The creation of difference served the ideological “needs of the Raj” (67). Metcalf comments: “What gave thagi its distinctive appeal was the way it enabled the British to give voice to their own enduring fears and anxieties...Thagi thus became a metaphor for the representation of what they feared in India, the inability to know and control their colonial subjects” (41).

Conclusion

The text under review constructs the northeast as a landscape, both real and imagined. There are certain subtle way through the region is made to morph into a space of fear, hostility and otherness. This mutation derives more from long-standing stereotypes of colonial fiction rather than anything else. The act of travel is merely another way to validate these long-standing ideas about this frontier region. Johnson’s text relies on an aesthetics of negativization, a key trope of colonial meaning-making apparatus, to frame the northeast frontier into a landscape of symbolic otherness. This construction of the northeast as a symbolic landscape is best viewed as an overture to the furtherance of the Empire in the region.

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