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Editorial Message

Mahatma Jyotiba Phule is renowned for its academic brilliance and enthusiastic approach to broadcasting knowledge in the academic arena. It gives me immense pleasure to learn that we celebrate the launch of Journal Omniscient (An International Peer Review Multidisciplinary Journal) with this inaugural issue. This year will mark a milestone in the history of the MJPRU Rohilkhand University, Bareilly because it has created a venture for disseminating scientific thoughts across the countries. In the turbulent times of disruptive innovations that will lead to newer breakthroughs in research. Certainly, 21st century skills have become an irreversible source to set the standards of teaching and research practices that will transform the landscape of the learning ecosystem for z-learners as well as alpha learners. This journal will facilitate an archival repository for researchers, academicians, practitioners, policy-makers, and enthusiastic learners who are eager to reform the ways of teaching and learning through advancing smart learning environments.

As we are practitioners of innovations in learning practices for neo-millennials, this journal will set new benchmarks in the academic arena. We will continue to publish papers on diverse topics related to Education 4.0 learning setup across the learning discipline. We will publish four issues of this journal in a year with particular emphasis on innovation and excellence in a multidisciplinary and transdisciplinary approach. The first Issue of this journal will release in this month with several outstanding papers that will motivate scholars to keep updated knowledge in their respective research area. MJPRU will release articles quickly but is committed to scholarly rigor much more than other Open Access journals. The goal of the journal is to have indexed by Scopus, ISI Thomson Reuters, Ei Compendex, Cambridge Scientific Abstracts (CSA), etc.

On behalf of the MJPRU, I would like to extend a very warm welcome to the readership of Omniscient. I take this opportunity to thank our authors, editors, and anonymous reviewers, all of whom have volunteered to contribute to the success of the journal.

Prof. K.P.Singh

Omniscient

(An International Multidisciplinary Peer Reviewed Journal)

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The Dreaded Harmful Effects of Pesticides on the Terrestrial and Aquatic life

¹Adeel Ahmad Khan

²Manoj Kumar

³Prof. Sunil P. Trivedi

Abstract

Pesticides have long been used to increase the crop yield and make it disease resistant to feed the ever-growing population. However, unchecked and incessant uses of such harmful chemicals have threatened the entire biodiversity by killing the non-target organisms on terrestrial and aquatic landscapes. Also, bioaccumulation and biomagnifications of some non-degradable pesticides have been reported and some of the harmful pesticides like DDT and certain persistent organic pollutants have been banned effectively. The environmentalists and scientists need to find an alternative to replace the use of pesticides and replace them with biodegradable and environment friendly substance which does not kill the non-target organism and an effective agent in increasing the crop yield and make it disease resistant.

Keywords: Pesticides, Mancozeb, aquatic life, water pollution, environment

Introduction

The growing population of the world and the zest to live a better life caused rapid urbanization and industrialization in the developing and developed countries. This led to shrinkage of the forest cover and the agricultural land that threatened the wildlife and the crop yield, respectively (Azadi et al., 2011). Globally, food scarcity was becoming a threat; hence, to overcome the challenging problem, the food scientists devised chemical formulations in the form of pesticides, bactericides, and fungicides to increase the yield of the crop produce as well as to make it disease resistant. The efforts of the scientists worked out and globally there was acceptance to the use of pesticides, insecticides, weedicides, and fungicides to increase the yield of the crops and make them disease resistant (Carvalho, 2006). Moreover, pesticides were also used in household pest control as aerosols, sprays, etc. to control and kill cockroaches,

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mosquitoes, houseflies, rats, fleas, ticks and many other harmful insects (Lemus and Abdelghani, 2000). The first reported pesticide uses dates back to the Roman empire although the extensive production of pesticides started around the decade 1940–50. The discovery of effective and cheap pesticides like Aldrin, dichlorodiphenyltrichloroethane (DDT), dieldrin, β -benzene hexachloride (BHC), 2, 4-dichlorophenoxyacetic acid (2, 4-D), chlordane and endrin, etc. powered the pesticide industry. Usually, pesticides belong to the major classes of organochlorines, organophosphates, carbamates, pyrethroids, neonicotinoids, and dithiocarbamates. Also, fungicides, captan and glyodin, malathion was introduced between 1950 – 55, which was followed by the discovery of triazine herbicides (Ecobichon, 2001; Hakeem et al., 2016). Interestingly, herbicide, Agent Orange was used as warfare in the Vietnam War to poison the Vietnam veterans (Chamie et al., 2008). Mancozeb (MZB) belongs to the class of dithiocarbamates as MZB is a chelate of ethylene bis-dithiocarbamates (EBDC) with zinc and manganese, as a broad-spectrum fungicide (Belpoggi et al., 2006).

The exhaustive use of these chemicals exerted its ill-effects on the environment affecting the terrestrial and aquatic life; disrupted the ecological balance; and thus, held as a potential threat to the ecosystem. Though, pesticides were effective in controlling food inflation and increasing the crop yield, it was reported to harm the non-target organisms, too drawing the attention of environmentalists and scientists. Moreover, there are certain pesticides which were banned or discontinued due to bioaccumulation in tissues or its lethality to non-target organisms.

Materials and Methods

To estimate the water quality

The water quality parameters are essential to establish as it is well known that dissolved oxygen (DO) gets reduced on exposure to pesticide as they are capable of destroying the aquatic flora which are responsible to maintain the DO. The water parameters like temperature, biochemical oxygen demand (BOD), pH, hardness etc will be vital for the reactivity and diffusion in water. The prescribed limits of the water physicochemical parameters as recommended by APHA et al, 2017 is total dissolved solids (TDS) 165 to 185.50 mg/L, hardness 160 to 190 as CaCO_3 mg/L, dissolved oxygen (DO) 6.6 to 7.4 mg/L, temperature (T) 22.0 to 28.5°C, and pH 6.7 to 7.5.

To estimate the bioaccumulation of pesticides in water and tissues

The concentration of pesticides in the water bodies, tissues of plants and animals can be estimated by employing high performance liquid chromatography (HPLC) against a control. The obtained peak will show its concentration; the steeper the peak more will be the concentration of the examined pesticide (Derby et al., 2021).

To estimate oxidative stress and transcriptomic analysis of the pesticide

It is well known that pesticides, heavy metals, persistent organic pollutants (POPs), etc. are xenobiotics and will cause oxidative stress in an organism as they are capable to disrupt the antioxidant defense system of the body as they increase the free radicals in the form of reactive oxygen species (ROS) and reactive nitrogen species (RNS). These entities can be dangerous for the body as the cell maintains a reducing type of environment; also, it is vital for the cell to maintain the integrity of disulfide bridges formed between two cysteine amino acids. The transcriptomic analysis of selected genes can give an idea of the changes caused in the mRNA machinery due to the accumulation of xenobiotics (Awasthi et al., 2018; Ratn et al., 2018, 2017; Trivedi et al., 2021).

Estimation of the lethal concentration for acute, sub-acute, sub-chronic and chronic studies

Uniform bioassays are performed to calculate the approximate median lethal concentration (96h-LC₅₀) till 96 h of the test chemical (APHA, 2017) with some researchers considering the toxicity of 24h to 72h also. The fishes are released in aquariums having different concentrations of the xenobiotics for 96h. The dosage of the toxicant is established according to its toxicity and previous findings. According to the percentage mortality, the toxicity range is assumed either as mg/L or µg/L. Further, to find the accurate concentration with respect to control, the fishes were again released in glass aquaria that had concentration below the calculated dose. The median lethal concentration (96h LC₅₀) can be determined by the 'Trimmed Spearman-Kärber' method (Hamilton et al., 1977) or 'probit analysis' (Finney, 1971).

Experimental Setup: To perform the desired study to establish the toxicity of any xenobiotics in in-vitro conditions, the fish must be acclimatized to the laboratory conditions. Once the acclimation process is completed, further experiments can be performed by formation of different toxicity groups along with a control. A control group mimics the original conditions and is free of any toxicant. The experimental groups can be prepared by giving a dose of 10% to 50% of the calculated 96h-LC₅₀. The experiments should be performed in triplicates and half of the water in aquaria should be replaced daily to remove the excretory wastes. After

replenishment of the water, the concentration of the toxicant should be maintained as before. After anaesthetization by 0.01% (v/W) diethyl ether, the fishes will be sacrificed to obtain the desired tissues for detection of oxidative parameters and transcriptomic analysis.

Outcomes of the studies: Mostly, pesticides used for agricultural purpose are polar, water-soluble, and heat stable. Also, the tendency of some pesticides to breakdown into metabolites or byproducts which are more toxic than the parent compound chemical is also worrisome. There are fungicides like Mancozeb which are photolabile. They are not soluble in the water but on exposure to sunlight, the EBDC breaks down in a more toxic byproduct, ethylene thiourea (ETU) and metals like manganese (Mn) and zinc (Zn). Moreover, non-specific pesticides kill non-target plants and animals which are not desired and creates disturbance in the environment. Also, some pests become resistant to the pesticides which do not serve the purpose but harms other organisms. After exhaustive researches on the harmful effects on pesticides, DDT was completely banned in the USA in the year, 1972. Also, India disapproved the use of DDT for various purposes and completely banned its agricultural use in the year, 1989. The list of banned pesticides has been increasing since with an emphasis on POPs. As pesticide toxicity has become a global menace, in 2001, 179 nations signed an international treaty in Stockholm Convention to discontinue the use of twelve POPs, including DDT. There are ample numbers of studies that have reported the harmful and toxic effects of the pesticides affecting the terrestrial and aquatic biodiversity.

Studies that highlight the threat to the terrestrial ecosystem

The terrestrial ecosystem comprises of plants and animals that resides on land. An increase in susceptibility of plants to diseases and reduced seed quality was reported on the use of herbicide, glyphosate. Also, herbicides like sulfonylurea, sulfonamide, and imidazolinones had detrimental effects on the productivity of non-target crops, plant communities and wildlife. There are many ecologically important insects like bees and beetles which have declined in areas where carbamates, organophosphates, and pyrethroids were used. Also, formulations of pyrethroids with imidazole are harmful to bees too. The bee foraging activity and learning behavior was compromised on the use of imidacloprid. The use of neonicotinoids completely wiped out the population of bees and amounts of this pesticide as also reported in honey and wax used for human welfare. A constant decline in the populations of honeybees, birds, earthworms, beneficial soil microbes have been reported where pesticides were used. Earthworms play a significant role in the soil ecosystem by acting as bio-indicators of soil contamination and as models for soil toxicity testing; they also contribute to soil fertility. Rapid declines in the

population of bald eagles due to deaths were recorded due to exposure of DDT and its metabolites. Some of the bird species feeds on earthworms but incessant use of fungicides kills these populations. Organophosphates have been reported to kill birds, especially raptors.

To maintain the ecological balance, many different species work together to work out the smooth functioning of the system. The microbial soil population is important in nutrient uptake in plants, breakdown of organic matter thus contribute in soil fertility. The better the soil fertility the better will be the growth of the plants; this can reduce the dependence on the use of pesticides. The process of nitrification, ammonification, and denitrification is an important process as the plants cannot utilize the atmospheric nitrogen directly; instead, the plant absorbs nitrates from the soil fixed by these bacterial populations. Fungicides like glyphosate, chlorothalonil and dinitrophenyl interrupts the nitrification and denitrification processes.

Studies that highlight the threat to the aquatic ecosystem

The residues of pesticides reach the aquatic ecosystems via drift, runoff water caused by rain, percolation and leaching through the soil or direct spraying of pesticides to control the mosquito's population. The decrease in the DO level and death of aquatic plants, decaying organic matter, and increase in algal blooms threaten the aquatic life by interference in the physiological and metabolic mechanisms of the fish population. The aquatic animals are exposed to pesticides by direct absorption through skin and gills and by direct consumption of the contaminated water. It is estimated that most of the DO is replenished by the aquatic plants and release of pesticides kill these plants; this results in decline of DO levels leading to suffocation and declined fish population and productivity. The water polluted with different pesticides has even affected the amphibians too. Carbaryl has been found toxic for several amphibian species, whereas, herbicide glyphosate is known to cause high mortality of tadpoles and juvenile frogs (Relyea 2005). Small concentrations of malathion have been shown to change the abundance and composition of plankton and periphyton population that consequently affected the growth of frog tadpoles (Relyea and Hoverman 2008).

Toxicity studies on phorate were reported by Ratn et al., (2017) where they recorded oxidative stress and DNA damage in fish, *Channa punctatus*. Profenofos is toxic to the fish, *Channa punctatus* and induced DNA damage, genotoxicity, and influenced the behavioral patterns (Pandey et al., 2018, 2011a, 2011b). Some pesticides individually and some in combination can negative impact the growth of the fish by interference with the physiological and molecular mechanisms, thus impacting the fish population (Arisekar et al., 2019; Bhaskar and Mohanty, 2014; Díaz-Barriga et al., 2015; Kavitha and Venkateswara Rao, 2009; Kumar et

al., 2010; Kunwar et al., 2021; Slade et al., 2017; Srivastava and Singh, 2013; Tabassum et al., 2016; Tilton et al., 2006). A fungicide, MZB, also exert its ill-effects on fish population. In a study conducted by Costa-Silva et al., (2018), MZB was a potent toxic as there was induction of ROS. MZB has been reported to be a teratogen (Larsson et al., 1976), neurotoxin (Domico et al., 2007), developmental and reproductive inhibitor (Runkle et al., 2017), carcinogen (Tilton et al., 2006), and an agent that can cause oxidative stress that can impair an organism's metabolic balance (Marques et al., 2016). Moreover, MZB was also capable to instigate morphological abnormalities such as body axis distortion, DNA damage, cell death, and changes in behavioral patterns during zebrafish development. Also, it has been observed that on exposure to MZB, the fish also exhibits changes in their behavioral patterns, loss of balance, erratic swimming, sluggish movement, and lethargy (Atchison et al., 1987).

Conclusion

The incessant and unchecked use of pesticides have impacted and disturbed the entire ecological balance. The pesticides are proven to be harmful for the terrestrial and aquatic flora and fauna. Also, there are studies on negative impacts of pesticides in humans. Some of the pesticides bio-accumulate in the bodies of the organism that ultimately result in death of the concerned organism. It is high time that the conversationalists, environmentalists, and scientists sit together and find a probable solution to the menace of the pesticides. Biodegradable and harmless pesticides are the need of the hour to replace such harmful pesticides.

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Opinion of Participant Teachers towards Appropriateness of Orientation Course

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Abstract

The purpose of the study was to explore the opinion regarding the opinion of teachers regarding the Appropriateness of the Orientation Course running through Humana Resource Development Centres (HRDC). A survey method was employed to accomplish the objective of the study. ‘Orientation Programmes Feed Back Questionnaire’ was implemented to know the aptness of various components of Orientation Programme. A purposive method of sampling was used in this study. 38 teachers have been selected for the study out of them 18 were male and 20 were female teachers. These faculty members just attended Orientation course at HRDC Kumaun University, Nainital in December 2020-21. Findings revealed that male and female teachers agreed equally about the appropriateness of evaluation of the Orientation course. Their views were similar about evaluation system of orientation course of HRDC.

Key Words: Orientation Course, Humana Resource Development Centres, Appropriateness

Introduction

The higher education system in India is perceived as the prime contributor to national development as it enables the dissemination of specialized knowledge and imparting skills (NPE, 1986). Disseminating knowledge and imparting skills to the young enable them to be effective partakers of national development. Teachers play a key role in the system. The stander of education depended on competent teachers. Teachers become competent when they take training regularly. It seems that all over the world, the need for in-service training of tertiary teachers is strongly felt by education planners, and therefore, various models are practiced in different countries. This trend would ultimately lead to the formulation of some kind of formal professional development program.

It has been felt very seriously now-a-days in India, about the quality control of higher education to improve the teaching standard. Dhupiker (1993) in her study “Vitalizing the

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Academic Staff College for improving the quality of teaching and teachers” suggested of focus attention on the target areas. Hence, in order to improve the quality of education in our country, the need for training teachers in higher education becomes a very vital phenomenon. The need for training programmes for higher education after independence the intake of new entrants increased and knowledge explosion created a wide gap between the teachers and changing environment conditions. James’ report (1972), Mayer’s report (1972-73), and National Policy on education (1986) has noted that there are no training and Orientation for teachers in higher education.

For the professional development of teacher University Grant Commission, in pursuance of the National Policy on Education (NPE)1986 established UGC-HUMAN RESOURCE DEVELOPMENT CENTER (UGC-HRDC) formerly Academic Staff Colleges (ASC). UGC-HRDC has been assigned the task to organize Orientation Programme for young newly recruited teachers and Refresher course for an experienced teacher. It organized many academic activities for teachers. At present 66 UGC-HRDCs were established in different universities all over India (UGC-report,2001-02).

Passi and Pal (1994), Rao and Palsane (1994), Mavi (1995), Rai and Rai (1995), Gupta (1995), Yadav and Panda (1996), Sisodia (1997), Mohanty (1997), Verma (1998), Kundu (1999), Sail (1999), Dutta (2000), Joshi (2000), Dhawan (2000), Trivedi (2000), Das and Gogio (2001), Jyoti (2001), Ramalingam (2009), Behera (2009) and Goswami (2010) found that orientation programs conducted by Academic Staff Colleges(UGC-HRDC) improve the skills, the methods of teaching, broadening the attitude, personality, and horizon of the teachers. But, still, there is an immediate need to study the utility and acceptability of activities which is conducted by ASC (UGC-HRDC) need to be examined in the context of changing situations. So, this study was undertaken keeping in mind this question.

Objectives of the study

1. To know the opinion of participants about usefulness of different component of orientation course conducted by the Human Resource Development Centre (HRDC).
2. To compare the opinion of male and female teachers about appropriateness of evaluation system of orientation course conducted by the Human Resource Development Centre (HRDC).

Hypothesis

There is no significant difference between male and female teachers' opinion about evaluation system of orientation course.

Methodology

Survey method of research was used for the study.

Population and sample

All the teachers who have participated in the orientation course organized by UGC-HRDC Kumaun University, Nainital were identified as the population of the study.

Researcher used a purposive sampling method and chose 38 teachers who were taught in different universities and colleges of which 18 were male and 20 were female teachers. Researchers take as sample only those teachers who attained orientation course, organized by UGC-HRDC Kumaun University, Nainital in December 2020-21.

Tool

To know the opinion of participants about the curriculum and different activities of the orientation course researchers used the 'Orientation Programmes Feed Back Questionnaire' constructed by herself. This Questionnaire consisted of many items which are related to society, the environment, the Indian education system, management, personality development of teachers, and the evaluation system of HRDC. Which used a five-point scale, i.e., very much useful, much useful, average, less useful, and least useful.

Analysis and Interpretation of data:

For the analysis of data, Researchers used percentage and c^2 value statistical methods. In order to fulfill the purpose of the first objective data collected with the help of a questionnaire, was analyzed by using the percentage method. For this, items, which were 75% and above were considered most acceptable, items that were secured less than 75% but equal to and more than 50% were considered acceptable and items with less than 50%, were considered short acceptable by the participant. The results pertaining to the acceptability of various components of the curriculum have been presented following:

Table-1

**Teachers' opinion for the Topics of Component 'A' Awareness of Linkages among
Society, Environment and Education**

S.N.	Topics	Percentage (%)
1.	Goals of higher education	85.98
2.	Higher education and future scenario	80.00
3.	Environmental problems and international cooperation	74.44
4.	Indian Identification	81.75
5.	Importance of positive thinking	90.00
6.	Modernization	66.00
7.	Higher Education and Rural Development	71.34
8.	Higher Education and democratic out look	77.54
9.	Role of College and University teachers	82.86
10.	Higher education and value development	78.00
11.	Higher Education and scientific temper	80.66
12.	Unemployment	49.00
13.	Higher Education and Secularism	48.25
14.	Sustainable development	85.00

Component 'A' Awareness of Linkages among society, environment development, and education. The main objective of the component of 'A' is to enhance understanding of the role of college teachers in society with a view to appreciate the interdependence of higher education and various dimensions of society and its development need. It is observed that the participants were given preference for many topics. The topics which were given higher preference by participants are:

- Importance of positive thinking
- Goals of higher education
- Sustainable development
- Role of College and university teacher
- Higher education and future scenario

It is clear from table 1, the percentage of unemployment and Higher education and secularism is (49.00, 48.25) which is less than average. Then we can say that participants of the orientation course were not in favor of these topics. Other items which were preferred by participants are Indian identification, modernization, higher education and rural development, higher education and democratic outlook, higher education, and scientific temper.

Table-2

Teachers' opinion for the Topics of Component 'B' Philosophy of Education, Indian Education System and Pedagogy

S.N.	Topics	Percentage (%)
1.	Philosophy of education	81.75
2.	Method of teaching	80.66
3.	Model of teaching	74.45
4.	Economical development in India	75.10
5.	Teaching learning process	77.10
6.	Theories of adult learning	49.00

7.	Museum and archeology	62.75
8.	Measurement and examination reform	75.63
9.	Evaluation system	71.65
10.	Non formal Education	63.44
11.	Library and its component	49.22
12.	Preparation of teaching aid	54.00

Table 2 shows the acceptability data for curriculum component 'B' Philosophy of the Indian education system and pedagogy. The purpose of incorporating this component was to develop basic skills that a teacher needs for effective classroom teaching. It is evident from the data given in table 2 that the participants have shown very favorable responses for some topics which percentage was 75 to 100 reached high level of acceptability in order of their ranking are:

- Philosophy of education
- Method of teaching
- Teaching learning process
- Measurement and examination reform
- Economic development in India

It is evident from the table that some topics such as- theories of adult learning and principal of learning could not reach the average criterion. Besides these other topics as: Evaluation system, model of teaching, Economic development in India etc. liked by participant

Table-3**Teachers' opinion for the Topics of Component 'C' Subject up Gradation**

S.N.	Topics	Percentage (%)
1.	Preparation of various aspects of every discipline, based on recent ideas and innovation	78.56
2.	Preparation of bibliography in the subjects concerned	80.55
3.	Review of Professional Journals	80.55
4.	Becoming a effective teacher	90.00
5.	Project work / seminar presentation	82.55

Table 3 gives the acceptability data for different topics of the curriculum component 'C' i.e. subject upgradation. The purpose of incorporating this component was to develop self-sufficiency in keeping themselves continuously abreast of the new knowledge in their respective subject. For this purpose, a refresher course was organized for every subject. In the initial stages of the ASC (UGC-HRDC) scheme, few content topics were introduced in the orientation programmes. Acceptability criteria for these topics are indicated in Table -3. It is clear from the table that every topic of this component was preferred by the participants. It may be the importance of the topics because participants accepted that all the topics of this component are useful for their professional development.

Table-4

Teachers' opinion for the Topics of Component 'D' Management and Personality Development

S.N.	Topics	Percentage
1.	Personality development and management	88.75
2.	Community development and extension work in higher education	55.45
3.	Students counseling information services	54.65
4.	Management of communication skills	60.75
5.	Educational management and decision making	81.45
6.	Leadership, team building and work culture	78.66
7.	Total quality management and higher education	54.44
8.	Co-curriculum activities	57.44
9.	Yoga and mental health	92.00
10.	Computer and information technology	91.25

Table 4 shows the acceptability data for different topics of the curriculum component 'D' i.e. Management and personality development. The rationale for adding this component was to familiarize the college teachers with the organization and management of the college/university and to delineate the role and function of a teacher within the system. It is clear from the table varying degrees of acceptability. Some of the topics which reached the highest level of acceptability in order of their ranking are:

- Yoga and mental health
- Personality development and management
- Educational management and decision making
- Leadership team building and work culture

Other topics of this component were got average levels of acceptability criterion. It is noted from the table that all topics of this component attained the acceptability criterion.

Table-5. Test of χ^2 -value of male and female teachers' Opinion towards mode of evaluation

Items	Gender	Very much useful	Much useful	Average	Less useful	Least useful	Total	Observed χ^2 value df= 4
Evaluation of seminar presentation	Male	5 27.78	8 44.43	3 16.67	1 5.56	1 5.56	18 100	11.37 *
	Female	9 45.00	3 15.00	3 15.00	2 10.00	1 5.00	20 100	
Evaluation of micro teaching lesson	Male	10 55.55	5 27.77	1 5.56	1 5.56	1 5.56	18 100	3.42
	Female	9 45.00	5 25.00	3 15.00	1 5.00	2 10.00	20 100	
Book review evaluation	Male	9 50.00	6 33.32	1 5.56	1 5.56	1 5.56	18 100	4.24
	Female	9 45.00	6 30.00	1 5.00	1 5.00	3 15.00	20 100	
Interview based evaluation	Male	8 44.44	6 33.33	2 11.11	1 5.56	1 5.56	18 100	5.75
	Female	10 50.00	3 15.00	3 15.00	2 10.00	2 10.00	20 100	
Written test	Male	9 50.00	5 27.77	2 11.11	1 5.56	1 5.56	18 100	0.71
	Female	10 50.00	5 25.00	3 15.00	1 5.00	1 5.00	20 100	

From Table 5, it can be observed that for the items viz. evaluation of seminar presentation, the obtained c^2 value with $df=4$ is 11.37 which is greater than the table value (9.49) at 0.05 level of significance. Hence c^2 values are found to be significant at 0.05 levels. The null hypothesis is rejected and we can say that there is a significant difference between male and female teachers' opinions for evaluation of the seminar presentation. In other words, male and female teachers' opinion about the 'evaluation of seminar presentation' is not the same.

It is clarified that 44.44% of male teachers accepted that they feel 'evaluation of seminar presentation' is useful for them while only 15.00% of female teachers accepted it. In this way, it is clear that male teachers accepted evaluation of seminar presentations is more useful for them than their female counterparts.

Rest of the cases viz. evaluation of micro-teaching lesson, book review evaluation, interview-based evaluation, and written test, it can be observed that obtained c^2 value with $df=4$ is 3.42, 4.24, 5.75, and 0.71 which is lesser than table value (9.49) at 0.05 level of significance. Hence, obtained c^2 values are not significant. The null hypothesis is accepted and we can say that there is a significant difference between male and female teachers' opinion about these items. It can be interpreted that similar opinions of male and female teachers regarding these items.

In these cases, most of the male teachers as well as most of the female teachers equally accepted that evaluation and grading system is helpful to grow their academic activities and make them aware towards their profession, So the order of their ranking is:

Evaluation of micro teaching lesson	50.00
Book review evaluation	47.37
Written test	47.37
Interview based evaluation	50.00

Table-6

Test of χ^2 Value of Male and Female Teachers' opinion about Appropriateness of Evaluation system of Orientation Course

Participants	Very much useful	Much useful	Average	Less useful	Least useful	Total	Observed χ^2 value df= 4
Male Teachers	7 38.89	7 38.89	2 11.11	1 5.56	1 5.56	18 100	1.31
Female Teachers	9 45	6 30	2 10	1 5	1 5	20 100	

▪ Significance at 0.05 level

From Table 6, it can be observed that obtain χ^2 value is 1.31 with df= 4 was lesser than (9.49) table value. Hence, the obtained χ^2 value is not significant at 0.05 level. The null hypothesis is accepted. We can say that there is no significant difference between male and female teachers' opinions about the appropriateness of the evaluation system of HRDC. In other words, it can be said that the opinions of male and female teachers regarding the appropriateness of evaluation do not differ from each other. It means their opinion is the same about the appropriateness of evaluation of the Orientation course.

From Table 6 it is clear that most of the male teachers (38.89) as well as most of the female teachers (45.00) perceived that evaluation in the Orientation course is very much useful for them.

Table-7**Test of χ^2 Value of Male and Female Teachers' opinion about Evaluation and Grading System**

Items	Gender	Very much useful	Much useful	Average	Less useful	Least useful	Total	Observed χ^2 value df= 4
Keeping you active in your participation in ASC	Male	9 50.00	5 27.77	2 11.11	1 5.56	1 5.56	18 100	5.15
	Female	10 50.00	5 25.00	2 10	2 10	1 5	20 100	
Helping You to know your strength and weakness in academics activities	Male	11 61.11	4 22.21	1 5.56	1 5.56	1 5.56	18 100	24.37*
	Female	9 45.00	8 40.00	1 5.00	1 5.00	1 5.00	20 100	
Giving opportunity in improve teaching competency	Male	8 44.44	5 27.78	2 11.11	1 5.56	2 11.11	18 100	3.83
	Female	10 50.00	5 25.00	2 10.00	2 10.00	1 5.00	20 100	
Develop insight for taking research /project	Male	11 61.11	4 22.21	1 5.56	1 5.56	1 5.56	18 100	10.78*
	Female	9 45.00	5 25.00	4 20.00	1 5.00	1 5.00	20 100	
Developing of co-operative spirit in preparation for evaluation	Male	8 44.44	5 27.78	3 16.66	1 5.56	1 5.56	18 100	5.15
	Female	9 45.00	5 25.00	4 20.00	1 5.00	1 5.00	20 100	

Significance at 0.05 level.

From Table 7, it can be observed for the items viz. helping you to know your strength and weakness in academic activities and developing insight for taking research/project own doctoral works, obtained χ^2 value with (df=4) are 24.37, and 10.78 which is greater than table value (9.49) at 0.05 level of significance. Hence χ^2 value is found to be significant at 0.05 level. The null hypothesis is rejected and we can say that there is a significant difference between male and female teachers' opinions on the same item. In other words, male and female teachers' opinions about these items are not the same.

In these cases, 61.00% of male teachers reacted that the evaluation system is helping to know their strengths and weakness in academic activities and developing insight for taking research/projects whereas only 45.00 % of female teachers accepted that. In this way, it is clear male teachers accepted that these items are more appropriate to develop their academic competency than their female counterparts.

In other cases, viz. keeping active in their participants in UGC-HRDC, giving opportunity in improving teaching competency, developing of co-operative spirit in preparation for evaluation. It can be observed that obtained χ^2 value with df= 4 is 5.15, 3.83, and 5.15 which is less than the table value (9.49) at 0.05 level of significance. Hence, obtained χ^2 value is not significant. The null hypothesis is accepted and we can say that there is no significant difference between male and female teachers' opinions for keeping them achieving in their participation in UGC-HRDC, giving opportunity in improve teaching competency and develop a cooperative spirit in preparation for evaluation. It can be interpreted that male and female teachers' response patterns regarding these topics are similar. In other words, we can say that male and female teachers are equally perceived the above topics are useful for them. In these cases, most of the male and female teachers have equally perceived that evaluation and grading system is helpful to grow their academic profession, in order of their ranking are:

Keeping you active in your participants in UGC-HRDC	50.00%
Giving opportunity in improve teaching competency	47.36%
Developing of co-operative spirit in preparation for evaluation	44.73%

Discussion

The result shows that teachers had not accepted topics such as unemployment and higher education and secularism. It is possible that the teachers were less sensitive regarding these issues. In the next component, they did not accept some topics such as theories of adult learning and the library, and its components were not appreciated by teachers. This finding gets support from Passi and Pal (1997) who found in their study that theories of adult learning and principles of learning could not be liked. It means they did not favor its inclusion in the orientation course.

From the result, it is clear that all topics of component 'C' were accepted by participant teachers, which may be due to these topics being associated with their expertise areas. It may, therefore, be concluded that the topics of curriculum component C are most appreciated by participant teachers. It may be due to the fact that teachers accepted that component 'C' really fulfilled their academic need and this component gives a chance to improve their professional competency. It is also to be noted that all the topics of component D were accepted by participants. Some topics of this component get higher acceptability criteria such as yoga and mental health and computer and information technology. It may be due to the importance of these topics participant teachers are aware of their physical fitness because they accepted that yoga makes them physically and mentally healthy. The majority of teachers accepted that digital skills are necessary for them because it keeps them continuously updating their knowledge in all subjects. These findings get support from R. Singh. & Sahoo. P.K. (2006) found in their study higher education level teachers accepted that computer and information technology and Yoga related activities are necessary for them because computer knowledge keeps them updated in their subject and yoga becomes them healthy.

Participants of the orientation course revealed that the evaluation system of the orientation course is very useful for them. Results show reaction towards the usefulness of the evaluation system was partly affected by gender differences i.e., with regard to the evaluation of seminar presentations, helping to know their strength and weakness in academic activities, and developing insight for taking research projects/own doctoral work. The male teachers found more useful this evaluation mode more than their female counterparts. There was a homogeneous response pattern in male and female teachers' rating with regard to rest component i.e., evaluation of micro-teaching lesson, book review evaluation, interview-based

evaluation, written test, improve their teaching competency, co-operative spirit in preparation for evaluation and appropriateness of evaluation system. These findings were supported by Sahoo and Singh's (2006) findings who find in their work that ACS (UGC-HRDC) participants liked the evaluation system of the orientation course. The findings have significant implications for incorporative-specific curriculum input for teachers' empowerment in the higher education stage.

On the whole, it can be concluded that participants in the orientation course give the most appreciation for some topics such as yoga and mental health, computer, and information technology, the importance of positive thinking, becoming an effective teacher, the goal of higher education, and sustainable development. It means they are aware of their health, profession, social duty, and the next generation. These findings also get support from the finding of P.K Sahoo and R. Singh (2006) who find in their study that orientation participants liked such topics as yoga and mental health, the importance of positive thinking, computer and information system, and topic of personality development. The quality assurance body such as Academic Staff College (UGC-HRDC) and other academic bodies must take note of these findings to evolve the course and its component for enhancing teaching competency.

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Leadership in Transition: Strategic Considerations

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Abstract

Organizations are facing various types of problems now a days regarding the leadership. Lot of training and development program are organized leaving least impact on the employees. The upgradation of the managers and other employees is the focal theme of the development programs. As it is well known from decades that need for changes is both reactive and proactive, least importance is being given to proactive changes in the organization. The leaders believe in the past experiences and learn from the previous behaviour of the employees. But, the continuous changing phase is not well recognized by the management that's why they get trapped in the surroundings of past experiences. The present paper is the effort of the authors to attract the attention towards the need of making emotional intelligence level as important factor for leaders, while setting their behaviour patterns for employees. The strategies are developed by the authors to improve the soft skills of the leaders. Though a lot of efforts are done in past, but with the new challenges there is always the need of new strategies. There is scope of more advance strategies in the era of globalization and transition.

Key words: Transition, Active listener, Team spirit, Step back, Cling

Introduction

The organization continuously work with the turbulence, so the leaders. If the leaders are efficient to understand the transition and determine the style to navigate the changes surrounding them and continuously modify their emotional intelligence level, then the leadership task may not be so tough. There are number of examples of the failure of leadership in different organizations. They either didn't recognize environmental changes and cling to the past experiences or were not aware about the need of emotional intelligence level for the

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furtherance of the organizations. The actual problem which arises in the organization is due to avoidance of need to make leadership more effective.

Emotional intelligence: A key note for leaders

A SMART leader is the person who is aware of the changes surrounding the organization at any level. Supplier of smart ideas, Motivator, Appraiser, Socially Skilled and Teamer are few important features of the leaders required at transition phase. Emotional intelligence (EI) has become the key word for the success of the leaders and is one of the most important traits of a leader which can be measured and corrected according to the need of the time. If the leaders are able to recognise and control their own emotions, they may perform at their best. EI is important at all levels of management but the leadership requires it with utmost care. The eye-opening and self-assessing method is previously used by different behavioral scientists, EI is the technique through which we can put the leader at the particular level by measuring his/ her traits.

The original definition by Salovey and Mayer (1990) is - Emotional intelligence refers to the collection of abilities used to identify, understand, control and assess the emotions of the self and others. Daniel Goleman, an American psychologist gave **five key elements** of emotional intelligence: -

- 1. Self- Awareness**
- 2. Self- regulation**
- 3. Motivation**
- 4. Empathy**
- 5. Social Skills**

The higher the understanding of leaders to these key points shows the higher level of their emotional intelligence.

Self-Awareness

The leaders aware of their own self and other's too, are more successful. The leaders have to open their eyes and look at themselves and try to find their position and improve it

according to the need of the employees. This trait of the leaders may definitely improve the relationship with the bottom level employees, who are the main workforce of any organization. The leaders need to identify the indicators of external and internal changes and study them deeply. With the help of the analysis of both negative and positive indicators the leaders may find the reason behind any behavioural changes among the employees. Why they themselves do anything? why employees give particular reaction? what corrections are needed for better performance. All these questions may get better answer with the open self of the leaders.

Strategies to improve Self-awareness of leaders: -

- 1. Study positive and negative indicators of yourself and others**
- 2. Take psychometric test.**
- 3. Get analyst expert advice.**
- 4. Have a 3D view of your personality**

a. Study positive and negative indicators of yourself

The best way to analyze oneself and others is to study the positive as well as negative indicators of both. The way one reacts to the particular situation is necessary to study. Most of the time we study the reactions given by others and focus on correcting their behavior. If the leaders want to be more creative and efficient, they should study their own positive and negative indicators which guide their own behavior. By correcting ourselves we may make our 'self' more open and competent. The leaders have to face a variety of employees so by studying both the factor of themselves will convert their weaknesses into strengths.

b. Take psychometric test

The emotional intelligence (EI) or Emotional Quotient (EQ) has been accepted as the measurable trait which may help to improve the soft skill of the individuals. The number of tests is being used in practice to measure emotional intelligence some of them are validated and some are not validated. The leader's EI level needs to be high. If they are having low EI then there is a great need of high EI. Here we need to make it clear that there is a vast difference between Intelligence Quotient (IQ) and Emotional Intelligence (EQ). IQ means the logical and reasoning part of brain, which focuses on hard skills, but EQ means the behavioral part of brain

which is related to soft skills and emotions of the individuals. The leaders need to go through the EQ test and know their level and try to improve the level of EQ.

c. Get analyst expert advice of 360 degree

The expert advice is necessary to increase the efficiency of leaders. The 360-degree approach should be followed while getting expert advice on emotional intelligence. The reason is that once we get the expert advice, the 360-degree analysis should be done and the proper feedback is required if any correction is practiced. Without feedback the correcting indicator may lose their authenticity. If the analyst provides some correction regarding the Emotional intelligence, then correcting measures must be taken seriously, and a proper feedback must be given to the analysts.

d. Have a 3D view of your personality

A three-dimensional view of personality is necessary while assessing any self-awareness indicator. Emotions, Attitude and Perception of their own self are the 3 D factors which should be viewed by the leader before assessing others. If the leaders fail to get a perfect view of their own personality, they may commit mistake while judging others and reaching at any decision. The low emotional level, the poor perception and the negative attitude of leaders may make wrong decisions about the employees and the leaders may fail in managing workforce. So, if any of the three factors are not up to the mark then fast corrections are needed to be applied on leaders.

Self- regulation

All the leaders need to control their emotions in both the negative and positive situation. A self- regulating leader will handle the situation more successfully. The values of the leaders play an important role in regulating their self. The more they control their emotions the better will be their performance. They can view the situation in a wider perspective. With high degree of self- regulating quality the leaders become an asset to the organization.

Self-regulation may convert the challenges and threats into opportunities. Everyone faces the challenges in day to day life, as we all know that every morning may not be fine. Some times when things and situations are not under our control and the emotions are very high, our self-regulation may control the situation.

Daniel Goleman, the 21st century guru of emotional intelligence, says self-regulation is a core leadership skill. “In my experience, I’ve never seen the tendency toward radical outbursts to surface as an indicator of strong leadership,” says Goleman. He also mentioned that self-regulating leader may improve inter personal relationship in the organization and such leaders are the asset for an organization.

Strategies to improve Self-regulation of leaders

- **Be aware of your emotional level**
- **Step Back**
- **Divert your attention**
- **Recite your favorite rhyme**

a. Be aware of your emotional level

The leader must be aware of his/her own emotions and accept the situation under which they feel stressed and trapped. The emotional impulse may be checked if recognized well accepted. For example, if the leader gets stuck in traffic and can't attend important meeting, he must recognize the situation and accept the situation, "Oh due to heavy traffic I got stuck and missed the meeting with important client". If he doesn't accept the situation then he may face high emotions and stress, which affects his performance.

b. Step Back

Before talking about the situation and high emotions in front of someone else, step back, sit calmly and analyze the situation taking your own time. Outburst may not solve the problem; in fact, it increases the stress level and one feels more stuck in the situation.

c. Divert your attention

Once faced the unwanted situation, do not think about it again and again. Divert your attention to the other activities which are not important in the normal situation. Have a glass of water and drink it slowly, try to get away from the place for a while. Breathe cautiously deeper, and have a talk with a person who is not related to the problem. Meditation may divert your attention.

d. Recite your favorite rhyme

Accept the fact that no situation may long last. So, get out of the situation and start recite your favorite rhyme which motivated you to convert the negative thoughts into positive response. Chanting and recitation both work to bring you out of the high feelings.

Motivation

Leadership and motivation may be used as synonyms for each other. The leader with high degree of motivation factor is an asset for organization. Leaders are self-motivated and enthusiastic and motivate the employees to get the work done. The leaders must be excellent in communication. Not only this, they also need to be good enough to understand the lines and the meaning between the lines. If the employees speak something, the leaders must be efficient to read their body language and expression too. What is said is important to understand, but what is more important is what is not said but expressed with body language to understand.

Strategies to develop motivational factor of leaders

- a. Developing team spirit**
- b. Role playing**
- c. Developing forward thinking**
- d. Developing team spirit**

Managers must be aware about the workings of team. A leader needs to make the employees feel associated with the team. Association make the job easier for the employees. The communication must be the most important factor while developing team spirit. A two-way communication must be in practice, so the employees may discuss openly about the project and other job-related matters. Along with responsibility the team members should be given authority for decision making. Empowering the employees, the leaders may get the improvement in the overall performance of the organisation.

b. Role playing

The expectations of the organisation regarding the effectiveness and efficiency may be obtained by setting the example in front of the employees. This is the best way to motivate the employees

and associate them with the workings. Assimilation of values by leaders is the correct way to bring those values in practice among the employees. If they recognize the leaders following value for time and efforts the team will understand automatically that what values are expected by the leaders.

c. Developing forward thinking

The leaders must set the vision and clear goals for the employees, this will help them obtaining the objectives with forward thinking and clear agreement. The set targets must be achievable, and maintaining the work life balance should be the objective of the management. The happiness of the employees is very important, so the goals and their deadlines should be such that they feel involved rather than employed.

Empathy

It is important to talk about the needs and feelings of ourselves and put our own emotions and perceptions forth. But more important is to understand others feelings and needs and put their thoughts forward. It looks so sound to hear like this. But practically it is really very difficult to practice empathy. The reason is that in the era of competition and competence if anyone puts others forward and keep themselves on back side regarding the needs, he may lose his competency and lack in career. But stil for leaders it is necessary to understand others needs and behave as an active listener. A leader must be an active listener who not only listen what is said, but understand what is not said.

Strategies to develop Empathy

- a. Improve performance of employees
- b. Be the active listener
- c. Make the team feel creative

a. Improve performance of employees

The leaders must be aware of the performance of the employees and the reasons behind the low performance. If any of them is low in performance then leaders must try to listen them patiently and solve the problem, that will definitely improve the performance of the employees.

b. Be the active listener

Active listener is the person who not only listens others but understand those words which are not said by them. So the leader should always practice to be an active listener. Caring is more important than the listening, and it is possible with the trait active listener.

c. Make them feel creative

If the employees are low in performance and not able to achieve the goal set by the organization, the empathetic leader must make them important for their contribution. Their failure must not be in the center of the discussion. It should be their contribution which needs to be given nor importance.

Social Skills

The main objective of the leaders is to be socially successful regarding the relationship with employees. Though social skills are not completely innate quality of the leaders, they need to develop it according to the need of the organization to control any turbulence. There may be two types of leaders. Some may be socially active and engaged with the team and other may be socially deaf and isolated. These isolated leaders are least interested knowing the changing circumstances and requirement of the organization. They fix the boundaries for their co-workers and themselves too. The challenge for the leaders is the fresh blood of the organization. They have to manage balance between the current and new comers employees. The greatest problem is related to the culture of the organization.

Strategies to improve social skills

- 1. Interactive attitude**
- 2. Conflict Management**
- 3. Training and developing team**

a. Interactive attitude

The need of the hour is to connect and interact the employees on regular basis. The fresh blood of the organization is always a challenge. The current employees always feel competition when new employees enter the organization. The more interaction leaders have with them the lesser conflicts

will arise. The leaders are responsible for more cohesive team and for that they need to be in connection with the employees, over and above their professional relationship.

b. Conflict Management

The leaders have to think and rethink about the conflicts among employees. The top down management style may cause more conflicts, so they need to take the conflicts as the opportunity rather than threat. Managing conflicts means more and more interaction between all of them. Socially responsible leaders have to convert all the negative aspect into positive. The conflicts may open the door for discussion and this will definitely make the leaders able to understand the real problems and find the solution.

c. Training and developing team

The facilitation process must be present in the organization. The leaders have to be aware of the training and development need for the employees. The belongingness to the team is increased if the employees feel that leaders are aware of the performance of employees. The efforts of the leaders are towards development of themselves and others too. They are least affected with the promotion and development of the colleagues and continuously modify their performance

Conclusion

The Emotional intelligence though has been the most important factor for the success of the leaders, there is the continuous challenge for them to assess their own self on regular basis. Number of strategies have been developed time to time, still more efforts are required. If they have developed their soft skill, then the hard skill of the employees may be improved in a better way. The performance may more effective and employees will be more efficient. Everyday

challenge for them is to cope up with the new comers who are having latest knowledge about their job which may cause conflicts among current and new employees.

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The Development of the Concepts related to the Earth, the Moon and the Sun among Children in Elementary Schools: A multi-Cross-Sectional Study

Mithlesh Kumar¹

Abstract

This project report is based on a study done to understand the " The development of the concepts related to the Earth, the Moon and the Sun among Children in Elementary Schools: A multi-Cross-Sectional Study ". This study shows primary level children's understanding of the size, implementation and comparative characteristics of the Sun, the Earth and the Moon. Children's brain development is a complex process. Children's conceptual development occurs through daily life experiences and society. In this study, we found the answers based on the life of children about the size of the Earth. This indicates that the Earth is round. While some children said that the 'earth is flat', 'the number of earths is two'. One of the Earths is round, which we see and the other is the plane on which we live. The concept is quite different from the concept of science. The impact of this result can be seen in the future. In order to realize a better vision, it is necessary to strengthen the foundation of the country, it is necessary that positive steps should be taken by the education system of India to give the right direction to the children.

Keywords- Science Education; Concepts Learning; Learning by Experience

Introduction

Science is learning of nature and, its cause and effect on it. Science is a great step towards investigation, observation, finding, interpretation, conclusion, and generalization related to the body of knowledge in a systematic and logical way. Human is always, curious about its process

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and product, try to discover the truth, which remained hidden, till yet. But it is not easier to understand by simple reading and writing. We need to elaborate it's in the systematic, logical and sequential way in the term of facts, concepts, principle, theory, and law. Our thinking processes construct this information in the form of knowledge. These terms are used in an educational institution in the form of formal education. These formal educations are far away from some people; still, they have knowledge about it. The learning starts in the children as they go and learn science in their own mindset, beyond the textbook. In starting, children have their own "world of science". where their concept is built on the foundation of prior knowledge, attitude, the goal of learner, family, society, rituals, custom, poem and story taught by elders as well as self-life experiences. Children view scientific information based on their own paradigm of mysterious, imaginary or real thinking. After the continuous educational development with intellectual, psychological, psychic, social, spiritual, and physical children learn science beside less misconception. In earlier, understanding of nature and its phenomena are mysterious for the human being. They try to solve the problem arises in them around about the inside and outside the earth. People collect the information by observation, discussion, experimentation, and their own experiences. The collected information makes some pseudo concepts among the people. This pseudo concept leads to the development of scientific query among philosophers. Society governs by leading philosophers of that ancient time. The scientific discovery and globalization help in the development and nourishment of young children to creative thinking beyond the race, caste, religion, region, gender, etc. However, there are still many questions, which help in the understanding of how the concepts are structure in the mind of young children.

The objectives of the study

The aim of the field-based study in this project report was as given below:

1. To investigate the development of the concepts related to the Earth, the Moon and the Sun among Children in Elementary Schools.
2. To investigate the relative shape and size related to the Earth, the Moon and the Sun among Children in Elementary Schools.
3. To investigate the relative orientation related to the Earth, the Moon and the Sun among Children in Elementary Schools.
4. To understand how the children locate people or things on the Earth, the Moon and the Sun.

Review of Literature

Nussbaum and Novak (1976) in this study found that the children held five concepts about the Earth. These are a) earth is round, b) earth is round like ball, c) objects at the bottom of the earth would fall down into the space, d) the object at the bottom of the earth do not fall in space, e) the object at the bottom of the earth do not fall in space due to gravity. Nussbaum's (1979) study states that earth was like a huge ball consisting of two hemispheres; an upper hemisphere made up of “air” or “sky” and a lower hemisphere consisting of the ground where people live. Seider and Pulos (1983) conclude that most of the children in their sample who were 10 years of age held concept a), b) and, c) that most of the children 13 and over held notions d) and e). Mali Hawe (1979) conclude that Nepali children showed earth concepts similar to the American children but that they tended to occur at a later age.

Vosniadou and Brewer (1989) found that in their research that children have tremendous surface inconsistency related to concepts of the Earth's shape. In terms of children's responses, 99 % of the children said that the shape of the earth is either a circle or round, but only 63% of those said that the Earth does not have an end. Finally, they argue that children form a naïve concept of the earth, according to which the earth is flat. Vosniadou and Brewer (1990) conclude that American children and (85% and 90% for third and fifth grade) and Greek (60% for the kindergarten and 86.6% for third and fifth grade) understand that the earth shape is round. The Greek sixth-graders chosen the word “sphere” (43.3%), which was not used much by the American fifth-grade children (only 5%), they said that earth shape is a circle (70%). In this research, children concept related to earth's rotation around axis and revolves around the sun. the Greek children say that the sun is behind the mountains, the clouds, or the sea, while the American children were more likely to say that Sun is “west” of down underneath the earth. In both, the Greek and American samples, the younger children understand that the earth to be flat rather than spherical.

Research Methodology

Sample

In this field-based study, the researcher takes three group students. The participant for this project report were 35 students, 2nd, 4th, and 6th class. The sample of the study came from CIE Experimental Basic School, Department of Education, Delhi and Virendra Public School, Delhi,

India. The sample students came from the middle-class and lower-middle-class background, in which 17 were girls and 18 boys. The participants were range in age from 4 years to 12 years (Mean-8.83, Median- 9, Mode-9, SD-2.12 year)

Research Design

The research was of descriptive survey design. The questionnaire and drawing activity was used to check the thinking and mental image of the children. Participant's responses were in both the qualitative and the quantitative manner. The children are free to show their conceptual understanding of the Earth, the Moon, and the Sun.

Measures

The researcher examined the development of the concepts related to the Earth, the Moon and the Sun. The questionnaire was developed through an extensive pilot study. The questionnaire contained factual and mental construction-based questions. The questions provide proper chance to the children for exploration of knowledge on the answer sheet and drawing sheet (A4).

Procedure

The researcher took an interview in the library room in the school premises. The interview duration approximately 30 to 35 minutes with each child. The researcher made detailed notes of the participant's responses, which were also recorded using audio-recorder. At the beginning of each interview, the researcher explained that this was not a test and that he/she was only interested in what they understand about the same things he/she wanted to ask. The researcher encourages the participants by saying "Haa Haa", "you were saying something" when children did not know the answer. In the rapport-building stage, the researcher started with a general question related to day and night "What is the difference between day and night?" The follow-up questions were used during the children's responses, which we could not see the same as children.

Data presentation and analysis

The student responses to the question “Where does the sun go at night?”

Table 4.1.1 percentage of the student responses

Sl. No.	Responses	Classes			Total	%
		2	4	6		
1	Do not know.	0	2	0	2	5.71
2	The sun hides behind the moon.	0	1	1	2	5.71
3	They drown in the river or sea.	0	1	1	2	5.71
4	Go to the sky in their house.	1	0	0	1	2.86
5	Going into the cloud (inside / back / up) is hidden.	6	5	2	13	37.1
6	The Sun remains constant in one place (goes to London/Another side of the earth due to rotation).	0	2	8	10	28.6
7	The sun hides behind the mountains.	4	0	0	4	11.4
8	At night the sun changes to the moon.	1	0	0	1	2.86
	Total	12	11	12	35	100

Table 4.1.2 percentage of the student responses

Sl. No.	Responses (No. of students)	2nd Class		4th Class		6th Class		Total	%
		12	%	11	%	12	%		
1	Do not know.	0	0	2	18	0	0	2	5.71
2	They go somewhere	0	0	1	9.1	1	8.33	2	5.71
3	They drown in the river or sea.	0	0	1	9.1	1	8.33	2	5.71
4	Go to the sky in their house.	1	8.33	0	0	0	0	1	2.86
5	Going into the cloud (inside / back / up) is hidden.	6	50	5	45	2	16.7	13	37.1
6	The Sun remains constant in one place (goes to London/ Another side of the earth).	0	0	2	18	8	66.7	10	28.6
7	The sun hides behind the mountains.	4	33.3	0	0	0	0	4	11.4
8	At night the sun changes to the moon.	1	8.33	0	0	0	0	1	2.86
	Total	12	12.5	11	13	12	12.5	35	12.5

Table 4.1. A total of 32 responses were received from the students of class 2, 4 and 6 in response to question number 1, in which many students gave similar answers. Serial number 6 shows that students understanding "Where does the Sun go at night?" is developing. This fact is confirmed by the fact that 0% of class 2, 18% of class 4, and 66.7% of class 4 students believed that the Earth is stationary at a certain place. Because of the rotation of the Earth, the Sun Does not appear at night.

Table 4.2.

The student responses to the question “Why do not the moon and stars appear in the day?”

Sl. No.	Responses	Classes			Total	%
		2	4	6		
1	They go and hide somewhere.	1	2	0	3	8.57
2	Looks a little bit.	0	1	0	1	2.86
3	Go to the sky in their house.	2	0	0	2	5.71
4	Going into the cloud (inside / back / up) is hidden.	4	0	0	4	11.4
5	The moon and stars are not visible due to the high sunlight.	2	4	8	14	40
6	Goes to another world (in London).	0	2	0	2	5.71
7	Not seen because of the rotation of the earth.	1	1	3	5	14.3
8	They hide in space.	0	0	1	1	2.86
9	The Moon and stars hide behind the Sun	1	1	0	2	5.71
10	The moon and the stars hide behind the black hills.	1	0	0	1	2.86
	Total	12	11	12	35	100

Table 4.2. Shows the students' initial concept about the question "Why don't the moon and the stars appear in the day?" Is based on the imaginings of rhymes and stories. Most of the class 2 students responded that the moon and stars do not appear due to "being hidden (inside / behind / above) in the cloud". Students are taught in the early times through stories and poems at home by parents and teachers in school. These stories and poems give a glimpse of the culture and civilization of the society. According to a class 2 student, "old Amma lives on the moon, cleansing, we see that she is sitting with a broom". Similarly, according to a student of class 4, "The full moon is seen only on the night of the festival and fast, half-moon is seen on the night when festival and fast is not". According to a class 2 student, "The moon and stars go to sleep in their house behind the change in the day". A student of class 4 said that "The moon and stars are in the sky, but the

light does not cause trouble to the people". It is clear that school, home, and the surrounding environment have an effect on the student's learning. It has been proved in research that learning not only depends on heredity but also on the economic, social, cultural, spiritual, and scientific environment. Serial number 5 shows how the exact concept is developing in the students. Serial number 4 indicates that students' misconceptions are decreasing as the level of academic development increases.

Table 4.3

The student responses to the question “the Sun, the Moon, the stars and the Earth are shown in decreasing order (made)?”

Sl. No.	Responses	Classes			Total	%
		2	4	6		
1	S, E, St, M,	2	0	0	2	5.71
2	S, M, E, St,	1	1	3	5	14.3
3	S, M, St, E	2	0	0	2	5.71
4	E, S, M, St	5	8	1	14	40
5	E, M, S, St	2	0	1	3	8.57
6	S, E, M, St	0	2	2	4	11.4
7	St, S, M, E	0	0	2	2	5.71
8	E, St, S, M	0	0	1	1	2.86
9	St, S, E, M	0	0	2	2	5.71
	Total	12	11	12	35	100

S-Sun, E-Earth, M-Moon, St-Star

Table 4.3. Shows the answer to question number 4 by the students. Astronomical bodies look quite small due to their distance from the Earth. On the response sheet, the students drew pictures of the sun, moon, earth, and stars. The size of the stars and moon in these paintings were smaller than that of the Sun and Earth. Serial number 6 shows that the students of classes 2 and 4 have described the earth as larger than the sun. With the mental structure and physical development and growth of students, their thinking gets expanded. However, at this academic level, students' conceptual

understanding of the sun, moon, earth, and star is still in a dilemma. Only two students of class 4 have given the correct response.

Table 4.4.

The student responses to the follow-up question No.10, “which one of them rotates?”

Sl. No.	Responses (No. of students)	2nd Class		4th Class		6th Class		Total	%
		12	%	11	%	12	%		
1	The Sun	3	25	5	45	2	16.7	10	28.6
2	The Moon	2	16.7	6	55	10	83.3	18	51.4
3	The Earth	8	66.7	10	91	12	100	30	85.7
4	Stars	4	33.3	2	18	4	33.3	10	28.6
	Total (28)	17	35.4	23	52	28	58.3	68	60.7

Table 4.4. Children observe natural phenomena in normal life. It is very interesting and wonderful for children to see the sun moving from one direction to another. It seems true for the children to move around the Earth, that the Earth is stable and the Sun is revolving around it. The authenticity of this is based on interview-based data that 25% of the students of class 2 believe that the sun revolves around the earth. Conceptual understanding of students increases with educational development, 66.7% of class 2, 91% of class 4, and 100% of class 6 students believe that the Earth rotates. Serial numbers 2 and 3 show how the conceptual understanding of the Sun, Earth, Moon, and stars developing. The increase in the percentage of students' reactions to the Moon and Earth means that it exhibits a positive relationship between students' conceptual understanding and educational level.

Table 4.5

The student responses to the follow-up question No.10, “Who among the following has his own light?”

Sl. No.	Responses (No. of students)	2nd Class		4th Class		6th Class		Total	%
		12	%	11	%	12	%		
1	The Sun	12	100	11	100	12	100	35	100
2	The Moon	7	58.3	10	91	5	41.7	22	62.9
3	The Earth	4	33.3	2	18	3	25	9	25.7
4	Stars	11	91.7	9	82	8	66.7	28	80

Table 4. 5. The Sun is the main source of heat and light on Earth. The moon shines with the light of the sun. Students develop the basic concept of light based on their own experience and knowledge gained from other sources. Every shining thing that emits light makes it known to the students to be the sources of light. Normally students from class 2 to 4 are not able to evaluate with deep thinking thoughts in bright and non-luminous things. 91% of the students of class 4 believed that the moon has its own light, while only 41.7 % of the students of class 6 believed that the moon has its own light.

Table 4.6

The student responses to the question No.12, “What is the shape of the Earth?”

Sl. No.	Responses (No. of students)	2nd Class		4th Class		6th Class		Total	%
		12	%	11	%	12	%		
1	Round (like ball)	6	50	4	36	4	33.3	14	40
2	Plane	1	8.33	0	0	0	0	1	2.86
3	Hemispherical	3	25	6	55	4	33.3	13	37.1
4	wheel	1	8.33	0	0	1	8.33	2	5.71
5	oval	0	0	0	0	0	0	0	0
6	Dual (plane and round)	1	8.33	1	9.1	3	25	5	14.3
	Total	12	16.7	11	17	12	16.7	35	16.7

Table 4. 6. It shows in table that 50% of the class 2 students believe that the shape of the earth is round, based on the knowledge of elementary education. However, they have no clear explanation of “why the earth is round?” If the Earth is round, why do we see it flat? Whereas in-class 6 students, it was found that they are able to think comparatively in the flat surface and round shape of the earth. 25% of the students of class 6 believed that the Earth has two shapes, one that looks round and the other is the surface on which we live.

Table 4.7

The student responses to the question No.16, “Demonstrating plants and animals on the Earth”

Sl. No.	Responses (No. of students)	2 nd Class		4 th Class		6 th Class		Total	%
		12	%	11	%	12	%		
1	Out of the earth.	1	8.33	0	0	0	0	1	2.86
2	On the periphery of the Earth.	0	0	4	36	4	33.3	8	22.9
3	Everywhere in the earth.	5	41.7	6	55	6	50	17	48.6
4	On the hemispherical surface inside the Earth.	4	33.3	1	9.1	2	16.7	7	20
5	Both inside and outside the Earth.	2	16.7	0	0	0	0	2	5.71
	Total	12	20	11	20	12	20	35	20

Table 4. 7. This shows how the students responded to question number 15 "Where do plants and animals live?" According to the data given above, 41.7% of class 2 students believe that tree-cloud and animals live everywhere inside the earth. Zero percentage of class 2 students believe that trees and plants live on the periphery of the earth. Whereas 33.3% of Class 6 students believe that trees plants and animals live on the periphery of the earth

Table 4.8.

The student responses to the question No.17, “Where are the stars, the Moon, and the Sun?
(Inside or out of the Earth)”

Sl. No.	Responses (No. of students)	2nd Class		4th Class		6th Class		Total	%
		12	%	11	%	12	%		
1	Out of the earth.	7	58.3	8	73	7	58.3	22	62.9
2	On the periphery of the Earth.	1	8.33	0	0	1	8.33	2	5.71
3	Inside the earth.	3	25	2	18	2	16.7	7	20
4	Both inside and outside of the Earth	1	8.33	1	9.1	2	16.7	4	11.4
	Total	12	25	11	25	12	25	35	25

Table 4. 8 Earth is the habitat for humans, plants, and animals. The sun, moon, stars and other celestial bodies are seen away from the surface of the Earth when viewed in the open sky. According to recorded data, 25% of the students of class 2 have all these sun, moon, stars and other celestial bodies inside the earth. Whereas after passing continuous educational development, only 16.7% of the students of class 6 believe that the sun, moon, stars and other celestial bodies are inside the earth. Some students believe that those who look big and bright are outside the earth and those who look small are inside the earth. That is why a student made the sun and the earth outside the earth, while the star made the earth inside.

Table 4.9

The student responses to the follow-up question No.10, “how many the Sun, the Earth, the Moon, and stars around us?”

Sl. No.	The solar particle	Responses (No. of student)	2nd Class		4th Class		6th Class		Total	%
			12	%	11	%	12	%		
1	Number of the Sun	one	11	91.67	10	90.9	11	91.7	32	91.4
		more than one (E/W)	1	8.333	1	9.09	1	8.33	3	8.57
2	Number of the Earth	one	12	100	9	81.8	12	100	33	94.3
		more than one(4EWNS)	0	0	2	18.2	0	0	2	5.71
3	Number of the Moon	one	2	16.67	7	63.6	11	91.7	20	57.1
		more than one (2FH, 4)	10	83.33	4	36.4	1	8.33	15	42.9
4	Number of Stars	one		0		0	0	0	0	0
		Many	12	100	11	100	12	100	35	100

Table 4.9. Refers to the response given by the students to the follow-up question of question number 10. Students observe their surroundings. They think that the Earth is very big, Mumbai, Patna, America, London, Kashmiri Gate, it is all Earth. In this way, there will be a lot of earth; there will be around 60 while looking at the other side, the moon, the earth, and the sun look only one. There are some interesting answers to the question asked by the researcher in the interview, which shows the stage of that educational development -

About the Sun

Siva class 2, "Sun is two, one in the evening which looks like orange color and the other which looks yellow in other times"

Niharika class 4, "The sun is four, it rises in the east, west, north, and south".

Komal class 4, "The sun is visible in Delhi, Jaipur, Mumbai, Patna, Kolkata, Kashmiri Gate, along with it, so there will be at least 60 sun which gives light to all these places"

About the Earth

Rukshana class 4, "There is a lot of Earth in the world, one is in India, one is the Earth of the Sun, the Earth of the Alien, etc."

About the moon

Sadhna class 4, "The moon is two, the night the women fast, the full moon is seen that night, and the night when it is not, the half-moon is seen."

Fabi class 2, "The moon is two, one half and the other full. They remain separate, one after the other."

Aadil class 2, "The moon is two, the half-moon is seen in the poems and the full moon is actually there."

Christina Class 4, "The moon is two, the full moon is visible at night and a half-moon is seen in the evening."

Avantika class 4, "The moon is two when the night begins it is round, at the end of the night it looks half".

Utkarsh class 4, "The full moon is visible on the full moon night and half the moon on other days."

Divya class 2, "The moon is two, the whole moon is seen when everyone works in the world, and half the moon is seen when we do no work in the middle of the night."

Rudra class 2, "The moon is two, the full moon is on the full moon night, and the half-moon is always visible, but the two do not appear together."

Kartikey class 4, "The moon is the same, half a moon is seen when there is a cloud in the sky, and when the cloud is removed, on a particular day, the full moon is seen."

Conclusion and Recommendation

Based on the data collected and interpreted by the researcher, it can be confirmed that students have information about the Sun, Earth, and Moon. Children get information about these celestial bodies from many sources such as mutual interaction among students, school, family, electronic media and film, newspapers, magazines, scientific articles and self-observation of events happening in the surrounding environment or their own by staying in the company of more knowledgeable people. Society, social customs, cultural beliefs, family environment, etc. affect this received information as external factors. Whereas the level of intelligence of the children, will power, reasoning ability, memory capacity, etc. are the internal factors that affect the information received.

A variety of curiosity and interest in the Sun, the Earth, Moon, Stars were found among children. From the data obtained, it can be said that the students of classes 2 and 4 think about the Sun's hypothesis that "the sun goes silent behind the clouds", "drowns in the sea", "falls asleep, in our home, in the sky". In the children's mind, there is a fantasy of an object about the Sun, which rotates from one place to another. While most of the students of class 4 after continuous academic development understand that the Sun is stable, the Sun does not appear at night due to the rotation of the Earth.

Similarly, it was found in the children about the understanding of the moon and the stars that most students of class 2 and 4 understand that "the moon and the stars hide behind the clouds in the day". Students of class 4 believe that the moon and stars are not visible due to the rotation of the earth. Therefore, it can be said that with continuous educational development, the process of developing a complete understanding of the moon and star in children is going on.

According to this received information, most of the students of class 2 and 4 consider the earth to be the largest. Students need to develop a rational understanding of the changes in distance and object shape. As students reach Class 4, the understanding of students is developing. Students are able to make connections between the distance and object shape. Planets and satellites revolve around the Sun, depending on which they are telling the Sun to be larger. But some understanding still needs to be developed in the shape of the planet (Earth) and satellite (moon).

The Earth rotates; students begin to understand it from the primary level. However, due to the sunrise in the east and sunset in the west, some misconception also arises in the students. Students say, "The sun revolves around the earth". Students are uncertain about the rotation of the star.

According to the data received, 28.6% of the students believe that both the Sun and the stars are orbiting the Earth.

All students from class 2 understand that the sun has its own light. There is light on the earth during the day, so some students believe that the earth has its own light. The moon reflects light from the sun towards the earth. In this way, the moon illuminates the earth. Children consider these lights as "the light of the moon". Students are taught in poems since childhood and are shown in textbooks that the moon shines. Due to this, misconceptions about moonlight develop in children.

It is reported, in children about the shape of the Earth that the Earth is round. But after this, when children are asked "How is the Earth round?", "Explain round", the children change their answer. Now children start explaining the earth as flat or hemispherical by not calling the earth as round. "Earth is like orange, half of which is land and half is sky" "We look round, we live in a circle".

Students represent creatures, animals, humans, trees and plants inside the Earth. Some students also built their school on the periphery of the Earth, in a response sheet. The Sun, the Earth, and the Moon were created by most students (62.9 %) outside of the "drawing of the Earth" on the paper. Some students (11.4 %) made it both inside and outside the Earth. Understanding the number of the Sun (91.4 %), the Earth (94.3%) and stars (100%) is satisfactory among the students. However, students have not developed an understanding of the actual number of the Moon due to the changing nature of the Moon.

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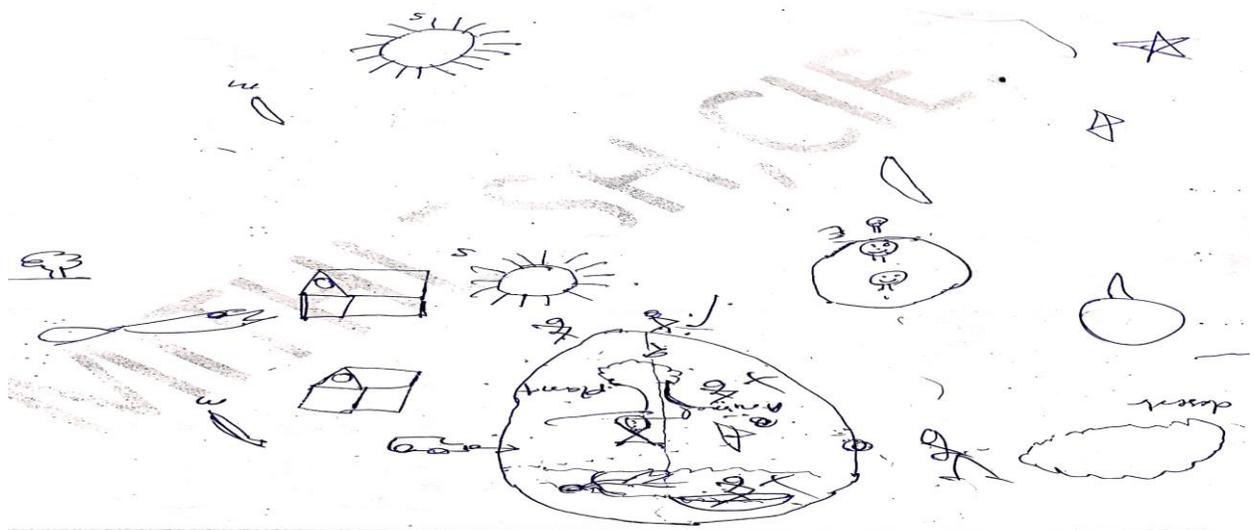
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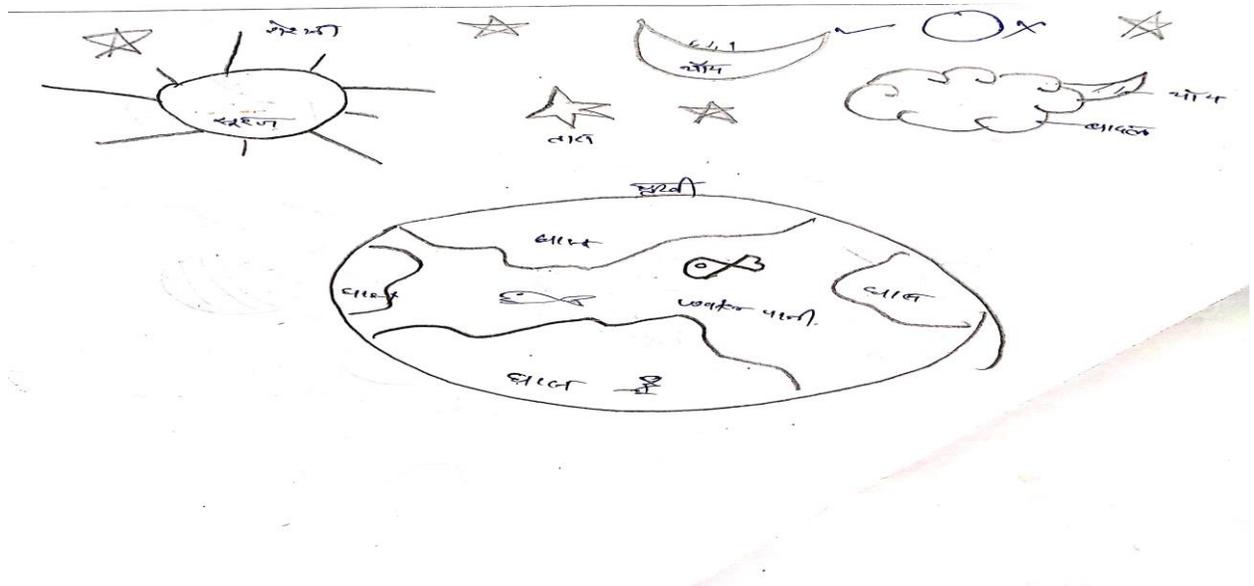
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Appendix Students: Response Sheet

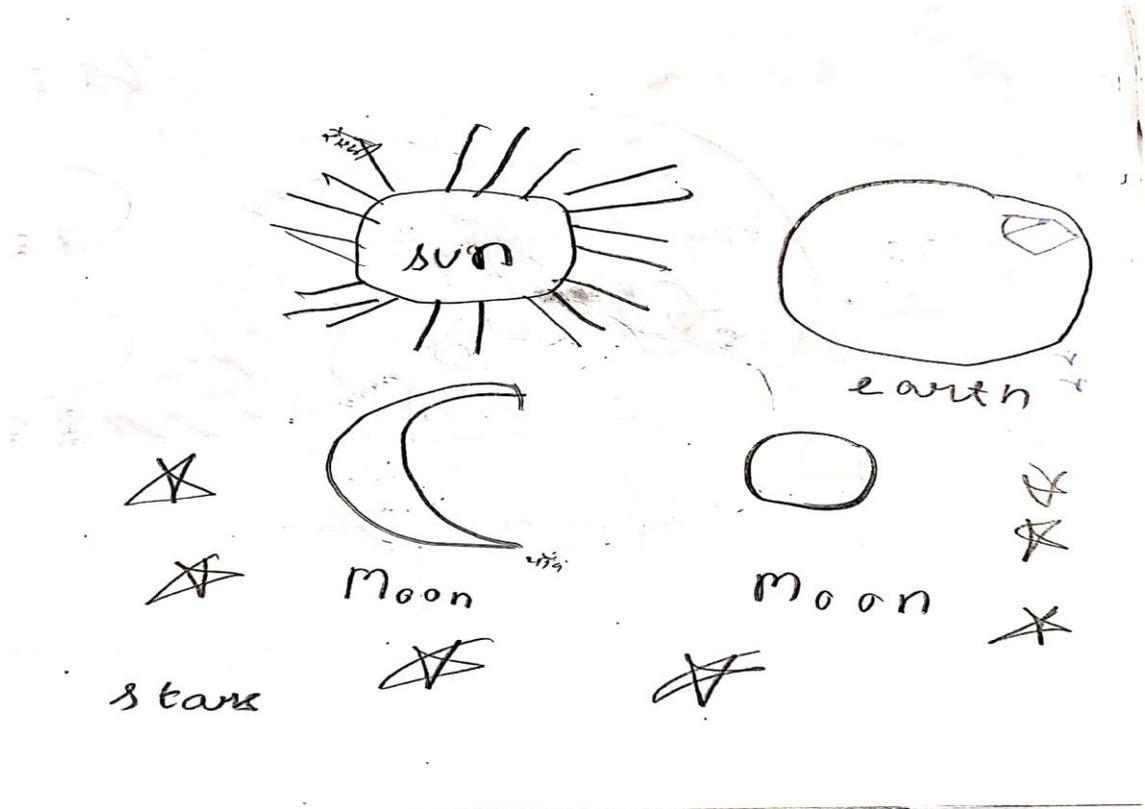
Student 1: response



Student 2: response



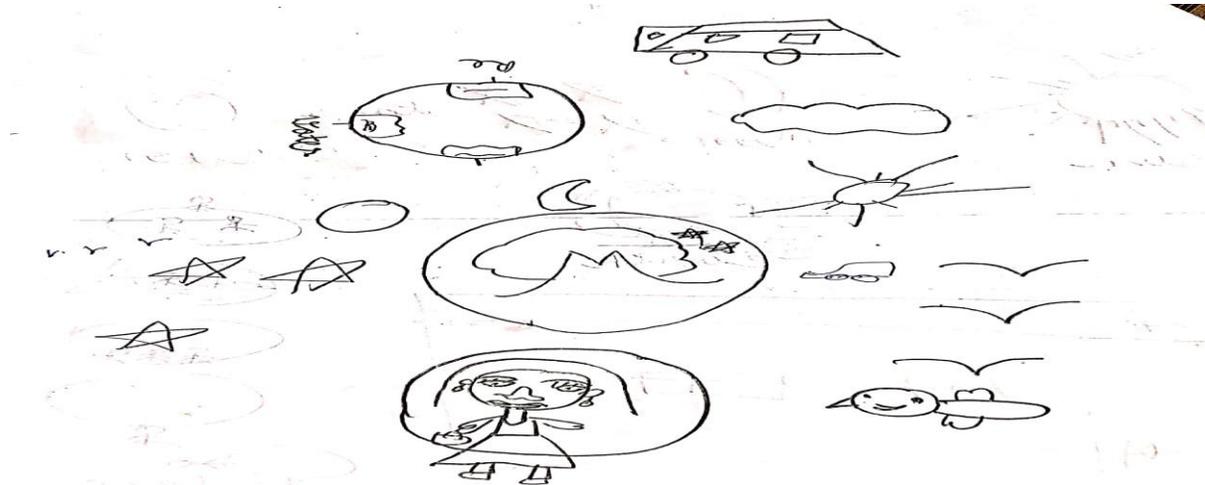
Student 3: response



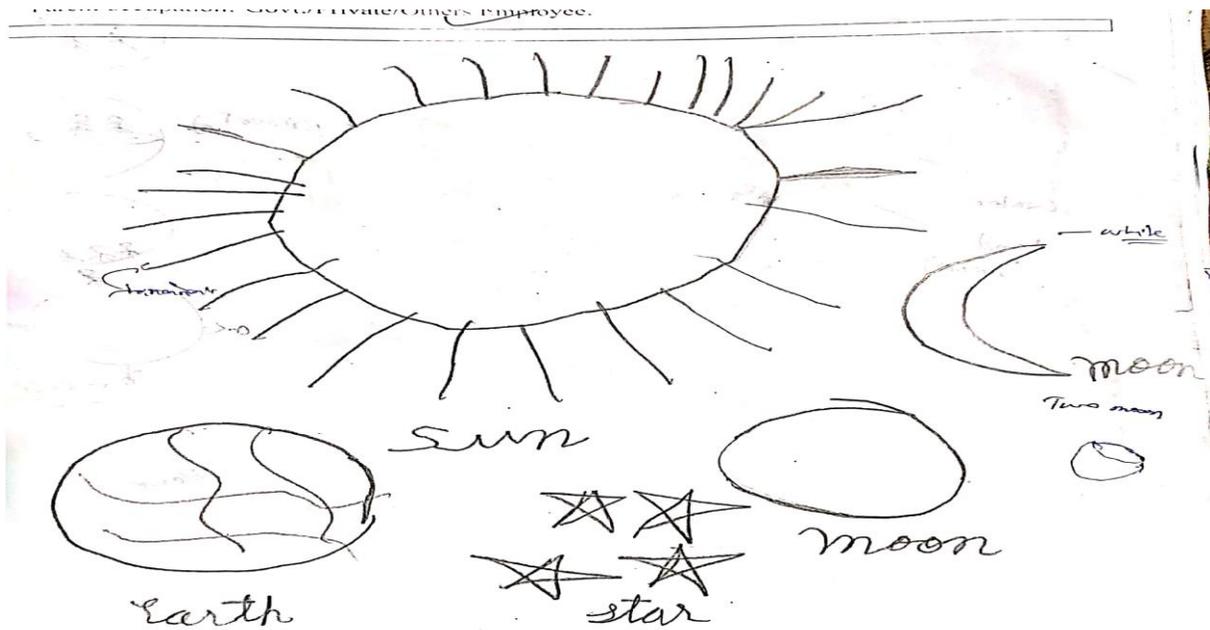
Student 4: response



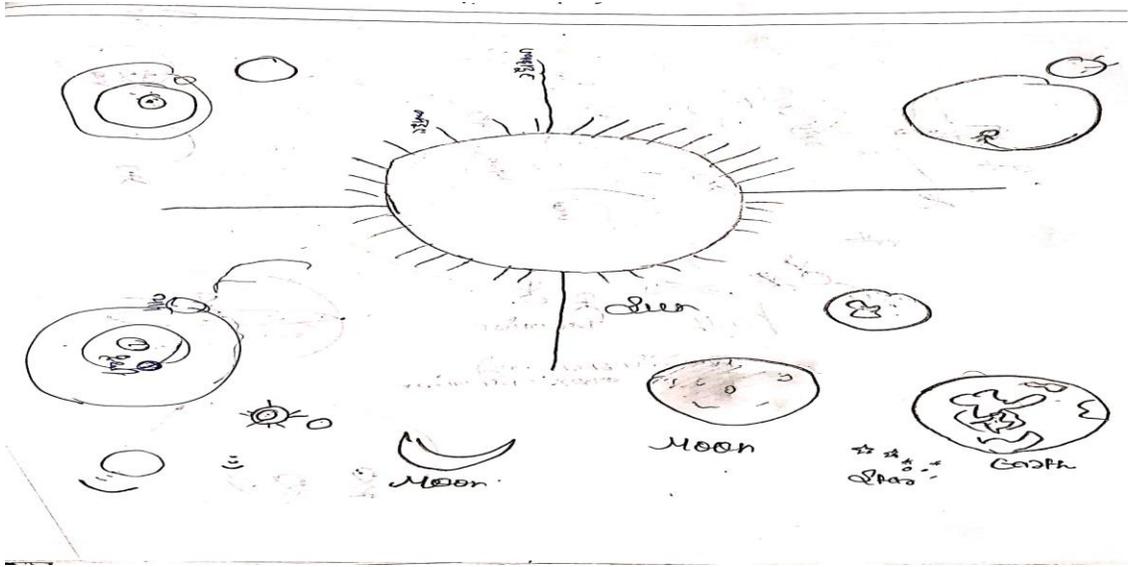
Student 5: response



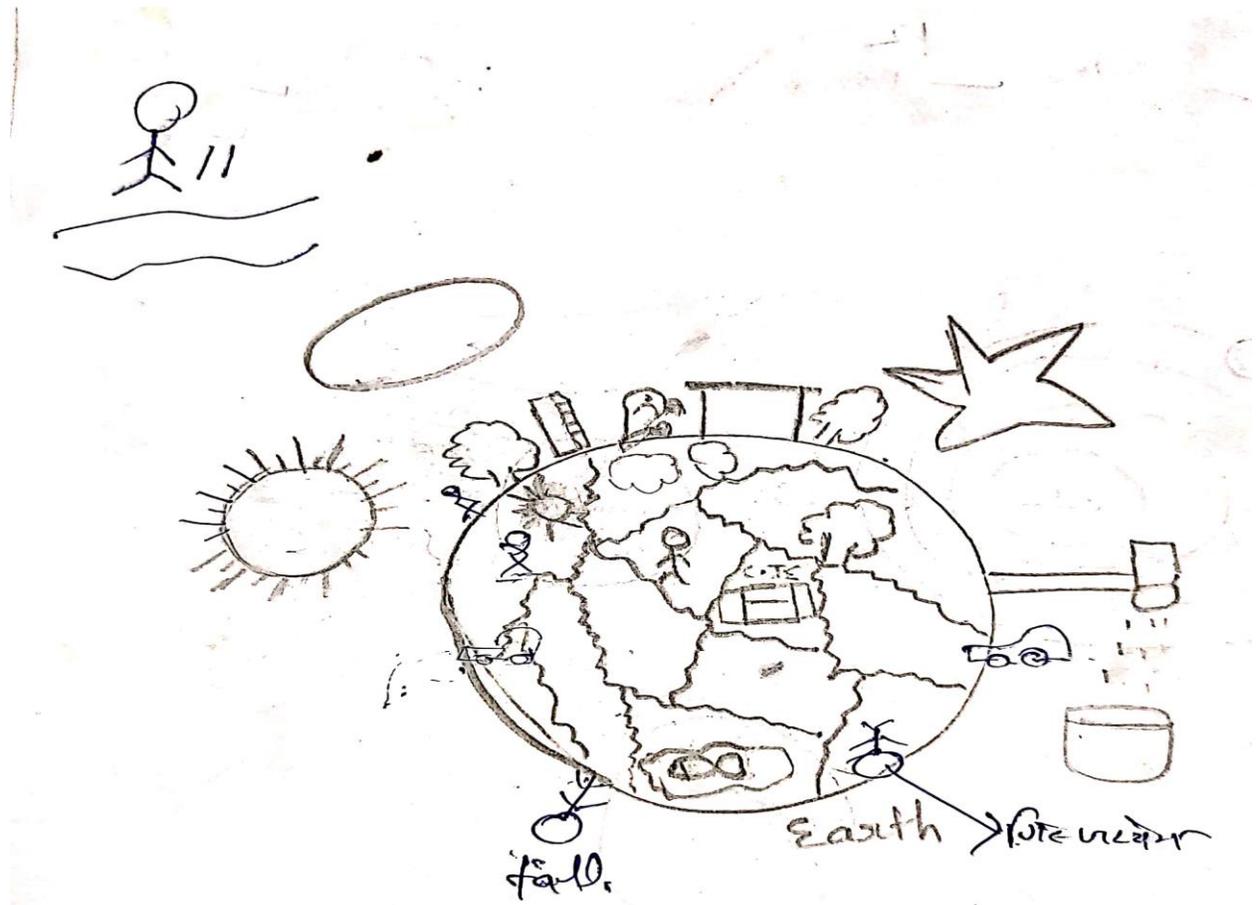
Student 6: response



Student 7: response



Student 8: response



The Impact of ICT on Academic Achievement of Senior Secondary Students

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Abstract

The impact of ICT on knowledge is currently in relation to the use of digital media, primarily computers and the internet to grease training and enhancing knowledge. This study explores the impact of ICT on the academic achievement of senior secondary students. The use of Information Communication Technology (ICT) in education, especially with the integration of computers with multimedia, has led to a new form of learning called e-learning. Because of advancements in the field of technology, ICT has become popular in formal education. Information Communication Technology has played a major role in the innovative applications of radio and television, computer technology, telecommunication networks, Internet and Intranet in teaching-learning situations. The physical classes in the seminaries have been replaced by online live-listed sessions at home. still, this unforeseen change has made it hard for preceptors to educate their scholars. Scheduling classes and managing schoolwork becomes quite a hassle on a videotape call. ICT is among the rearmost inventions that have revolutionized colorful operations in the world. It's particularly important in the field of education since it has lately created similar platforms and openings that have eased to some extent the accession of knowledge. This study has been conducted to check the impact of ICT tools on the academic achievement of senior secondary students. This study delved into the general perception of preceptors on the use of information communication technology.

Keywords: ICT, education, academic achievement, Information communication technology

Introduction

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ICT come to an important source of invention and enhancement of effectiveness in education. It has come a critical part of learning for scholars. The act of integrating Information Communication Technology into tutoring and literacy is a complex process whose success depends on a number of factors. These factors may generally be distributed into schoolteacher factors and academy factors. ICT has the implicit to transform the nature of education Where and how knowledge takes place and the places of scholars and instructors in the knowledge process. The epidemic has significantly changed the way scholars are tutored. A variety of models of exercises can be linked leading to the same outgrowth. ICT brings widened possibilities for knowledge processes that are independent of place and space. So, the original thing that a schoolteacher should negotiate is seeing that the ideas of the scholars are expressed by using any combination of the product tools to explain or show a commodity of interest. ICTs are the technologies used in conveying, manipulating, and storage of data by electronic means, they give an array of important tools that may help in converting the present insulated teacher-centered and text-bound classrooms into rich, pupil-concentrated, interactive knowledge surroundings. A society with a high position of technology would also be regarded as being developed, which is a major factor in enhancing technology development. The outgrowth of this study aims at determining whether or not the use of ICT has any significant influence on the academic performance of scholars. The use of information and communication technology (ICT) as an aid to tutoring and literacy, and the impact it has on students' academic performance.

Leuven et al. (2004) stated that there's no substantiation for a relationship between increased educational use of ICT and scholar's performance. Chang and Lee (2010) state that the smart classroom has come to a favored type of classroom because of its integration of so numerous types of media and IT technologies. The explanation of academic achievement and the examination of the factors relating to academic achievement are motifs of topmost significance in different educational situations. Studies have shown that previous academic performance is an important predictor of performance in other situations of education. also, the cognitive capability was set up as the strongest predictor of academic performance. still, some studies confirm that the correlation between cognitive capability and academic performance tends to decline as scholars progress in the educational system. therefore, numerous preceptors have emphasized the need to include on-cognitive factors similar to personality, provocation, learning strategies, and beliefs in examinations of individual differences in academic achievement. This miracle has been

stressed in this study which indicates how scholars view ICT as an element of their study program. likewise, numerous studies conducted on this subject are grounded on scientific studies of comparison. These studies establish that the relinquishment of ICT technology in institutions of literacy could ameliorate the separate institution. Also, utmost of the studies have concentrated on cognitive results, including many recent studies that have encountered effective results and a positive station towards ICT development. A society with a high position of technology would also be regarded as being developed. Adegun (2003) find out that a lesser proportion of educational expenditure will be devoted to wisdom and technology. The development of any society is judged by the technological position and the order of the people that inhabit it. Leuven et al.(2004) stated that there's no substantiation for a relationship between increased educational use of ICT and pupil performance. Young (2008) concluded that the impressive development of communication technology has given more chances for scholars to share in cordial communities, access information, and communicate with people globally. Guzeller and Akin (2014) explored that by using internet-based tasks, the students boost their knowledge and get higher rankxs with confidence. ICT-based tasks have accurate knowledge. Many studies have focused on the gap between girls and boys in to use of ICT and literacy, it concluded that girls Managed conducted greater than boys.

Information Communication Technology (ICT) &Academic Achievement

ICT is now extensively used in the education sector. The positive influence of ICT on scholarly achievement is what the instructor would like to have in the event that is going to happen anyway. Due to many walls, it is not easy for preceptors to borrow effective integration strategies in their teaching practice. It is not a straightforward process for students to achieve better through ICT integration (Fairlie & Robinson, 2013; Cener & Acun, 2014). Information and Communications Technology (ICT) is the confluence of computing, telecommunication, and governance programs for how information should be penetrated, secured, reused, transmitted, and stored. Academic achievement has come as an indicator of a child's future in this largely competitive world. Academic achievement has been one of the most important pretensions of the educational process. It's also a major thing, which every existent is anticipated to perform in all societies.

Academic achievement is a crucial medium through which adolescents learn about their bents, capacities, and capabilities which are an important part of developing career bournes. In ICT, audio-visual aids are the educational system of education that uses audio and visual as a mode of literacy. Audio- Visual aids are biased that are used in the classroom to make literacy engaging and easy. These can also help preceptors to communicate dispatches or information in places where regular tutoring fails. Audio- Visual aids motivate scholars towards the subjects they don't find intriguing. ICT tools encourage scholars to active participation in the classroom. It enhances pupils' performance through proper and transparent communication and helps preceptors in developing assignment plans for better tutoring-learning gests. By using ICT scholars encourage to come good spectators. ICT tools for tutoring and literacy cover everything from digital architectures similar to printers, computers, laptops, tablets, etc., to software tools similar to Google Meet, Google Spreadsheets, etc. still, we won't cover any of this introductory software or tackle tools similar as laptops and computers. Information and communication technology contributes greatly to education because it provides a better educational terrain.

ICT facilitates the communication of information to scholars through the use of computers, tablets, data displays, interactive electronic boards, and other formats. Scholten, Velde & Manen,(2009) concluded that the part of ICT is vital in storing, reacquiring, manipulating, and transmission of information by electronic means in digital shape. They're formally called particular computers, digital boxes, emails, and android systems. Computer moxie has told scholars' learning new guests for the entire world. In history, the intention to integrate computer technology in classes was more precious and preceptors and institutions use cheaper and accessible coffers for information sharing and technological communication problems were common due to lack of moxie and coffers. Lack of planning, lower backing, and academic appreciation are major foreign factors that minimize ICT use in classrooms. Neyland (2011), linked factors like institutional support, learners' station as well as preceptors' capabilities to influence online literacy in classrooms. Utmost of educationists defined the objectification of ICT in education as the mode of effective and effective of tutoring literacy process that includes class, structure, literacy, and tutoring terrain in classrooms. ICT enhances the scholars' achievement when preceptors apply inordinate use of technology. Cole (2000) explored that ICT had an impact on the tutoring and literacy processes when empowering scholars and preceptors with ICT coffers. ICT involves bringing real-life issues into the

classroom in a way that was previously not possible in a traditional classroom setting. The flexible nature of ICT and the internet in particular provides opportunities for research, commerce, collaboration, and cooperation among students. A number of former studies show that system of tutoring has a significant effect on the achievement of scholars in any position. Sevindik (2010) showed that lectures given through smart classrooms significantly increase the academic achievement of scholars. Aksoy, Can & Kocerberber (2011) determined that vitality fashion is more effective than traditional tutoring styles in terms of enhancing scholars' achievement. Ganyaupfu (2013) demonstrated that the teacher-pupil interactive system was the most effective tutoring system, followed by the pupil-centered system while the school-teacher-centered approach was the least effective tutoring system. Chachra (2015) showed that tutoring through a smart classroom is more effective than conventional tutoring in all three intelligence situations. Liao & Chuang (2007) explored a meta-analysis study regarding the relationship between ICT and pupils' achievement showing that ICT has a positive impact on pupils' achievement status compared to traditional instruction.

Conclusion

The foreground of the study is to establish how frequently and how well the scholars used various ICTs, similar to word processing, spread wastes, and editing for transmitting digital information, or other communication equipment. ICT develops fleetly and supports scholars' learning surroundings. Scholars' commitment to ICT conditioning gives them an opportunity to learn more about ICT knowledge, tools, and chops and make an appreciable impact on their lives. still, noting that scholars in academia have access to computers and the internet, ICT use is particularly beneficial to issues, particularly academic achievement also explored. nearly most of the studies indicate that new technology can initiate, stimulate and expand how we increase pupils' academic achievement. The significance of ICT in education also has a significant impact on tutoring and literacy. Smart class terrain improves academic achievement. Several studies have concentrated on the finding of the effectiveness of smart classes over the traditional classroom in favor of academic achievement. Smart classrooms are helpful to score better academic achievement than the scholars who tutored through the traditional system. Smart class is help to develop their cognitive dimension. A smart classroom isn't only good for scholars but also for educators. It increases moment scholars' learning styles and the tutoring style of a

schoolteacher. ICT also allows more flexible and further personalized knowledge. The smart classroom has come to a favored type of classroom because of its integration of so numerous types of media and IT technologies. Digital knowledge is the capability to be dexterous in opting for ICT, as a medium tool that will help the way scholars enjoy in which ideas are constructed. There's a contradiction among the experimenters regarding the conception of the relationship between ICT and academic achievement. Several studies revealed that there's a positive relationship between ICT and academic achievement and the relationship depends upon intelligence but many studies also revealed that there's no significant relationship between ICT and academic achievement.

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A Study on the Behavioural Traits of Antagonists and Protagonists in Psycho-thriller

Web Series

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Abstract

Happiness is a psychological state and subjective in nature. Psychological thrillers in various media forms including the web series have represented both hedonic happiness and eudemonic happiness with a focus on the psychology of the principle characters. What brings happiness to one might become a source of sadness and horror for another. Most psycho thriller web series try to explore this variation through the point of view of the main leads - the antagonist and the protagonist of the show - the life they lead, the things that provide a source of happiness and satisfaction towards them, their social surroundings, their relationships, etc. The feeling of happiness can come from different sources in different forms for different characters. For the protagonists, happiness might be associated with some fond memories whereas for the antagonists, the source of happiness can be the thrill of killing or hunting of their prey without getting caught. While most of the thriller web series suggests that psychopath killers lack empathy and thus, they do not feel the pain of one's loss, these web series also showcase a commonality among the protagonists -those chasing the antagonists- as not being able to carry on a happy life while trying to balance between their personal and professional responsibilities. This paper explores as to how the concept of happiness are represented in the selected psycho-thriller web series by adopting the psycho-analytical approach of Sigmund Freud in exploring the conscious, subconscious, and unconscious actions of both the antagonists and protagonists while a qualitative research approach was adopted for analysing the interaction between the main leads - the protagonist and antagonist and people around them, besides the intrapersonal communication that goes on within the characters themselves.

Keywords: Antagonist, Behavioural traits, Psycho-thrillers, Protagonist, Web Series.

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Introduction

A movie like a psycho-thriller is born of three established genres namely, psychological thriller, horror picture, and science-fiction films. The defining quality of a psycho-thriller is that the film must depict a psychological theme which is referred to as “Psychological Fiction” as the central aspect of the characters or the plot but it must be primarily psychological in focus. Every film has a psychological component to it which are generally the broadly construed psychological elements such as neurotic (internal) conflict, identity (character) development, and emotional (dramatic) motivation, as they are the necessary ingredients of every story and script. Psychological thrillers series are those which feature unseen dangers, untrustworthy characters, and unsettling suspense. The best psychological thriller shows incorporate elements of suspense, drama, and intrigue to keep its characters along with the viewers guessing and keeping them on edge.

The lockdown marked by the COVID-19 pandemic introduced a new normal to the people including a new way to interact, communicate and choose new innovative modes of entertainment. Almost all brands re-equipped themselves with digital changes by upgrading their features to the remotely accessible systems, and better customer services. The OTT industry with its prominent service provider brands like Netflix, Amazon Prime, Voot etc. Continues to make headlines every day by churning new attention-worthy content. Web series have penetrated the lives of millions in the world as well as Indian audiences during this pandemic with the advent of various OTT platforms. These streaming services have grabbed eyeballs with a bouquet of offerings across genres. Crime thrillers are one such genre that has kept the Indian audiences on the edge of their seats, spawning the rollout of second seasons for some and plans in the pipeline for others. Most entertainments during the lockdown were more of watching videos, browsing through social media websites, and binge-watching series on the online platform. While there was no limit to the type of content churning out that gathered the most views and attention from the audience, certain genres were preferred and had the potential to quickly escalate on the running trends.

The crime/thriller genre has been entertaining audiences for ages, as crime/thrillers dwell on the mental make-up of the characters before committing the crime or what psychological trauma/incident leads them to commit such crimes. This study is based on a few web or television series that have attempted to venture into the less explored psychoanalytical concepts of Sigmund Freud, regarding the segregation of the human psyche into the ‘Id’, the ‘Ego’ and the ‘Superego’. This research study is mainly focused on exploring what goes on

within the conscious, subconscious, and unconscious minds of the characters in a crime thriller web series, especially the leaders of the story and how it impacts the storyline and the audience all together. The paper also tries to dwell deeply into exploring the behavioural traits of the protagonist/antagonist and how the term “Happiness” is represented in their lives.

Objectives

1. To study in detail as to how Happiness is represented in the selected Psycho-Thriller web series.
2. To identify the different behavioural traits of both Protagonist and Antagonist.
3. To study what constitute the happiness factor in the lives of both the Protagonist and Antagonist.

Hypothesis

It can be hypothesized that while creating a complex and intriguing character in a psychological thriller web series, most writers tend to draw some similarities in behavioural traits of the Antagonist and Protagonist of their stories.

Methodology

Psychoanalysis was developed in the late nineteenth century both as a form of therapy and a theory, based on the premise that the root of all psychological issues is from unconscious conflicts that go inside the mind, psychoanalysis suggests that these symptoms can be reduced by bringing those conflicts into the conscious awareness of the person. It is believed that every individual is uniquely the sum of every experience they have ever had in their entire life. The experience gained from certain events has shaped how they make decisions and display specific behavioural traits.

According to the behavioural personality theory, it is believed that personality is the outcome of a person’s interactions with their surroundings. This behavioural perspective or behaviourism helps in connecting those incidents and behaviour that predict how the personality of a person was being shaped. The behavioural traits of a person, their socio-cognitive, psychoanalytic, and humanistic lead to theories that explain different personalities that an individual possesses. Most behavioural theories suggest that a person’s personality emanates from the interaction that individual has with the environment. Though some personality attributes can be learnt that can help to induce personality attributes that encourage individual career management through career self-management interventions. Many behaviourists study various measurable and observable behaviours of people to explain the

nature of an individual's personality for advancing their expositions. Though a few behavioural theorists also rejected various theories that suggest that personality of an individual is a function of their feelings and thoughts which forms part of their conscious and unconscious mind. The trait theorists assert that the personality of an individual mostly comprises of various broad traits, referring to characteristics, which are stable within an individual, as it guides the course of actions of different people. This kind of trait can also help in fostering or discouraging in an individual's career management behaviours.

Area of Study

The area of the study is confined within two psycho-thriller web series on major OTT platforms like Disney Plus Hotstar, and Voot app. These two series have serial killing plots with the question of can one person be exactly the way they look from the outside or does the conscious actions of a person can be very much different from their subconscious and/or unconscious instincts. Each story tries to explore the lives of the Protagonist and the Antagonist and what drives them providing happiness and satisfaction in the true sense.

- 1. Rudra (Disney plus Hotstar):** The series is set in the Special Crime Unit of the Mumbai Police. The show is a procedural psychological crime thriller which revolves around DCP Rudraveer Singh, who is under the system's radar despite being one of its best minds at work. The show mostly focuses on the tactics used by Rudra to catch criminals and the cat and mouse chase between the cops and the psycho killers. Rudra is not a cop to play by the rules but one to lure the criminals into their own darkness in order to catch them in the act.
- 2. Asur (Voot):** It is a thriller web series that inclines dominantly towards the mythological history of the streets of Banaras and how it gets connection with a modern-day criminal named Asur. The plot involves Nikhil Nair, a forensic-expert-turned-teacher, who returns to his roots in the CBI getting into the investigation of a mysterious and suspense-filled chase against the serial killer 'Asur'. Nikhil Nair along with his mentor Dhananjay Rajpoot faces all events in the web series to unravel the true identity of the killer, who challenges them in every way possible.

Data Analysis

Rudra (Disney plus Hotstar): The series has Officer Rudraveer Singh as the Protagonist, played by Ajay Devgun, and several Antagonists, consisting of a new antagonist in each different case solved by Rudra.

Behavioural Trait of Protagonist

The behavioural trait of Rudra is being questioned from the start of the series as his drive to catch the criminal pushes him to see them suffer like how they made their victim suffer. His involvement in each case is so deep that it starts to affect his personal life. From anger management issues to family issues, Rudra is always surrounded by gloomy clouds of angst, jealousy, and a broken marriage.

Behavioural Trait of Antagonist

As the series deals with a new case in each episode, there are six antagonists all total, yet Aliyah Choksi is shown as the prominent antagonist of the series, who is obsessed with Rudra and can go to any extent to gain his attention. Aliyah is a genius science prodigy who for the fun of it kills her parents without any remorse. She lacks empathy and treats her prey as her little science project and riling up Rudra becomes her favourite source of entertainment. The other antagonist in each case showcases various psychotic behavioural traits and their source of happiness is mostly hunting their prey and watching them suffer little by little.

Asur (Voot): The series has Nikhil Nair played by Barun Sobti and Dhananjay Rajpoot played by Arshad Warsi as the main Protagonist duo, who together try to solve the cases involving the killer named Asur. The antagonist of the show though not revealed completely by the end of the series, yet the series correlates the past incident of a young boy how is highly implied to be the killer who calls himself as the Asur.

Behavioural Trait of Protagonist

The behavioural trait of Nikhil in the series is that of a person who has a perfect life, a good job, his family consisting of his wife and his daughter, yet he lives a restless life. He is shown to have left his job as a crime investigating officer to teach criminal psychology in order to provide a stable life for his wife and kid. The urge to solve crime makes him edgy and he is pulled into the Asur case like a moth drawn towards the flame. Nikhil Nair is a righteous man who wants to be justified while solving crimes and his righteousness leads him to scarifies his daughter because he was not ready to kill some innocent people to prove to the killer that in times of need even a good human being can turn evil. His moral compass as a criminal investigator made him break the last tread that was holding his married life together.

Dhananjay Rajpoot on the other hand is so involved in solving one case after another that his married life goes through a rough phase leading him and his wife living their life separately. Dhananjay does not even realise that his wife was missing and was being murdered in her own restaurant by the Asur, until the Asur himself discloses it to him that he had killed his wife to challenge/mock him of not recognizing his wife's dead body when all he loves is solving cases.

Dhananjay is someone who takes it upon himself to see that every criminal stay behind bar, even if he has to manipulate the evidence to catch the suspect. His hunger for justice at any cost leads to the falling out between him and Nikhil Nair.

Behavioural Trait of Antagonist

The Antagonist of this series calls himself as Asur and there are specific reasons why he believes himself to be an Asur in the Kaliyuga⁴. Though who the real Asur is, was yet to be discovered by the end of the series, still it is shown in flashbacks how the father⁵ of a young boy wanted him to be born on a certain day believing it to be an auspicious day. Unfortunately, he gets born a day ahead which was marked to be an ominous day and to his bad luck, his mother dies during childbirth, making his father to believe that he is an Asur. From the day he was born till his youth, he never received his father's appreciation and was always called as an Asur, leading him to believe that he truly was the Devil reincarnated. The killer is objected to believe from his childhood that he was the devil and being a priest's son, he learned from the mythology that in every age when evil comes down on earth, a saviour of mankind⁶ is born to put an end to that evil. Being always objected to hatred and being treated as the devil himself, forces the boy to believe that he really is the devil, and his true satisfaction comes from testing the good in people, to see if they are really a saviour of mankind who can put an end to his fury.

Findings and Conclusion

Going through the above-mentioned series and observing the behavioural traits of both antagonist and protagonist of those series it can be concluded that both derive a sense of happiness from the rush of chasing their targets. While the antagonist gets a high of adrenal rush and excitement from killing and torturing their prey, for the protagonist solving each new case and putting criminals behind bars is like their regular fix to their need for some adventure and thrill in their monotonous life. In most of these psycho thrillers' web series the protagonist is one who gets a high level of satisfaction from solving the case and being able to read the mind of the antagonist, it's like a drug, an obsession to them. Another common denominative in these psycho thrillers among the protagonists is the lack of stable family life, i.e., starting

⁴ According Hindu Mythology, Kaliyuga is "the age of Kali (Demon)" or "the age of darkness", which is the last of the four yugas.

⁵ A priest, who was obsessed with astrology and did rituals of the last rites of the departed soul in the Ghats of Banaras.

⁶ A reincarnation of God, like Lord Krishna is the eighth avatar of Vishnu, the Supreme Lord.

from Rudra, the protagonist Rudraveer Singh had a broken marriage and had borderline anger management issues. Similarly, Nikhil Nair from Asur had a dysfunctional family life leading him to scarifies his only daughter to catch the main culprit along with Dhananjay Rajpoot, who also had a rocky married life and later in the show gets to know that one of the murder victims that he was investigating was his own wife. Dhananjay was so invested in solving the Jane Doe⁷ case and was hell bent in catching the Asur that he did not even realise that his wife was missing.

Another observation made while watching these psycho-thriller web series is that most psycho killers lack the sense of empathy and thus they can not relate to the feeling of remorse at the loss of their kith and kins. Both Aliyah Choksi in Rudra and the young boy in Asur kills their own family members yet they do not feel any kind of sadness or guilt in doing so. Yet it is shown that both the main Antagonists of Rudra and Asur derived a huge level of satisfaction making the Protagonist's life miserable. While Aliyah Choksi went after Rudra's wife, the one person he loved dearly, to drive him to edge and lose his cool. Similarly, the Asur killed Dhananjay Rajpoot's wife to mock him of being a high-level crime investigating officer who could not recognise his wife's dead body and also making Nikhil Nair choose between saving his own daughter or saving a few innocent people, to prove his point that in Kaliyuga everyone is evil. It is observed that the antagonists have a weird way of showcasing happiness/excitement by inflicting harm on others, especially the protagonist's family. Breaking down the psyche⁸ of the other antagonists in both shows, it is brought into view that most of these characters have their own fear/doubts that they like to release by hurting someone weaker than them. Their subconscious mind urges them to prove themselves worthy and seeing others in pain provides them that satisfaction and the euphoric feeling of it forces them into the path of killing one person after another. Lastly, it can be concluded that happiness has a very different meaning when it comes to both the Antagonist and the Protagonist of the Psycho-thriller web series. Where the things that bring happiness and joy to the antagonist is by inflicting pain to others and seeing them suffer, while the protagonist find joy and happiness in providing justice to people and protecting the innocent.

⁷ John doe or Jane doe are multiple-use placeholder names that are used when the true name of a person is unknown or is being intentionally concealed.

⁸ The mental or psychological structure of a person, especially as a motive force.

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Environmental Consequences of Benzo[a]pyrene in Fish

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Abstract

Polycyclic aromatic hydrocarbons (PAHs) are widespread contaminants in aquatic environment. Benzo[a]pyrene (B[a]P) is one of the prototypes of PAHs which is formed during the incomplete burning of organic materials. High-performance liquid chromatography (HPLC) and Gas chromatography mass spectrometry (GC-MS) are the appropriate tool to assess B[a]P concentration in fish. This study reveals that the B[a]P accumulation in fish which alters ROS formation, antioxidants activity, MN induction, histological lesions, and molecular mechanisms.

Keywords: Polycyclic aromatic hydrocarbons, Benzo[a]pyrene, Oxidative stress, Genotoxicity, Fish

Introduction

Polycyclic aromatic hydrocarbons (PAHs) are universal pollutants in aquatic habitats. The major portion of PAHs arrives into water bodies from land-based runoff or atmospheric deposition. Though PAH levels deteriorated in urban watersheds from 1970s to 1980s because of decrement in coal burning and industrial discharges (Guntupalli et al., 2016; Parmar et al., 2020; Yuan et al., 2021). But the last time period has formed new increases in PAH accumulation in aquatic organisms due to automobile practice linked through urban extension (Saha et al., 2009) or diesel burning by heavyweight vehicles (Baum et al., 2016). Furthermore,

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new studies address that petroleum hydrocarbons produced from oil spills can easily persist in aquatic sediments, plants and animals for years or longer (Vanzella et al., 2007).

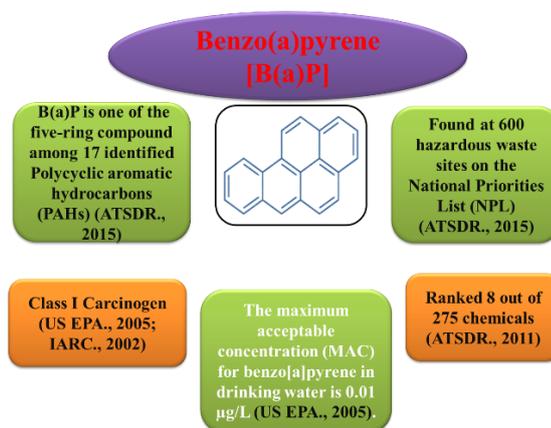


Figure 1: B[a]P as a toxic substance.

B[a]P is one of the carcinogenic petroleum chemicals with two or more fused aromatic rings which is widely dispersed in the environment (Harris et al., 2020). The production or utilization of B[a]P is not done commercially, but is generally available in the environment. It is formed primarily as outcome of pyrolytic events, particularly the incomplete incineration of organic resources in industrial and various human actions like processing of crude oil and coal, ignition of natural gas for culinary and wood burning (Hamilton et al., 2021; IARC, 2014; Le Bihanic et al., 2014). Additional human actions that result in B[a]P release include the garbage burning, road traffic by vehicles, tobacco and cigarette smoking, and ingestion of charcoal roasted and smoked foods (Ramesh and Archibong, 2011; Sen and Field, 2013). B[a]P binds to small elements in the air and is easily diffused into the environment through the air. B[a]P can then be inhaled or deposited in the environment on plants, soil, and water bodies (Guo et al., 2021; Jabeen et al., 1234; WHO, 2003). Aquatic animals and plants may then come in contact with B[a]P. B[a]P, and its metabolites can persist in the aquatic environment for many years. After the exposure of B[a]P in the residues of ponds, lakes, and waterways, it accumulates in the organs of aquatic invertebrates and vertebrates (Batel et al., 2018; Fanali et al., 2018; Huang et al., 2014). Like other PAHs, B[a]P is mainly toxic to aquatic organism in the occurrence of UV light, increasing health risk to the animals in unshaded or shallow environments (Sen and Field, 2013).

Fishes eagerly take up lipophilic organic substances such as B[a]P from the aquatic environment, with various physiological, cellular and molecular effects (Albornoz-Abud et al., 2021; Honda and Suzuki, 2020). Fish are able to break down xenobiotics, so there is little

accumulation of B[a]P in fish (Scott and Jones, 2000). However, B[a]P acts as a genotoxicant in aquatic organisms, causing many biochemical changes most studied in fish, and the studies on effects of B[a]P on physiological perturbations of fish are comparatively limited. Furthermore, studies are needed to explore the toxic effects of B[a]P in fish.

The quantification of physiological, biochemical, and molecular constraints is a diagnostic implement regularly used in aquatic toxicology and biomonitoring (Dong et al., 2019; Javed and Usmani, 2019). Micronucleus (MN) test is a very reliable tool to assess the genotoxic potential of any xenobiotics (Awasthi et al., 2019). MN formation in erythrocytes of fish by single and double strands break of DNA, and may also a result of the inappropriate DNA repair or failed DNA repair mechanism (Fenech, 2002). Assessment of oxidative stress reveals the redox state of the cell. To deal with enhanced Reactive oxygen species (ROS) in cell, defence mechanism works in which enzymatic- superoxide dismutase (SOD), catalase (CAT), Glutathione reductase (GR), and non-enzymatic antioxidant- reduced glutathione (GSH) assist to maintain the homeostasis in cell (Jifa et al., 2006). The oxidative stress generated DNA damage and alter different molecular mechanisms such as apoptosis, and autophagy in fish. The present study comprises of different techniques for assessing B[a]P toxicity and its deleterious effects in fish.

Materials and methods

Estimation of B[a]P in fish

The B[a]P estimation in fish samples can be done by using High-performance liquid chromatography (HPLC) and Gas chromatography mass spectrometry GC-MS techniques:

Estimation through HPLC

In order to quantify B[a]P accumulation, fish samples can be obtained using the Soxhlet extraction method with a mixture of acetone and dichloromethane (1:1). The obtained extracts will be dried by anhydrous sodium sulfate and then concentrated through a rotary evaporator. The concentrated extract will then be diluted with 10 mL of hexane and then further concentrated with 2 mL of hexane. The prepared extracts will be used for the analyses of B[a]P in fish tissues using water–acetonitrile solvent organization on HPLC equipped with pump and UV–vis detector. C-18 column will be preferred for the B[a]P detection. The flow rate can be adjusted to 1 mL/min. The B[a]P can be recognized by retention time compared with reference to the B[a]P standards (Malik et al., 2008).

Estimation through GC-MS

The lyophilized fish samples will be used for B[a]P determination through GC-MS. For GC-MS analysis, carrier gas-Helium and the column pressure-10 psi will be maintained to provide an estimated flow rate of 1 ml/min. The injector lines at 290 °C and transfer lines at 250 °C will be maintained. The temperature of columns will be maintained at °C for 4 min, ramped at 300 °C at a range of 10 °C/min. The mass spectrometer will be employed in electron ionization manner and all the spectra will be obtained with a huge range of m/z 50–400 and automatic gain control (AGC) (Giri et al., 2013).

Experimental design on fish

Freshwater live of test model will be collected and brought to the laboratory in an aerated medium (Trivedi et al., 2021). During the acclimation, fish will be kept in ventilated glass aquaria and fed with food pellets twice a day. All the necessary physiochemical properties (pH, Temperature, DO, Alkalinity, and Hardness) of aquaria water will be maintained. After the 15 days acclimatization, healthy specimens will be randomly distributed in all the experimental aquaria. The experimental groups were selected in triplicates. Sampling will be done at estimated time interval. Test parameters- Micronucleus test, ROS, biochemical activity (SOD, CAT, GSH and GR), histopathology and transcriptional analysis can be performed at each sampling duration by following the protocol of Trivedi et al., (2022).

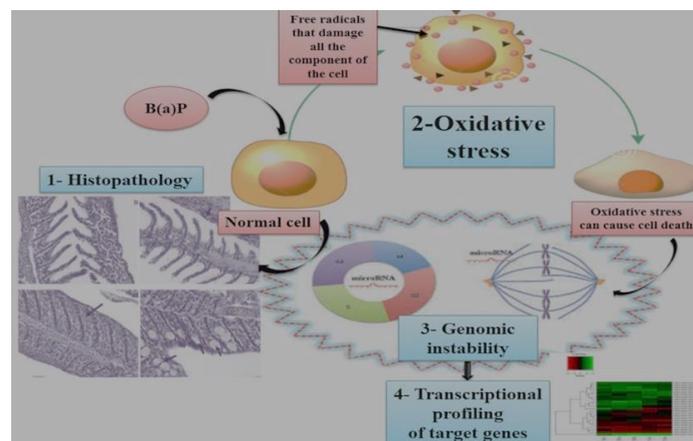


Figure 2: Effects of B[a]P.

B[a]P estimation and its detrimental effects in fish

The measurement of B[a]P and other PAHs in surface water, sediments and fish was performed by using HPLC from eight different locations of the river Gomti (India) (Malik et.

al., 2010 and Malik et al., 2008). Similarly, Palanikumar et al., 2012 investigated the accumulation of B[a]P through GC-MS after its sub-lethal exposure in fish, *Chanos chanos*. B[a]P when enters into the fish, different metabolites formed which cause ROS production via redox cycle. Qi and Tang, (2020) also examined the ROS production after the 96h exposure of B[a]P in mussel *Mytilus coruscus*. Increased ROS production may cause extreme oxidative stress, to deal with this oxidative stress an antioxidant defense system works with different enzymatic (SOD, CAT and GR) and non-enzymatic (GSH) antioxidants. Antioxidant-SOD acts as first line defence against oxidative stress caused due to B[a]P and catalyzes excess superoxide radicals into H₂O₂ (Gravato and Guilhermino, 2009; Guo et al., 2021). SOD induction was also found in different fish species exposed to waterborne contaminant B[a]P (Dellali et al., 2021; Qi and Tang, 2020). Further, CAT enzyme breaks H₂O₂ into water and augmented CAT activity designates the higher concentration of H₂O₂ in cell. Rodrigues et al., (2022) also measured the increased activity of CAT enzyme in tissues of *Scrobicularia plana* after B[a]P exposure. GR maintains the redox potential of cell by regenerating GSH from GSSG. Increased level of GR was documented in tissues of mussel *Mytilus coruscus* exposed to B[a]P (Qi and Tang, 2020). A non-enzymatic antioxidant-GSH was also estimated in different body parts of fish (Jifa et al., 2006; Santos and Bueno, 2020). Studies clarified that the B[a]P was found genotoxic for the fish. It upsurges the frequency of MN formation in cells. After the acute exposure of B[a]P, raised MN frequency were detected in rainbow trout and common carp (Kim and Hyun, 2006). Another study established that B[a]P raised the MN formation in milkfish-*Chanos chanos* after 96 h of experimental duration (Palanikumar et al., 2012).

Histopathological results may help to examine a range of anomalies in the liver and kidney tissues of fish. Numerous studies have been repored the different histological modifications tissues of fish after B[a]P exposure (Briaudeau et al., 2021; Carlson et al., 2004; Esmaeilbeigi et al., 2021; Woo, 2022).

Transcriptional analysis helps to quantify the expression of specific genes. Various studies have been done on mRNA expression in different organs exposed to B[a]P. In a study, up-regulation of tumor suppressor gene-p53 was found involved in autophagy by down-regulating the mTOR gene after B[a]P exposure which is investigated by Lin et al., (2016) and Sforzini et al., (2017).

Indeed, more studies need to be performed to evaluate the toxic ability of B[a]P in different tissues of fish based on MN, antioxidant enzymes, transcriptional analyses, and other related biomarkers.

Conclusion

The present study reveals the toxic potential of B[a]P in fish and its deleterious effects on genotoxicity, oxidative stress, histopathological impressions and transcriptional analysis in fish. The study also discloses the assessment of B[a]P accumulation and its genotoxic ability in fish. B[a]P is also able to accumulate in fish and cause oxidative stress by producing ROS. Thus, the study helps in understanding the toxic impact of B[a]P in fish and performing the future studies on aquatic creatures. Increasing concentration of B[a]P causing major health risk to aquatic organisms.

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Impact of Yoga on Emotional Intelligence among Adolescents

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Abstract

The present study is an attempt to examine the effect of yoga on emotional intelligence among adolescents. Sample for the study consisted of 244 (124 boys and 120 girls) adolescent students. Test of Emotional Intelligence (Student Form) developed by K.S. Misra was used as a tool for the study. Analysis of covariance (ANCOVA) was calculated for the analysis of the data. The finding of the study revealed that the yoga exercise significantly affects the emotional intelligence among adolescents; boys are more stable in emotional intelligence than girls; there is interaction effect between gender and treatment on emotional intelligence of adolescents and yoga exercises affects the development of emotional intelligence of boys more than that of girls.

Keywords: Emotional Intelligence, Yoga, Adolescents.

Introduction

Yoga is recognized as one of the most important and valuable gift of India. The philosophy of yoga assumes that man in his natural fresh condition of body and mind, functions as part of the cosmic rhythm in which both the processes of growth and degradation are normal and smooth streaming. Yoga is being utilized from the most basically personal to the social and educational implications of society as whole. Internal organs of our body can be cleaned by different type of yogic exercise. Basically, there are three substances in our body i.e. vat, pitta and cough. If there is a proper balance of these substances in our body, one may remain healthy. Neti, Dhouti, Nauli, Basti, Kapalabhati, Tratak etc. are yogic exercise that keeps the internal organ of our body in a clean state. For proper cleanliness and purity of our internal organs, human being should perform this yogic exercise regularly, yoga helps in maintaining and improving health and emotions and regulating other system of the body such as respiratory, excretory, circulatory, nervous and glandular system. It enhances the efficiency of the system of our body and thus improves health and balanced emotions.

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Emotional intelligence is also referred to as E.Q., it is described as ability, capacity or skill to perceive, assess and manage the emotions of one's self, of others and of groups. Emotional intelligence is demonstrated by tolerance, empathy and compassion for others; the ability to verbalize feelings accurately and with integrity; and the resilience to bounce back from emotional upsets. It is the ability to be a deeply feeling, authentic human being, no matter what life brings, no matter what challenges and opportunities we face. According to Mayer and Salovey's Cognitive model, emotional intelligence consists of four separate components namely-perceiving and identifying emotions; facilitation of thought; understanding emotions and managing emotions. According to Ciarrochi et. al. (2001), emotional intelligence plays a potential role in aspects of everyday life. Emotional intelligence is the ability to process emotional information, particularly as it involves the perception, assimilation, understanding and management of emotions (Mayer, Salovey and Caruso, 2000). Emotional intelligence also refers to emotional reasoning used to understand and manage expressions of emotions of self and others (Misra, 2007). Studies revealed that yoga has positive effect on psychological and physiological well-being (Gawali and Dhule, 2013). Experimental studies reveals that yoga practice improves emotional intelligence (Shah and Makhvana, 2015; Adhia, Nagendra and Mahadevan, 2010; Sidhaye and Anaspure, 2010; Turner and Turner, 2010; Mulla and Krishnan, 2007). Chu (2010) revealed that meditation is beneficial for psychological health and enhances psychological well-being by enhancing emotional intelligence. Yoga stimulated an under active parasympathetic nervous system and increase the inhibitory action of a hypoactive GABA system in brain pathways and structures that are critical for threat perception, emotion regulation and stress reactivity (Streeter, Gerberg, Saper, Ciraulo and Brown, 2012). Numerous studies reveals that Yoga practitioners have better level of emotional intelligence than non- practitioners (Oseph et al., 2019; Joseph et al., 2019; Tiwari and Mishra, 2016; Kalinauskaite, 2014). In this study an attempt has been made to explore the effect of yoga on emotional intelligence among adolescents.

Objective: The present study has been conducted to achieve the following objective-

- To study the effect of yoga on emotional intelligence among adolescents.

Hypothesis: To achieve the above mentioned objective, the following hypothesis was formulated and tested-

- There is significant difference between control group and experimental group on the mean scores of emotional intelligence among adolescents.

Methodology

Quasi experimental pre-test, post-test research design has been employed in the present study. Sample for the study consists of 244 (124 control and 120 experimental group) students were selected 04 senior secondary schools (Colonelganj Intermediate College, K.P. Intermediate College, Arya Kanya Intermediate College, Ishwar Saran Balika Intermediate College) from Prayagraj city by purposive sampling method. Test of Emotional Intelligence (Student Form) developed by K.S. Misra was used as tools for the study. In the present study emotional intelligence acted as a dependent variable and yoga exercise acted as an independent variable.. Analysis of covariance (ANCOVA) has been calculated for the analysis of the data.

Results and Discussions

To analyze and interpret the data related to the above objective, three sub-objectives were prepared i.e. (i) To study the effect of yoga on emotional intelligence among adolescents. (ii) To study the gender effect on emotional intelligence among adolescents. (iii) To study the interaction effect between gender and treatment on emotional intelligence among adolescents. Further analysis was done by using analysis is of covariance (ANCOVA).

Table.1

Mean, S.D. of score of pre-test and post-test of emotional intelligence among adolescents

Test	Students Group	N	Mean	S.D.
Pre-test	Control group boys	63	23.50	2.00
	Control group girls	65	23.48	2.27
	Experimental group boys	61	23.25	2.70
	Experimental group girls	55	23.66	2.56
Post-test	Control group boys	63	25.90	2.46
	Control group girls	65	25.92	2.52
	Experimental group boys	61	32.95	2.14
	Experimental group girls	55	33.60	2.89

Observation of Table1 shows that the scores of pre-test considered as covariate variable and scores of post-test considered as dependent variable. For each variable, the Mean and S.D. were computed. It is shown that there is significant difference between scores of pre-test and post-test of emotional intelligence among adolescents. To find out the significant

difference scores of pre-test and post-test of emotional intelligence among adolescents, analysis of co-variance has been used.

Table.2

Analysis of Co-variance of scores of pre-test and post-test of emotional intelligence among adolescents

Source	Sum of Squares	df	Mean Square	F
Group	4831.12	1	4831.12	774.43*
Gender	33.57	1	33.57	5.79*
Group* Gender	35.90	1	35.90	6.79*
Error	2375.45	240	6.39	
Total	337836.00	244		

* Significant at .05 level

Observation of Table2 reveals that f-ratio related to scores of pre-test and posttest of emotional intelligence of control and experimental group of adolescents is 774.43 which is significant at .05 level. So, the corresponding null hypothesis 'there is no significant difference in emotional intelligence between experimental and control group of adolescents' can be rejected and alternate hypothesis can be accepted. Therefore, It can be inferred that as compared to control group post-test of adolescents, experimental group post-test of adolescents have higher emotional intelligence. It means that yoga exercise significantly affect the emotional intelligence of adolescents. The detailed observation of the adjusted mean scores of post-test of emotional intelligence of experimental and control groups among adolescents is shown in the Table3.

Table.3

Estimated Marginal Mean score of post-test of emotional intelligence of control group and experimental group of adolescents

Gender of Adolescents	Control group	Experimental group	Total
Boys	24.83	34.60	28.82
Girls	24.86	30.56	28.20
	24.86	31.37	28.32

Observation of Table-3 reveals that the mean scores of post-test of emotional intelligence of control group of adolescents is 24.86 and the mean scores of post-test of emotional

intelligence of control group of adolescents of 31.37 which is significant at .05 level. It means that the yoga exercise significantly affects to the emotional intelligence of adolescents. This may be due to the reason that sound physical and mental health, yogic exercise, study habit, family and social climate play a vital role of higher emotional intelligence. Similarly (Telles, 2012; Sidhaye and Anaspura, 2008) reported that yogic activities significantly affects to the emotional intelligence among adolescents.

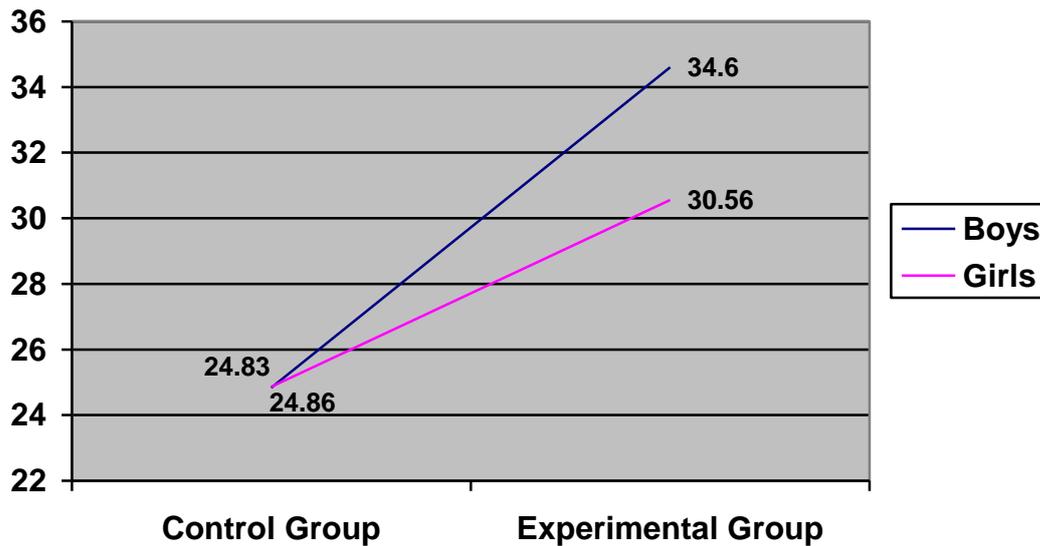
Observation of Table- 2 also reveals that the t-ratio related to gender effect on emotional intelligence is 5.79 which are significant at .05 level. So, the corresponding null hypothesis "there is no significant difference in emotional intelligence between adolescent boys and girls" can be rejected and alternate hypothesis can be accepted.

Observation of Table-3 also reveals that the adjusted mean scores of emotional intelligence of boys is 28.82, while mean score of emotional intelligence of girls is 28.20. It means that, adolescent boys are more stable in emotional intelligence than adolescent girls. This may be due to the reason that yoga exercise, school climate and peer groups of adolescent boys play a vital role for high emotional intelligence in comparison to adolescent girls. Contrary to this (Bakhshi et al., 2016 and Singh, 2014) revealed that there is no significant difference in emotional intelligence between adolescent boys and girls.

Further observation of Table-2 also showed that the t-ratio related to interaction effect between gender and treatment (yoga exercise) on emotional intelligence is 6.79 which is significant at .05 level. So, the null hypothesis that 'there is no interaction effect between gender and treatment on emotional intelligence among adolescents' is rejected and alternate hypothesis is accepted. It means that, there is interaction between gender and treatment significantly affects to emotional intelligence among adolescents.

The adjusted mean score of post-test of adolescents shown in Graph-1 which represent the interaction effect between treatment and gender-

Fig.1



(Group of Adolescents)

Interaction effect between treatment and gender

From the observation of Graph-1, it is clear that yoga exercise affects to emotional intelligence to both group i.e. control as well as experimental group and gender i.e. adolescent boys and girls. Adjusted mean score of post-test of emotional intelligence of adolescents revealed that there is difference found in the development of emotional intelligence of boys and girls by the yoga exercise because there is significant difference between development in emotional intelligence of adolescent boys (11.15 which is from 24.83 to 34.60) and development in emotional intelligence of adolescent girls (10.323 which is from 24.86 to 30.56). This means that there is interaction effect between gender and treatment on emotional intelligence among adolescents and yoga exercise affects to development of emotional intelligence of adolescent boys more than adolescent girls. Similarly Venkatesh et al. (1994) found that there is interaction between gender and treatment significantly affects to emotional intelligence among secondary school students.

Findings: The finding of the study revealed that:

- (1) The yoga exercises significantly affect the emotional intelligence among adolescents.
- (2) Boys are more stable in emotional intelligence than girls.
- (3) There is interaction effect between gender and treatment on emotional intelligence of adolescents and yoga exercises affects the development of emotional intelligence of boys more than that of girls.

Conclusion

From the above discussion it is clear that yogic exercise plays a very significant role in the emotional intelligence of the adolescents. Daily routine of yoga practices develop healthy life style habits for healthy as well as happy life forever. The findings of the present study helps to conclude that yoga participant adolescents have a better level of emotional intelligence than non-practitioners adolescents those who practices yogic exercises have greater emotional intelligence. This implies the need and importance of yoga exercise in various levels such as in the individual level, organizational level and in the community level also.

Educational Implications:

Yogic exercises have been found to be positively related to emotion of students and it help to better the achievement level among students. Finding of the present study is of immense help to the students, teachers, administrators, parents, curriculum designers and educational policy makers, and also helpful to counselors as well as researchers. Educational institutions must know the relationship between yogic exercise and emotional intelligence of students. Educational institutions should honor students freedom and provide such environment in which student can enjoy the learning and construct his knowledge in his own pace. The findings are pointing the importance of including yoga and meditation in curriculum to improve emotional intelligence, which plays a significant role in each and every aspect of life. The daily practice of yoga by students at different levels will help them to develop a better understanding of own emotions as well as emotions of others, paving way for success in chosen careers and life. For increasing the level of emotional intelligence yoga courses and trainings should be designed for the enhancement of emotional intelligence of general population in order to reduce anxiety, stress, life style disorder.

Government should be frame policies to the development of trained and certified trainers of yoga to ensure that each and every people gets an opportunity to practice yoga, which in turn will elevate each people, people's perception, emotional competencies and thus ensure overall well-being of the people. Government schools and colleges should take necessary steps to provide enough space and opportunities for people to practice yoga in schools, colleges and other community centers. Government should be implement programmes to promote and enhance yoga practice among people for better emotional intelligence.

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Social Media Strategies and Counter-Narrative of Terrorist Organisations: A case study of India

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Abstract

The significant progress in digital, information and communication technologies are substantial pillars of modern society. Social Media provides multiple platforms to people for contacting others. It is cheap and easily assessable, so everyone uses it for their benefit. The government also governs cyberspace's dynamics to protect society from some anti-social elements that target the community. With the expansion of social media, it has become easy for everyone to share or express their views with large masses without censorship and legal control. Terrorist organizations use social media for several purposes ranging from gaining support, recruitment, financial transactions, radicalization, planning, executions etc.

At the global level, all the nation-states are affected by this problem, so they started to develop a mechanism to counter the radicalization process so they do not get the rise of lone-wolf terrorism in their respective countries as terrorist uses social media to spread their radical Narrative against the nature of Governance system with the motive to destabilize the country. This paper will discuss and investigate the ideas and initiatives taken by the Government of India (GoI) to provide the counter-narratives and maintain the unity and integrity of India as we have 40 organizations registered in UAPA acts as per the Ministry of Home Affairs (MHA). So, to keep the social and secular nature of a diverse country, it is necessary to develop the counter-narratives of the terrorist organisation.

Keywords: Counter-Narratives, Extremism, Narratives, Radicalisation, Social-media, Terrorism.

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Introduction

India is the second-largest populated country in the world, and more than 18% of the population is young, according to the 2011 census. Indian society is divided into so many different segments, and here every single person has more than 2-3 identities based on religion, caste, class, ethnicity, and gender. In which religious identity prevails over others, and the person is ready to accept things to do without questioning the nature of the act. Social Media expands in India with easy accessibility to the Internet with the policies of Jio Internet and TRAI. It is human nature that it gets influenced by the available information and trends that humans follow in society. According to a report published by Google in 2017, in India, more than 74% of youth believe in the content available on social media and form their opinions and decisions with the help of information available on social media. According to Merriam-Webster Dictionary (2022), social media is defined as “forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)”.

Social Media is a platform that is the cheapest and easiest way to reach a large audience to express their views and ideas. Due to the nature of social media, people use it to make new groups and communities based on self-interest and needs. At the global level, social media's emergence is seen as the spread or expansion of democratic ideas and values. It is an impact or uses at a large scale seen after removing some terms and conditions of creating an account on Facebook in 2006. As in that Facebook removed the essential condition that is having enrolment in the university compulsory for creating an account on Social Media applications, which resulted in the sharp rise of users of Social Media, especially Facebook. In India, too, Social Media is considered a tool of democratisation, which is the reason behind along with people, government official and offices creates their profile on social media. Social Media is a tool that people use for democratisation. However, at the same time, it is also being used to subvert democracy through proxy methods to challenge the people in the way of mobilisation against government decisions. In 2012 Delhi faced law and order disturbance just after the viral Nirbhya Rape case. The second example is the Farmer and NRC protests in Delhi after the Modi Government introduced CAA and Farm Laws in 2019 and 2021, respectively.

This paper will discuss Social Media and how Social Media is helpful for terrorists to expand the audience for providing the narratives. Can government control the expansion of

terrorist organisations on social media? What is the significant action taken by the Government of India to deal with the problem and provide counter-narratives?

Social Media and Terrorism

According to Futch (2014), social media is “*a multi-layered complex term which primarily includes three types of socialites like cognition, communication, and community*”. Social Media is an umbrella term that includes all those platforms used by masses for acts like video or image sharing, blogging, uploading posts and statuses, and developing virtual networking. Examples are YouTube, Twitter, Facebook, WhatsApp etc.

The government and establishment section, terrorist organisations, and anti-establishment sections also use the social media platform for their propaganda and recruitment and fund arising, for making the plan along with the execution of the terror incident. Terrorist organisations use Social Media for personal and organisational benefits as it provides them with a large audience and oxygen for sustaining a more extended period. As Martin (2014) in his book discussed, social media in the context of terrorism have five major types of stakeholders.

Terrorism has entered a new phase, known as terrorism 2.0; in this phase, social media become a powerful tool for representing their presence on social media; otherwise, the government will not recognise their existence as a part of a strategy to remove them. The mass use of social media has made extremism's borders insignificant and imposed a more significant threat to global peace. Modern technologies accelerated the radicalisation process and made it difficult to understand the objectives and Modus Operandi of the government. According to Meena (2021)

“With the ease of access to the Internet and affordability, social media has so many active users in India, and the number is getting high every day, as the data shows of Investopedia.com; Facebook has 241 million active users in India.”

Further, the web desk in 2019 reported that “*WhatsApp has crossed more than 400 million monthly active users in India. NITI Aayog CEO Amitabh Kant revealed the stats at an event in New Delhi.*” Google-owned YouTube announced that India was its most significant and fastest-growing audience in the world, with more than 265 million monthly active users (Hindustan times,2019). “India is now our biggest audience and one of our fastest-growing audiences worldwide. YouTube today has become the first stop for users to consume content,

whether they are looking for entertainment or information,” said Susan Wojcicki, YouTube's CEO, at the company's annual flagship event, “Broadcast.” According to News 18 in 2019:

“India has 71 million active users of Instagram. Twitter's quarterly monthly active user (MAU) count rose to 9 million to reach 330 million marks from the previous quarter. At the same time, analysts, on average, had expected 318.8 million, a loss of 2.2 million users, according to IBES data from Refinitiv”.

Social Media and Narratives

Extremist Narrative is a significant concern at the global level for all the international actors in their fight against terrorist beliefs and actions, often called Counter narratives or alternative narratives (Russell,2018). At the same time, Toguslu, in his paper, discussed that the Narrative is a way of presenting the story on the basis "by organising the world around them based on coherent narratives rooted in credible sources, they construct preferred ways of life.” Homolar, Pablo & Merino said that:

“narratives are discursive systems of meaning-making that are linked to the material world surrounding us, and people rely upon narratives to make sense of the world, to reduce its complexity, and to comprehend new information.”

Based on the above definition, we can conclude that a Narrative is a “spoken or written account of connected events; in the form of a story.” So, without such constructed narratives of terrorist groups, these events become irrelevant and unintelligible; terrorist organisations are no more a threat to society, so they will be able to achieve success in fulfilling their objective. Nowadays, Social Media is beneficial for terrorist organisations as it provides their story in front of people in a way that makes people emotional and sympathetic towards them. Before the arrival of social media, it was complicated and almost impossible for terrorist organisations to provide a story as they wanted. Media earlier used to provide oxygen or a public platform to the terrorist organisation, but it goes through the process of censorship and scrutiny before reaching to large scale.

Terrorism

The following individuals make up the terrorist environment, every one of them rely on them mass media and social media to help them tell their story plus acquire the allegiance of large numbers of individuals (Weimann & Winn,1994).

a. The Terrorist

Terrorists used to start violent political events or spread terror for political gain and full fill the objective. Martin () 2014 said that terrorists used to justify the incident in the name of religion or war against the oppressive opponent. In 1992, Paletz stated that insofar as terrorists seek to attract attention, they target the enemy public or uncommitted bystanders. For them, the terrorist incident is legitimate to act as they do to get freedom from foreign rule, which is their fundamental right. Terrorists earlier used the media and now use social media to provide their Narrative to the world to gain support and more foot soldiers and funds.

b. The Supporter

They are the patron of terrorism and deal with providing a supportive environment and attention to the world. Supporters refer to terrorists, freedom fighters, and human rights activists for suppression. Supporters always justify or rationalise using force as the demand of time and misguided youth or hopeless people who took the weapon in hand for a better life. They have access to almost every single platform for providing the narration of terrorists as a story of the victim of state brutality.

c. The Victim

They are the survivor of political violence and hybrid warfare. They are not sympathisers of terrorists but act as a messenger of terrorists. They spread the word about terrorists regarding their brutal attacks and the damage caused by terrorism. It acts as a wake-up call for the large public and creates fear in the minds of large masses. If govt do not fulfil the demands of terrorists, they will come back or create more damage to us. At the same time, they used to gain more support or create pressure on the government to provide them with so many things for a better life.

d. The Targets

Targets are symbolic in the case of terrorism. It can be the property of humans, depending on the situation. If the target is human, the media or supporters provide a reason behind selecting the target, which helps gain the masses' support or sympathy. "Targeted person can significantly impact public opinion and government policy along with investigation process."

e. The Onlooker

They represent a sizable audience for the terror attack. Scenes may have a direct impact on them, or media coverage or social media may have an indirect impact. The Internet is beneficial for expanding the range or scale of the terrorist incident, which terrorist ideally uses.

The Onlooker will decide the success rate of any terrorist incident by joining the sides because of available narratives. They are the real target of terrorists for gaining validity and funds, foot soldiers and supporters.

f. The Analyst

They are the most crucial participant in any terror incident. They create different perspectives, interpret incidents, or label the participants. It includes many people, from academicians, experts, politicians, and the media. With the advancement of Social Media, terrorists minimise the role of Analysts by posting their narratives and incidents videos on a public platform which directly enables the onlookers to decide or interpret the incident.

The Narrative is mainly used to radicalise young minds against the government for using them as foot soldiers and executors of a terrorist incident. Every single terrorist organisation has a narration of every single term or event, including the objects of the world. In 2014 Burhan Wani posted a video on Twitter on his handle which talks about creating Kashmir as Heaven because of the best person or lovely person who lived in that region, so I duty of Every single Kashmiri Muslim to pay tribute to Allah in the form of making it free form Violence and remove the Indian Soldiers from the land.

A large section of Scholars advocates that Islam is a religion and is not concerned with violence or terror. However, at the same time, people used the writing of writings of Islamic scholar Ibn Taymiyah of 1263, in which he issued a fatwa against the Mongol ruler for securing the land. Muhammad Ibn Abd al-Wahhab, in the 16th century, with the alliance of local tribal leader Muhammad Bin Saud issued a fatwa against the Ottoman empire and made it illegitimate or apostate so Jihad could be done against them. This ideology is known as Wahhabism, and the violent fold of Islam is too fundamental.

In India, Imtiaz Ahmad argues that India Islam has existed since the 7th century in the form of Sufi Culture, which is known worldwide as a liberal form of Islam, and it talks about co-existence which does not provide any threat to the state or society. Nevertheless, in the late 18th century, Indian Islam faced significant changes in dividing Islamic Fold into two different segments: Deobandi and Barelwi. The Barelwi group is based on the writings of Ahmad Riza Khan, and he argued that the Deobandi group is associated with Wahhabism, so they destroy the culture of Indian Muslims, which has a unique space or place in the world.

According to McCauley and Moskalenko (2008), radicalisation is done with the help of narrative aspects. It is divided into three subcategories 1. Micro, 2. Meso, 3. Macro. Micro

deals with an individual-level mechanism that focuses on *personal grievances* and, for their solution person indulges in *Unfreezing* activities. Meso deal with *group grievances* and community identity. Furthermore, they joined terrorist or extremist groups. The last one is macro, which deals with global aspects and is used to aspect the person's decision and reaction to the issue or situation. Based on this, terrorists radicalise the people by providing the victim's Narrative and marginalise or discriminate along with perceived injustice which causes them to become angry and filled with hate against the government. At the same time, these three subcategories are also understood in terms of communication and justify the Narrative by the terrorist organisation. In this article, we will discuss ISIS and Al-Qaeda.

Sageman in his book *Leaderless Jihad* (2011) rejects the view that terrorism is the responsibility of society or a flawed individual. Instead, he argued that any person could become radical by providing Narrative, in which he talks about four steps. Furthermore, any person becomes a jihadist after getting regular feeding and the same experience from the environment in a chat room in the online and offline world. So, jihadism is wholly based on the close connection to several followers. If these followers get away as a means of discontent, jihadism has come to self-termination.

Social Media and Terrorist Organisation

- **ISIS**

ISIS is known as the "Islamic State of Iraq and Syria" and has a presence on social media and is the first group at the global level to use the virtual world and Internet to express words and views. Since its creation, IS members have taken advantage of online platforms to promote the ideology. Islamic State encouraged the sympathisers for the lone-wolf terrorist attacks. Moreover, ISIS alone maintains more than 150 websites for providing content to its cadres. ISIS uses social media as a successful tool for rebranding the jihadi content as stardom and developing the subculture with rap videos, memes, political humour, or content which attracts and radicalises young minds.

ISIS openly projected India as a natural enemy and threat to the Islamic world in his online magazine *Dabiq* by discussing the condition of Muslims and CAA in his May 2019 issue. The May 2020 edition of "The Supporters Security" IS talks about using social media and online platforms with complete safety measures and without getting noticed by Indian Security forces. This 24-page magazine discussed using smartphones and computers against the government for personal benefit. It also talks about following the orders given by senior ranks regarding the attack and plan execution in Jammu and Kashmir.

The Voice of Hind is another magazine of IS which orders its cadres to attack the Covid-19 pandemic while keeping its security and safety from viruses. Mid Day Report claims that over the course of the last two years, the Maharashtra Anti-Terrorism Squad (ATS) has been able to deradicalize more than 60 adolescents and discover the six keyways that they radicalise Indian youth. These are the following steps.

1. Online Recruitment team
2. Monitoring Online
3. Direct Messages to Preaching
4. World Tour and Job Opportunity
5. Radicalise and Indian Handler
6. The path to Syria

- **Al-Qaeda**

It is a transnational extremist Salafist militant organisation founded by *Osama Bin Laden* in 1988. It is also known as Al-Qaeda in Indian Subcontinent (AQIS), a military unit formed on September 3, 2014. Furthermore, it separately deals with Indian Subcontinent only. The senior commander of the organization claims that just because AQIS hasn't had much of an impact beyond the Pakistan and hasn't launched a serious strike on Indian soil, it is incapable of carrying out its true mission (Joscelyn, 2015). Unlike its rival in the country, IS, the group has not been able to acquire any traction in India (North, 2014). At the same, the group cannot gain much support in the region due to democratic dispensation in India or ideological differences between Indian Muslims and organisations for the strand of Wahhabism and the creation of the Caliphate (Olmstead, 2014). In 2016, a group called for the killing of the Indian Prime Minister as it was the main target for the safety of Indian Muslims and Kashmir. So many times, the group appealed or urged to wage war against India for Kashmir and appealed to Kashmiri to take weapons in their hands to take revenge and own land. AQ always projected that if Indian Muslims do not come on the road, they lose their religious and cultural identity.

AQ has more than 3000 Twitter handles which work to find out the potential candidate in India alone (Gupta, 2020). Al-Qaeda is different from IS in terms of attracting the Indian Youth to local incidents and statements of local leaders. AQ also use the debate or episode of an Indian news agency with some modification and alternation according to need. According to al-Zawahiri and Asim Umar,

“the goals of AQIS are to initiate violence against the U.S., free Indian Muslims from persecution, establish Shariah law across South Asia, revive the Islamic Caliphate in the Indian Subcontinent and defend Afghanistan and the Afghan Taliban against foreign aggression”.

In 2017 group issued a “Code of Conduct”, a 20-page issue that talks about the carry-out plans of several attacks against the region with the help of available information on online platforms and social media. This group always project Indian Muslims as the victim and is discriminated against by the government and consistently raises the issue with the help of international supporters on the name of human rights and victim cards. They always bring the issue of Kashmir on a global level. IDSA Social Media pointed out so many videos created by the group as fake and fabricated.

These groups play their Narrative in significant categories, which can be understood in the following areas.

1. The search for a better world narrative
2. Social work narrative
3. Saviour or freedom narrative
4. Marriage narrative
5. Honey trap narrative
6. Hero or warrior narrative

Social Media and Counter Narratives

In the Indian Context, the Counter-Narrative is provided by Tech companies along with the government. However, it can get successful because terrorists mainly use the Arabic language for communication with the candidate. In contrast, in tech companies and governments, only some people understand the terms of the Arabic language, so they cannot provide the proper solution.

In the last few years, after the Burhan Wani Episode Government continued to provide a significant counter-narrative in Kashmir with the help of media and local priests to bring young minds back into the mainstream fold (Bhatt,2018). Government-run several programs for securing the people and de-radicalise them from terrorist traps through any means (Routray,2016). Tripathi (2015) stated the first counter intelligence programme of Indian intelligence agencies, codenamed ‘Operation Chakravyuh’. This operation came into existence in 2015. Under this operation, Intelligence hires some person who has some understanding of Islam and Terrorism then they create some fake accounts on social media. They work to lure

potential candidates who are vulnerable to joining the terrorist outfits, according to security intelligence. They gain their faith or trust through building a repo and then the call to join the mission. After that, these people were taken for counter-radicalisation operations or counter-narrative programmes.

Sheer Diversity

First, it is indispensable to understand that people in India who become radicalised are from different backgrounds and join the group for different reasons, so particular case patterns cannot be applied to de-radicalise the people and provide the counter-narratives of terrorists. So, it is crucial to understand the basic social Faultline to understand the system.

Religious Counter Narratives

Sometimes, government officials think that people who join the terrorist group are from Islamic Fold, so they get radicalised due to the line of interpretation of Islamic text, so they provide a powerful counter-narrative through religious leaders; this is very helpful but not final as every single person does not need to get radicalise due to religious narrative. In the Indian context, whoever left to join ISIS did not understand Islamic text well.

In India, the government is following the Singaporean model of counter-narrative, which mainly focuses on religious interpretation and skills to radicalise a person (Singh,2018). In this model, officials also take the help of family members and friends to make the person understand that it is a peaceful society (Yuit,2017). The government tries to provide a sense that they are not discriminated against on any basis within the society and nation.

In 2017 government established a different division in the Ministry of Home Affairs, known as CTCR, and deals with a counter-narratives approach. Now government officials hire people who use to work on social media with the help of algorithms to identify potential candidates for terrorist organisations and then take them under their camp for de-radicalisation.

In the current regime, this program is understood as a Counter-narrative or counter-radicalisation approach instead of counter-violent extremism as in previous governments.

These are the following actors who are involved in the counter-narrative task.

- The government official act as an actor for formal communication and messages within the rule of law framework to provide the secular views and stand of government regarding the people.
- Semi-actors are youth workers or social workers, and medical practitioners. They are involved one in one conversations and provide social aspects.

- Religious actors are involved in religious text interpretation and message of god, and the meaning of religion and person.
- Role model actors with good social respect and look young so the person can easily attach himself to him and move further.
- Former extremist actors left the group for any reason and provided an accurate picture of terrorist organisations and issued related promises made by the terrorist organisation.
- Family and friends' actors are involved in providing a sense of belongingness and unity with the society and peer group.

Conclusion

Terrorist organisations get the content very quickly for providing their narratives, using statements and videos from across the globe or within the country as majorities give such statements which compel to think that minority does not have space to live with dignity in this country. Terrorists use single incidents with different names and locations. The government is trying to curb the problem with the support of state ATS and different bodies. Now social media tech companies too joined the hand in the fight against terrorist organisations by rejecting the Narrative of terrorist organisations.

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Deity Beliefs, Buddhist Monasteries and Religious Institution Lead Caste Based Discrimination: A Study of Kinnaur District of Himachal Pradesh

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Abstract

Himachal Pradesh has considered “Dev Bhoomi” wherein people have deep faith in their deities. Many parts of the State are still untouched by external customs and manners. They have their own rules to regulate the life of the entire people of the region. Deity beliefs and their institution are used to maintain dominance by the superior caste over the inferior caste which leads to caste-based discrimination and untouchability. In the district, the Kinnaur people have deep faith in their deities, Lamas, and other religious institutions. The present study made an attempt to explore the deity beliefs and other religious institutions which lead to untouchability among the people of Kinnaur where such practices are prevailing at an extensive level. The present study is based on primary as well as secondary data. Data were collected from interviews, books, articles, and internet sources.

Keywords: Deity, Untouchability, Scheduled Caste, Kinnaur, Himachal Pradesh.

Introduction

India is a secular country where everyone has the right to choose their religion. In India Hinduism, Jainism, Sikhism, and Buddhism are flourishing with harmony besides diversity. Rural State like Himachal Pradesh has their own tradition and culture. People are living in tribal and non-tribal areas and are divided into two main categories namely Scheduled Caste and non- Scheduled Castes. The people of Himachal Pradesh have deep faith and beliefs in their religion and local deities.

In the Kinnaur district caste system and untouchability are found at a large level. The society of Kinnaur is divided into two broad categories i.e. Scheduled Caste and Scheduled Tribe. Scheduled Castes include- Chamang, Domang, ours and Scheduled Tribe include Khasiyas.

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Chamang related to Koli, Domangs are Blacksmith and Orus are carpenters. Khasiyas are Kanet which are supposed to be Aryan origin. Chamang, Domang and orus are considered original habitants of the Kinnaur region.

Social Composition of Kinnaur

In Kinnaur, there are two principal castes i.e. Scheduled Caste and non- Scheduled Caste. Non- Scheduled Caste comes under the Scheduled Tribe category. The Scheduled Caste category includes Chamang, Domang, and Orus, and Scheduled Tribe include Khasiyas or Kunnas. Chamang belongs to Koli, Domang belongs to Blacksmith, and Orus belongs to Carpenters. According to some historians, Chamangs are traditionally shoemakers and weavers. But Chamang are not shoemakers but they are traditionally weavers. They were doing work related to wool. In the Kinnauri language wool is called Cham so that is why they were called Chamang.

At present Chamang caste is not a shoemaker but a very low number of this caste people are doing the work of weaving. Domangs are blacksmith as well as do the work of goldsmiths also.

Objectives

- To study the Caste based discrimination in district Kinnaur of Himachal Pradesh.
- To find out the social and religious life of the peoples of district Kinnaur.

Methodology

The present study is based on primary as well as secondary sources. Data was collected from interviews with Scheduled Caste people in Rarang, Pangi, Kothi, Nichar, Moorang, and Sungra villages of district Kinnaur. Secondary data was collected from books, research papers, and internet sources.

Linguistic composition of Kinnaur

Worried about the semantic synthesis of Kinnaur they communicate in the Kinnauri language. As per some master, Kinnauri language shows close affinities to Mundari (spoken in Chota Nagpur), as they accept long back a combination in this space had reclaimed between Munda unique tribe and a Tibetan tribe. In Kinnaur Chitkuli tongue is spoken by individuals living in Baspa valley, Jangshang lingo is spoken in Moorang tehsil and Sumcho, Sunnam and Chhoyulidialect are spoken in the border area of Lahoul-Spiti. Pahari - Kinnauri which is like

the western Pahari language is spoken by the Scheduled Castes of Moorang, Kalpa, Nichar, and Sangla belt of the district Kinnaur.

Birth, Death and Marriage customs in Kinnaur

In Kinnaur after the birth of a child, the naming function is performed by Lama (because of the nonattendance of Brahmans in Kinnaur). After that eliminating the hair of the child's interestingly favorable date is fixed by a lama. The service of hairstyle is called Karachogmig or Mundan.

Concerning death again the lamas are counseled and exhortation is taken from them with respect to advanced technique. In the present time, passing bodies are conveyed in the cremation community and consumed by senior children or children of the departed individual. After that, relatives of perished individuals gathered the cinders and tossed them into Satluj waterway or Rewalsar in Mandi area or Haridawar of Uttarakhand. Kriyakaram which is called Dhamcochang in the nearby language is arranged by the family members of the perished individual something like one month after the demise and food varieties or palatable are conveyed to residents.

According to marriage, Kinnauri marriage is called *Janethang* by upper standing and *Janeti* by lower position individuals which are fixed by nearby divinity. Traditionally there are four kind of marriage which is *Dam tangshid* (love marriage), *dab- dab* or *Khuchis* (marriage by capture), *har* (marriage with another's better half) and *Batyasis* (Arrange Marriage). At present time love or arrange marriage is normal type of marriage in area Kinnaur.

Nature of Deity beliefs

A deity which is called *Devi* or *Devta* in local dialect is considered sacred or divine power. Generally, in Kinnaur people have deep faith in their local deities. They worship and belief in more than one God. Kinnaur is considered as land of God. Local functions and marriages are performed and celebrated only with the permission of *Isht- Devta* or *Kul-Devi*. It is not only out of fear but also out of reverence and deep faith that commands of the deity are followed. It is believed that *Devta* will protect them from all evil forces. In Kinnaur deities also decide the implementation of governmental and non- governmental policies in area. Each deity of the village has its territorial jurisdiction which is decided by *Dev- Sabha committees* of the villages.

Part of the palanquin of deities and their name in local dialect

Palanquins have its head, neck, face, hair, ornaments, body, cloths and hands. Synoptic view of parts of the deities-



Fig 1- Deities of District Kinnaur of Himachal Pradesh

Table 1 Caste System in Himachal Pradesh

Part of the Palanquin	Called by upper caste	Called by lower caste
Neck	Golang	Golo
Face	Mukhang	Muh
Head	Bal	Mutkan
Hair	Cham nang	Cham nang
Ornaments	Tanang	Taan
Body	Rothang	Rothang
Cloths	Gagro	Gagro
Hands	Bayang	Bayang

Deities and its Kaardar (Managers)

In local deities' system many people perform their duty at deities' temple. Main Kaardar i.e. Priest which is called as *Pujari* or *Pujaras*. *Mathus* who talk with deities' is also the main kaardar of the temple. Musicians are also the *Kaardar* of the *Devta* temple. They include *Bhamiya* who beats Drum, *Doliya* plays *Dhol*, *Shonaliya* plays *Shanai* and the main

musicians in Devta temple. Pujaras and Mathus are the persons who belong to upper caste family. This is hereditary work. Musicians are person who belongs to lower caste categories. Musicians have no specified caste they may be *Chamangs*, *Domangs* or *orus*.

Process of Making Palanquin and temple

In district Kinnaur, palanquins of Devi or Devta are manufactured by carpenters who are called orus caste of Scheduled Caste. They are skilled labours. In orus caste, some families are specialists in this work. The dress of the palanquin is made by Chamang caste. They are also masters of this work.

Construction work of the deities' temple is made by orus caste. The construction work started with the prior permission of the deity. When the construction work is completed villagers organize Porishtang to celebrate the function of the temple construction. Other local deities of villages are also participating in this Porishtang.

When the deities' palanquin is ready or temple construction work will have completed the goat, sacrifices have been done in some villages of the Kinnaur to purify it because it is manufactured by orus caste. In some villages of Kinnaur only purified by the water or by lamas.

Discrimination in deity temple

In Kinnaur, the deity is the superpower, and people believed that if the deity became angry their life will become miserable. Upper caste people became dominant because they are the main Kaardars of the temple and they have a dominant role due to their large population in the society. Lower caste people are forced to obey the order of the upper caste people in the temple. In the deity temple people of Scheduled Castes are musicians. Whatever his qualification they are forced to play drums and instruments in the temple. If some lower caste people refused to play drums in the temple they became to subject of social boycott. The orus caste is the creator of deity, Chamang who makes cloths and Domang is the goldsmith makes ornaments for deities, yet they have no right to touch it. At the time of taking 'Prasad' in the temple both castes sit in a different row. This is very interesting that upper caste people do not take water from lower caste people but take alcohol (arak in local dialect) from lower caste people.

Buddhist Monasteries in Kinnaur

In Kinnaur, there are six main Buddhist monasteries namely- Rarang Monastery, Reckong **Peo** Monastery, Kalpa Monastery, Nako Monastery, Pooh Monastery and Charang Monastery. These are the center of Buddhism. Monk (Lama) and Nun (Jomo) residing here are doing their spiritual work. Charang Monastery which is situated in border area, anyone can

visit this monastery irrespective of their caste. In Rarang, Kalpa and Reckong Peo monasteries people belong to lower caste are not allowed to enter in main hall where all religious activity take place. In Kinnaur Buddhist monasteries which is called *Gonpa* are also profess castism. Monk and nuns also practice untouchability. If lama doing rituals in lower caste people house they not take meal or water from them. Their meal is prepared by upper caste people. Monk and nuns belong to upper caste. Lower caste people i.e. *Chamangs*, *Domangs* or *orus* have no right to became *lama* or *jomo*. Buddhist believes in rebirth after death of their supreme lama but this birth always happens in upper caste family. In Kinnaur district Buddhism also affected by caste system and they observe caste-based inequalities.



Fig 2: Buddhist Monastery in District Kinnaur of Himachal Pradesh

Other Religious institution in Kinnaur

Besides local deity institutions and monasteries in Kinnaur, there are also religious institutions of Gur of different local devta. This institution also leads to untouchability among Scheduled Caste people. In Himachal Pradesh which is called Dev- Bhoomi has many religious institutions where local Gur performs duties and try to resolve the problems of common people. In district Kinnaur there are also large numbers of Gur which are performing duty on the behalf of some local Devta, Devi, Kul- Devta and Kul- Devi. Gur is a person (male or female) who talks after when these supernatural powers of the local deities enter their body. They are communicators or deities. In this Gur institution, people of the Scheduled Caste community are not allowed to enter in Gur temple. They are forced to sit at a fixed distance. In this local religious institution, people of Scheduled Caste also play drums.

Conclusion and Suggestions

it is concluded that in district Kinnaur of Himachal Pradesh is the land of God where a large number of local deities and other religious institutions are available. Apart from this, there are also Buddhist monasteries which are also religious institutions. In this religious institution,

caste-based discrimination is still observed in the 21st century. The Constitution of India, 1950 provides many rights to the Scheduled Caste communities. Besides this, other legislative provisions are also enacted to prevent untouchability and caste-based discrimination. But these laws are ineffective before the religious institution of Kinnaur. Scheduled Caste people have no right to enter in temple. They only play musical instruments before deities and festivals. They have no right to dance in the front row or with Chongri. Scheduled Castes people are considered secondary citizen of the village.

Many suggestions such as traditional and modern have arisen to control the caste-based inequalities in district Kinnaur. Law and legislation should be properly implemented with the help of government mechanisms. Education should play important role in curbing discrimination. Unity should be established only by the development of scientific temperament in society. Last but not least all religious institutions should be under government control.

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SWOT Analysis of M. J. P. Rohilkhand University Bareilly : Implication of NEP 2020¹Dr. Amit Agarwal**Abstract**

In India, in the year 2020, the new education policy came into force in the country. In Uttar Pradesh, the Higher Education Department has implemented a new curriculum by adopting the semester system at the graduation level from the session 2021-22. From the session 2022-23, a new syllabus has been implemented by adopting the semester system even at the postgraduate level. There are continuous changes in information and technology at the global level, which are also affecting the education sector. The National Digital University in India will start functioning in August 2023. After Corona-19, there have been revolutionary changes in the field of education. Along with the digital revolution, new areas of skill development have emerged. Along with traditional courses, the need for job-oriented innovative courses is being felt. M.J.P. Rohilkhand University, Bareilly strategies for change in higher education environment have been analysed through research paper. A thorough investigation of the prior literature was performed using sources extracted from various academic databases. The objective is to highlight the strengths, weaknesses, opportunities and threats of these instruments in the context of the M.J.P. Rohilkhand University, Bareilly. A SWOT analysis based on an integrated literature review methodology was conducted to synthesize various research contributions and analyse relevant information related to M.J.P. Rohilkhand University, Bareilly. The findings suggest that SWOT analysis is still important in M.J.P. Rohilkhand University, Bareilly of higher education. This study helps to increase the understanding of stakeholders in higher education about the importance of MJPRU in providing greater value to students.

Keywords: Adoption of National Education Policy and SWOT Analysis.

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Introduction

M.J.P. Rohilkhand University is located in Bareilly on the Pilibhit road in the state of Uttar Pradesh, India. It is a university established by the state government of Uttar Pradesh. Rohilkhand University was established in Bareilly by bifurcating Agra University in the year 1975. Mahatma Jyotiba Phule was born on 11 April 1827 in Pune (Maharashtra). Jyotiba was married to Savitribai in 1840. He was a social worker, great Indian thinker, revolutionary, writer and philosopher. In Maharashtra, the religious reform movement was in full swing, in such a situation, Jyotiba Phule started a large-scale movement to free the society from the heinous practices. He opened India's first school for girls in Pune. This great social worker had established the Satyashodhak Samaj for the emancipation of untouchables. In 1888 he was given the title of 'Mahatma'. In recognition of his work in the field of education, an attempt was made to give him a new identity in North India through this university, although this university was established 85 years after his death. In August 1997, adding the name of Mahatma Jyotiba Phule to Rohilkhand University, its name was changed to M.J.P. Rohilkhand University. In this university, the Vice Chancellor is appointed by the Chancellor (Governor, Uttar Pradesh) for 3 years. Registrar, Controller of Examinations etc. are appointed by the Government of Uttar Pradesh and they are transferred from one university to another in the public interest. Recruitment of teachers and non-teaching staff is done at the university level. The university does not have any campus at any other place except Bareilly. From the session 2022-23, government colleges have been transferred by the government to start courses in 9 constituent colleges of the university. In constituent colleges, principals, teachers and non-teaching staff will be hired on a contract basis. Constituent colleges Hasanpur (Amroha), Bhadpura-Nawabganj (Bareilly), Richha-Baheri (Bareilly), Meerapur Bangar (Bijnor), Sahaswan (Budaun), Fatehullaganj-Thakurdwara (Moradabad), Puranpur (Pilibhit), Dhaka-Puvayan (Shanjahanpur), Navada Darobast-Katra (Shanjahanpur) courses are run under Self Finance Scheme. The curriculum has been started in the traditional and vocational forms at the graduate level. These Constituent colleges are established in remote rural areas. Their main objective is to provide quality education at remote places where there are no government institutions of higher education yet.

Relevance of the SWOT analysis of the Institution

SWOT analysis is a term coined by Albert Humphrey in the 1960s. Mainly SWOT analysis helps to make an organization or group effective. To stay in this changing era, wshould

keep doing SWOT analysis every 6-12 months. So that our business and startup keep moving forward. These four SWOT categories describe whether an aspect of the decision is negative or positive and whether it is external or internal to the organization. SWOT analysis is a strategy used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or business, or educational enterprise/institution. SWOT consists of specifying the goal of an enterprise/institution or project and the internal and external factors that will be needed to achieve that goal. This involves identifying those that are favourable and unfavourable for the individual. A thorough SWOT analysis can be the backbone of a sound strategic plan. SWOT plays an important role in concentrating towards the target.

Continuous evaluation is necessary for the proper development of any organization. In fact, evaluation is an integral part of the overall management or administration process. Proper, valid, and reliable evaluation is the strong foundation of any organization, on which future development of any organization depends. On the basis of this, the administrators can easily guess where there is a deficiency in the sub-systems of the system and how it can be removed. Analyses the institutional, political, economic, social and cultural influences exerted on the MJPRU. On the basis of this, problems can be identified and their solutions can be found, whether these problems are falling demand levels, technical or any other type. A department or administration or manager who looks at problems in the organization from a systems perspective can easily figure out problem-solving options. It is such a strategic framework for complex or wide organizations or departments on the basis of which the problems of digital curriculum, online admission and examination, student support system, vocational courses etc. can be controlled and decisions can be taken in the future. To be successful as a student, there should be a specific strategy. When making a strategic decision, there are many factors to consider. Hence, researcher has tried to identified these factors and discussed in following tables:

Table – 1. Analysis of Demographic Characteristics in the Working Area of the University

S. N.	District	Population 2011	Literacy 2011	Population 2023*	Area (Sq. Km.) 2011	Per Capita Net Income #	Density 2011
1.	Bareilly	4448359	58.49%	5471482	4120	50834	1080
2.	Bijnor	3682713	68.48%	4345601	4561	46563	807
3.	Badaun	3127621	51.29%	4418275	4234	32444	739
4.	Amroha	1840221	63.84%	2263472	2249	65312	818
5.	Moradabad	3126507	56.77%	3908134	2271	50299	1377
6.	Pilibhit	2031007	61.47%	2498139	3686	43599	551
7.	Rampur	2335819	53.34%	2826341	2367	48351	987
8.	Sambhal	2199774	55.12%	2741166	2453	35301	897
9.	Shahjahanpur	3006538	59.54%	3547715	4388	38571	685
	Total	25798559	58.81%	32020325	30329	45415	851

Sources: <http://updes.up.nic.in>, <https://censusindia.gov.in>

* Projected (Base on census growth rate) Literacy 2011 India 73.0 % U.P. 67.7 % # 2018-19 Per Capita Estimated Income (At Current Prices) 2019-20 Uttar Pradesh 65704 India 134226

Table – 2. Analysis of Demographic Characteristics in the Working Area of the University

S. N.	District	Tehsils (31.3. 20)	C.D. Blocks (31.3. 20)	Inhabited Villages 2011	Towns & U.A. 2011	Rural Populati on 2011	Urban Population 2011	Urban Popul ation %
1	Bareilly	6	15	1855	31	2879950	1568409	35.26
2	Bijnor	5	11	2186	26	2757401	925312	25.13
3	Badaun	5	15	1476	20	2534367	593254	18.97
4	Amroha	4	6	959	9	1381508	458713	24.93
5	Moradabad	4	8	965	12	1969982	1156525	36.99
6	Pilibhit	5	7	1295	11	1679592	351415	17.30
7	Rampur	6	6	1108	10	1747172	588647	25.20
8	Sambhal	3	8	894	8	1731335	468439	21.29
9	Shahjahanpur	5	15	2088	11	2412446	594092	19.76
	Total	43	91	12826	138	19093753	6704806	25.99

Sources: <http://updes.up.nic.in>, <https://censusindia.gov.in>

Analysing Table 1 and 2, it is known that there are 9 districts in the working area of the University. Presently more than 3 crore population resides in 30329 square kilometres. Collective per capita income is ₹45415 which is 3 times less than that of India and more than ₹ 20000 less than that of Uttar Pradesh. The literacy rate is 58.81% which is about 15% lower than the literacy rate of India and 9% lower than Uttar Pradesh. 25.99% of the population lives in 138 urban areas in the working area of the university. 74.01% population lives in 12826 villages.

Table – 3. Recognised Educational Institutions in U. P.

Institutions	2011-12	2018-19	2019-20
Universities	30	45	45
Degree Colleges	3553	6681	7391
Higher Secondary Schools	19430	26434	27959

Sources: <http://updes.up.nic.in>

Analysing Table 3, it is known that there were 30 universities in Uttar Pradesh in the year 2011-12, which has increased to 45 in the year 2019-20, this increase is 50%, in the same period the number of colleges increased from 3553 to 7391, an increase of 108%. In the same period, the number of secondary schools increased from 19430 to 27959, a growth rate of 44%. This increase is increasing the gross enrolment rate of students in higher education. The following private universities are working in the working area of this university - IFTM University, Moradabad (2010), Invertis University, Bareilly (1998), Mohammad Ali Jauhar University, Rampur (2006), Tirthankar Mahaveer University, Moradabad (2008) and Sri Venkateswara University, Gajraula (2010). Four new universities are proposed to be established in the working area of this university, namely Radha Govind Vishwavidyalaya Chandausi, Sambhal, Future University Bareilly, Varun Arjun University Shahjahanpur and Ramamurti Smarak University Bareilly.

Table – 4 Students Enrolled during the Academic Session 2020-2021

Courses-Level	Campus- Departments	Colleges Affiliated	Total	%
Post-Graduate Courses	1,931	87,216	89,147	16.01
Under-Graduate courses	3,580	4,63,816	4,67,396	83.93
Diploma level courses	18	315	333	00.06
Total	5,529	5,51,347	5,56,876	100.00

Sources: <https://mjpru.ac.in/overview.aspx>

An analysis of Table - 4 reveals that MJPRU has enrolled 5,56,876 students and research scholars during the academic session 2020-21. The university's campus-departments hosted 5,529 enrolments (one percent of the total enrolled) under various subject streams in postgraduate (1,931 students), undergraduate (3,580 students), and diploma (18 students) level courses. While the colleges affiliated to the university have a total of 5,51,347 young minds (ninety nine percent of the total student enrolment). Post-graduate (87216 students), graduate (463816 students), and diploma (315 students) level courses taken admission in affiliated colleges under different subject streams.

**Table – 5. Revenue Expenditure in Different types of Education in U.P
(Rs. Lakh)**

Budget item	2018-19 Actual estimates	2020-21 Revised estimates	2019-20 Budget estimates
Higher Education	274601 (5.80)	250739 (4.59)	315407 (5.03)
Other (Including Technical Education, Educational Research Training)	54666 (1.15)	68148 (1.25)	77403 (1.24)

Sources: <http://updes.up.nic.in>

Analysing Table-5, it is known that about 5% funds are being given in the budget for the development of higher education by the Government of Uttar Pradesh while only 1% funds are being allocated for other research and training etc.

Table – 6. Under Graduate (U.G.) - Academic Session: 2022-23

S. N.	Course/Subject Name	Registered Student	Total Admission	Yield Ratio
1	B.A. (ARTS GROUP)	115420	98605	85.43
2	B.Sc. (Biology Group)	34076	28295	83.03
3	B.Sc. (Mathematics Group)	11486	9997	87.04
4	B.Com.(COMMERCE)	10868	9229	84.92
5	B.B.A. (Business Administration)	3870	2965	76.61
6	BSc. Ag. (Agriculture)	3627	2948	81.28
7	B.A L.L.B. Integrated (5 years) (Law)	2386	2089	87.55
8	B.Sc. (Home Science)	2191	1629	74.35
9	B.C.A. (Computer Application)	1987	1583	79.67
10	B.Com. (Hon.) (Commerce)	1613	1221	75.7
11	B. El. Ed.	1229	1188	96.66
12	B.Sc. (Computer Science)	608	526	86.51
13	B.Sc. (Biotechnology)	517	349	67.5
14	B.Sc. (Microbiology)	328	257	78.35
15	B.Com. (Computer)	209	176	84.21
16	B.Sc. (Hon.) (Zoology)	146	133	91.1
17	B.Com. (Finance)	115	87	75.65
18	B.Sc. (Hon.) (Botany)	68	56	82.35
19	B.Com. (FINANCIAL SERVICES)	86	44	51.16
20	B.Sc. (Hon.) (Mathematics)	50	23	46
21	B.Sc. (Hon.) (Chemistry)	32	19	59.38
22	B. Pharma. (Pharma)	305	NA	NA
23	Bachelor of Management Studies	182	NA	NA
24	B.Tech. (Computer Science & Information Tech.)	88	NA	NA
25	BHM & CT (Hotel Management & Catering Tech.)	42	NA	NA
26	B.Tech. (Electronics & Communication)	31	NA	NA
27	B.Tech. (Electrical Engineering)	21	NA	NA
28	B.Sc. (Hon.) (Physics)	16	NA	NA
29	B.Tech.(Chemical Engineering)	16	NA	NA
30	B.Tech.(Mechanical Engineering)	16	NA	NA
31	B.Tech. (Electronics & Instrumentation)	15	NA	NA
	Total	191644	161419	84.23

Source:[https://admission.mjpruiums.in/\(S\(iepnhcxv2c5t2v3back45adn\)\)/Online/PA_Registrat ion_UG_Degree.aspx](https://admission.mjpruiums.in/(S(iepnhcxv2c5t2v3back45adn))/Online/PA_Registrat ion_UG_Degree.aspx)

Yield Ratio (%) * = Total Admission of students X 100/ Registered Student

Analysing Table-6, it is known that the maximum number of admissions in the university at the graduate level are in the BA course, which is 61.00 % of the total admitted students. After that the popular courses are B.Sc. Bio Group and B.Sc. Maths Group in which 23.52% students take admission. After that the popular course is B.Com. commerce in which 5.71% students take admission. B.A. and B.Sc. are the main sources of income for the university at the graduation level. This university offers courses in the following subjects at the under graduate level - Agriculture, Biotechnology, Botany, Business Administration, Chemistry, Commerce, Computer Science, Defence & Strategic Studies, Drawing & Painting, Economics, Education, English Language, English Literature, Environmental Science, Functional Hindi, Geography, Hindi Literature, Hindi Language, History, Home Science, Industrial Chemistry, Law, Mathematics, Microbiology, Music Instrumental Sitar, Music (Tabla), Music Vocal, Persian, Philosophy, Physical Education, Physics, Political Science, Psychology, Sanskrit, Sociology, Statistics, Tourism and Travel Management, Urdu, Zoology etc.

Table 7 U.G. Diploma - Academic Session: 2022-23

S. N.	Course/Subject Name	View Registered Student	Total Admission	Yield Ratio
1	Diploma in Fashion Design	41	22	53.66
2	Diploma in Interior Design	30	18	60.00
3	Diploma in Photography	33	16	48.48
4	Diploma in Design Commercial	13	13	100.00
5	Diploma in E-Commerce	6	1	16.67
6	Diploma in Comp. Application	3	NA	NA
7	Diploma in Environment Management	0	NA	NA
8	Diploma in Yoga	6	NA	NA
9	Diploma in Proficiency in French	16	NA	NA
10	Diploma in Proficiency in German	23	NA	NA
11	Diploma in Proficiency in Mandarin	2	NA	NA
12	Diploma in Translation English to Mandarin	4	NA	NA
	Total	177	70	39.55

Source: [https://admission.mjpruiums.in/\(S\(iepnhcxv2c5t2v3back45adn\)\)/Online/PA_Registration_UG_Degree.aspx](https://admission.mjpruiums.in/(S(iepnhcxv2c5t2v3back45adn))/Online/PA_Registration_UG_Degree.aspx)

Table – 8. Post Graduate (P.G.) - Academic Session: 2022-23

S. N.	Course/Subject Name	Registered Student	Total Admission	Yield Ratio
1	B. P. Ed. (Bachelor of Physical Education)	157	154	98.09
2	B. Lib./B. L. I. Sc. (Library & Information Science)	118	104	88.14
3	L.L.B. (3 Years)	5914	NA	NA
4	M.A.(Sociology)	5437	4288	78.87
5	M.A. (English Literature)	4411	3768	85.42
6	M.A. (Home Science)	2916	2556	87.65
7	M.A. (Geography)	2736	2388	87.28
8	M.A. (Education)	2237	1942	86.81
9	M.A. (Political Science)	2202	1663	75.52
10	M.A. (Hindi Literature)	2205	1550	70.29
11	M.A. (History)	2088	1206	57.76
12	M.A. (Economics)	1078	895	83.02
13	M.A. (Urdu)	875	794	90.74
14	M.A. (Drawing & Painting)	519	471	90.75
15	M.A.(Sanskrit)	139	125	89.93
16	M.A. (Psychology)	108	99	91.67
17	M.A. (Defence Studies)	149	94	63.09
18	M.A. (Ancient History & Culture) (Campus)	79	44	55.70
19	M.A. (Economics) (Campus)	86	33	38.37
20	M.A. (Music (Vocal))	37	33	89.19
21	M.A. (English) (Campus)	62	30	48.39
22	M.A. (Fashion Design)	53	22	41.51
23	M.A. (Psychology) (Campus)	25	11	44.00
24	M.A. (Philosophy)	30	11	36.67
25	M.A. (Philosophy) (Campus)	32	10	31.25
26	M.A. (Music)	9	8	88.89

27	M.A. (Music) (Tabla))	5	5	100.00
28	M.A. (Persian)	2	2	100.00
29	M.A. (Mathematics)	24	1	4.17
30	M.A. (Music (Sitar))	2	1	50.00
31	M.A.(Statistics)	1	1	100.00
32	M.A. (Functional Hindi) (Campus)	18	NA	NA
33	M.A. (Pali Language and Buddhist Culture) (CAMPUS)	6	NA	NA
34	M.Com.(Commerce)	4016	2893	72.04
35	M.Sc. (Chemistry)	3402	2533	74.46
36	M.Sc. (Zoology)	2952	1920	65.04
37	M.Sc. (Mathematics)	1477	1182	80.03
38	M.Sc. (Physics)	1422	1014	71.31
39	M.Sc. (Botany)	1227	906	73.84
40	M.Sc. Home Science (Foods & Nutrition)	224	207	92.41
41	M.Sc. Home Science (General Home Science)	154	133	86.36
42	M.Sc. Home Science (Human Development)	81	76	93.83
43	M.Sc. (Industrial Chemistry)	104	63	60.58
44	M.Sc. (Mathematics) (Campus)	162	41	25.31
45	M.Sc. (Microbiology) (Campus)	101	37	36.63
46	M.Sc. (Biotechnology)	52	33	63.46
47	M.Sc. (Botany) (Plant Science)	186	33	17.74
48	M.Sc. (Zoology - Animal Science) (Campus)	330	32	9.70
49	M. Sc. (Environmental Science)	154	32	20.78
50	M.Sc. (Chemistry) (Campus)	241	28	11.62
51	M.Sc. (Physics) (Campus)	171	22	12.87
52	M.Sc. (Defence Studies)	6	5	83.33
53	M.Sc. (Statistics)	4	3	75.00

54	M. Sc Home Science (Clothing & Textile)	2	0	0.00
55	M. Sc Home Science (Home Mgmt. & Textile)	0	0	0.00
56	L.L.M.	624	NA	NA
57	M.B.A Mktg. (Management)	40	NA	NA
58	M.B.A. Part Time (Management)	72	NA	NA
59	M.B.A. (Management)	147	NA	NA
60	M.C.A. (Computer Application)	92	NA	NA
61	M.Ed.	1402	NA	NA
62	M. Lib/M. L. I. Sc. (Library Science)	54	50	92.59
63	M. Pharma (Pharmaceutical Chemistry)	22	NA	NA
64	M. Pharma (Pharmaceutics)	51	NA	NA
65	M. Pharma (Pharmacology)	51	NA	NA
66	Master In Social Work (Social Work)	378	322	85.19
67	M. Tech + Ph.D. (Integrated Dual Degree) (Computer Science & Information Technology)	5	NA	NA
68	M. Tech + Ph.D. (Integrated Dual Degree) (Electronics And Communication)	9	NA	NA
69	M. Tech + Ph.D. (Integrated Dual Degree) (Electronics And Instrumentation)	6	NA	NA
70	M. Tech + Ph.D. (Integrated Dual Degree) (Industrial And Production Design)	0	NA	NA
71	M. Tech + Ph.D. (Integrated Dual Degree) (Thermal Engineering)	2	NA	NA
	Total	53183	33874	63.69

Source:

[https://admission.mjpruiums.in/\(S\(iepnhcxv2c5t2v3back45adn\)\)/Online/PA_Registration_UG_Degree.aspx](https://admission.mjpruiums.in/(S(iepnhcxv2c5t2v3back45adn))/Online/PA_Registration_UG_Degree.aspx)

Yield Ratio (%) * = Total Admission of students X 100/ Registered Student

Analysing Table 8, it is known that the most popular courses in the university at the postgraduate level in the university are M.A. (Sociology), M.A. (English Literature), M.Com., M.A. (Home Science) and M.Sc. (Chemistry) etc.

Table 9 Certification Courses - Academic Session: 2022-23

S. N.	Course/Subject Name	Registered Student	Total Admission	Yield Ratio
1	Certificate in Communication Skills (Communication skill)	8	0	0
2	Certificate in English for Business (English for business)	4	0	0
3	Certificate in Women Leadership & Empowerment	1	0	0
4	Certificate in Women Rights & Legal Awareness	0	0	0
	Total	13	0	0

Source: [https://admission.mjpruiums.in/\(S\(iepnhcxv2c5t2v3back45adn\)\)/Online/PA_Registration_UG_Degree.aspx](https://admission.mjpruiums.in/(S(iepnhcxv2c5t2v3back45adn))/Online/PA_Registration_UG_Degree.aspx)

Yield Ratio (%) * = Total Admission of students X 100/ Registered Student

Table 10. Post Graduate (P.G.) Diploma - Academic Session: 2022-23

S. N.	Course/Subject Name	Registered Student	Total Admission	Yield Ratio
1	Post Graduate Diploma in Computer Application	153	104	67.97
2	Post Graduate Diploma in JOURNALISM & MASS COMMUNICATION	62	31	50.00
3	Post Graduate Diploma in BIO TECH	30	16	53.33
4	P.G. Diploma in Travel & Tourism Management (TTM)	19	15	78.95
5	Advance P.G.D.C.A. (Computer Application)	37	14	37.84
6	Post Graduate Diploma in MODERN ARABIC	20	11	55.00
7	Post Graduate Diploma in Yog Vigyaan	28	9	32.14
8	Post Graduate Diploma in Entrepreneurship	16	4	25.00
9	P.G. Diploma in Women Empowerment & Development	13	4	30.77
10	Post Graduate Diploma in Cyber Law and Cyber Forensics	62	NA	NA
11	Post Graduate Diploma in Human Rights & Duties	26	NA	NA
12	Post graduate diploma in Legal and Paralegal Advocacy	2	NA	NA
13	Post graduate diploma in Media Law	15	NA	NA
	Total	483	208	43.06

Source: [https://admission.mjpruiums.in/\(S\(iepnhcxy2c5t2v3back45adn\)\)/Online/PA_Registration_UG_Degree.aspx](https://admission.mjpruiums.in/(S(iepnhcxy2c5t2v3back45adn))/Online/PA_Registration_UG_Degree.aspx)

Yield Ratio (%) * = Total Admission of students X 100/ Registered Student

Table 11 List of Vocational courses started at graduate level under New Education Policy -2020

Course/Subject Name	Course/Subject Name
Advertising	Office Automation Using MS-Office
Basics of Tally	Office Management & Computer Application
Computer Applicatione	Office Management & Secretarial Practice
Functional English	Research Survey
Laboratory Techniques in Physics	Systematic Chemistry Lab Techniques
Management of Capital Market Operations	Vyavharik Hindi
MS Office Application Syllabus	

Source: <https://mjpru.ac.in/syllabus.aspx>

Table 12. List of Co-Curricular/Compulsory Subject started at graduate level under New Education Policy-2020

Course/Subject Name	Course/Subject Name
Analytical Ability and Digital Awareness	Food, Nutrition and Hygiene
Communication Skills & Personality Development	Human Values and Environmental Studies
First Aid and Health	Physical education and Yoga

Source: <https://mjpru.ac.in/syllabus.aspx>

Research Objective

The organization uses various techniques of strategic analysis for the successful implementation of its strategies, out of which SWOT analysis is also an important technique of analysis. The purpose of this research paper is to do SWOT analysis of MJPRU Bareilly (Table –13) with special reference to developing country India. MJPRU has been analysed in this research paper through SWOT analysis. The purpose of SWOT analysis is the successful implementation of NEP-2020 in MJPRU. The concept of 'NEP-2020' is being implemented in true sense and students are taking advantage of higher education. In this, an attempt has been made to identify the strengths, which are currently being used in relation to the implementation of NEP-2020 in MJPRU. Within this objective some research questions came to mind such as Implementation of NEP-20 and Policy and others Opportunities for the MJPRU; Various factors have to be analysed to identify the Weaknesses and Threats during the implementation of NEP-2020 and others in MJPRU. From Table 1 to 12, the environment or background of the work area of the university has been analysed. With the help of this adjective, it will be easily known from which background students are studying in the university and which courses are popular among them.

Research Methodology for Research

Exploratory research gives valuable insights, generates ideas and valuable aspects in a more exploratory way. Primary data gives first-hand information for the specific purposes at hand, while secondary data contains important information to describe and uncover valuable insights in research. Secondary data has been obtained from published reports, internet, libraries, journals/magazines and reports from some government agencies. Data was collected by preparing schedules and questionnaires. 200 respondents are randomly selected and requested to be interviewed. After this the questions are asked in a pre-determined order. These data are analysed/sorted with the help of computer.

Table – 13. Swot Analysis of M.J.P. Rohilkhand University Bareilly

Strengths	Opportunities
<ul style="list-style-type: none"> * Established and budgeted by the Government of Uttar Pradesh. * Broad organisation/departmental structure. * Online admission, examinations etc. through website. * Implementation of New Education Policy (NEP) – 2020. * Effective leadership and implementation system * Various faculties, wide and varied courses. * Academic calendar for control. * Research and Promotion by the Directorate of Research. * Promotion of international relations and others. * Functioning of different types of cells and centers. Various facilities to the stakeholders. * Memorandum of Understanding (MOU) with external parties. * Formation of various types of educational and administrative councils and committees. * College Management System (CMS), various publisher publications and other activities start. * ISO-9001:2005. * Accredited by NAAC. 	<ul style="list-style-type: none"> * Growing population in the workplace / increasing student enrolment rates. * Development of Digital India. * Modernization of internet facilities. * Preference by the employer to regular degree holders. * Development of new areas for Research and Development (R&D). * Promotion of higher education. * New Education Policy (NEP) – Target to increase Gross Enrolment Rate in 2020 to 50% by 2030. * Providing scholarship and other incentives to the students by the central and state government. * High economic growth rate. * Grants from UGC and other institutions. * Preference for traditional curriculum by low-income students. * New Vocational courses in NEP, implementation of ABC credit system and other reforms. * Change in NAAC evaluation system. * Preference in employment to NCC/NSS Rovers-Rangers/Sports etc. * Development of higher education sector through RUSA (Raashtreey Uchchar Shiksha Abhiyaan) etc scheme.

Weaknesses	Threats
<ul style="list-style-type: none"> * Faculty or department of all subjects not to be in the campus. * Non-creation of posts in the university according to the increasing enrolment adverse teacher student ratio. * Time taken for declaration of university examination result. * Lack of modern coordination system in university administration and administration of affiliated colleges. * Longer exam schedule. * Lack of ultra-modern digital infrastructure. * Lack of digital experts. * Continuous / regular online meeting not being organized. * Lack of model question paper for the students. * Weakness of online student grievance redressal system. * University portal and college portal not interlinked. * Conventional system of distribution of examination material. * Lack of online examination system even for objective question paper. * New structure of constituent colleges and self-financed courses were started in this. * Lack of digital study material/Students Learning Material. 	<ul style="list-style-type: none"> * Problem of obstruction and wastage in students. * Data hacking and the problem of maintaining confidentiality of test materials. * Lack of timely data processing and recruitment process. * Increasing size/privatization of private university in the field. * Admission, study, examination / promotion and others in the era of Corona epidemic. * Posts not created as per the syllabus of NEP. * Increasing availability of online/digital courses. Establishment of National Digital University. * Absence of high technology service units/ industrial units in the working area of the university. * Weak infrastructure in affiliated colleges. * Lack of qualified teachers and students to face international competition. * Availability of courses in distance and open university. * Course options available to the students. * Lack of inclusive access. * Change in job-oriented courses. * Research infrastructure & software etc.

Sources: Self Survey & <https://mjpru.ac.in>

The factors were asked from the respondents regarding strength, weakness, opportunity and threat and Top 15 major reasons were listed.

The factors of SWOT have been analysed in Table - 13. The 15 factors listed are only indicative and provide a direction to the analysis. Apart from this, there may be other factors as well, which have not been included in the research due to research limitations. The university can move ahead by working on the grade index from now itself to get a good grade in NAAC as well as by removing the weaknesses and taking advantage of the opportunities in the environment.

Conclusion

It has been 45 years since MJP Rohilkhand University was established, after its establishment tireless efforts have been made to make higher education inclusive in these 9 districts. Controversial factors are not included in the weaknesses and threats of the university so that no controversy arises. The SWOT analysis provides a direction as to how MJPRU can be taken down to the bottom-line students. It is a means but not an end. MJPRU can further the trend of NEP-20 if it can overcome its weaknesses and identify threats in this context and prepare NEP-20 to face those threats. Proper use of the strengths and opportunities of MJPRU can encourage its use at a rapid pace throughout the working area. Administration and management can implement this NEP-20 and university vision successfully by making effective strategies keeping this in mind. The various components of a NEP-20 should be comprehensively studied in relation to global best practices in order to come up with a list of indicators that are universally accepted and relevant in the present times. A good SWOT analysis can help you reach your education goals or kick your research start-up into high gear. Along with its strengths and opportunities, there's a lot more scope for betterment, weaknesses can be strengthened, and threats can be nullified. There is a very high competition where higher education plays a vital role in leveraging technology not only in this education and research sector with every other university focusing on vision/goals to outdo each other university. Based on the SWOT analysis, a list of other factors can be prepared for guidance.

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Socio Economic Status of Slums under Rajiv Awas Yojna in Shimla City (A Case Study of Krishna Nagar)

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Abstract

Rajiv Awas Yojana is a scheme under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) aiming for “Slum Free Cities” in India. Each State has to prepare a Slum-Free-City Plan of Action (SFCPoA). The preparatory phase of Rajiv Awas Yojana (RAY) that is preparing SFCPoA has been launched by the HP Government and Mission has been nominated as State Level Nodal Agency. In Krishna Nagar, we have found that the maximum number of households belongs to the SC community. It is found that the maximum population comes from out of state for the search of employment. In this area, the maximum number of people encroached on the public land i.e., 60% of households. In this study, we find the most appropriate solution is Rajiv Awas Yojana which is implemented for the upgradation of the slum dwellers, it is a process through which informally settled areas are gradually improved, formalized, and incorporated into the city itself, extending access to land, urban services, and citizenship to the slum dwellers (since the dwellings are not located in a risk area, such as hillsides, near streams, and other high-risk situations). It offers slum dwellers services that can cover the infrastructure; water supply, sewerage, drainage, roads, etc. – and the education, and land tenure. Approximately, 26% of houses are eligible to cover under Rajiv Awas Yojana in this ward.

Key Words: Socio Economic Status, Rajiv Awas Yojna, Slum

INTRODUCTION

Recent years have seen dramatic growth in the number of slums as urban populations have increased in the Third World. According to a recent UN-Habitat report, 327 million people live in slums in Commonwealth countries almost one in six Commonwealth citizens. In a quarter of Commonwealth countries (11 African, 2 Asian, and 1 Pacific), more than two

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out of three urban dwellers live in slums, and many of these countries are urbanizing rapidly.

The Census of India defines a slum as "a compact area of at least 300 in population or about 60-70 households of poorly built, congested tenements in an unhygienic environment usually with inadequate infrastructure and lacking proper sanitary and drinking water facilities."

According to a report on the United Nations Urban Land Policies, a slum is "a building, group of buildings or area characterized by overcrowding, deterioration, unsanitary conditions or absence of facilities or amenities which because of these conditions or any of them, endanger the health, safety or morals of its inhabitants or the community".

The government of India has been implementing a range of schemes for slums improvement over the years. Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched in 2005 with the aim of creating economically productive, efficient, equitable, and responsive cities through a strategy of upgrading the social and economic infrastructure in cities. Various schemes such as Basic Services to the Urban Poor (BSUP) 2005-06, Integrated Housing and Slum Development Programme (IHSDP) 2005, and National Urban Housing and Habitat Policy 2007, etc. are launched subsequently to improve the overall standard of living in Indian cities. However, recent studies have pointed out the drawback of these policies in recognizing the right of the poor to live in a city. The poor are pushed outside the peripheries of the urban space from where they need to commute daily to the city for availing livelihood opportunities.

RAJIV AWAS YOJANA

Rajiv Awas Yojana is a scheme under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) aiming "Slum Free Cities" in India. Each State has to prepare a Slum-Free-City Plan of Action (SFCPoA). The preparatory phase of Rajiv Awas Yojana (RAY) that is preparing SFCPoA has been launched by the HP Government and Mission has been nominated as State Level Nodal Agency. The slum dwellers and the urban poor envisages a 'Slum-free India' by encouraging States/Union Territories to tackle the problem of slums in a definitive manner. It calls for a multi-pronged approach focusing on:

- Bringing existing slums within the formal system and enabling them to avail of the same level of basic amenities as the rest of the town;

- Redressing the failures of the formal system that lie behind the creation of slums; and
- Tackling the shortages of urban land and housing that keep shelter out of reach of the urban poor and force them to resort to extra-legal solutions in a bid to retain their sources of livelihood and employment.

SLUM

The definition of “slum” varies from country to country. In India, each state has its own definition of a slum. The National Definition of ‘Slum areas’ was set by the Slum Areas Improvement and Clearance Act of 1956. It defines them as places where buildings: are in any respect unfit for human habitation; are by reason of dilapidation, overcrowding, faulty arrangement and design of such buildings, narrowness or faulty arrangement of streets, lack of ventilation, light, sanitation facilities or any combination of these factors which are detrimental to safety, health and morals.

The phenomenon of slum has come to be regarded as a major problem of urbanization. While no Indian city is free from slums, the problem appears to be more acute in metropolitan cities. slums are known by different terms in different regions: katras, gallis, juggi-jhopdi (in Delhi); chawls (in Mumbai); ahartas (in Kanpur); bustees (in Calcutta); cheris (in Madras);keris (in Bangalore); and petas (in Andhra Pradesh). In Greater Bombay a million persons or 20 percent of the total population lived in slums in 1960 (Desai and Pillai 1972) and these figures rose to 3 million or 40 per cent in 1981(Mayur 1981). Nearly 2 million or 30 per cent of Calcutta's population live either in hutment colonies or on the pavements (Dayer 1975).

According to the Delhi Master Plan, the number of slum dwellers in the capital city is 7 lakhs which are nearly 16 percent of the total population. The slum dwellers in Madras increased from 4 lakhs (25per cent of the total population) in 1961 to 9 lakhs (33per cent of the total population) in 1971 (Sunday Standard, 9 December 1973). In Bangalore city, slum dwellers account for nearly 10 percent of the total population (Human Geography and Ecology 1976). According to a survey by the Municipal Corporation of Hyderabad the slums give Shelter to 2.63 lakh persons (16 percent) of the city's population. This is the situation obtaining in some of the large cities. Clinard (1966) also included both physical and moral attributes in defining a slum. There is a marked variation in respect of physical conditions. Variations in the structure of construction include cabins, shanties, dens, dugouts, sheds, stalls

and huts built out of scavenged scrap. Similarly, there are variations in respect of the nature of overcrowding and of ownership and renting of houses, unsanitary conditions and absence of basic amenities (Abrams 1964).

Objectives of the Study

To take up a socio-economic survey of the slums in order to study the socio-economic conditions of the slum dwellers in Krishna Nagar.

METHODOLOGY

Nature of Study

The present study was descriptive cum exploratory in nature. It describes the social as well as the economic status of the slum pocket of Krishna Nagar which explore the living condition, sanitary condition, livelihood, health status, employment status, source of earning, and the main reason for unemployment, etc. This Research study has found out the actual position and the living status of people living in slums of H.P. under Rajiv Awas Yojana.

Universe of Study

The universe of the present study was about District Shimla. There is a total of 85 pockets in Shimla District that are declared as slums under project RAY by MC Shimla. Out of which the researcher studied at Krishna Nagar ward (slum pocket) in Shimla city. Krishna Nagar is the biggest slum pocket in Shimla which is situated below the old ISBT Shimla. This pocket is known as sensitive by the people of the city. According to the baseline survey by Municipal Corporation Shimla, there are 1003 households in the study area i.e. Krishna Nagar for the Rajiv Aawas Yojana. In Krishna Nagar, the researcher selected only 100 households through a random sampling technique out of the 1003 households which is approximately 10% of the total Households for the total population in Krishna Nagar 4553 (comes under the slum population), but the field worker covered 437 (100 households) out of 4553.

Tools of Data Collection

Data for research have been collected through primary as well secondary sources. Primary data was collected mainly through an interview schedule, which pertains to questions related to no. of households and population, land tenure status, economic status and earning members, etc. also group discussions with community people on employment status, sources

of earning/livelihood, main reason for unemployment. Secondary data was collected through books, magazines, e-papers, and information and details from NGOs and a baseline survey of the Municipal Corporation.

Results and Discussion

Slum Population in India

Slum Population simply refers to people living in slum areas below the poverty line. As India is still on the path of development, there is large number of people living below the poverty line. These people usually live in slum areas connected to the city. According to Government sources, the Slum Population of India have exceeded the population of Britain. It has doubled in last two decades. According to last census in 2001, the slum-dwelling population of India had risen from 27.9 million in 1981 to 61.8 million in 2001. Indian economy has achieved a significant growth of 8 percent annually in last four years, but there is still large number of people nearly 1.1 billion still survives on less than 1 \$ in a day.

In 2011, 65.5 million or 22.5% population lived in slums which are distributed among 2613 towns/cities. The distribution of slum towns across the states and union territories is not uniform in India. Indian 9 larger states namely; Tamil Nadu, Madhya Pradesh, Uttar Pradesh, Karnataka, Maharashtra, Andhra Pradesh, West Bengal, Rajasthan and Gujarat enumerated more than 81% slum population and 1955 slum town. On the other hand, 9 small states/union territories include Nagaland, Sikkim, Pondicherry, Meghalaya Arunachal Pradesh, Goa, Mizoram, Chandigarh, Andaman and Nicobar had reported only 47 slum towns, share only 0.6% of the total slum population. Thus, high positive correlation exists between urban and slum concentration in Indian states. The ever-increasing slum population is a continuous phenomenon in towns/cities, but providing good facilities at the rate of their growth will definitely benefit all the slum dwellers. Above discussion which highlights the slum condition argue that there is an urgent need to tackle this situation for long term sustainable development as well as for city prosperity.

Slum in Shimla

There are 85 identified pockets in Shimla city with 2658 households. In Shimla, there are 25 wards under the Municipal Corporation. In these identified pockets the total populations of slum dwellers are 11451 according to the baseline survey of 2012-13 by the

Municipal Corporation, Shimla through SAMIKSHA (State level NGO). According to the census of 2011, the total number of people in Shimla city is 169578. The current population of slums is 6.75% of the total population of the city (According to the 2011 census record). According to the MC record, there are 37756 houses in the city and the slum households are 7.03% of the total households. According to the current survey, 74% of households in within 5 wards and only 26% of households are in the 20 wards. Krishna Nagar covered 37.62% HHs, Ruldu Bhatta 17.34%, and Phagli 11.02%. Kanlog 4.81% and Khalini 3.7% and the rest of 20 wards covered <3% HHs.

(Source: *Base Line survey 2012-13, Researcher worked as a Team Leader with SAMIKSHA Organization*)

Table 1: Position of Slum in Shimla City

Total Households	37756
Total Slum households	2658
Slum BPL Households	482
Total Illiterates in Slums	1697
Total Earning Members in Slums	3620

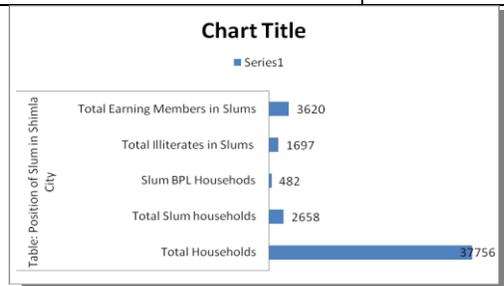


Fig.1

Shimla city covered 482 BPL households is the 18.13 % of the total slum population. There are 1697 illiterate members in the slum population i.e. 14.81% of the total population of the slum. There are 3620 earning members in the slum population i.e. 31.61% of the total population of the slum.

Structure of Houses in Shimla City

Table 2: City Level No. of dwelling units by type of structure of houses

City	Total Slum houses	Pucca	Semi pucca	kutcha
Shimla	2658	723	1255	680

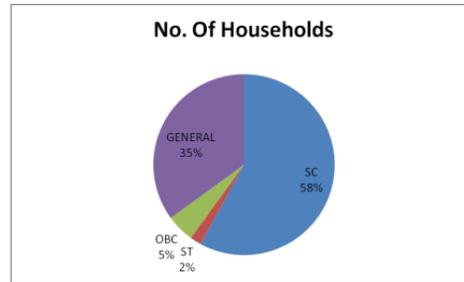


Fig.2

There are 2658 number of houses in the slum area. The 680 houses are Katcha, 1255 semi-pucca and 723 pucca which are 25.58%, 47.21% and 27.20% of the total population of the slum respectively.

ACTIVITIES & FINDINGS

Activities during summer training are as follows:

Survey: For the data collection the field worker used the survey method and found socio-economic aspects of slum dwellers as follows:

Table 3: No. of households

Category of Households	No. Of Households	Percentage of Households
SC	58	58%
ST	2	2%
OBC	5	5%
GENERAL	35	35%

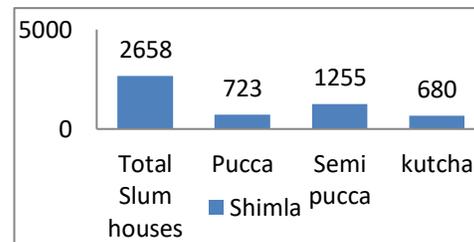
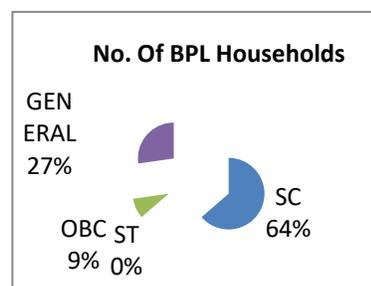


Fig.3

In Krishna Nagar researcher covered 100 households. In which the field worker find that 58% of the households are SC's, 2% of the ST's's, 5% of the OBC's and 35% households of the General category. Hence it shows that the maximum populations are from SC community in Krishna Nagar.

Table 4: Total no. of BPL households

Category of Households	No. Of BPL Households	Percentage of Households
SC	7	64%
ST	0	0
OBC	1	9%
GENERAL	3	27%



In Krishna Nagar the researcher covered 11 BPL households out of 100 households. In BPL households the field worker finds that 64% households in BPL are belong to the SC community, 9% of the OBC and 27% belongs to the General category.

Fig.4

Table 5: Total Population Covered in the study

Category of Households	Population of Households	Percentage of Population
SC	275	63%
ST	8	2%
OBC	22	5%
GENERAL	132	30%

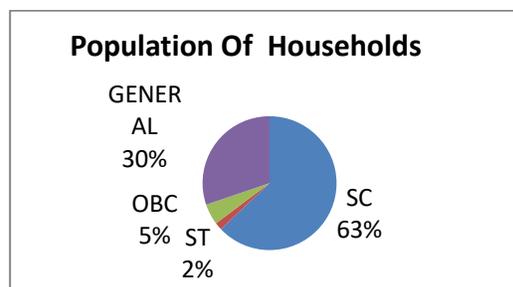


Fig.5

In Krishna Nagar the researcher covered 437 members in 100 households which have 225 males and 212 females which are 51.48% and 48.51% respectively. Total covered population possessed 63% SC's, 2% ST's, 5% OBC's and 30% General members.

Table 6: Total BPL Population

Category of Households	Population Of BPL Households	Percentage of Population
SC	38	70%
ST	0	0%
OBC	2	4%
GENERAL	14	26%

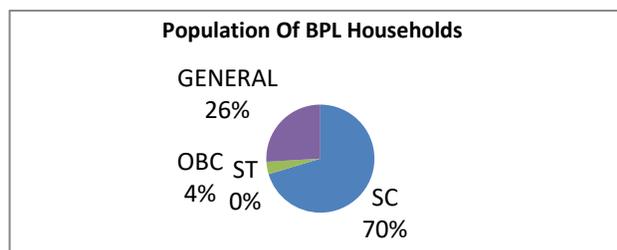


Fig.6

In Krishna Nagar the researcher covered only 54 BPL members out of 437 members. In BPL Population the field covered 70% population of SC's community, 4% OBC's and 26% members of the General category.

Table 7: Housing Status

Housing Status	Total Households	With Electricity	Without Electricity
Pucca	58, (58%)	47	11
Semi-Pucca	29, (29%)	26	3
Katcha	13, (13%)	8	5

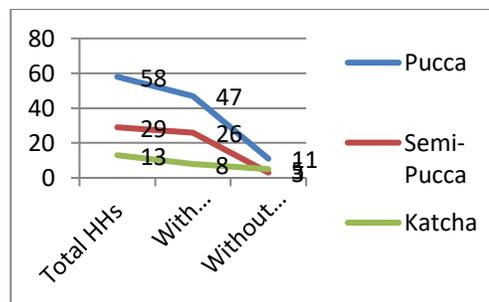


Fig.7

In Krishna Nagar the researcher covered the 100 households and found that 58% households are pucca; 29% are semi-pucca and remaining 13% are katcha households. In the pucca households; 47 households are with electricity and 11 are without electricity. In the semi-pucca houses; 26 are with electricity and 3 are without electricity. In katcha houses 8 are with electricity and 5 are without electricity.

Table 8: Land Tenure Status

Codes	No. Of Houses	Percentage
01	5	5%
02	5	5%
03	3	3%
04	60	60%
05	24	24%
49	3	3%

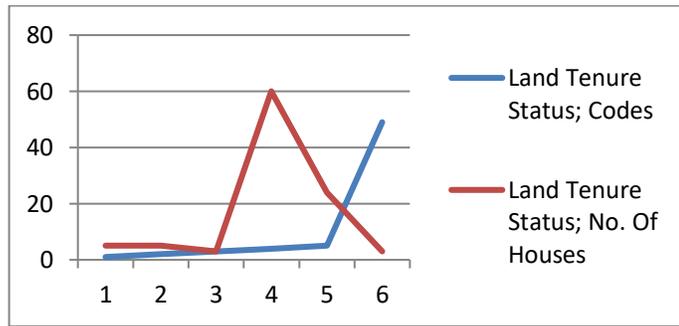


Fig.8

Note: 01=Patta, 02=Possession certificate/Occupancy Right, 03=Private Land Encroached, 04=Public Land Encroached,05=Rented,49=Others.

In Krishna Nagar the researcher find that the 60% houses are on the public land encroached area, 24% are rented, 5% are patta and possess the certificate, 3% are private land encroached and others.

Table 9: Economic Status of Households

Economic Status	No. Of Households	Percentage (%)
<500	2	2%
500-1000	0	0
1000-1500	1	1%
1500-2000	1	1%
2000-3000	6	6%
>3000	90	90%

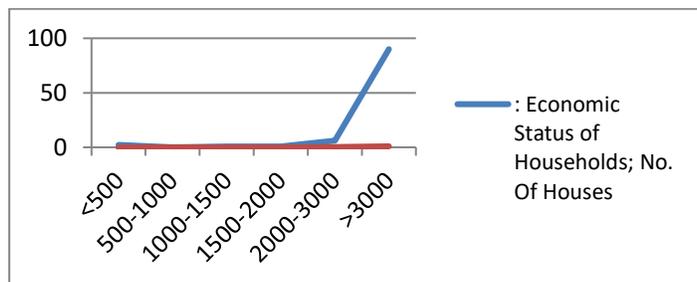


Fig.9

In Krishna Nagar the researcher found that the economic status is good. The 90% houses earn more than Rs.3000 monthly income, 6% earn between Rs.2000-3000 and 4% earn less than Rs.2000.

Table 10: Earning Members; Total=140

Employment Status	No. of Persons	Percentage of the Earning Members
Casual Labour	32	23%
Regular Wages	27	19%
Salaried	27	19%
Self-Employed	29	21%
Others	25	18%

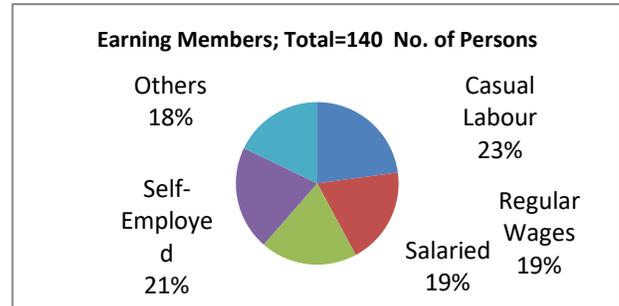


Fig.10

In Krishna Nagar the researcher find that the 23% houses belongs to labourer family, 19% houses got regular jobs, 19% houses got salaried job (private job), 21% are self employed persons and 18% houses have the other sources of earning.

Group Discussion with people of Krishna Nagar Slum

Group Discussions with Slum Dwellers: For the data collection, the researcher also participated in Group Discussions. The researcher has done group discussions with community people on employment status, sources of earning, livelihood, main reasons for unemployment, drug addiction, Self Help Groups (SHGs) and sanitation.

Discussions

The following problems of slum dwellers have been identified in the present study of Krishna Nagar slum in Shimla city:

i) First of all, we have focused on the sanitary condition of the ward. There were 34 members who were present in the discussion from the different parts of the ward. In this ward, the sanitary condition was very poor. The people said that the drainage system should be managed properly by the Government. They also favored the collection of garbage otherwise it creates problems for the people.

ii) Secondly, we have to focus on alcoholism. Most females were present in the discussion. We discussed the harmful effects of the intake of drug addiction. In this ward, we have found that most of the people were indulged in drug addiction. They responded that females were mostly tortured in their houses due to drug addiction and domestic violence occurred if they

deny the male candidates. They expressed that drug addiction should be banned in this ward because they have faced so many problems due to such kind of activities done by anyone else.

iii) Thirdly we focussed of the problem of child labour and child marriage. Child labour is also a problem in this ward. Mostly children indulged in garbage collection and other work with their parents i.e. selling newspapers, peddling drugs, or begging and they also drop school for this. They picked the bottles and other materials from garbage and sell them in the market. They are at risk of exploitation as well as all the health problems that accompany their lifestyles. Incest and abuse can occur and child marriages are still encouraged in this area.

iv) At last, we have discussed about the importance of the Self-Help Groups. In this discussion the 27 females were present in the discussion. In this regard we have told them the benefits of the Self-Help Groups, how the Self-Help Groups also maintain the economic status of the people as well as women especially.

In all the above group discussions there were many people took part in the initiatives of the upliftment of ward Krishna Nagar and discussed the different problems facing this ward and also discuss their solutions in these group discussions.

Conclusion

It is concluded that the all over living conditions of slums residing in Krishna Nagar, Shimla City have very poor in nature. Most people have to go to face so many problems in this area of Shimla City. In this ward the sanitary condition was very poor, mostly people are indulging in drug addiction and alcoholism. Also find that most children are indulged in garbage collection, newspaper selling, peddling drugs and wine as well as indulging in begging and they also drop school for this. In Krishna Nagar, we have found that the maximum number of households belonged to the SC community. The maximum population in this area belongs to the labourer family. In this ward, some people are also self-employed as well as a regular employee. It is found that the maximum population comes from out of state for the search of employment. In this area, the maximum number of people encroached on the public land i.e., 60% of households (random sample). The socio-economic conditions of the identified area are approximately good. The maximum population has earned more than Rs.3000 i.e. the 90%. There are several solutions to improve the living conditions of

marginalized groups living in slums, tenements, and squatter settlements. From the forced removal of slum dwellers and self-construction programs to the different approaches to the improvement of infrastructure in slums – known as slum upgrading – the alternatives are many, but not always appropriate to the circumstances of each settlement.

Rajiv Awas Yojana is a scheme under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) aiming “Slum Free Cities” in India. Each State has to prepare a Slum-Free-City Plan of Action (SFCPoA). The preparatory phase of Rajiv Awas Yojana (RAY) that is preparing SFCPoA has been launched by the HP Government and Mission has been nominated as State Level Nodal Agency. There are 2658 houses in this ward. In this study, we find the Rajiv Awas Yojana most appropriate solution, which is implemented for the upgradation of the slum dwellers, it is a process through which informally settled areas are gradually improved, formalized, and incorporated into the city itself, extending access to land, urban services, and citizenship to the slum dwellers (since the dwellings are not located in a risk area, such as hillsides, near streams, and other high-risk situations). It offers slum dwellers services that can cover the infrastructure – water supply, sewerage, drainage, roads, etc. – and the education and land tenure. In this ward, the 680 houses are Katcha, 1255 semi-pucca, and 723 pucca which are 25.58%, 47.21%, and 27.20% of the total population of the slum respectively. Approximately only 26% of houses are eligible to cover under Rajiv Awas Yojana in this ward.

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**STE(A)M: The Deceit in The Sharing of Ancestral Property and The Role of
Woman Standing on The Rungs of STEAM in Economy Boosting as Well as
Influencing Teacher Education**

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²Dr. Jitendra Singh Goyal

Abstract

It is not really as easy as it looks. Though STEM and STEAM look eerily similar in appearance but changing of STEM to STEAM or adding “A” to it can be a demand for rights, request, remembrance or a rebellion. In fact, now we have awakened from sleep in the same way as Immanuel Kant was awakened when all the preparations were made to send the metaphysics (the life of Philosophy) from this world. The logical positivists had almost prepared the entire plan to make philosophy a slave of science by killing metaphysics. Empiricists were bent on killing the rationalists. Then Kant had said ———— “thanks to Hume (a staunch empiricist) that he has awoken me from long dogmatic slumber.”

Although some rationalists were even more fanatical experimentalists than the empiricist ones themselves. It’s a very funny story that a rationalist philosopher once tied a rope in his neck and hanged himself from the roof hook. Fortunately, his philosopher friend arrived there and saved him. On asking about this, he confirmed that he was testing the taste of death.

Key Words: STEAM, Ancestral Property, Woman Standing, Economy Boosting

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Introduction

The voice he (Kant) raised to save the metaphysics of philosophy is probably the same as the voice of adding “A” to STEM. Actually, the basis of STEM was that it seeks to provide future generations of employees with digital literacy and multidisciplinary knowledge for a career in the modern ever- evolving workforce. So, was Arts and contribution of Arts unknown to them? Did they not know, what is the scope of Arts and what is it’s importance? Didn’t they think the Art a discipline from among them? Whether the STEM was not a net to trap the Art out of the ground? Do Humanities students are unable to earn their living? It is a matter of concern, why academics had to advise later that “A” should be included. In fact, joining of “A” in STEM is like joining a heart in some minds. Now you decide what is the contribution of the “HEART”? There maybe lacs of benefits of any new scheme or approach, but we must know that the experiment is done first and the theory of the plan is written later. For example, artist and designer Leah Heiss worked with nanotechnologists in biomedical industries to develop jewellery to assist diabetics administer their insulin, not after reading the concept of STEM. She just did her work and now it is only a matter of chance that her work seems to make the concept of STE(A)M worthwhile. Then how could there have been a huge mistake of not adding “A” in STEM? Surprisingly, we have to tell that “A” should be added to promote Arts and Humanities as important pillars of interdisciplinary education. The truth, however, is that all the disciplines of S.T.E.M were seen as a better option for a livelihood, invention or world- family and it was considered better to keep “A” away.

Can you claim that “A” does not provide livelihood, it gave nothing to the world, there is no Nobel in it and it has no role in the economy? Say and think. Actually, it is only a matter of recognition ————— the recognition of Art. Art was filtered out with net from interdisciplinary ground. Perhaps those who brought STEM to the global arena, did not consider “A” as their part. Then the question arises whether STEM and STEAM should be considered separate or STEAM is only the extension of STEM? Honestly, each member of S.T.E.M appear to be of the same group, whereas “A” is

different but no one can deny that inclusion of “A” is bringing better color.

Leaving aside the debate of STEM and STEAM and considering ahead them as almost the same will be talk of some benefit. As STEM is acceptable in form of STEAM, a discussion on any particular aspect of it would be of great importance.

In this specialization too, my focus is on the contribution of STEAM to strengthen the economy. But what role can a woman, who is the real link of this humanitarian chain, play on the basis of STEAM in boosting the economy? What influence “She” may shed on teacher education (being with STEAM background)? Is this question, aspect or theme justified and if yes, how? Taking up some such points, in my article, I am making an honest attempt to throw light on the role played by women standing on the boat of STEAM in strengthening & promoting the economy and teacher education.

My Philosophy

I want to start my talk with these words of Howard Gardner:

“Everyone deserves to learn about the arts and humanities just as much as they deserve to learn about math’s and sciences.”

Though today, STE(A)M may be a better approach just to make school education great and to enable children to face the future challenges; in the beginning it was only an artificial and clear-cut line between STEM and “A”. No one can deny this.

Another thing, no one consciously works in collaboration. This is a kind of skill. Insight and creative thinking teach the skill of using something or achievement in one arena from other. Like, a creative is working in some area and suddenly he gets insight that he can put some stuff of another area here. This results in interdisciplinary approach. It means that the work (practice) is done first and the name (theory) is given later.

Female teachers/ teacher educators: Profit game

The importance of a female teacher increases even more when it comes to the education of girls. Girls feel comfortable to express their feelings, problems and difficulties before female teachers than male teachers. They may prove best advisors and role models. To prepare women teacher educators, first of all it is necessary that

proper education of women should be arranged. Their role as educators is valuable. They can contribute to the process of girl education in specific and community in general. Affection and care are very important in making children mature and cognizant. Women's affection (which is their basic nature) and the talent of their domestic responsibility provides them with the ease that they can connect with children with love. It's a huge advantage. There is no denying that there is a shortage of female teacher educators everywhere but providing them ideal working conditions and recognising economically, nation can gain best from them. Parents of the rural area consider it better to send their girl child in the school with female teachers. Women as teachers/ teacher educators can uplift gender awareness. They can assist promote prime behavioral patterns in students.

Discipline integrated teacher education and women: STE(A)M magic

“Education” is a term which without any discrimination implies that it is for everyone, whereas in the word “women education”, is hidden the demand for gender equity, that is to say that there is surely some gap which we have to fill.

Interdisciplinary approach also has two perspectives. The first is to demonstrate the sum of the various disciplines on a topic by a knowledgeable teacher of collaboration skills. Second is to explain the same topic from the perspective of their own discipline by people who know different disciplines (individually). For example: local river system. A teacher with collaboration skills will link it to Language & Arts, might teach students about the life system of the river and may teach local history of the people who used the river for food or transport. On the other hand, experts from individual discipline may shed light on river of their own disciplines accordingly.

We can easily see some shortcomings in women education but there are some loop-holes which are not easily seen. For example, Science, Technology, Engineering, Arts and Mathematics (STEAM) education disparities are deep rooted, even in Europe and North America. Although some places have been amazing. The women also come from the STEAM background. Then, obviously they have a lot of talent in integration and they can be better to establish and teach collaboration, which is useful in

education and future life. They are well aware of the method of combining affection and reason. In my view, teacher education can be defined in simple terms as——

“To be fully prepared before going to the classroom so that being able to give children accurately and completely what we have to go to the classroom with the purpose of giving.”

The interesting fact is that a female (who is from STEAM background), whether receiving or giving teacher education, will perform better because discipline integration will have increased her receptive power. Integrated teaching is an art of connecting skills & knowledge from different/ multiple sources and experiences and applying it in various settings. Actually, it is bridging between theory and practical. Collaborative teachers encourage students use their knowledge and learning strategies in different settings.

Not 1/4 but 1/5: Kinship grew

Here, my illustration is based on personification. The first thing that happened is that science, technology, engineering and mathematics considered themselves as the only areas or subjects where something can be improved. Secondly, when they assume that we are the only fields in which there is scope or chances of betterment, so why don't we should have a relationship (kinship) with each other. I (author) see this relationship (kinship) as an interdisciplinary approach (linkage) established by themselves [actually by the holders they (these disciplines) are in hands of]. Thirdly (on the basis of respect and prestige), it was decided that apart from the four of us, what worth maybe of art?

Thus, STE(A)M is the result of voice for the right of “A”. Finally, it has been proved that there is self interdisciplinary linkage in S.T.E.A.M.

Critical thinking: No one knows the sheep better

(Thinking out of box)

One thing about creativity should be made very specific. We parents are either suppressing the creativity of children or making them insolent. In fact, when we are scolding them on something, we are suppressing them by criticising their art of

thinking. When we avoid or smile whilst they perform mischief to a relative whom we don't like, then we are actually making them nonsense.

Creativity is when we allow children try and error, not suppressing their questions, let them fly in the sky of imagination and let them think and understand on their own. Art and Critical Thinking will be born from here.

In a primary school class, a teacher was teaching mathematics. Then the investigating officer arrived there. He urged the teacher to let him check his children's math ability. The teacher immediately agreed. The investigating officer asked the children if 10 sheep were standing on a bridge and 5 of them jumped down, how many of the crowd left on bridge? The answer of all the children was 5, but on the contrary, a child stood up and replied—— “Sir, it's zero.”

At this the investigating officer looked at him with surprise and said—— “you do not understand the mathematics, Child.” At this, the child blinked his eyes and replied—— “and you do not understand the sheep, dear Sir.”

Flop insurrection

It was considered that future generations were lacking critical skills needed to lead in future economy, whereas STEM backgrounds teach innovation, creativity, critical thinking, problem solving and collaboration among other skills. Though art was not verbally boycotted but intention was the same. Thanks to the Rhode Island School of Design (RISD), one of the early champions of adding the arts to the original STEM and this was what I think like adding a heart to the four minds.

4 minds + 1 hearts = STE(A)M

Edward Lytton seems right when he remarks——

“A good heart is better than all the heads in the world.”

“A” don't strengthen STEM but challenges in the court of linkage- discipline. It is a claim to its right. The mathematics degree is undoubtedly brilliant and valuable, but the inclusion of art in it will give a sympathy that will create better design.

“Study the science of art. Study the art of science.” —— Leonardo Da Vinci

Both are the characteristics or colors of each other. So, it is very interesting and

necessary to know the colors of both. Aesthetic vision fills new life in materials. Even if we go to the real life of Nobel laureates, we will find it filled with the colors of art. To know the art of art will prove much interesting and astonishing. It would be surprising to know that most of the better things have been given to the world by less educated people. Wright Brothers, Thomas Edison, James Watt, Alexander Graham Bell and there are many more names to count. It is another thing that these inventions enrich the knowledge reservoir of science. But it's not necessary that an inventor is surely a scientist.

Creative economy

Art economy will be effective all time. The only condition is fullness of pocket. Art's economic contributions are not easily quantified. Art galleries, museums, movies, TV, radios, video games, fashion, tourism, cultural heritage, real estate & buildings, craft, publishing, newspapers, advertising, visual arts, magazines, flowers, decorating shops, music instruments, photography and many other enhance our economy. Cultural and creative industry produces jobs. Painters, potters, local goods producers etc are also serving for the economy somehow. A replica of Taj Mahal can be made but not the Taj Mahal. Likewise, the Mona Lisa painting can also be copied but it cannot be the original one.

Steam of STE(A)M: Women's role

(From village pond to scientific lab)

According to the US Department of Commerce's Economics & Statistics Administration, women who work in STEAM, make 35% more than women in non-STEAM occupations. The woman who handles society from kitchen to office, takes care from children to husband and in-laws; surely knows the art of management. Hardly anyone be with such knowledge of management like her. If she is being strengthened on the STEAM background, the result might be glorious.

Verily, woman standing on STEAM stair can help a lot in the economic growth of the world. But in all the developed or developing countries of the world, the gender gap is still much in technological subjects.

Time has two aspects. The first is that we have 24 hours and there is a lot we can do. The second is that we only have 24 hours and there is a lot to do. Symbolising these aspects with women's education, we can see both aspects positively and we really have a lot to do in this area. It would be better and practical to say that a woman can participate in economic growth or will prove a boosting agent than to say that she is a participant because there is really a gap in the society. There is difference in “what is” and “what ought to be”. This difference is the reason of crisis. Economy is social science and obviously it will come in its productive form only when every part of society will participate in it. Almost a third of women’s empowerment globally is in agriculture industry, including forestry and fishing. Women are the big share of gig economy. Economy boosting means not just productivity but also consumption. They control \$ 20 trillion in annual consumer spending. She is both producer and consumer at the same time. Fashion, makeup, decoration, flights, jewellery, fitness, healthcare, kitchen, office, industry, cinema, field, game each represents her face.

If you want to see the role of women in economy, go in the women's compartment of the local train in Mumbai (you can take the risk of not being beaten by them with folded hands). From the business class, office to the women selling fish in the baskets will be seen. Women have progressed well in the field of writing. Local dance performers (women) can't be ignored.

Women’s opportunity in women’s place: Women Robe

This term (Women Robe) is being introduced by me.

Everything has a basic nature. Anything in “space” contrary to it will create a mess in it or “space” will suffer a mess produced by it.

Taking full care of the design of Almighty God and his laws, the woman should be given full and fair chance. Social protection is utmost important and necessary. A place of their own should be decided. An example is presented by Bihar School Examination Board in Intermediate and High School Examinations, 2021. Four ideal centres have been set up (decided) in each district of the state where all persons (from the examinee, invigilators, center superintendent to the guards) will be women.

Actually, this is a type of shield they can use according to their psychology.

Doll of girls: Gender stereotypes

Though it's a tough topic of debate to fix it good or bad, but stereotypes with gender can affect children's future. Women's economic equality is good for business. The Ladies Cycle and Scooty were made keeping in mind the woman. Isn't it a big sector of economy boosting today? Is Scooty run by women only?

Conclusion

The essence of the article presented can be stated with four points. First of all, STEM may have been fantastic approach, but not including art in the beginning in it wasn't a mistake but an open trick or thought and later it's inclusion (STEAM) can be seen as a claim for right. Second, art has given a lot to the world and it's collaboration or inclusion in the science adds light to products. Thirdly, there is no doubt that woman has interfered in every area of the world. She is the link of humanity and her share is everywhere. She has an impact on the economy in every respect, and especially the woman of STEAM background is able to do better collaboration and creative thinking and has a positive impact on the economy. Fourth, women teacher educators (especially with STEAM background) may prove a milestone in girls' education and filling the gender gap.

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A Study of Relevance and Evaluation of Marathwada Water Grid Scheme

¹Balasaheb Kilche

Abstract

Under the Marathwada Water Grid Scheme, drinking water, agricultural water and industrial water will be combined grid to cope with the persistent drought in Marathwada and to curb farmer suicides. Therefore, if water is not available from one place by loop method, the water from another place will be diverted to other parts of Marathwada. E.g., Water from Jayakwadi is released through right and left canals. Instead, the problem of drinking water can be solved by releasing it in other dams. Because in this scheme, a secondary pipeline is proposed to carry pure water from the main pipeline to the taluka through water purification process. Kilometers will be the main pipeline. It will have 11 dams (Jayakwadi, Lower Dudhna, Siddheshwar, Yeldari, Isapur, Vishnupuri, Majalgaon, Lower Manar, Manjra, Lower Terna and Sina Kolegaon) connected by loop method. Overall, this scheme is an important contribution to the development of Marathwada. But the viability of the scheme is being questioned today. Many experts have expressed the view that the scheme has not been properly dealt with. Therefore, it is necessary today to evaluate the relevance and evaluation of this plan.

Keywords: Marathwada, Water Grid, drinking water, Agriculture Water, Farmer

Introduction

In Maharashtra, the current government had come up with an ambitious plan called Water Grid to quench the thirst of Marathwada. Due to the bidirectional facility, water will be transferred through a pipeline on both sides. Therefore, if water is not available from one place by loop method, the water from another place will be diverted to other parts of Marathwada. Will E.g. Water from Jayakwadi is released through right and left canals. Instead, the problem of drinking water can be solved by releasing it in other dams. Because in this scheme, a secondary pipeline is proposed to carry pure water from the main pipeline to the taluka through water purification

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process. Kilometers will be the main pipeline. 11 dams (Jayakwadi, Nimma Dudhna, Siddheshwar, Yeldari, Isapur, Vishnupuri, Majalgaon, Nimna Manar, Manjra, Nimma Terna and Sina Kolegaon) will be connected by loop method. The work of this scheme has been given to a private company. The scheme will cost about Rs 10,000 crore. The plan is to bring water from areas where water is available to dryland areas. For this scheme 8 preliminary collection reports for 8 districts of Marathwada, as well as 2 preliminary collection reports for bringing water from other valleys to Marathwada are proposed. Out of which 2 PDRs have been received from Mekerot for Aurangabad and Jalna districts. The planning, implementation, operation and maintenance of this work will be done through Maharashtra Jeevan Pradhikaran. The total cost for this scheme for Aurangabad district is 2 thousand 764 crore 46 lakhs, out of which the total pipeline is 737 km. And the total capacity of 4 water treatment plants will be 396 million liters. The total cost for Jalna district is 1 thousand 529 crore 08 lakhs. The total length of the pipeline is 458 km. And the total capacity of 3 water treatment plants will be 149 million liters. Also, the total cost for Beed district is 4 thousand 801 crore 86 lakhs, in which the total pipeline is 1078.61 km. And the total capacity of 5 water treatment plants is proposed to be 255 million liters. It is also proposed to supply water from Krishna Valley to Ashti taluka of Osmanabad and Beed districts in future. Seeing the water problem in Marathwada as a whole, people have to wander for drinking water. Considering that in a district like Latur in Marathwada, water had to be supplied by rail during the drought, the drought and drinking water in Marathwada affect the education of children and also the health of women. It also affects the agricultural business which is the economy of Marathwada. Therefore, farmer suicides have increased in Marathwada today. Overall, this scheme is an important scheme that contributes to the development of Marathwada. But the viability of the scheme is being questioned today. Many experts have expressed the view that the scheme has not been properly dealt with. Therefore, it is necessary today to evaluate the relevance and evaluation of this plan.

Review of research and development in the subject

Water is our basic need. Although the world's population is about 790 million today, the amount of natural water they need is limited. Water availability, quality, groundwater level, rainfall are all declining day by day. When water is allocated according to its availability, first priority is given to drinking, followed by agriculture and industry. In such cases, the actual distribution of

water must be done in an equal and equitable manner. Natural disasters, such as modern-day floods or droughts, occurred in the 19th century; But we were able to overcome it with the invaluable contribution of Bharat Ratna Sir Mokshagundam Visvesvaraya in engineering for the country. His plans for construction of dams, canals, water supply, drainage, irrigation block systems, construction and management are considered to be the best in architecture. He understood that the availability of water is the key to the overall development of the country. We have severe droughts in the south, while the northern states face floods. During the monsoons, many rivers in the north carry excess water to the sea. Visvesvaraya knew that if the same was diverted to rivers in drought prone areas, the country's water problem could be solved permanently. His wish for a river confluence project in the country is still unfulfilled. It is the duty of the Central and State Governments to phase out ambitious national projects for water conservation and water use for our future generations. Because in the future, we will not look at water as a limited resource, but in the future, we will have to pay more for fuel than water. Therefore, March 22 is celebrated as World Water Day. The main objective of this day is to create awareness about water through public participation.

Climate change poses a major challenge to India's water resources in the future, according to a 2012 survey by Norwegian research firm Bioforsk. Billions of rupees are spent on natural disasters like floods, droughts, storms, earthquakes, tsunamis. The importance of such things should be with everyone nowadays. Today, as much as water leakage or theft, unauthorized plumbing, excessive groundwater abstraction, and water pollution need to be controlled, it can be recycled by treating the wastewater to meet the growing demand for water. According to a survey by the Central Pollution Control Board, the rate of wastewater treatment in various states is very low. By leaving untreated water in rivers, streams, streams, we are polluting our natural resources. Increasing urbanization has led to depletion of natural resources and increased flooding.

As a result of pollution, the incidence of many serious diseases is increasing day by day. Even today, water is often needed to keep hands clean, even in Corona's time. If 95% of the city's wastewater is treated and reused, the water in the dam may become more potable. Singapore once depended on neighboring Malaysia for water. Today the country has 100 percent sewage treatment. The silt content of many dams in the country is about 30%. Cleaning it will increase the storage capacity of the dam. Polymer encapsulation technology developed in India is available for sludge

removal from the dam. Also, according to the National Building Construction Code, 135 liters of water is required per person per day. It is divided into five liters each for drinking and cooking, 20 liters for washing clothes, eight liters for washing utensils, seven liters for house cleaning, 45 liters each for bath and toilet. In addition, water is used for washing bikes / four-wheelers, cleaning around the house, and gardening. The leakage rate in such places is about 10%. Bathrooms and toilets use the most water. In such a place, if the option of water saving devices is chosen instead of the traditional ones, about 20% savings can be made. The production and use of water saving devices has been made compulsory in countries like Australia, Singapore and Portugal. Water saving devices are rated by the Central Science and Environment Center, Delhi. The Central Government disseminates information on new water saving technologies, its benefits, equipment efficiency, their limitations, disposal of improper equipment, sewerage schemes across the country. This project is implemented with the support of the Ministry of Urban Development.

Population Demographics of Maharashtra & Marathwada

Districts by administrative divisions Maharashtra occupies the western and central part of India and has a long coastline stretching nearly 720 kilometres along the Arabian Sea. The Sahyadri mountain ranges provide a physical backbone to the state on the west, while the Satpuda hills along the north and Bhamragad-Chiroli-Gaikhuri ranges on the east serve as its natural borders. Maharashtra has borne a long history of social reform while having stable governance right from the beginning. Evident from movements such as Jyotiba Phule's Satyashodak Samaj in 1873 to the political assertion of underprivileged caste groups through the Peasant and Workers Party. Maharashtra has created an environment of progressive change and development for itself. Maharashtra is among the most economically developed states in the country along with being one of the largest. The state is also a primary financial centre and boasts of one of the country's largest industrial economies. Mumbai, considered the country's financial capital, is the state's political capital and houses almost all major financial institutions. India's major stock and commodity exchange markets and capital markets are located here. Maharashtra has 36 districts, divided into six revenue divisions for administrative purposes including Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur.

The state has a long tradition of highly powerful planning bodies at district and local levels. Local self-governance institutions in rural areas include 34 Zilla Parishads, 355 Panchayat Samitis

and 27,993 Gram Panchayats. Urban areas in the state are governed by 23 Municipal Corporations, 222 Municipal Councils. Maharashtra is the second largest state in India in terms of geographical area, spread over 3.08 lakh sq. km and in terms of population. The State’s population, which is 9.29 per cent of the entire country’s population, is 11.24 crore. While the national urban population average is 31 percentage, 45 percent of Maharashtra’s population lives in urban areas. The state’s sex ratio at 925, is lesser than the national average of 940. An inter-State comparison of key indicators across some major states reveals that Maharashtra’s social attainments do not match its high-income level.

The Marathwada region is located in Maharashtra state of India. The region has a total geographical area of 64,813 sq. km. The latitudinal extent of Marathwada is 17°37’ North and 20°39’ North while longitudinal extent is 74°33’ East and 78°22’ East longitudes. The Marathwada comprises eight districts and seventy-six sub-districts in eight districts the region is located in the rain shadow belt of Sahyadri mountain range at Western Ghats of Maharashtra. The average temperature of day varies between 27.7 to 38.0°C and the mean temperature of night ranges from 20.0 to 26.9° C. The normal average rainfall is about 825 mm but is highly erratic and often there is a significant time gap between the two successive showers of rain. The Godavari is a most important river of the region, also known as ‘Ganges of Deccan’ and comprises many large- and small-scale irrigation projects. As per the estimates of 2011 census report, the population of Marathwada region is 18 731 872. A large section of Marathwada’s population around 74% is reliant on the agricultural sector.

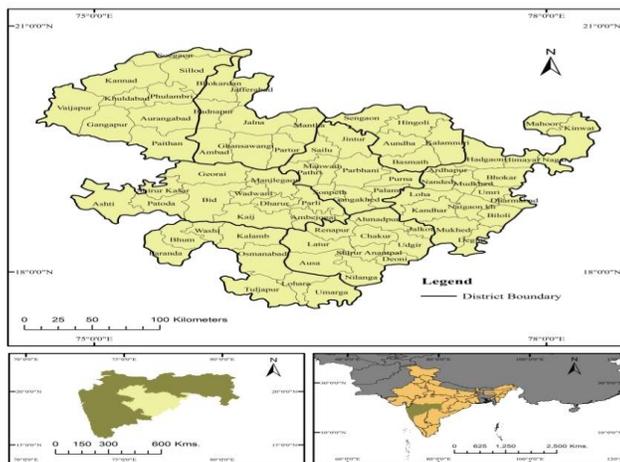


Fig. 1 Location Map of the Study Area, Marathwada Region, Source: Census of India (2011)

Objectives of the Proposed Study

- 1.To study the global water problem.
- 2.To study the various issues created by the global water problem.
- 3.To study the current situation and problems of water in India and Maharashtra.
- 4.To study Marathwada Water Grid Scheme.
5. To evaluate the relevance and evaluation of the water grid scheme in Marathwada.

Major Research Question/Hypotheses

Due to perpetual drought in Marathwada, farmer suicide, drinking water, agricultural water and industrial water, the development of Marathwada is currently hampered. Therefore, this scheme can be beneficial for the development of Marathwada. Considering the geographical situation in Marathwada, although there are many problems in implementing this scheme, the positive attitude of the government will overcome this problem.

Methodology for the research work:

Primary and secondary Source have been used for this research. The survey, descriptive and analytical method will be used for this research. For this research, each of the two talukas in which the scheme is being implemented in eight districts of Marathwada will be selected at random. Under this scheme, the roles will be known on the basis of interviews of farmers, women, people's representatives, officers in the taluka in which the scheme will be implemented.

Discussion

The global water crisis and its aftermath are approaching. Due to this, the government has tried many measures to solve the problem of drinking water in Marathwada, the problem of agricultural water, and the frequent droughts in Marathwada. However, those schemes could not contribute to the development of Marathwada. Therefore, to overcome the water problem of Marathwada, the Government of Maharashtra has decided to implement a water grid project in Marathwada. Considering the availability and need of water, the water grid project will be implemented in phases in Marathwada. The government will approve this project in phases to alleviate water problem and drought in Marathwada. In the first phase, the project will begin from Jayakwadi dam in Aurangabad's Paithan taluka. The government has approved an initial amount of Rs 285 crore for the project. The second phase will cover other talukas in Aurangabad, which will be followed

by work in dams of Beed, Osmanabad, Latur, Jalna, Nanded, Hingoli and Parbhani districts in the third phase. Overall, the water grid is a form of river confluence project. Under this project 11 dams namely Jayakwadi, (Aurangabad), Yeldari (Parbhani), Siddheshwar (Hingoli), Majalgaon and Manjra (Beed), Lower Terna and Sina Kolegaon (Osmanabad), Dhanegaon (Latur) will be connected in phases.

The survey, descriptive and analytical method has been used to evaluate the relevance and evaluation of the Water Grid project in Marathwada. Interviews of 160 farmers, general public and traders have been conducted almost randomly from 16 talukas in eight districts of Marathwada. He was asked 20 questions during the interview. They are mainly involved in raising awareness about water grid projects, utilization of water grid projects, drinking water, water for agriculture, water available for agriculture, water for industrialization, various schemes of the government on water issues. The following is an analysis of the facts obtained through interviews during the relevant examination of the scheme and the analysis of those facts.

Table:1

Percentage Analysis of relevance and evaluation of the Water Grid project

S. No.	Description	Yes	Percentage	No	Percentage
01	Is there a problem of drinking water and water for agriculture in your area.	144	90.00%	16	10.00%
02	Does the government have different plans for drinking, agricultural and industrial water in our area?	98	61.25%	62	38.75%
03	Are the various schemes of the government on water issues being benefits for drinking, agriculture and industrialization in our area?	96	60.00%	64	40.00%

04	Do you know about the water grid project?	104	65.00%	56	35.00%
05	Will the water grid project be useful for drinking, agricultural, industrialized water and drought alleviation in your area?	86	53.75%	74	46.25%
06	Do you think the water grid project will reduce farmer suicides in your area?	82	51.25%	78	48.75%
07	Do you use traditional cropping methods for farming?	100	62.50%	60	37.50%
08	There are different sources of 12 months Available of water in your area?	16	10.00%	144	90.00%
09	Considering the geographical location of Marathwada, can the water of water grid scheme come to our area?	54	33.75%	106	66.25%
10	Do you think the general public will benefit from the water grid scheme?	40	25.00%	120	75.00%

(Source: Primary Data)

In the case of drinking water and agricultural water problems, 90% of the respondents answered yes, while only 10% of the respondents answered no. 61.25 percent of the respondents answered yes to the various schemes for drinking, agricultural and industrialized water in their area, while 38.75 per cent of the respondents answered no. About 60.00 per cent of the respondents

answered yes to the various schemes used by the government for drinking water, agriculture and industrialization in their area, and 40.00 per cent answered no. About whether you know about the water grid project, 65.00 per cent of the respondents answered yes and 35.00 per cent of the respondents answered no. 53.75 per cent of the respondents answered yes to the question of whether the water grid project will be useful for drinking, agriculture, industrial water and drought alleviation in their area, while 46.25 per cent of the respondents answered no. 51.25 per cent of the respondents answered yes to the question of whether water grid project would reduce the number of farmer suicides in their area. 62.50 per cent of the respondents answered yes to the question of whether you use traditional cropping methods for agriculture and 37.50 per cent of the respondents answered no. 10.00 per cent of the respondents answered yes to the question of whether there are different sources of perennial water in their area, and 90.00 per cent of the respondents answered no. Given the geographical location of Marathwada, 33.75 percent of the respondents answered yes to the question of whether water from the water grid scheme can come to their area, and 66.25 per cent of the respondents answered no. 25.00 per cent of the respondents said yes to the water grid scheme and 75.00 per cent of the respondents said no.

Conclusion

Considering the problems of drinking water and agricultural water, it is seen that the situation in Marathwada is very severe. Also, the benefits of various schemes of the government on water issues are seen to be benefiting the people of Marathwada, as a result of which the development of Marathwada is getting a boost. It is evident that there is a great deal of awareness regarding the water grid scheme being started in Marathwada. Also, due to water grid project, farmer suicides in Marathwada will be reduced. Farmers in Marathwada mainly use traditional cropping systems as they do not have access to perennial water as they do not have access to various sources of water. The agribusiness in Marathwada is largely dependent on wells and borewells. Also, considering the availability of water in Marathwada, even if it is for water, it is not planned properly. As a result, the people of Marathwada are not able to get proper benefit of that water. Many villages in Marathwada still do not have a government drinking water scheme, so the people of Marathwada have to depend on a private water system for drinking water. As a result, they are facing a huge financial burden. Considering the geographical location of Marathwada, water from the water grid scheme cannot reach the entire Marathwada. Therefore,

it is a fact that the common man will not benefit from the water grid project created for the development of Marathwada. That is why experts in the field appear to be questioning the existence of the scheme even before it is launched. Water scarcity is a very serious issue in Marathwada. In summer, the condition of districts in Marathwada was very poor. Because Marathwada and still do not get water according to the principle of equitable water distribution Of different dams in Marathwada The carrying capacity of both the canals is low and the silt of many dams in Marathwada has not been removed yet, so the storage capacity of Jalna km in Marathwada is getting reduced drastically. Although the water grid project will be the backbone of Marathwada's development considering the overall availability and need for water, the shortcomings of this scheme are of a very wide scale so considering the geographical location of Marathwada, access to water for the common man is a difficult problem facing this project. It is a fact that if the government implements this scheme with the objective of implementing only popular schemes and increasing its vote share, then the east, west, north and south parts of Marathwada will never run out of water. Therefore, before the government spends on this scheme again, it will be necessary to check the relevance and feasibility of this scheme.

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Analysing Impact of the Workplace Environment on Employee's Welfare, Performance, and Productivity

¹Renu Bharti

Abstract

The study examined the impact of the work environment on employee wellbeing and productivity of HDFC bank employees in U.P west region. To aid in the research, two research questions are posed. The study used an ex post facto descriptive survey research design. The method of random sampling was employed to get 350 respondents. Data were gathered using a standardised questionnaire with three sub-sections, and mean values and straightforward percentages were utilised to analyse the results. The findings demonstrated the impact of workplace characteristics and a strong communication network on employee welfare, health, morale, productivity, and efficiency. It was advised that industrial social workers should lobby management to establish a welcoming workplace environment and effective communication system that will draw talent, keep it, and motivate workers toward a healthy lifestyle and increased productivity and ensure virtuous workers, enthused employers, and the survival of the business.

Keywords: Workplace, Environment, Workers' Welfare, Performance, Productivity

Introduction

Man manipulates his immediate surroundings, or environment, in order to survive. Unlawful manipulation poses dangers that make the surroundings dangerous and reduce worker productivity. Therefore, the workplace includes the atmosphere in which an employee executes his or her duties (Chapins, 1995), whereas an effective workplace is one in which outcomes can be obtained that meet management expectations (Mike, 2010; Shikdar, 2002). Physical surroundings have an impact on how people interact, carry out duties, and are managed in an organisation. The physical environment, which is a component of the workplace, has a direct impact on human perception and slightly alters interpersonal relationships and productivity. This is true because the qualities of a room or gathering space for a group can affect output and level of satisfaction.

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In today's business environment, the most important aspect in maintaining employee satisfaction is the work environment. The workplace of today is unique, diversified, and ever-evolving. The traditional employer-employee relationship has changed drastically. Workers can choose from nearly endless work alternatives in a developing economy. This confluence of elements has produced a situation in which the company needs its employees more than the employees need the company (Smith, 2011).

Numerous researches on the workplace have revealed that users and employees are content with particular workspace elements. Lighting, ventilation rates, access to natural light, and acoustic environment are the aspects that users prefer most, and these factors have a substantial impact on their productivity and contentment with their workstation (Becker, 1981; Humphries, 2005; Veitch, Charles, Newsham, Marquardt & Geerts, 2004; Karasek & Theorell, 1990). (Dilani, 2004; Milton, Glencross, & Walters, 2000; Veitch & Newsham, 2000) It has been discovered that lighting and other elements, such as ergonomic furniture, have a favourable impact on employees' health and, as a result, on productivity. This is true because light has a significant effect on people's/workers' overall performance at the workplace as well as their physical, physiological, and psychological wellbeing. There is evidence that certain physical aspects of the workplace, such as lighting, temperature, the presence of windows, and the free circulation of air, may have an impact on employees' attitudes, behaviours, satisfaction, performance, and productivity (Larsen, Adams, Deal, Kweon & Tyler, 1998; Veitch & Gifford, 1996).

A closed office floor design gives staff members more privacy than an open plan office layout, whether there are a few employees in each closed office or each employee gets their own office. They have the opportunity to work quietly, which helps them stay focused on the job at hand and prevents them from being overly distracted by what their coworkers are doing. It allows workers to think freely or be creative without being constantly interrupted (Mwbex, 2010). The presence of noise in an open workplace layout is distracting and demoralising, has a high level of disturbance, and offers little solitude (Evans & Johnson, 2000).

The workplace is changing quickly due to technological advancement, novel communication techniques, virtual reality, improved e-commerce, and alternate work patterns (Challenger, 2000). Organizations have increasingly opted for a particular type of workplace, such open office space, to support these quick changes while preserving or improving results

(Terricone and Luca, 2002). In contrast to totally enclosed private offices, this sort of work environment enables flexible workplaces and new working styles by allowing for easier communication and access to coworkers. Compared to closed office spaces, the open plan office change has enhanced staff productivity (Becker, 2002). Additionally, communicating with someone you can see clearly is easier than communicating with someone who is close by, far away, or who is separated from you by an object (J'Istvan in Business (2010). The egalitarian framework that the open office establishes ensures that everyone has equal access to resources, facilitates communication among staff members, and eliminates physical distance (Brennan, Chugh& Kline, 2002, Hedge, 1986, 2000).

One of the most common distractions for workers is noise, which has a negative impact on accuracy, productivity, and stress from the job. According to Bruce (2008), research shows that workplace distractions increase errors by 27% and reduce employee productivity by as much as 40%. Additionally, a study from 2003 by Loftness, cited by Moloney (2011), supported the significance of ventilation and natural light for worker productivity. According to the study, day lighting systems increase productivity in buildings by 3 to 18%.

Building success and professionalism in the workplace requires effective workplace communication (Canadian Centre for Communication, 2003). An organisation that effectively communicates inside the workplace is more likely to avoid issues with performing the daily tasks, is less likely to experience issues with improper occurrences, and will provide higher employee morale and a more positive outlook on the workplace. Employee productivity will rise when there is efficient communication between them since it results in fewer complaints and more completed work (Quilan, 2001). It clears up confusion and saves time that would have otherwise been used for justification or debate (Fleming & Larder, 1999). It improves job satisfaction and reduces workplace anxiety, which results in a more favourable work environment and higher productivity (Makin, 2006; Taylerson, 2012). Noise level is another another communication factor that has an impact on productivity. Communication is negatively impacted by noise, and as the volume and persistence of the noise increases, so does irritation and productivity. This is explained by the fact that as noise levels rise, spoken communication gets progressively harder.

According to Hughes (2007), nine out of ten workers agreed that a workspace's quality affected their coworkers' attitudes and increased productivity. Chandraseker (2011)

further confirms that unhealthy and risky working conditions, such as inadequate ventilation, poor lighting, excessive noise, etc., have an impact on employees' productivity and health. In a 2009 study of 31 bank branches, Hameed and Amjad found that ergonomic and comfortable office design significantly improved employee motivation and performance. Based on these findings and the literature review, it is clear that most studies on workplace environments and productivity have focused on for-profit businesses rather than social service providers. Against this backdrop, this study will examine the impact of workplace environments on employee welfare and productivity in U.P west region of HDFC bank employees.

To aid in the research, the following two research questions are posed:

- I. How do workplace characteristics affect employee welfare, performance, and productivity?
- II. How do workplace communications affect employee welfare, performance, and productivity?

Methodology

The research used a descriptive survey research design of the ex post facto type to examine how the working environment (communication and workspace) affects employee welfare, performance, and productivity. Employees of HDFC bank of U.P west region make up the study's population. A total of three hundred and sixty respondents were obtained by randomly selecting one hundred and twenty respondents (management, middle, and junior cadres) from each bank unit. For data analysis, 350 respondents returned questionnaires that were properly filled out. The respondents were between the ages of 22 and 55. The participants' average ages were 35.45, with a standard deviation of 4.18. Their level of academic achievement spans from holders of a first degree to secondary school certificates.

The three-part (A–C) questionnaire utilised for the study was constructed using pre-existing structured scales with the correct psychometric qualities. Age, educational background, and marital status are just a few of the sociodemographic traits that respondents were asked about in Section A. Six questions from the "Work Environment Survey by Newfoundland and Labrador Statistics Agency (NLSA) 2008" made up Section B. A pilot research yielded a re-established psychometric characteristic of 0.87. Nine questions from the "Work Environment Survey by Newfoundland and Labrador Statistics Agency, 2008" make up Section C. This survey's revalidated psychometric property is 0.89. To determine the opinion and examine their sentiments, each item in the questionnaire was analysed using

simple percentages and the mean. compared to the performance of the workers and the independent variables.

Analysis of Results

TABLE 1: WORKPLACE FEATURES AND WORKERS' PRODUCTIVITY

	WORKSPACE	SA	A	D	SD	MEAN
1	Closed office layout	58 (14.8)	202 (50.8)	99 (24.8)	39 (9.8)	3.29
2	A tidy and attractive office	76 (19.3)	202 (50.3)	100 (25.0)	22 (5.5)	3.28
3	Lighting	71 (17.5)	171 (42.5)	107 (26.8)	53 (13.3)	3.36
4	No noise was heard in the workplace.	51 (13.0)	207 (51.5)	99 (24.8)	43 (10.8)	3.33
5	Airflow and a moderate room temperature	83 (21.0)	152 (37.8)	134 (33.5)	31 (7.8)	3.17
6	An open office layout	92 (22.8)	206 (51.3)	67 (16.8)	37 (9.3)	3.12

Table 1 shows that staff received the highest rankings. Lighting as the aspect in the workplace that will have the biggest impact on workers' performance (mean 3.36). This is so that employees' health, the number of accidents at work, and productivity can all be improved by appropriate lighting. The absence of noise in the office is the second factor that will affect them under this subheading (mean 3.33). Less outside distractions allow for complete focus on the tasks at hand. In descending order of the magnitude of the mean, the third, fourth, fifth, and sixth characteristics are close office space plan (mean 3.29), clean and attractive office (mean 3.28), moderate room temperature/ventilation (mean 3.17) and open office space (mean 3.12). These results demonstrate the importance of optimum ventilation for worker health and efficiency in every workplace. By reducing exposure to airborne hazardous substances, a well-designed and effective ventilation system decreases the risk of occupational disease, absenteeism, and turnover.

TABLE 2: WORKPLACE COMMUNICATION AND WORKERS' PERFORMANCE

	COMMUNICATION	SA	A	D	SD	MEAN
1	Staff meetings are regularly scheduled in my Division	87 (22.0)	211 (52.5)	88 (22.0)	14 (3.5)	3.07
2	I feel that my department does a poor job of orienting new employees	57 (14.5)	228 (56.8)	98 (24.5)	17 (4.3)	3.19
3	When I am given a task at work, I know what I am expected to achieve	65 (16.5)	218 (54.8)	97 (24.3)	18 (4.5)	3.17
4	Essential information flows effectively from senior leadership to staff	56 (14.3)	201 (50.0)	119 (29.8)	24 (6.0)	3.27
5	I receive meaningful recognition for work well done	54 (13.8)	203 (50.5)	104 (26.0)	39 (9.8)	3.32
6	If I were to suggest ways to improve how we do things, my manager or supervisor would take them seriously	101 (25.5)	215 (53.5)	74 (18.5)	10 (2.5)	2.98
7	I know how my work contribute to the achievement of my department's goals	66 (16.8)	240 (59.8)	80 (20.8)	14 (3.8)	3.10
8	I have opportunities to provide input into decisions that affect my work	83 (21.0)	197 (49.0)	98 (24.5)	22 (5.5)	3.14
9	I receive useful feedback from my manager or supervisor on my job performance	113 (28.5)	198 (49.3)	67 (16.8)	22 (5.5)	2.99
10	Easy receipt of feedback for job done	104 (26.0)	171 (42.8)	109 (27.3)	16 (4.0)	3.09

With a mean of 3.32, meaningful appreciation for well-done work received the most significant results. The majority of respondents (79.0%) concur that showing them appreciation for a job well done inspires them to work harder and perform better. Senior leadership personnel, ranked second with a mean score of 3.27, efficiently communicates vital information because such a structure encourages employees to feel appreciated and valued by management. Third place, with a mean score of 3.19, goes to the belief that insufficient orientation of new hires has an impact on workers' performance. This demonstrates the need of having effective communication with new hires in order to encourage their productive performance at work. Knowing what to accomplish from a task assigned at work is next in importance. Its average value is 3.17. The workers' concentration is on achieving the stated objective at work since task designation and outcomes are made obvious for their knowledge, which leads to good performance and productivity. Having the ability to influence decisions that have an impact on employees' jobs came in fifth with a mean of 3.14. This demonstrates how decision-making process involvement inspires workers to deliver effective work. This is closely related to employees' awareness of how their individual efforts, with a mean score of 3.10, help the department achieve its objectives, which ranks sixth.

The usual staff meeting schedule, with a mean of 3.07, is presented next. Employees are free to converse and express their thoughts here. They are encouraged to perform well and boost productivity when group decisions are made and discussions are held. Having employees provide feedback to their managers or/and supervisors (mean = 2.99) and having managers or supervisors take suggestions from employees on how to improve things (mean = 2.98) were ranked eighth and ninth, respectively. Since both managers and employees are showing mutual trust in one another and providing each other the chance to contribute their ideas to the production, worker performance and productivity have improved.

Discussion of findings

The research demonstrates that a quality lighting scheme will increase organisational productivity by reducing worker weariness and eyestrain and boosting productivity and performance. Improved illumination at work will aid workers' eye-hand coordination, which will increase productivity and decrease rejection/defect rates. It will also help prevent accidents. The business also has intangible advantages such as higher employee morale and a decline in accident rates as a result of workers' improved ability to see their own

performance. This is consistent with Hameed and Amjeed's (2009) conclusion that workers experience eyestrain, headaches, and irritation when performing routine tasks in low light. The performance of employees suffers substantially as a result of these discomforts.

The results demonstrated that the absence of noise boosted worker productivity since there were fewer distractions and fewer stress-related issues at work. It is consistent with Bruce's (2008) research, which showed that a reduction in workplace noise can lower physical symptoms of stress by as much as 27% and enhance accuracy by 10% in data entry employees' performance. Similar to this, excellent ventilation and a comfortable room temperature boost productivity and lessen employee stress. This was validated by Moloney (2012), who found that thermal comfort and lighting system controllability increased worker productivity by 0.18 to 3.12%.

Employees dislike "open plan" offices because of distractions that make it difficult for them to focus on their work, but the prevalence of this finding demonstrates that employers prefer them because they are less expensive to build and more flexible to reconfigure than the traditional private or cellular office layout, while employees prefer them because they encourage communication and allow workers to e Some workers concurred that having the company's managing director working in the same area as the newest employee keeps everyone on the same level. This result is consistent with Mwbex (2010) and O'Neil (2008) who found that open plan offices encourage informal interactions amongst staff members and encourage a climate of support and cooperation. In general, an improvement in employees' productivity and organisational performance is guaranteed by the physical design of the workplace and effective management procedures (Gensler, 2006; Uzee, 1999).

Another finding from the study was that communication is crucial to the accomplishment of any workplace programme or set of procedures. This is consistent with Taylerson's (2012) assertion that good workplace communication aids firms in selecting and customising their programmes and policies to suit the individual needs of their workforce. By attending to employees' needs, an organisation can increase production since morale is raised and workers are psychologically and emotionally stable to perform successfully and efficiently at work. Additionally, it was shown that a strong communication network fosters stronger rapport among employees, which in turn makes them more content and effective in their jobs. Employee loyalty to the company is increased as a result of higher morale. According to Dunne (2011), good communication helps employees become more knowledgeable, naturally

more trusting of their co-workers, and more certain that any dependent job is being completed. This position is forcing the company to be adamant about both its existence and the welfare of its people.

Findings' Implications for Industrial Social Work

- The industrial social worker should step in to ensure that workers are not negatively impacted by the adoption of new technologies and employers' intention to cut operational costs. For instance, decisions about workspaces should be made with an eye toward improving the quality of life for employees. Additionally, the workplace should be physically conducive to improving employee health. It would manifest in the form of ergonomic furniture, lighting, and indoor air quality (open office space).
- Because investing in lighting will increase safety, industrial social workers should promote excellent lighting in the workplace. Accident rates are significantly lowered, resulting in lower insurance premium payments and decreased absenteeism due to fewer accidents. Nothing but improving employee wellbeing is being pursued here.
- The components of the workspace are intended to foster interpersonal relationships and teamwork without jeopardising productivity. Because it encourages mentoring, problem-solving, routine communication, and information sharing, the industrial social worker should push for it. The outdoors promotes social interaction, spontaneity, and productivity.
- The industrial social worker should lobby management to take notice of the need to establish a workplace that draws in, retains, and inspires its personnel. This is done in an effort to help employees love their work (job happiness), feel as though their work matters (goal orientation), take pride in their work (job accomplishment), and be able to fulfil their potential (self-actualisation).

Conclusion

Poor job conditions have a huge negative impact on workers, their families, and the national economy. A pleasant workplace atmosphere that supports work performance naturally increases productivity. It also leads to fewer rejects, increased safety, decreased insurance costs, better morale, and higher customer satisfaction. Virile employees, enthusiastic employers, and the maintenance of the organisation will all be involved in effective workplace communication as well as the development and implementation of healthy workplace practises.

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'द डार्कस्ट डेस्टिनी' : मानवीय संवेदनाओं का झुरमुट

¹ अकरम हुसैन

सारांश

यह एक समीक्षात्मक शोध पत्र है जिसमें डॉक्टर राजकुमारी लिखित उपन्यास 'द डार्कस्ट डेस्टिनी' द्वारा एक महिला किन्नर की मानवीय संवेदनाओं का मार्मिक चित्रण प्रस्तुत करता है। जिससे इस उपेक्षित, बहिष्कृत समाज के उत्थान में कुछ नई जानकारी भी जुड़ेगी और समाज भी उनको समानता का अधिकार देने के लिए जागरूक होगा। केंद्र और राज्य सरकार भी उनके लिए नयी-नयी योजनाओं का शिलायन्स करेंगी। क्योंकि यह शत प्रतिशत सत्य है कि साहित्य में समाज और सरकारों को मोड़ने का सामर्थ्य होता है।

बीज शब्द : डार्कस्ट डेस्टिनी, तृतीय उभयलिंगी समाज

इस उपन्यास की चर्चा करने से पहले सर्वप्रथम इसके नाम पर दृष्टिपात करें तो, हिंदी साहित्य जगत में अंग्रेजी नाम से अनेक उपन्यासों का आविर्भाव हो चुका है जिसमें कोटि के रचनाकार भी इस अंग्रेजियत से स्वयं को परे ना रख सके। इस कारण कुछ रचनाकार और उनकी कृतियों का स्मरण करना भी समीचीन होगा जैसे - 'जिप्सी- इलाचंद्र जोशी (1952), 'सीन 75' - राही मासूम रज़ा (1977), 'साईबर माँ' - मधु धवन (2004), 'रेड जोन' - विनोद कुमार (2015), 'नॉन रेसिडेंट बिहारी'- शशिकांत मिश्रा (2015), 'ज़ेड प्लस' - रामकुमार सिंह (2015), 'बनारस टाकीज़'- सत्य व्यास (2015), 'डार्क हॉर्स' - नीलोत्पल मृणाल (2016), 'रीफ़'- गणेश पाण्डेय (2016), 'नॉट इक्वल टू लव' - सूरज प्रकाश (2016), 'सर्कस' -संजीव (2018), 'अक्टूबर जंक्शन'- दिव्य प्रकाश दुबे (2019), 'हाफ मैन्'- भुवनेश्वर उपाध्याय (2020), 'ब्लाइंड स्ट्रीट'- प्रदीप सौरभ (2021) एवं 'द डार्कस्ट डेस्टिनी'- डॉ.राजकुमारी(2021) यह सभी हिंदी के ही उपन्यास हैं, लेकिन इनके नाम अंग्रेजी में दिए गए हैं। हो सकता है रचनाकार का ध्येय कृति को आकर्षित बनाने का हो, किसी भी हिंदी प्रेमी को यह प्रयोग अजीब लग सकता है क्योंकि हिंदी की शब्द संपदा अनंत है वहां पर अनेक बोलियों और भाषाओं को समान स्थान दिया गया है। यदि इन उपन्यासों का नामकरण हिंदी में ही होता तो शायद

¹ सहसंपादक - वाङ्मय पत्रिका अलीगढ़

इनकी प्रसिद्धि कम नहीं होती। पता नहीं रचनाकार की क्या मजबूरी रही थी जिस कारण उसने हिंदी भाषा में उपन्यास लिखकर नाम अंग्रेजी में दिया।

डॉक्टर राजकुमारी का उपन्यास 'द डार्केस्ट डेस्टिनी' मानवीय संवेदनाओं पर आधारित एक अनूठी कृति है जिसमें एक महिला किन्नर की कहानी है, जिसका नाम अमृता है। उसका जीवन हमेशा से संघर्ष कठिनाई और पितृसत्तात्मक समाज में अपने अस्तित्व को बचाने तथा खुद को इंसान की श्रेणी में रखने के लिए जद्दोजहद करता है। भारतीय समाज में मुखतया दो ही लिंग को माना जाता है स्त्री, पुरुष। लेकिन वैदिक वाङ्मय में तीन लिंग का वर्णन मिलता है स्त्रीलिंग, पुल्लिंग तथा नपुंस्क लिंग। वर्तमान में भारतीय साहित्य में भी इस तृतीय उभयलिंगी समाज की खूब चर्चा हो रही है उसका सबसे बड़ा कारण वाङ्मय, अनुसंधान हिन्दी त्रैमासिक पत्रिकाओं के कई विशेषांक हैं जिनके माध्यम से इस विमर्श को भी साहित्य जगत में स्थान मिल रहा है भारत के अनेक विश्वविद्यालयों में शोध कार्य हो भी चुके हैं और उत्तरोत्तर हो रहे हैं। जिससे इस उपेक्षित, बहिष्कृत समाज के उत्थान में कुछ नई जानकारी भी जुड़ेगी और समाज भी उनको समानता का अधिकार देने के लिए जागरूक होगा। केंद्र और राज्य सरकारें भी उनके लिए नयी-नयी योजनाओं का शिलान्यास करेंगी, क्योंकि यह शत प्रतिशत सत्य है कि साहित्य में समाज और सरकारों को मोड़ने का सामर्थ्य होता है।

" उस दिन महसूस किया कि दुनिया केवल लिंग की कद्र करती है इंसान की नहीं। यदि मैं लड़की होती तो शायद वे तीनों दरिंदे हवालात में होते, लेकिन मैं ठहरी नपुंसकता की तख्ती गले में मंगलसूत्र की तरह टांगे एक हिजड़ा। और ये भी महसूस किया कि अगर अपने साथ दें तो दोषी भी सीना तानकर खड़ा हो सकता है और अगर अपने खिलाफ हो तो निर्दोष को भी दंडित किया जा सकता है" (पृष्ठ 86)।

उपर्युक्त अंश उपन्यास की नायिका अमृता का है जिसने अपने ऊपर हुई अभद्रता का वर्णन किया है, और समाज द्वारा लिंग की वजह से उसको प्रताड़ित किया जाता है। यह व्यवहार किन्नरों के प्रति समाज में आम हो चुका है। जिसको वो अपनी नियति समझते हैं और समाज उसको उनकी डेस्टिनी समझता है। किन्नरों की स्थिति समाज में प्रायः दयनीय, बहिष्कृत और उपेक्षित ही रही है इस असहनीय पीड़ा का प्रारम्भ हमेशा उक्त किन्नर के परिवार से ही होता है जब उस किन्नर बच्चे का जन्म होता है तब उसकी माता को सहना पड़ता है सबसे पहले परिवार के वरिष्ठ सदस्य फिर देवर, भाभी

उनके बच्चे से होते हुए घर के बाकी सदस्य जो परिवार में परोक्ष या अपरोक्ष प्रकार से शामिल हैं वो भी उस किन्नर की माता को हेय दृष्टि से देखते हैं। आखिर लिंग की वजह से इतना बखेड़ा शुरू हो जाता है जिसको कभी सभ्य समाज में बर्दाश्त नहीं किया जा सकता है। और यह कुकृत्य संविधान सम्मत भी नहीं है। लेकिन समाज में अपनी जड़े फैला चुका है जिसका समूल नाश होना अनिवार्य प्रतीत होता है। क्योंकि मानवीय संवेदनाओं की रक्षा करना सामाजिक, राजनैतिक और नैतिकता के परिप्रेक्ष्य में भी अति आवश्यक है। एक महिला किन्नर पर भी बलात्कार का प्रयास होता है तो समाज क्यों खामोश रहता है? यह प्रश्न विचारणीय है। न ही इस कुकर्म पर उसके परिवार का कोई सहयोग मिला और न ही इस तथाकथित समाज का जिसके कारण अमृता इस समाज को सेलेक्टिव भावनाओं वाला समझने लगी यदि किसी नॉर्मल लड़की के साथ यह हादसा होता तो क्या उसका परिवार, समाज और उसके ठेकेदार शांत बैठते यह प्रश्न अमृता के मन में सिहरन पैदा करते हैं जिसके कारण वह खामोश हो जाती है और समाज के इस रूप को भी समझ लेती है कि आखिर लोग कितना सेलेक्टिव सोच के हो चुके हैं उनकी भावनाएं भी उनके लाभ, महत्वाकांक्षायें भी उसी के साथ विचरण करती हुई प्रतीत होती हैं।

वर्तमान समय में ऐसे अवसरवादी व्यक्तियों की भरमार है लेकिन समय उनको सही जवाब अवश्य देगा जब मानव हृदय में माननीय संवेदनाओं का प्रस्फुटन होगा। अमृता के साथ बलात्कार की घटनाएं कई बार हुईं और उसको इंसाफ नहीं मिला बल्कि उसको शांत करा दिया गया क्योंकि बचपन से ही ना ही पुरुष थी और ना ही स्त्री। उसका तो लिंग ही निर्धारित नहीं था। जिसकी सजा उसको बार-बार भुगतनी पड़ती थी। एक बार तो उसके सगे मामा ने उसके साथ बहसिपन किया जिसका उसने खुलेआम विरोध किया "वो मेरे पैरों के स्कर्ट वाले हिस्से को छूने का प्रयास करने लगे। उनके हाथ बेलगाम घोड़े की तरह मेरी जांघों पर दौड़ने लगे। मैंने अपने आप को बचाने का संघर्ष शुरू कर दिया। मैं खुद को बचाने के लिए खुद को उनसे छुड़ाने का प्रयास करने लगी 2 (पृष्ठ 104)।

इस प्रकार रिश्ते के सगे संबंधियों ने अमृता पर प्रताड़ना प्रारंभ कर दी थी क्योंकि उसका सीधा कारण था वो एक किन्नर स्त्री है। जिसका खामियाजा उसको अपनी अस्मिता गवा कर देना पड़ता था। अपने अस्तित्व के लिए संघर्ष कर रही एक किन्नर स्त्री हमेशा लड़ती रहती है। भारत में चाइल्ड अबयूस की घटनाएं उत्तरोत्तर बढ़ती जा रही हैं ऐसा करने वाले हमेशा सगे संबंधी ही होते हैं। जो मासूम बच्चों को अपने हवस का शिकार बना लेते हैं, जबकि बच्चों के

माता-पिता ऐसे सगे संबंधियों का बहुत विश्वास करते हैं, और उन पर सब कुछ निछावर करने का सपना भी देखते हैं लेकिन समाज के अंदर बढ़ती कामुकता इन रिश्तों को तार-तार कर देती है। जिसका खामियाजा बच्चों को भुगतना पड़ता है ठीक इसी प्रकार अमृता के साथ भी हुआ उसको कई बार उसके सगे मामा ने अपनी हवस का शिकार बना लिया। अमृता ने उसका पुरजोर विरोध भी दर्ज किया लेकिन एक स्त्री किन्नर होने के नाते वह संघर्ष करती हुई दिखाई देती है जबकि उसका मामा हष्ट पुष्ट होने के कारण उसको दबोच लेता है और उसके साथ अप्राकृतिक संबंध स्थापित करता है। इस प्रकार रचनाकार ने भी किन्नर स्त्री के संबंध में जो उनके संघर्ष को दर्शाया है समाज में आज भी व्याप्त है। जब अमृता स्वयं को बचाने का संघर्ष कर रही थी तो उसका मामा जोर जबरदस्ती कर रहा था जैसा कि अमृता ने बताया है " उन्होंने मुझे पीछे से अपनी मजबूत कलाईयों में जकड़ लिया और बोलने लगे, ' तुम्हारा क्या घिस जाएगा, जो इतना चिल्ला रही हो? तुम्हें तो मेरा शुक्रिया अदा करना चाहिए जो मैं तुम्हें इस लायक समझ रहा हूँ, तुम खुद को लड़की समझने के भ्रम से कब बाहर आओगी? तुम हो तो पुरुष ही न? जब भी तुम्हें देखता हूँ जवानी बहक जाती है। तुम्हारे खूबसूरत, चेहरे उभरे अंगों को देख मन मचलने लगता है। नारी दिखती हो, पर हो तो हिजड़ा ही न, क्या फर्क पड़ेगा जो हम थोड़े मजे ले लेंगे? यह बात हम दोनों तक ही रहेगी। ' वो मेरे अंगों को वहशीपन से दबाने लगा और मैं दर्द से छटपटाने लगी। मैंने उस वहशी से खुद को स्वतंत्र कराने के संघर्ष में घर की सारी चीजें बिखेर दी। सोफे के कुशन, पलंग की चादर, स्टैंड पर लगी तस्वीरें और कांच के बर्तन"3 (पृष्ठ 105) इस प्रकार मामा ने अमृता के साथ संबंध बनाने के लिए बहुत प्रयास किए तथा अमृता ने खुद की रक्षा की और अपने शरीर पर जखमों के निशान ले लिए, लेकिन अपने साथ कोई अनहोनी घटना नहीं होने दी और उस कंस रूपी तथाकथित मामा को संदेश भी दिया कि दिखने में भले ही वह स्त्री किन्नर है लेकिन उसकी अस्मिता सर्वोपरि है। वह अपने इस अस्मिता से कभी भी समझौता नहीं कर सकती।

डॉक्टर राजकुमारी ने इस क्रम में यह बताने का प्रयत्न किया है कि अस्मिता सबकी समान ही होती है चाहे वह स्त्री हो पुरुष हो या फिर थर्ड जेंडर दर्द की सिहरन हर मनुष्य में समान ही होती है क्योंकि इसका संबंध मनुष्य की आत्मा से होता है, लिंग से नहीं। जिसकी आत्मा जीवित है वह किसी भी प्रकार का अन्याय, अत्याचार और बहिष्करण कदापि सहन नहीं करेगा और उसके विरुद्ध अपना प्रतिरोध दर्ज कराएगा। इसके संबंध में उपन्यास की नायिका अमृता जब

राजकोट जाती है तो वह बाबा भीमराव अंबेडकर की प्रतिमा के पास खड़े होकर अपने दर्द को बताने का प्रयत्न करती है और शिकायत करती है कि आखिर बाबा आपने हमें अपने अधिकार क्यों नहीं दिए जबकि स्त्री और पुरुष को दिए हैं इस पीड़ा को बताते हुए वह रोने लगती है और सामाजिक न्याय की बात करती है यद्यपि भारतीय संविधान में सामाजिक न्याय का अधिकार हर किसी नागरिक को दिया गया है लेकिन कुछ समाज में पितृसत्तात्मक समाज की जड़ें इतनी कठोर हो चुकी हैं उनको कतरने के लिए समाज के सभी अंगों को मिलकर प्रयास करना होगा जिससे भविष्य में कुछ शुभ परिणाम आने के संकेत मिल सकते हैं। अमृता बाबा भीमराव अंबेडकर से शिकायत करते हुए अपनी पीड़ा का बखान करती है " अरे ! ये तो वही हैं जिसे भारत का भाग्य विधाता कहते हैं, गरीब, मजदूर और दलितों का मसीहा कहा जाता है। ये तो डॉक्टर भीमराव अंबेडकर हैं; मैंने स्कूल की पाठ्य पुस्तकों में उनके बारे में पढ़ा था। मैंने उस प्रतिमा को ऊपर से नीचे तक देखना शुरू किया, प्रतिमा के नीचे स्थानों पर कार्य पत्थर पर उनका बड़ा सा नाम और जीवन संघर्ष लिखा हुआ था। जिस पर अब तक मेरा ध्यान नहीं गया था, उस पत्थर पर लिखा था, ' गरीब, मजदूर, शोषितों, पिछड़ों एवं दलितों के मसीहा' ये बात सत्य भी है कि उन्होंने तो सब लोगों के अधिकारों के लिए काम किया और समाज में उन्हें समानता और सम्मान दिलाने का प्रयास किया लेकिन मैं उनसे सहमत नहीं हुई। मेरे मन में एक गुबार था जिसे मैं निकालना चाहती थी और मैं उनके सामने निडरता से खड़ी हो गई और हृदय में दबे कुंठाओं के उस गुबार को निकालने लगी जो अंदर ही अंदर मुझे खाए जा रहा था 4 (पृष्ठ 108) अमृता ने इन पंक्तियों के माध्यम से अपनी बात को किसी परमात्मा से ना कह कर दलितों, मजदूरों, किसानों, शोषित, वंचितों एवं हाशियकृत समाज के अगुआ रहे महामानव बाबा भीमराव अंबेडकर से अपने याचना कही है। क्योंकि अमृता जानती है कि उसको न्याय भारत के संविधान से ही मिल सकता है और उस संविधान के रचयिता बाबा भीमराव अंबेडकर हैं। जिन्होंने इस समाज में दबे कुचले, दलित समाज का उद्धार किया है और उनको सवर्णों के सम्मुख सीना तानकर खड़ा होने का साहस प्रदान किया है। इसी उम्मीद से अमृता भी बाबा भीमराव अंबेडकर की प्रतिमा के सामने खुद को नतमस्तक करते हुए अपनी बात रखती है। क्योंकि उसकी आशाएं बाबा भीमराव अंबेडकर पर टिकी हुई हैं और उसको ऐसा प्रतीत होता है कि वर्तमान में नहीं तो भविष्य में सही उसका उद्धार संविधान के माध्यम से ही होगा। कुछ समय बाद उसी प्रतिमा के करीब बैठकर एक किन्नर टोली ने उसे देख लिया उसे देख कर उनमें कुछ अपनापन महसूस हुआ। इसी अपनेपन के कारण बड़े शहर

में तन्हा बैठी किन्नर लड़की को सिर छुपाने के लिए एक छत चाहिए थी वो उसको रानी मां के मठ में मिल गयी। प्रारंभ से अमृता पढ़ाई में होशियार थी और उसके संस्कार भी बाबा भीमराव अंबेडकर के रूहानी सानिध्य में मिले थे। वह बाबा के सिद्धांत और उनकी शिक्षाओं को अच्छे से समझती थी उस प्रतिमा के पास बैठकर उसको अपने अधिकारों का ज्ञान हो चुका था। इसलिए उस उभयलिंगी अमृता ने शिक्षा का माध्यम पकड़ने में रुचि दिखाई, क्योंकि वो मठ में किन्नरों का जीवन व्यतीत भी कर चुकी थी, और उसका अनुभव भी ले चुकी थी। उसको वहां पर कुढ़न सी महसूस होती थी। मठ में किन्नरों का वही परंपरागत जीवन फलक था जिसको वो भली-भांति जान चुकी थी और उस नरक से स्वयं को और अपने समाज को निकालने की जुगत में लग गई।

जहां पर उसको शिक्षा ही अहम हथियार दिखाई दिया जिसके माध्यम से वह अपने समाज और देश को बदलने के लिए निकल पड़ी और अपनी इच्छा मठ की गुरु रानी मां को बता दिया। रानी मां ने बहुत उसको सोच-विचार करके पढ़ने के लिए भेजा और उसके साथ दूसरी किन्नर बहन को साथ कर दिया जिससे उसको कॉलेज में प्रवेश लेने में किसी कठिनाई का सामना ना करना पड़े। जैसा कि विदित है 'मुझे पढ़ना है रानी मां! मुझे किसी कॉलेज में दाखिला लेना है'। बस ! इतनी सी बात?' उन्होंने मेरे सिर पर हाथ रखा फिर नोटों की गड्डी सुगनाबाई को थमाते हुए मेरा दाखिला कॉलेज में कराने का बोल दिया 5 (पृष्ठ 137)। इस प्रकार रानी मां ने स्थिति को भाँपते हुए अमृता को शिक्षा का दान दे दिया क्योंकि रानी मां समझ चुकी थी यह लड़की विद्रोह कर देगी और वैसे भी शिक्षा पाने के लिए ही तो संघर्ष कर रही है यदि शिक्षा में प्रवीण हो जाएगी तो निश्चित ही किन्नर समाज की भलाई के लिए प्रयास करेगी जिस प्रकार से हम समाज में नरकिय जीवन व्यतीत करने में लगे हैं भविष्य में हमारी भावी पीढ़ियों को भी इस दुख से ना गुजरना पड़े। यदि कोई किन्नर पढ़ लिखकर अच्छा जीवन व्यतीत करेगा तो निश्चित ही वो आने वाली पीढ़ियों के लिए रोल मॉडल का कार्य करेगा। इन्हीं सब आशाओं के मद्देनजर रानी माँ ने उसकी सुरक्षा तथा रहने की व्यवस्था हॉस्टल में ना करके बल्कि पीजी रूम में स्थान दिलाया। जिससे उसको किसी भी प्रकार की लिंगभेदी घटनाओं का सामना ना करना पड़े और वह अच्छे से अपने शिक्षा को सुचारू रूप से आगे बढ़ा सके।

अमृता कॉलेज में प्रवेश लेने के बाद अपने पढ़ाई लिखाई में संलग्न हो गई। अमृता इतनी अंदर से मजबूत थी कि उसने कॉलेज के फॉर्म में अपने लिंग को नहीं छुपाया बल्कि खुलेआम लिंग वाले कोष्ठक में ट्रांसजेंडर लिख

दिया। कॉलेज के मित्र और छात्र नेता रहे अनुराग ने अमृता से नज़दीकियां बढ़ा ली। क्योंकि अनुराग ने प्रवेश के समय अमृता की बहुत मदद की थी इसलिए अमृता उसके एहसान का बदला चुकाना चाहती थी। कॉलेज में स्टूडेंट यूनियन का चुनाव हुआ तो अमृता ने तन मन धन से अनुराग का साथ दिया। अनुराग भी उसको खूब सम्मान देता था और उसके अधिकारों के लिए प्रयत्नशील था। वह अपनी छात्र राजनीति के माध्यम से दबे-कुचले, बहिष्कृत लोगों को उनके मौलिक अधिकार दिलाने के लिए प्रयासरत था। इसी के मद्देनजर कॉलेज की बहुत सी लड़कियां अनुराग से प्रेम करती थी लेकिन अनुराग किसी को भाव नहीं देता था उसका अंदरूनी बंधन अमृता से मजबूत होता गया और वह अक्सर अमृता के साथ घूमता हुआ मिल जाता था कई बार साथी सहपाठियों ने भी उस पर फ़ब्लियाँ कसी लेकिन कई बार अनुराग और अमृता ने खून के घूंट पी लिए और उनको पलट कर जवाब नहीं दिया यद्यपि अनुराग एक रौबदार छात्र नेता था। जो चाहता तो उनको अपनी बलिष्ठता से जवाब दे सकता था लेकिन उसने अपनी सामर्थ्य को बचा कर रखा और हमेशा अमृता को तरजीह दी जिससे उनके सम्मुख प्यार और गहरा हो गया। अक्सर अनुराग अमृता से एक ही बात कहता था 'तुम बहुत खूबसूरत हो! बहुत ही खूबसूरत, बिल्कुल ख्वाबों की ताबीर थी' 6 (पृष्ठ 158)।

इस प्रकार मित्र अनुराग अमूमन अमृता से अपने प्रेम का इजहार करता था और अमृता धीरे से मुस्कुरा देती थी तथा कुछ भी टीका टिप्पणी नहीं करती थी क्योंकि वह जानती थी वह आधे शरीर से स्त्री है और आधे शरीर से पुरुष अर्थात् उसको अर्धनारीश्वर के सामान ही देखा जा सकता है। इन्हीं सब कारणों के बीच अमृता अनुराग से स्वयं दूर हो गई और अनुराग भी स्कॉटलैंड चला गया कुछ समय बाद वहां से अपनी प्रेमिका के साथ भारत आ गया लेकिन इस दरमियान अमृता उसकी राह देखती रही लेकिन उसका कुछ पता नहीं चला। स्कॉटलैंड जब अनुराग अपनी प्रेमिका के साथ भारत आया तो विवाह संस्कार की संबंध में पंडित से पूँछा तो पंडित ने बताया कि नैसी मांगलिक है उसके साथ किसी किन्नर को रखा जाएगा तो वह आमांगलिक हो जाएगी। इसके बाद अनुराग और उसकी मां ने निर्णय लिया यदि अमृता को नैसी के साथ रख दिया जाएगा तो निश्चित ही विवाह संस्कार के लायक बधु हो जाएगी इसी प्लानिंग तहत अनुराग अमृता के पास गया और उसको बताया कि मां उससे मिलना चाहती है और शादी के संबंध में बात करना चाहती है। यह सुनकर अमृता भाव विभोर हो गई और प्रसन्नचित्त मुद्रा में आसमान में उड़ने लगी जब अनुराग के साथ अमृता उसके घर गई तो अनुराग की मां ने अमृता को सारी बात बताई। जब अमृता को मालूम हुआ कि उसके

साथ शादी की बात ना करके नैसी का ग्रह दोष खत्म करने का कार्य करना है वह अपने मित्र अनुराग की खुशियों के खातिर खुद के सपनों को रौंदकर अनुराग को खुशियां उपहार स्वरूप देने में लग गई और अपनी मानवता का परिचय दिया। इस प्रकार पूरे उपन्यास में मानवीय संवेदनाओं का झुरमुट दिखाई पड़ता है किन्ना समाज कभी भी अपनी खुशियों के लिए नहीं वह तो सदा दूसरों की खुशियों में शामिल होता आया है, और सबको खुशियां ही खुशियां देता है ऐसा प्रकृति का नियम है जिसको अमृता स्वयं कहती है "मुझे तो प्रकृति का वरदान है कि मुझे खुश नहीं होना। मेरा तो जन्म ही दूसरों की खुशियों में शामिल होने के लिए हुआ है, फिर तुम तो मेरे अपने हो। तुमने मेरे लिए बहुत कुछ किया और सहा है। मुझे एक मौका कुदरत ने दिया है कि मैं भी तुम्हारे लिए कुछ करूं!" 7 (पृष्ठ 173)।

संदर्भ ग्रंथ

डॉ. राजकुमारी, द डार्केस्ट डेस्टिनी , देवसाक्षी प्रकाशन हनुमानगढ़, राजस्थान संस्करण , 2021



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