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Editorial.....

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

Dr.K.Victor Babu
Editor-in-Chief

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DISOWNING THE FATHER: POLITICIZING AGE IN SHAKESPEARE'S *THE MERCHANT OF VENICE*

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Abstract

Shakespeare's oeuvre is a wild commentary on youth and old age. Whether in the *Sonnets* or in his plays, everywhere is dialectic with age where age is seen as maturity or growth on the one hand, and on the other hand wrinkles flaunt thoughts of grave. While in the *Tempest* age brings power to control the elements, in *King Lear*, age gives the King the realization of his true self beneath the gaudy silk. In *As You Like It* Jacques, puts up old age as the last stage of life and Macbeth murders age. In *Henry VIII* old age comes with weary bones in search of *dust* and in *King Henry IV part II* the aged man brings along the milieu. Numerous observations of age crop up in Shakespeare's philosophy of life. Strikingly enough in his *The Merchant of Venice* old age with its wrinkles and physical infirmity is evinced as reflecting the crookedness of mind and a cryptic thought. Old age is a clear portrayal of the lineage where old ancestors pose their dependence, only to be disowned by polished youth. Youthful faces in a dire attempt at creating a separate identity harshly criticise their *selves* in their ancestors.

Keywords: Disowning, Filiation, Identity, Old Age

Introduction

Shakespeare's oeuvre is replete with a sense of evanescence. In his *Sonnets* and a host of his plays, *Tempest*, *Henry IV Part 2* and *Henry VIII*, *Antony and Cleopatra*, *The Merchant of Venice*, *As You Like It*, *Macbeth*, *Hamlet* and so on, Shakespeare is live in his portrayal of old age. Often the aged persona laments the passing away of his life as he envisions the yellowing leaves or the barrenness that strikes the world in winter. Old age brings wisdom and delirium as well. The wise old Lear is suddenly taken to fancy and Prospero (*The Tempest*) the all-powerful magician engages in a show of power only at the twilight of his life, though he had been well studied in his art, throughout. Old age continually haunts Shakespeare's understanding of his self and the world. As Barbara Eastermann in her "Shakespeare's Sonnet 73" understands, the speaker

...demonstrates man's relationship to the cosmos and the parallel properties which ultimately reveal his humanity and his link to the Universe. Shakespeare thus compares the fading of his youth through the three elements of the universe: the fading of life, the fading of the light, and the dying of the fire" (Barbara 1980)



The paper looks into *The Merchant of Venice*'s minor yet penetrating references to old age and shows how age has been politicized and ridiculed to make the father a political other.

Research Methodology

Shakespeare's sonnets and plays have been dealt with and references to old age intricately categorized. The paper looks into the characters of *The Merchant of Venice*, mainly Shylock, whose being an old Jew overrules every other factor in his character. His age becomes the ground for criticism of the young people who are Christians and hence hate him. The paper collects the references where youth and age is put to contrast, in Old Gobbo and his son and age seen as brewing evil, or evoking unsavoury jeer.

Result

Shakespeare's references to age are so sprawling and diverse, both positive and negative, that a statement or an article can hardly do justice to his wide commentary. However in *The Merchant of Venice* age is quite differently portrayed as vile and growing from corruption. Jewish existence as considered vile as it is in the Christian society becomes even more unsavoury with old age, and a Christian youth can act come as a messiah endowing new life.

Discussion

Shakespeare in his plays brings in aged characters who suffer from the notion that they are ousted and hence look for an act or gesture that would guide them to the centre. Most aged characters in Shakespeare are marginalized, who seek outlet from their trapped existence in a heartless world.

Shakespeare's work gives a deep insight into life and in this understanding of life comes old age as a dubious realization. Jacques in *As You Like It* visualizes the last couple of stages of a man's life as a state of lack and regression—

The sixth age shifts
Into the lean and slipper'd pantaloon,
With spectacles on nose and pouch on side,
His youthful hose, well saved, a world too wide
For his shrunk shank; and his big manly voice,
Turning again toward childish treble, pipes
And whistles in his sound. Last scene of all,
That ends this strange eventful history,
Is second childishness and mere oblivion,
Sans teeth, sans eyes, sans taste, sans everything.
As You Like It (2.7.143-70)



On the other hand Gratiano in *The Merchant of Venice*, metaphorically calls upon old age as a person's disposition, as his show of sagacity in seriousness will make him pose like an old man—

Gratiano:

Let me play the fool:
With mirth and laughter let old wrinkles come,
And let my liver rather heat with wine
Than my heart cool with mortifying groans.
Why should a man, whose blood is warm within,
Sit like his grandsire cut in alabaster? (I 1 90)

Gratiano prefers “old wrinkles” (I 1 86) in laughter to the groans of old age. Here old age poses both the faces that of a cozy gesture, wisdom, rest and repose— a happy one compared to the other side of old age which brings along with it “mortifying groans”, disease and death. Most importantly old age brings delirium and a senseless yearning to be in a world of fawning praise and subsequently failure to connect with the world of his dreams. The second childishness is not only felt in the pipes and trebles of voice but in the childish desire for supremacy in an irrational world. As King Lear is advised —

O, sir! you are old;
Nature in you stands on the very verge
Of her confine: you should be rul'd and led
By some discretion that discerns your state
Better than you yourself.
King Lear (2.4.140-44)

Macbeth too languishes in the dream of the graces of old age. He mourns for having been deprived of the goodness of ageing—

I have liv'd long enough: my way of life
Is fall'n into the sear, the yellow leaf;
And that which should accompany old age,
As honour, love, obedience, troops of friends,
I must not look to have; *Macbeth* (5.3.30-6)

In *The Merchant of Venice*, Antonio, the protagonist, the merchant of the play is very unlike the brigade of youth who frolic around him. He is melancholic and benevolently lends out money at low rates of interest bringing down the rate of “usance in Venice”. Arnold Wesker in his rewriting of *The Merchant of Venice*, in his play *The Merchant*, later titled *Shylock* alters Antonio's character. Far from making him a young man and a party to the youth of the town Wesker makes him an aged man which suits the seriousness of Shakespeare's Antonio. Antonio in Wesker's *Merchant* is die-heart friend to Shylock, the cut-throat money-lender in *The Merchant of Venice*, here changed to a Jew who is not simply a money-lender by profession, but on purpose, only to cure his tribe of the dearth in wealth in the Jewish ghetto. Shakespeare's Antonio is intent upon



saving his friend, is serious about his business affairs and is an honest citizen, for he hates Shylock for exploiting the Venetians. Wesker rightly perceives Antonio's seriousness as that which befits an aged man.

Shakespeare himself eulogizes old age but in *The Merchant of Venice* old age and its effects as delirium or blindness are brought in, in order to evoke laughter. He often creates humour at the expense of the characters' discomfiture, their confusions and the unfeeling torture of the old men on stage by their young fellow characters. In *The Merchant of Venice* Shylock is not only the detestable moneylender who is conspicuous for his Jewishness, but is an earnest father. He cares for his daughter and entrusts his keys to her, but Jessica his only daughter elopes with Lorenzo, a Christian with his ducats and her dead mother's jewels. Though Shylock in a fit of anger says it was better to lose a daughter than his wealth, Shylock's concern to prevent his daughter from any interaction with Christians and the shallow pleasures of masquerade shows his concern for his daughter. Shylock in his turn is deprived by his daughter as apparently Jessica never reveals an iota of feeling for Shylock's insult in the hands of Christians. She gives herself up to the train of Christian men who are friends and companions to Antonio and had kicked Shylock out of the threshold, named him cur and spat on his face. Jessica enjoys her father's harassment after her elopement. She is quite comfortable with the logic of her husband's friend that though she would be deprived of a heaven because of her father, she would be able to retrieve the same by dint of her Christian husband.

Though Jessica's hatred of her father and lack of affection for him serves Shakespeare's case of projecting Shylock's villainy, Jessica's harshness as a daughter cannot go unrecognized. Similar is the case with Launcelot Gobbo, another youth in *The Merchant of Venice*, who though a minor character and is brought in to evoke hilarity is the cause of his father's mental agony. Launcelot Gobbo, a servant to Shylock too hates Shylock, and thus Shylock is shown to be hated by both his daughter and servants. He is intent upon quitting the service of

...the Jew [his]master,
who, God bless the mark, is a kind of devil; and, to
run away from the Jew, I should be ruled by the
fiend, who, saving your reverence, is the devil
himself. Certainly the Jew is the very devil
incarnal; and, in my conscience, my conscience is
but a kind of hard conscience, to offer to counsel
me to stay with the Jew. (Act II Sc ii 587)

Just at that point when Launcelot is considering whether to run away from Shylock's service or stay back, enters his father Old Gobbo. Launcelot meets Old Gobbo, whose very name in the play is characterized by his age. The son meets the father and takes the occasion to harass the old man taking advantage of his blindness. Launcelot gives in an aside, "O heavens, this is my true-begotten father! / who, being more than sand-blind, high-gravel blind, / knows me not: I will try confusions with him." (II 2 600-602).



Launcelot claims to his father that his only son was dead and brings tears to Old Gobbo's eyes, who is heart-broken with the news. However later Launcelot confesses that he was the self-same son that the old man had been looking for and the case is happily resolved but for the trouble and distress of the old man. The audience is supposed to have a good laugh at the old father's follies and the son's merciless attempts at being happy at his father's ill-being. Old Gobbo is in every means a loving father as he brings a dish of doves for his son's master, comes seeking the grace and good health of his son and finally breaks down as he is suggested of his son's death. Still he is misused in the hands of youth.

In both the cases, whether in Shylock's case or in the case of Old Gobbo the daughter or the son does not spare their aged parent and though their fathers mean the world to them the children prove undoubtedly mean and sadist. However it might be said in this context that Jessica or Launcelot are not despising their fathers out of their lack of concern or evil intent; instead in their fathers' social presence and status they dread their future. The young characters' vision of their fathers comes as a prophecy of their life would be. The young characters in their despising the dads scorn not their fathers but their socio-political state of existence and merely discard their state in disclaiming or disregarding their fathers. Jessica cannot help but hate her state of being a Jew, which is the worst vice that she can adhere to in a Christian society. In the conversation between Launcelot Gobbo and Old Gobbo, as the father mistakenly enquires of his sons' whereabouts, Launcelot asks if it is not the "Master Launcelot" (II 2 612) that Old Gobbo had been looking for. This bewilders the old man and he proclaims, "No master, sir, but a poor man's son: his father, though I say it, is an honest exceeding poor man/ and, God be thanked, well to live" (II 2 616). To this comes Launcelot's firm reply, "Well, let his father be what a' will, we talk of/ young Master Launcelot" (II 2 619-620). Launcelot, over and again emphasizes that it is not Launcelot the poor man's son, but the Master Launcelot, who is however dead. To this comes Old Gobbo's pathetic lamentation, "Marry, God forbid! the boy was the very staff of my/ age, my very prop" (II 2 631). Launcelot further comically pose, "Do I look like a cudgel or a hovel-post, a staff or/ a prop?" (II 2 633-34).

Launcelot too quits Shylock's service as a social statement that he had opted to serve the Christian having forsaken the Jew, which gesture of changing masters symbolically suggest the changing of fathers. Jessica too emphasizes her dire urge to denounce the father

Alack, what heinous sin is it in me
To be ashamed to be my father's child!
But though I am a daughter to his blood,
I am not to his manners. O Lorenzo,
If thou keep promise, I shall end this strife,
Become a Christian and thy loving wife (II 3 791-796).

Her aspiration is quite clear; her proposal of disavowal of the father in favour of a Christian husband is sure to catapult Jessica to a sure and firm standing in society. This



bold step would certainly make her immune to any possible persecution in the hands of Christians and give her a sure standing in society.

Conclusion

In every case, whether in the case of Jessica or Launcelot is an attempt at finding a vantage ground wherefrom to discard the father. This expression would have surely made an assurance of their loyalty to their new-found social group. Jessica elopes with the Christian Lorenzo possibly in a dread for she no more wishes to be seen as a daughter to a Jew after Shylock had left for a Christian feast pathetically wondering, "But wherefore should I go?/ I am not bid for love; they flatter me:/ But yet I'll go in hate" (II 5 861-862). The pressure is too immense for the young girl to bear the burden of generations of hatred piled on the Jews. She instead takes the shortest route and elopes. Launcelot too dreams of a better world and a Christian household that would provide him the security that every youth aspires disregarding his filiations.

Jessica and Launcelot's changing fathers or claiming themselves to be Christians is more than what Harold Bloom would name the "swerve" (Bloom, 1973: 85) or "anxiety of influence" (Bloom, 1973). It is the struggle to survive in a firm soil, a quest for a better social standing, an urge to be relieved of the constant threat of persecution and more so the pursuit of an identity that would be personal and not communal; an urge to be called Jessica and not Jew. We never know if Jessica is in love or is something of a moral *Anusim*, trying to get into the core of the dominant. Launcelot in his case is doubly marginalized being a servant and that too in a Jewish household. His discarding the dual fathers is a bold venture in the realization of his desire for power and social standing. The old man in Shakespeare is not simply the senile old man "sans teeth... sans everything" but as ever, the tradition where power rests, the hot-bed of confrontation sprouting the need for a reversal of tradition or erecting a parallel tradition with the vision of a utopia and the threat of annihilation at once.

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DR. ANNIE BESANT'S EDUCATIONAL PHILOSOPHY, EDUCATIONAL IDEAS AND CONTRIBUTION TO INDIAN EDUCATION

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ABSTRACT

The paper is meant for the Educational Philosophy, Educational Ideas and her contribution to Indian Education with special reference to Dr. Annie Besant's perspectives where her life and her social and theosophical way of thinking impact the Indian education. Her theosophical way of thinking depend on 'The Unity of God' and of 'The Universal Brotherhood'. An endeavour has been made to perceive, understand, investigate, assess and fundamentally analyze the predominant components answerable for fortifying Educational Ideas of Dr. Annie Besant's perspectives. It is education which assists with satisfying the characteristic of people through the Theosophical Idea of Education dependent on the Unity of God, Universal Brotherhood, Self-control, Self-investigation, Self-regard, self-acknowledgment, self-talk with Love and Sympathy, Service, Freedom, Patience, Peace and Tolerance and to set them up to tackle the ordinary issues forever usefully in the new circumstance of the socio-psycho-physical condition for achieving the most elevated information and knowledge. Arriving India, Annie Besant repudiated all political plans. In Britain, her theosophy went about as an elective strict talk joining parts of a secularist scrutinize of Christianity with a protection of eastern religions. In India, it went about as a strict and social talk that attested the authenticity, even predominance, of the indigenous culture. It shows how this perspective on India emerged in persuasive resistance to the legitimating talk of realm. In India Hinduism captivated her to such a degree, that she dedicated herself to advancing Hinduism. She visited far and wide of India, and addressed strongly on the grand goals of Hinduism. She accentuated the requirement for its recovery that religious education of Hindu young people should turn into a basic piece of their education. So, as to concretise these thoughts, Besant set up a school for education of Hindu youth in Benares in 1898. Besant is broadly known in India for her political exercises and President of Indian National Congress.

Keywords: Annie Besant; Hinduism; Theosophy; Education.

INTRODUCTION

Dr. Annie Besant (1847-1933), the second President of the Theosophical Society, was one of the best abstract figures of the world. She was an essayist, a profound pioneer, an spiritual guide, an extraordinary instructor, a logician, an exceptional speaker, a teacher, a social reformer, a boss of human opportunity, a pioneer of Theosophist development, a progressive, a scholar, an educationist, a genius of educational and profound renaissance, a karma yogi, a compassionate, a pioneer of thought and activity, a writer, a giver, or more. Annie Besant had incredible education from the



early years. She contemplated a few books identified with reasoning and religion. In 1866, she wedded with a pastor Mr. Franck Besant however her marriage tie was broken in 1873. She left the congregation and turned into a mastermind. She came India in 1893 and made India her home. She came to India as a pioneer of the Theosophical Ideal of Education and established schools and universities on its standards. She worked for dynamic education and established Hindu College in 1898 and later it is built up as Benaras Hindu University by the extraordinary endeavour of Pandit Madan Mohan Malaviya in 1916. She composed a few books and flyers on religion, legislative issues, communism, education and the status of women in India. She studied Hinduism, and its way of thinking, Bhagadgita, the Mahabharata and other spiritual activities for comprehension of India's religion and social legacy. Dr. Annie Besant upheld the development for Independence of India and became dynamic member in the Indian Freedom Movement. She had consistently been condemned the lead of British Rule in India battle for opportunity against the British Rule.

Dr. Annie Besant's publications on Education are 'Legends and Tales (1883)', 'Some Lessons From the Mahabharata (1899)', 'Sri Ramchandra, the Ideal King (1901)', 'Education as a National Duty (1903)', 'The Education of Indian Girls (1903)', 'Hindu Ideals (1904)', 'Sanatana Dharma (1904)', 'The Universal Textbook of Religion and Moral (1914-15)', 'Principles of Education (1915)', 'Theosophical Education Report (1917)', 'Education for the New Era (1919)', 'Lectures on Political Science (1919)', 'Civilization's Deadlock and the Keys (1924)', 'Indian Ideals in Education & Philosophy, Religion and Art (1925)', 'World Problems of Today (1925)', and 'India Bound or Free (1925)'.

EDUCATIONAL IDEAS OF ANNIE BESANT

India through the breath taking fog made by her Brahmin Guru (Williams, 1931, p. 228) and in later years she for the most part relied upon the information increased through the Theosophist Hindus, for example, Bhagavan Das, UpendraNathBasu, Govinda Das and others. She visited and addressed seriously all through the nation and attempted to sharpen individuals about the significance of strict guidance in schools. She supported for the religious education as a vital piece of the educational plan in light of the fact that the religion frames the premise of profound quality, workmanship and literature (Besant n.d., p. 36). She engendered the possibility that the elevate of India was conceivable by change along profound and educational lines as it were. She focused on the insight and profound quality of Hindu goals, the amazing past of India, and the requirement for the Indians to recapture the pride in themselves and their human progress which they had lost and were looking towards the West. She focused on, there is no information more essential for a student than the information on the basic teachings of his religion. This information ought to along these lines be granted to him in a straightforward, basic structure in school, and in further detail in College (Besant, 1917, p. 393).

Besant accepted that the Methodology of Theosophical development in India was a stage towards the spiritual change and the following job the Theosophy needed to play was that along the educational change. She opined, Theosophy has gone to the subsequent advance, the progression of education, and is concerning itself through the



length and broadness of the land with the education fitted to the necessities of India. What should that education be? First obviously strict and moral; without that nothing can be accomplished; that is basic and major; the structure up of character in the youthful, so they might be fit to the residents of a nation, so they may develop into the admirers of their own property (Besant, 1904, p. 14)

Besant was vigorously disposed towards Hinduism as well as she engendered the possibility of prevalence of Hindu religion as looked at over different religions. She contended, Hinduism has shown them the lessons of characteristic of God and the solidarity of humankind with preeminent clarity, since its religion and its way of thinking were moulded by mediums tending to the subtlest and quickest cerebrums that mankind has yet evolved (Besant n.d., p. 45). The editors of the magazine *The Indian Theosophist*, Sydney V. Edge and Walter Old, in their remarks on Mrs. Besant's Northern visit, charged her "backing of Hinduism, straightforward as can be", was not exactly in amicability with "the wide mixture" of the Theosophical Society and had along these lines woefully frustrated huge numbers of its sincere members» (Nethercot, 1963, p. 21).

Still another angle to the issue of religious education supported by Besant is that by giving better status than Hinduism and pushing Hindu schools and Colleges exclusively for Hindu youth, she was making division in the general public dependent on the strict disdain. Be that as it may, in actuality, her promotion of predominance of Hinduism over different religions was encouraging the equivalent. Her thoughts of religious education of Hindu young men were very in inconsistency to her job as a Theosophist.

THOUGHTS ON MODERN EDUCATION

During early years in India Besant stressed on spread of Sanskrit education anyway she was unable to get support for the equivalent and respected the open interest for English education. English education, be that as it may, was to be held for privileged of the Hindu society. She contended, young men of the privileged societies must, considering the present situation of the day, get English education. Without this they can't increase a business and it is inert to kick against realities we can't change. We can underestimate the English education, at that point, (Besant, 1917, p. 108).

She scrutinized the English education bestowed in Government foundations and considered it as a disappointment in light of the fact. It's anything but a decent education which, when a student has finished his assessment, leaves him apprehensive wreck, depleted with respect to his body and overstrained regarding his cerebrum. At the point when a student leaves the College he ought to be brimming with life, power, loaded with vitality and brimming with savour the experience of his young life, to take up the weight of crafted by the world. He ought not to be nerve depleted and nerve-overstrained, when he has completed his educational vocation (Besant, 1903, p. 9).

In the scenery of imperfect educational apparatus of Government, she proposed fourfold points of education as given here; presently the getting of degree isn't the genuine point of education. The point of education is to draw out the resources of the student on each side of his inclination, to create in him each intelligent and good force, and to reinforce him truly, inwardly, intellectually, and profoundly, that he may turn out toward the



finish of his College transporter a helpful, enthusiastic, devout noble man, who regards himself and people around him (Besant, 1903, p. 9).

She demanded that the preparing of student's body is as significant a piece of education as the preparation of his psyche. In addition, she related physical education to building up the characteristics of a true patriot, on the grounds that his obligation to his body is a piece of his obligation to his nation and to himself (Besant, 1903, p. 11).

Besant thought about enthusiastic advancement of students as important part of their education in order to guarantee the prosperity and success of the country. Regardless, in Besant's arrangement of education, enthusiastic advancement was more pivotal for those engaged with horticultural and other manual occupations to keep them bound to their tribal occupations in case they may go into learned callings which would represent a danger to the social agreement. She commented, various men hurry into Government administration, or into the scholarly callings, considering just jumping on into the world. Additionally, through enthusiastic improvement Besant expected to mix into Indian youth the beliefs of a productive member of society qualified to be a piece of the nation. Besant worried on scientific education instead of an unadulterated abstract one for the scholarly improvement of the youngsters and for the financial progression of the country. She commented, I don't imply that scholarly callings are a bit much for the government assistance of the state. They are totally important yet they ought not assimilate entire of the splendid insights of the nation, and keep the opposite side from national life, which is similarly needed for the government assistance of individuals (Besant, 1903, pp. 16-17).

THE SPIRITUAL EDUCATION

It was asserted that the started individuals from the Society were in contact with, and got direction from, profound experts. Help in this regard originated with the concept of Bodhisattva in Buddhism, the foundation of "tulku" in the Tibetan Buddhism and the symbols in Hinduism. These bosses, mahatmas, are depicted inside the system of the possibility of rebirth as a gathering of people who have propelled more than others in their profound turn of events and are on a more significant level of observation. For the unenlightened the profound bosses are imperceptible when they mediate so as to help the less progressed humankind. But they can likewise manifest and secure a human shape as obvious aides for humankind. The old intelligence has been as a sacred property for them. The feeling of phantasy is expanded by the possibility that the profound experts, The Mahatma, dwell in the Himalayas from where they watch over mankind. Now and again, they feel constrained to mediate in the development. The conviction that the started were in direct contact with the spiritual experts, normally, allowed a place of capacity to the pioneers inside the recondite circle.

RELIGIOUS EDUCATION

The most significant point of education, trusted Besant, was giving religious education in schools and Colleges. She thought, In India things have gone from terrible to more regrettable in this association. Government Colleges show no religion by any means.



The teacher shows religion which is strange to the soul and virtuoso of the nation. The student needs to pick between no strict instructing by any stretch of the imagination, and the educating of the religion which is not quite the same as his own. That is the most noticeably terrible imperfection of the Education in India and perceives how risky it becomes (Besant, 1903, p. 17). She encouraged the individuals from various strict networks to set up their own educational foundations granting strict guidance in their separate beliefs.

Besant was mostly worried about the religious education of Hindu young men. She credited the absence of religious education in schools and Colleges as the purpose behind developing incredulity of Hindu young people and in this manner pushed for religious education along Hindu lines for Hindu young men. Besant was not the pioneer in the field of religious education in India. Voice of contradiction against mainstream education in Government educational foundations were additionally raised by Tilak as right off the bat in 1881 in Mahratta. He saw that national education had a denationalizing impact on the general public; subsequently it ought to be subbed by religious education. The contrast among Besant and Tilak's perspectives on religious education lies in Tilak's emphasis on Government to supplant the current prospectuses with strict writings while Besant excluded the Government from taking up the undertaking of religious education.

In 1886, Dayanand Anglo-Vedic College, the pioneer in the field of religious education, was built up by Lala Hans Raj at Lahore, in view of the goals of AryaSamaj set up by DayanandSaraswati. In this College education was joined with religious education. Besant's plan was not quite the same as the College of Lala Hans Raj as she supported for customary Hinduism. Despite the fact that Besant addressed thoroughly with regards to Hinduism and its restoration however her insight into Hinduism was rarely unique.

EDUCATION OF LOWER CASTES AND DISCOURAGED CLASSES

Customarily, Hindu social request denied education to bring lowercastes and discouraged classes. There was, nonetheless, an overall obstruction among upper positions towards the education of these classes on account of the dread that once taught the lower standing individuals will leave their hereditary occupation and vie for government employments with them. Besant's thoughts towards education of lower positions were the same as those of the upper standing tip top.

The basic education of masses, in Besant's plan, comprised uniquely of 3 or 4 years beginning from 5 to 8 or 9 years (Besant, 1913, p. 16). After this stage, she commented, the incredible mass of working populace should go into the useful preparing important for the productive release of the art by which they are, later on, to serve their nation and to procure their own living, winning thriving the same for India and for themselves.

She engendered the possibility that in the event that the upper position treats discouraged classes similarly, at that point it isn't fellowship however letting down the status of the previous. In this way, so as to realize the inspire of discouraged classes, as indicated by her, the higher standing ought not go down from their level rather discouraged classes ought to be raised to the degree of previous . We need to raise the discouraged classes to a comparable degree of physical immaculateness, not to haul



down the clean to the degree of the filthy, and until this is done the nearby affiliation is unfortunate (Besant n.d., p. 78).

EDUCATION OF GIRLS

In 1904, Besant composed a hand out on The Education of Indian Girls to fill in as the premise of a national development for education of girls (Besant, 1904, p. 1). In this flyer she gave an itemized blueprint of the substance of Indian' girls education. Her perspectives on girls' education repeated the common man centric authority of the universal Hindu society. Despite the fact that she pushed for the education of girls but there was an absence of genuine commitment (Taylor, 1992, p. 331). Of several talks which she conveyed in India on education just a few talks were devoted to the girls' education. Indeed, even these talks were vigorously loaded down with gendered idea as to the idea of education suitable for girls. She supported such an education for Indian girls that would set up her for her future job as a housewife. She was totally against that education of girls which would make her able for finding a new line of work in Government office. She contended, Indian girl's life is family life. The school life of the girls in India should essentially be brief and she ought to invest that short energy to the most ideal preferred position.

She prescribed a curriculum for girls' education consisting of Religious and moral education, literary education, scientific education, artistic education and physical education in accordance with her future role of an ideal homemaker. For religious education of Hindu girls she opined, each girl must be shown the basic principles of her religion, in an unmistakable, basic and objective strategy. The Mahabharata and the Ramayana, Manusmriti ought to be included the educating of the psalms in the vernacular and stotras in Sanskrit, just as the committal to memory of numerous wonderful entries from the Bhagavad Gita. She further endorsed that girls ought to be instructed to love, and straightforward plain clarification of love followed ought to be given (Besant, 1904, p. 4).

As to Education of the girls she commented, Nothing is more important to the Indian spouse and mother, than an information on clean laws, of the estimation of staples, of nursing the wiped out, of basic medications, of first aid, of cookery of the more sensitive kind, of family unit the board, and the keeping of records (Besant, 1904, p. 6).

Another significant piece of the educational program of girls' education, as indicated by Besant was, aesthetic education, for example music, playing veena, singing, weaving, drawing, painting so that relaxation in later life might be wonderfully and satisfactorily filled and to add extraordinarily to the appeal of home. Drawing and painting are expressions in which some discover charm and their deft fingers promptly learn impeccable weaving and needle work of numerous sorts.

The physical education for girls endorsed by her was limited to the fragile development of body fit to the very character of a girl. For young men she endorsed Indian and western activities and various sorts of sports yet these had no spot in the physical education for girls. Besant's optimal of education of Indian girls was based on the thought of restoration of Indian womanhood and in this manner teaching in them the delicacy and loyalty of Sita and Savitri, Gargi, the all-yielding spirituality of Maitreyi



(Besant, 1917, p. 115).

EDUCATION ON A NATIONALIST FOUNDATION

Education was given a high need in the Theosophical Society's endeavour to spread its message in India. Educators and deans were over-spoken to contrast with other expert gatherings in the Society. The yearly reports depict an articulated desire that, in the soul of theosophy, to make an option in contrast to the schools and advanced education under state or evangelist the executives. The most popular model in India is the Central Hindu College (CHC) in Benares that was established by Annie Besant and the Indian theosophist Bhagawan Das in 1898. Incomprehensibly, later the CHC comprised the core of the primary dignified financed Hindu college, Banaras Hindu University (BHU) which was established in 1916. The underlying arrangement was to make a theosophical college with discrete religious education for different beliefs. The mainstream subjects would be concentrated in like manner and the extra time would be spent together by the students. The task experienced troubles not suddenly and it went to a denominational advanced degree for the Hindu students. Since the theosophists had a solid situation at the Central Hindu College, there was additionally the inquiry regarding their authenticity in speaking to a denominational Hindu educational foundation.

THE ATTEMPTS TO NATIONALIZE HIGHER EDUCATION

The propelled Anglification of the colleges that happened in the nineteenth century incited a progression of response. Voices from different pieces of India began to ask the requirement for national education framework aware of the nearby customs. First there came the requests from the social and strict change developments. The encouraging that was performed had a Western direction. This happened not least with respect to the subject of history. It was the historical backdrop of the British and of the British Empire that was educated. Another viewpoint was the opportunities for Indians to have places that would impact higher education. The possibility of a national college attempted to connect two yearnings: to make education dependent on one's own way of life, and to make a college that exploited present day propels in science. Neither a British, nor conventional education could figure out how to unite these two prerequisites. While the idea present day was associated with Western science and innovation. At the point when one attempted, in the national soul, to characterize one's own chronicled convention, various perspectives stood up to one another from the socially and strictly partitioned India, especially concerning Hindus and Muslims. It was likewise in the education field that Hindus and Muslims decided to follow diverse paths.

The establishing of the Aligarh College (1875) occurred with the guide of the British. By supporting the school strategically and monetarily, the British got a devoted Muslim voice, in any event at first, at the cost of a denominational, yet essentially liberal, favourable to British education. After the establishment of Aligarh College, comparative desire rose among Hindus to attempt to build up advanced education organization on a denominational and national premise. Two points were recommended: education



dependent on national customs and a prologue to specialized education rather for uneven education focused towards British organization. By national education it was implied showing Indian religion and history and that in one of the Indian dialects. Both these requests contained challenges and idle clashes. Characterizing the idea Hindu made clashes between the conventional and reformers.

AryaSamaj began in 1887 Dayananda Anglo-Vedic College in Lahore where there was an endeavour to accommodate education dependent on a Vedic perfect with Western components of the humanities, common science and innovation. In 1902 GurukulaMahavidyalaya was established in Hardwar, a school on Vedic premise whose undertaking was to shield the students from the impact of the Western human progress. With regards to education, Tagore is associated with Shantiniketan, a mix of school and ashram in Bengal, established in 1901, three years after the establishment of the Central Hindu College. In 1929 Shantiniketan was allowed college status under the name of VishwaBharati.

NEED AND SIGNIFICANCE OF THE STUDY

Other than intellectual ability and aptitudes, there is a need of social aptitudes which will develop profound turn of events. National Curriculum for School Education, NCERT (2000) has seen that educational program needs to give learning encounters which will improve person's musings, sentiments and activities. Not many investigates have been created to consider Educational Philosophy, Educational Ideas and spiritual education concerning Dr. Annie Besant's Philosophy in India. The investigation is philosophical in its tendency since it demonstrates standardizing part of education concerning point of education, educational program, and technique for instructing students and teachers. This investigation has socio-scientific bases of education on account of being identified with social needs as indicated by society. This investigation covers mental part of education for example development and advancement of the students' learning, inspiration, character improvement and so forth. The investigation is additionally scientific as it is notable to Indian culture is aspiritual based society. Spiritual education and its suggestions are expanding step by step.

The article shows that an investigation of the different issues of Educational Philosophy, Educational Ideas in India in the philosophical, socio-scientific and worldwide points of view, might be acknowledged by the analysts and professionals of profound investigations for completing exploration on what is required is that the people just as society disguise the comprehension of the Educational Philosophy and achieve a unique change in their living examples. It appears that in a nation like our own projects of recognizable proof and sustaining of ability ought to get a high need.

The investigation is philosophical in its tendency since it shows regularizing part of education educational program, and technique for instructing students in schools. It is notable to all that Indian culture is a profound based society. A portion of the researchers felt that after freedom the spirituality bit by bit vanish and it will have no effect on Indian educational framework. Obviously Dr. Annie Besant's way of thinking is assumed a huge job in deciding the procedure of spiritual assistance to humankind and society.



The investigation is an endeavour to perceive, assess and fundamentally look at the predominant components on Educational Ideas in Dr. Annie Besant's way of thinking and its effect on education of today and tomorrow in Indian culture. This investigation may assist the students with understanding to take care of the issue of education more effectively. Consequently, the researcher has chosen the current investigation. The investigation is required a few perspectives in bringing greatness among people as well as in uncovering the likely exchange among intellectual and non-psycho-scientific parts of education.

STATEMENT OF THE PROBLEM

On the basis of the objectives of investigation the title of the research is given as: "Dr. Annie Besant's Educational Philosophy, Educational Ideas and Contribution to Indian Education".

OBJECTIVES OF THE STUDY

The following are the objectives of the study:

1. To discover Dr. Annie Besant's philosophical viewpoints in the field of education.
2. To perceive Educational Ideas of Dr. Annie Besant's way of thinking.
3. To analyze factors liable for spiritual education in Dr. Annie Besant's philosophy.
4. To assess factors answerable for fortifying Educational Philosophy, Educational Ideas and spiritual education in Dr. Annie Besant's way of thinking.

METHODOLOGY

Methodology plays a critical job in an exploration as the unwavering quality and legitimacy of the researches rely on the strategies received and applied in the investigation. This paper is spellbinding in nature. It is essentially founded on optional information and is to a great extent gathered from various sources like books, diaries, articles, and periodicals. This investigation is led basically by drawing upon crafted by Dr. Annie Besant's way of thinking by applying diagnostic cum spellbinding technique for the exploration. The researcher has put forth attempt to discover Dr. Annie Besant's Educational Philosophy, Educational Ideas and Contribution to Indian Education.

DELIMITATION OF THE STUDY

Keeping in view the restriction of time, assets and vitality, the research is constrained to Educational Philosophy, Educational Ideas and Contribution to Indian Education in Dr. Annie Besant's Views. It is based models books, diaries, periodicals, papers and so on this comprises a significant limitation of the investigation as the diaries and periodicals are some of the time subject to control and data accessible in them is in recorded nature.



ANALYSIS AND INTERPRETATION

The idea, which means, points, headings and standards in the term of Educational Philosophy, Educational Ideas and spiritual education in Dr. Annie Besant's way of thinking have been managed with lucidity and profound knowledge. The uncommon spotlight is on the acknowledgment of the desires, goals and qualities as Dr. Annie Besant's way of thinking. She gave accentuation on the opportunity and profound province of mankind.

Her way of thinking targets delivering an acknowledged profound character to build up the psyche, heart and soul that sufficient power over negative feelings appreciates positive feelings for spiritual bliss and remake and reproduce spiritual society as entire in our nation. She endorses the spiritual turn of events, social turn of events, character arrangement, securing of information, and performing obligations is the most elevated point of life.

Present day education, be that as it may, lays incredible accentuation on moral education. Maybe, this is accurately the reason why the student looks for just to learn and learn about the Great Soul. With this thought of brain, Dr. Annie Besant's Philosophy dependent on Theosophical Ideals, is simply and definitely to satisfy the advanced student. It is, in any case, spiritualized education in which there is accentuation on education is the improvement of the characteristic man's inalienable abilities to turn into a productive member of society of the country. Dr. Annie Besant's Philosophy helps a ton in educational program advancement and exchange in current education with respect to spiritual learning.

MAJOR FINDINGS

To be very genuine and reasonable, the field of Educational Philosophy, Educational Ideas and spiritual education as for Dr. Annie Besant's way of thinking is a lot of tremendous and it is difficult to accomplish an even viewpoint of what is truly occurring and what is deficient in our investigation work. The investigation viable has been done with the perceiving, understanding, looking at basically, applying, breaking down, integrating, and assessing that the spiritual vision of Dr. Annie Besant's Philosophy has incredible pertinence to the present-day inside schools, and colleges or outside and it can realize a powerful change in the educational framework of the nation, yet in addition the world. Here, the effect of adjusting examples of the Indian educational framework in the light of Dr. Annie Besant's Philosophy in the particulars of 'The Theosophical Ideal of education' has been investigated and in this way it can contribute in taking care of the ordinary issues of people's life innovatively and productively in the new circumstance of the socio-psycho-physical condition for their prosperity. The profound increases of light, euphoria and force and its effect in the field of education the ideas which have been distinguished dependent on the investigation of Dr. Annie Besant's Philosophy are for the most part dependent on the basic magical epistemological and moral tenets in the Theosophical Ideal of Education.



CONCLUSION

In spite of the fact that Besant was a Theosophist and had come to India to spread Theosophical beliefs of Universal Brotherhood and her reverence for Hindu religion made her vigorously slanted towards it. Her conviction that Hindu religion was in a fallen state because of the nonappearance of strict education in schools and universities prompted the foundation of an establishment for Hindu young men where religion was to be an imperative piece of their education. The significance laid on the religious education of Hindu adolescents was a conflicting point as it would additionally improve the bay between different religions in the general public. Inside Hindu religion, Besant had incredible veneration for Upper positions, especially Brahmins. She upheld the significance of Modern education for landing government positions. In any case, it was to be limited to upper ranks, as she accepted that the lower castes and the Outcastes must stay appended to their tribal occupation.

All her useful and inventive works are corresponded with Educational Philosophy, Educational Ideas and spiritual education. In her works, she made a significant commitment for accomplishing of the profound objective of education. All the books and compositions of Dr. Annie Besant, obviously, yield valuable data with respect to profound learning and direction, and furthermore give subtleties of spiritual premise of education just as help in dynamic premise of education for the improvement of the students in general. Dr. Annie Besant's perspectives dependent on temperance of all inclusive fraternity, self-acknowledgment, self-talk with, dignity, self-investigation, Wisdom, Tolerance, harmony love etc. She was a useful Spiritualist.

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AFSPA- THE STATE SPONSORED TERRORISM IN THE NAME OF COUNTER INSURGENCY

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Abstract

We have possibly not known how the operational horrors of wars and losses have affected a generation of people who still live in the trauma of the past and have not been able to move out the shell. AFSPA(1958) or the Armed Forces Special Power Act is a draconian method by which the Government has aimed at usurping the rights of people in the garb of Preventive Detention..Here I have thrown some light on how the atrocities of AFSPA(1958), its gradual development (or degradation?) from being a law for protection of individual and social interest, including the safeguarding of the National Security in India to being an omnipresent and unquestionable weapon of mass destruction for the Indian Armed forces, that continue un-ethical rampage, tyranny and fear mongering with the same. I would like to speak about the Centre-State conflicts surrounding the law, the powers of those who can summon the law and those who can execute the same , without having to deal with trials for the cruelty and misuse of the laws. I have thus focussed on the disrespect that the guardians of the law have brought upon human rights ,violated them , eventually negated the trauma of the common people over years . I have also suggested remedies and how can we subjectively address the mayhem, by challenging them with tortious liabilities for their actions.

“Long famous glories,immemorial shames-
And crawling slowly back,have by degrees
Regained cool peaceful air in wonder-

Why speak they not of comrades that went under?” (*Spring Offensive*, Wilfred Owen, 1918)

Keywords: AFSPA, Counter-insurgency, Oppression, Detention, Democracy.

“Yes, I remember the barbed wire and the guard towers and the machine guns, but they became part of my normal landscape. What would be abnormal in normal times became my normality in camp.”



Actor George Takei's interview¹ with the Guardian brought out an incident quite buried down in the history of America's emergence as a Imperial Superpower post the two World Wars. This is the horror of the internment of Japanese Americans in 1942. This horror of the past resonates closely with the blood-sirens of the Quit India Movement, that with all its glory was abundantly trampled by the "draconian "Armed Forces Special Power Act(AFSPA)² in 1942. Lord Linglithgow, the then Viceroy's strategic oppression was formulated of sorts through this and later this was relaunched by Pandit Jawaharlal Nehru in 1958 in the Naga districts of Assam.

The Assam Rifles crushed the voice of the insurgent Naga National Council that demanded a separation of the Naga districts from the erstwhile Indian territory.³

This history of counter insurgencies and suppression of internal terrorism and security threats has certain bleak but brutal repercussion that cannot be overlooked in the context of the gruesome incidents that has shaken us collectively as Citizens of the very country, that in its heart bear an oath and allegiance to the Constitution and thus guarantees a protection from wrong and undue tortures to all its people. "We the People of India"⁴ had solemnly resolved to bring together into effect, the tenets of the Constitution that has ever seen its widely accessed usage during the Emergency Period under the erstwhile Congress Government in 1975-1977. Article 356 puts in front us the various guidelines that are needed to be followed by the guardians of the state during such a situation of Human Rights' gravest and toughest test .

The Armed Forces with the help of this newly platformed AFSPA got a blanket power to continue counter insurgencies and this continued mostly in the North Eastern states of Nagaland, Arunachal Pradesh, Tripura, Assam, Manipur (Imphal and its seven assembly constituencies are excluded) , Jammu and Kashmir and parts of Arunachal Pradesh.⁵ Tripura saw itself safe from the conditional threat of the AFSPA in 2015 after the various militant groups stopped their violent trading in the states and the internal conditions some how returned to normal.⁶ A report from April 24,2018 in The Times of India tallied the following data-

"The year 2017 recording the lowest insurgency incidents and casualties since 1997. As compared to 1,963 incidents in 2000, only 308 were reported in 2017 (down 85%).

1.Soloski,Alexis.(2015,Nov 17) .George Takei:So many people don't know this chapter of American History.*The Guardian*,p1.

<https://www.theguardian.com/stage/2015/nov/17/george-takei-allegiance-play-japanese-american-internment>

²<http://legislative.gov.in/sites/default/files/A1958-28.pdf>

³Getting away with murder.(2008, August 1 at

11.20pm),*hrw*,p1. <https://www.hrw.org/legacy/backgrounder/2008/india0808/>

⁴*The Preamble* to the Indian Constitution

<https://www.constitution.org/cons/india/preamble.html>

⁵<https://pib.gov.in/newsite/PrintRelease.aspx?relid=187330>

⁶Anshu Lal.(2015,May 29 at 7:52:21)AFSPA removed in Tripura after 18 years: Here's why it was enforced and why it's gone now. *Firstpost*.

<http://www.firstpost.com/>



There was also a 96% fall in casualties of civilians and security forces". Meghalaya decided to remove the same after 27 years in 2018.⁷

If we look closely at the geography of these North -Eastern States, we will understand that this region ,with its long dated history of rebellion and revolts has been somehow not made an inclusive part in the wider topography of the subcontinent and that is why even till today the atrocities against such people are on the rise and do not seem to go down any time soon.

Sharmila Irom, a civil rights activist after the Malom incident of the shooting of 10 innocent civilians, went into a 16 year long fast to demand a repeal and removal the act from Manipur. Besides being involuntarily kept alive, no dialogue on AFSPA was initiated by the Government that respected Irom's demands.⁸

The number of massacres caused under AFSPA goes creviced and folded in multiple numbers. In 2004, Thangjam Manorama Devi, suspected of being a part of the insurgent group PLA, was arrested by the 17th Assam Rifles and her mutilated(shot) body was suspiciously found near a hillock. Post Mortems by the Police showed how she was raped and assaulted after being shot and this brought out the true face of the autocratic Armed Forces for the very first time. Around 30 women went protesting naked with placards bearing-"Indian Army rape us" in front of the Assam Rifles Headquarters and 5 young leaders even immolated themselves in front of the Chief Minister's office.⁹

Let us discuss two cases in relation to the AFSPA in the North Eastern India-

1. In the year 1980 ,Indrajit Baruah who was a lawyer from Assam had questioned the imposition of the AFSPA in certain areas of Assam that were termed "disturbed" and thus the ambiguity in understanding the term or the intensity of the event associated with the activities was brought forth .This case was further referred to the Delhi High Court that simply stated that the People of India understand the term very well just like the Legislation knows what the "disturbed" areas actually mean.¹⁰

2.In the most popular NPMHR¹¹ case of 1997,the questions were thrown on the meaning of "disturbed"and the importance of consultation of the Central Government with the State Government before imposing AFSPA in any state. To this, the Supreme Court ruled that the consultation is not mandatory but "desirable"¹²

⁷Bharti Jain.(2018, Apr 24 at 08.08).Afspa removed in Meghalaya after 27 years.*The Times of India*.
<https://timesofindia.indiatimes.com/india/afspa-removed-from-meghalaya-after-27-years-assam-too-may-reduce-afspa-area/articleshow/63887983.cms>

⁸Explained: Irom Sharmila and her struggle against AFSPA.(2019,May 13 at 8.57.07).*The Indian Express*
<https://indianexpress.com/article/explained/explained-irom-sharmila-and-her-struggle-against-afspa-5725171/>
⁹<https://www.hrw.org/legacy/backgrounder/2008/india0808/>

¹⁰Indrajit Barua vs. the State of Assam and Anr. on 3 June, (1983) AIR 1983 Delhi 513(India).

¹¹NPHMR stands for Naga Peoples' Movement of Human Rights

¹²NPHMR vs.Union of India,(1998), 2 SCC 109 : AIR 1998 SC 431(India)



Indian Army single-handedly justified the Decade of Shame through AFSPA. Areas declared “disturbed”(Article 355, under Sec 3 of the Act) has to maintain the regulations of AFSPA for a minimum of three months and this call of whether any state or region(s) of a state is “disturbed” or not is decided by the Governor in his jurisdictional approach to the situation by publishing an appeal in the Gazette of India, upon which the Centre acts. Since this act works fireceley to maintain the federal structure of the state, the Centre can act without consultation with anyone as mentioned earlier. This idea of the “disturbed” areas came into effect by the The Disturbed Areas (Special Courts) Act, 1976. They can search places where they suspect insurgency, make arrests without warrants, charge upon a gathering of a minimum of 5 people, search or seize vehicles, conduct raids in hideouts and other places under section 4 of AFSPA. The militants or arrested people guilty of causing violation of peace and security are to be handed over to the Police without delay under the Section 7 of the act, while guaranteeing protection to the people in official capacity who conduct all these so called official duties and more like rape, abduction, murder, extortion and so on. Their prosecution is only possible after a permission is granted by the central authorities as is mentioned in the Section 8 of the law, but since these cases happen in court martials (as they are members of the Armed Forces who are under a jurisdiction that follow an Uniform Code of Military Justice), it is not accessible to the common people whose right could have been violated in this regard. However the immunity that has been granted has possibly over ages been used by the Armed Forces to their benefit and the Human Rights have been violated on multiple occasions.

The Kashmir valley has been under the shadow of the horror in a similar fashion even after the recent revocation of the Article 370 (by using the powers of the President under 370(3) to remove the special status granted to Jammu and Kashmir) and possibly what started out from the North Eastern part of India had spread far deeper roots in the Kashmir Valley. Besides being under direct Presidential rule for a year, the kind of atrocities after it became an Union Territory has increased manifold, given that AFSPA can work more stringently in these areas with their immunized power and thus they have caused further damage

.Jammu and Kashmir Coalition of Civil Society (JKCCS) is an independent Human Rights Body run by two brave warriors for peace, Parvez Imroz and Parvez Khurram who have compiled the documented horrors of those victimised by the Army and Para-Military forces. These people are common people, like us, not the militants who are the prime targets. They could be the family member, relatives, neighbours or just an acquaintance of someone who had been targetted and even the kind of threats they are exposed to are horrifying. Some are immersed in hot water, beaten for hours, their legs open spread out at 180 degrees, pins and sharp objects poked at their private parts to even killing them without any solid proof of breach of security or convictions of terrorism. A girl was reportedly arrested by the Armed Forces because her neighbour was suspected of being a part of Hizbul Mujahideen, a militant group and was tortured to the point of burnt polythene being poured on her private parts after Major Liqayat ordered his men to extract information in whatever way possible.



These have all been recorded in the “Structures of Violence” written by Imroz and Khurram after a lot of ground work and research¹³. Also cases like the fake encounters of Meitei Cousins in Langol in 2009¹⁴ by Manipuri Police Officer Herojit Singh or the 53 reported cases of the gang rapes in the Kunan Poshpora village in 1991 by the Indian Army removes our faith from the Judicial System that provides legal immunity to the Armed Forces under AFSPA. Hence the law that provided protection to the civilians, over time has brought out the innate animal nature of the Army, who often regulate their instincts for extra judicial killings and personal vendetta causing severe collateral damage.

The Constitution by virtue of its Article 21 and Article 22 aims to claim and safeguard the rights and personal freedom of an individual and must be discussed in the wider scope of the AFSPA because what the Constitution guarantees is again Constitutionally jeopardized by the agencies which aim to follow the same dictate under the provisions and wrong the socio-political “Other”, that is the common people .

Article 21 of the Indian Constitution guarantees a human the dignity to live and live with freedom and certain restrictions imposed under this provisions have been constantly challenged and ammendments have been made by the Apex Court for the last 50 years (finally resolving the current situation to obstruct or put a person under obligatory observation only under very specific situations and conditions)¹⁵. A person ,specially if he is from the weaker section, who in the best of his means cannot afford a favourable legal help in regards to the detention of the personal freedom, must be protected under this scope. Specifically it is to be noted that the dignity of the individual must be of utmost importance even if the person is detained,is in jail or put under house arrest or are made to live under the conditions imposed by the AFSPA. But who guarantees their right to life before anything? The long years of the existence of AFSPA have made us to rethink the textual orders and mandatory dictates and challenge what has been guaranteed in its own space .The scope of such a Right has been expanded by the Supreme Court over the years and often for being misconstrued or misread . Certain judgments like the Javed and others v. State of Haryana, AIR 2003 SC 3057 whereby the pressure of being reasonable in procuring and delivering justice stands topmost .

Regardless of how we understood Article 21, we must understand the various wings and feathers and dimensional contours added on to its body to finally emerge as a self sustaining form of judgement and how it actually guarantees the citizen -

- 1) The right to go abroad.
- (2) The right to privacy.
- (3) The right against solitary confinement.

¹³ Dreze, Jean. (2018, Jan 10).A never ending nightmare in Kashmir,*The Wire*.

<https://thewire.in/politics/torture-testimonies-detained-youth-kashmir>

¹⁴Menon, Ramesh (2016, July 29) .A Case against AFSPA.*India Legal*,Cover Story.

<https://www.indialegalive.com/cover-story-articles/il-feature-news/a-case-against-afspa-13347>

¹⁵vidhan159@legalserviceindia.com,

<http://www.legalserviceindia.com/articles/art222.htm>



- (4) The right against hand cuffing.
- (5) The right against delayed execution.
- (6) The right to shelter.
- (7) The right against custodial death.
- (8) The right against public hanging.
- (9) Doctors assistance

How many of these are followed in the AFSPA regulated states ,should be our first question of concern in regards to the current situation of distrust.

AK Gopalan Vs State of Madras Case¹⁶ worked profusely in the direction of establishing the right order and definition of “deprivation” which is much more than the restriction to just move about as mentioned in Article 19 .

“No one shall be subjected to arbitrary arrest, detention or exile” as the Article 9 of Universal Declaration of Human Rights states , but the AFSPA has failed to adhere to all these International Code of Conduct in this regard.¹⁷

Discussing about Article 22 on the other hand , we see that it elaborately throws light on the detention policies that is crowned upon by the state and I would only talk about the 1st and 2nd schedule for our closer understanding in regards to the neglect meted out on the guaranteed rights -

1.” No person who is arrested shall be detained in custody without being informed, as soon as may be, of the grounds for such arrest nor shall he be denied the right to consult, and to be defended by, a legal practitioner of his choice.”

2. ”Every person who is arrested and detained in custody shall be produced before the nearest magistrate within a period of twenty four hours of such arrest excluding the time necessary for the journey from the place of arrest to the court of the magistrate and no such person shall be detained in custody beyond the said period without the authority of a magistrate.”¹⁸

Do the above happen in case of AFSPA monitored states? The answer is “No”.

On further moving deeper into International guidelines, the Article 2(3) of the International Covenant on Civil and Political Rights¹⁹ stands important as it checks on the power of the people even in official positions-“Any commissioned officer, warrant officer, non-commissioned officer or any other person of equivalent rank in the armed forces may, in a disturbed area” as mentioned in Section 4 of the AFSPA.

¹⁶AK Gopalan vs State of Madras,(1950)A.I.R.1950 S.C.27 (India)

<https://indiankanoon.org/doc/1857950/>

¹⁷Kumar, Ajay.(2017, August 29).Supreme Court rights old judicial wrongs in landmark Right to Privacy verdict, shows State its rightful place, *First Post*.

<https://www.firstpost.com/india/supreme-court-rights-old-judicial-wrongs-in-landmark-right-to-privacy-verdict-shows-state-its-rightful-place-3984011.html>

¹⁸<https://indiankanoon.org/doc/581566/>

¹⁹Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December (1966) entry into force 23 March 1976, in accordance with Article 49



The horrors of internment back in 1942 was however not as grave as the systematic exclusion and “othering” faced by the North Eastern states ,before the Independence and so many years after it.That is possibly very evident from the regular and periodic atrocities on them based on their physical features and race and indigenous cultural trade and practices. As early as 1929, saw the militant groups in Nagaland wanting a separate territory for themselves and that they never wanted to be a part of the India that we speak of today . However India even today seems like a mini Global war centre where friends and enemies share the same chess board, where peace treaties and negotiations happen time and again because the demands placed by the North Eastern Military groups like National Socialist Council of Nagalim(NSCN-IM)²⁰before the Government are never accepted whole heartedly .

The internment’s history saw several magnificent photographs²¹ being taken around in San Francisco, California and one of them shows a shop owner, a citizen of America, but of Japanese origin, holding a banner in front of his shop in Oakland, California-“ I am American “after the Roosevelt Government passed the orders for relocation of anyone “Not American”(“Japanese “in a sugarcoat). The Executive Order 9066 had further implications of trauma where the business men and women had to leave their strawberry fields, American-born Japanese origin soldiers helped move their own kin to the relocation centres and several people had to leave their houses and move out to where the Government had ordered them. The picture however bettered with a Supreme Court Order that reprimanded this policy and they came back to their homes, receiving millions over these years as internment compensations. Picture in India however has been worse ever since.

As Laishram Achaw Singh, Member of Parliament from Inner Manipur Parliamentary Constituency, said in 1957 in the Parliament -“This is a lawless law” and even BP.Jeevan Reddy Committee’s report was rejected by the Home Ministry again and again as it aimed to order the Home Ministry to remove AFSPA for it was a “bald act”. Thus the Act if viewed from the humanitarian point of view, must be repealed in a slow releasing pattern, thereby providing the constitutional freedom of life to those ethnic groups who have been searching for their rightful identity in an apparently Democratic Republic. Free sovereign state of separatist ideologies is demanded only when the citizens don’t feel safe. Thus, a more humane method should be adopted in the future to make India a better place for all communities.

What causes the immediate effect in the direction to unconstitutionally constitutionalise a completely despotic act is the public’s inability to place their complete faith in state machinery- the civilian and police forces for their protection as many such can be

²⁰Getting away with murder.(2008, August 1 at 11.20pm). *hrw*.

<https://www.hrw.org/legacy/background/2008/india0808/>

²¹Ansel Adams's Photographs of Japanese-American Internment at Manzanar.(1965, April 30 at 11.30pm).*Library of Congress*.

<https://www.loc.gov/pictures/collection/manz/>



covered under the purview of the Cr PC and IPC. With regards to this immunity, all we can say is that there needs to be a revision of how much power can be put to use by the Armed Forces and military(or para-military) personnel in those strategically highlighted areas of incumbent insurgencies. There is also a need to check if the military duties are overlapping with the duties and powers of the civilian forces who are the immediate guardians of the democracy. The power should be in the hands of the people , as promised in a Republican set up . The federal centralisation of AFSPA thus must undergo vehement reforms in order to make it people - friendly , not to make them vulnerable to the barrel strikes . The answer of such must be in our collective action and we must achieve it in the near future to avoid the slow transformation from a “sovereign ,socialist ,secular ,republic” to a autocratic military dictatorship.

“She says:When are we going to meet?

I say:After a year and a war

She says:When does the war end?

I say:When we meet” (When are we going to meet ,Mahmoud Darwish)

Thus as dreamers in an Utopian World , we hope to meet each other in the best place and time, overcoming the challenges ,with new reforms and changes that can help us recover from the horrors of AFSPA.



MANAGING AND UTILIZING HUMAN RESOURCES IN AN ORGANIZATION WITH REFERENCE TO HIGHER EDUCATION

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Abstract

Human resource capacity has become a critical issue for contemporary universities as a result of increasing pressures from governments and global markets. As a consequence, particularly where the institution is the employer, changes are occurring in the expectations of staff and institutions about employment terms and conditions, as well as the broader aspects of working life, and this is affecting academic and professional identities. HR is a product of the human relations movement of the early 20th century, when researchers began documenting ways of creating business value through the strategic management of the workforce. The function was initially dominated by transactional work, such as payroll and benefits administration, but due to globalization, company consolidation, technological advancement, and further research, HR now focuses on strategic initiatives like mergers and acquisitions, talent management, succession planning, industrial and labor relations, and diversity and inclusion. HR Management has to be premised on competency and esthetics and be supported by standards, Codes and legislation. HR needs to develop their capacity through network. The main objective of a HR department is to bring out the best in their employees and thus contribute to the success of the company. Competence refers to an individual's knowledge, skills, abilities, or personality characteristics that directly influence his or her job performance. This paper considers few key issues and challenges in human resource management in higher education, and some of the implications of these changes.

Key Words: Higher Education, Human Resource Management, Globalization.

Introduction

Human resource management is the theory, techniques, methods, and tools for studying the adjustment of people and their relations in the organization, connection between work and its relations, matching the people and work in order to fully develop human resource management, tap people's potentials, motivating people, promoting the work efficiencies and meeting the organizational objectives. Human Resource Management used to be considered as other conventional administrative jobs. But over a period of time, it has evolved as a strategic function to improve working environment, plan out human resources needs and strike a balance between the organization and employers in order to increase organizational productivity and meet organizational goals. Not to



exaggerate but in today's highly competitive world it has gradually become one of the most important functions of an organization.

Human Resource Management is the process of managing people in a company as well as managing the existing inter-personal relationships. These two processes are key in the success and growth of a business. Human resource management is the management process of an organization's workforce, or human resources. It is responsible for the attraction, selection, training, assessment, and rewarding of employees, while also overseeing organizational leadership and culture and ensuring compliance with employment and labor laws. In circumstances where employees desire and are legally authorized to hold a collective bargaining agreement, HR will also serve as the company's primary liaison with the employees' representatives (usually a trades union).

Today, society is increasingly knowledge-based, higher education and research now act as essential components of cultural socio-economic and environmentally sustainable development of individuals, communities and nations. The development of higher education must, therefore, feature among the highest national priorities. College and university education in India has produced scholars, engineers, technologists, doctors and management personal of quality comparable with the very best products of the best universities of the world. Teaching in higher education, mostly concentrates on giving information which is but one objective of education.

The Eleventh Five Year Plan (2007-08 to 2011-12) had aimed at achieving faster and more inclusive growth. Rapid GDP growth, targeted at 9.0 per cent per annum, was regarded necessary for two reasons: first, to generate the income and employment opportunities that were needed for improving living standards for the bulk of the population; and second, to generate the resources needed for financing social sector programmes, aimed at reducing poverty and enabling inclusiveness. HR has a pivotal role to play here. An analysis of the main HR problems in India could be done based on the certain challenges that mould the contours of the various sub-functions of HR. The 'attract, motivate and retain' mantra that the HR function seeks to deliver for the organization are based on these HR sub-functions.

- Management and Administration
- Employee Engagement and Talent Retention
- Employee Motivation
- Globalization of Business
- Effective Leadership
- Staffing
- Performance Management
- Managing Inter-Personal Relationships



Management and Administration

Educational Administration is the management with maximum efficiency of an institution or organization having the organized purpose of facilitating the teaching learning process. This definition of educational administration has three aspects:

- The first is management with maximum efficiency.
- The second is the institution or organization.
- The third is the facilitating the teaching learning process.

Thus, the educational administration is concerned not only with management of persons or groups of persons belonging to an organization with maximum efficiency, but also with the setting of the goals and policies of the organization.

The educational administration is also concerned with the development of programmes which prosper learning. It all means that educational administration is concerned on the one hand with the management with maximum efficiency, the persons involved in the educational organization that is the teachers, pupils, administrators etc. and on other with the formulation of goals, planning of programmes and implementation of policies.

Theories of management have proved to be of viable use and application in organizations settings and operations, such as academic organizations like a university. The word management generally implies the art and process of getting things done by others towards the achievement of preset goals and objectives (Keller, Parameswaran, & Jacob, 2011; Richard, 2011). Management involves the implementation of business objectives with a strategic aim of reaping in the gains of business, therefore on this note, the word 'management' as it is applicable in university and higher education management is 'business in nature'. That is when the term management is used and applied in a setting like university and institutions of higher learning; there must be expectation of 'profit and gains' as a result of the fact that management happens in business for the sole aim of profit advancement and survival.

Employee Engagement and Talent Retention

Winning the hearts and minds of talent is of prime importance in the current context. Employees are no longer committed to their companies. Their dedication is towards their own professional growth and careers. Employee engagement means that HR has its eyes and ears close to the ground realities that an employee faces in the job. Issues like work-life balance, fun at work are considered part of the employee experience.

Human resource managers are on their toes to strike a balance between employer and employees keeping in mind the recent trends in the market. They may find themselves in dire consequences if they are not able to handle the human resource challenges efficiently.



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- ✚ Multinational companies, state-owned enterprises, and private firms are all facing the problem of frequent changing leadership and high turnover rate.
 - ✚ How to select employees, especially the senior managers? Is it a good idea for the state-owned firms to have all managers to retire at the age of 60?
- Creativity and innovation by HR function can make a big difference in how an employee can actually be attracted, motivated and retained.

Employee Motivation

In a market which job-hopping has become the name of the game, keeping the workforce motivated is one of the key challenges of HR. Motivation no longer comes from just a lucrative pay package. Nowadays companies have to walk that extra mile to make the employee feel special to ensure that he doesn't walk out and into the arms of competition.

Talent segmentation and segregation with performance appraisal and rewards is essential to a good team of workers. In essence, as industries evolve, employers have to ensure that apart from the basics of 'roti, kapda and makaan', employees also expect job satisfaction, learning and development facilities.

Globalization of Business

Multinational Companies/Organizations have increasingly set up operations for manufacturing and services in India, bringing with them HRM practices from all around the world. The importation of new management practices has changed the nature of the labor market and the practice of HRM, and will potentially have an impact on Indian society. These external forces are paralleled by unprecedented economic reform and the enactment of employment laws that are changing the nature of organizational forms and management practices within India. Outsourcing increases the interaction between HR managers in the West and India. Some insights into the common challenges our Indian colleagues face may improve support and collaboration between managers in both locations.

- ✚ Today's increasingly global, competitive marketplace has driven considerable changes in labor markets, and has transformed the practice of Human Resource Management.
- ✚ Expanded multinational operations within large companies, combined with increased technology and communication capability, have led to vast diffusion of global "best practices" in HRM.
- ✚ As a global company, the only way to succeed is to develop an effective global human resource management system with personnel capable of designing and implementing transnational business strategies.
- ✚ In most cases firms have historically gone from domestic, to international, to multinational, and finally to global operations. At each phase, the approach to human resource management changes significantly along with the changes in



competitive strategy, company structure, the product or service being marketed, profit margin, and expenditure required for research and development.

It is really a huge challenge to understand the psychology of workforce, retain the best talents of the industry, motivate them to perform better and handle diversity while maintaining unity simultaneously, especially in countries like India, where it is still evolving.

Globalization has resulted in many positive developments but it has left many concerns for HR managers. In today's tough world and tight job market, coordinating a multicultural or diverse workforce is a real challenge for HR department.

Effective Leadership

Build an environment where employees enjoy the opportunity of presenting an opinion and discussing issues. Appreciate constructive criticism. It is important to be treated as a role model and to encourage members to work together for a common goal while focusing on the organizational goals largely. Make sure to understand what motivates your team members. It might vary from person to person and can be as diverse as the pay package, challenging assignments or career growth prospects. It is important to instill a sense of belonging in the team members. Always instruct and advise the team to work with each other closely rather than competing with each other. Leadership and management, at times, are considered similar. However, they have distinct differences. A manager strategizes and takes care of activities whereas management exercises control to handle the activities. A leader aims at building trust and oneness in the team. He is the one who stands for the team, supports them in crisis and protects them in adversity.

Staffing

Staffing is the core component of HRM. Staffing is about setting guidelines and procedures to guide recruiting and placement. The presence of these staffing procedures will aid in the effective advertising and reaching out to potential employees. On top of this, the person interviewing and selecting new staff should be able to identify candidates who are suitable for the various roles. The interview should be structured to ensure the success of the interview process as well as the candidate selection. Apart from hiring new employees, staffing also involves the management of existing employees. It touches on issues like disciplinary matters, monitoring of leave, absences and health and safety. Letting employees go is also covered under staffing. Therefore, an organization needs a robust system needs to make sure that all these elements are covered

Performance Management

Another key component of HRM is performance management. The reason for this is that many employers use it to assess career progression and to determine pay increases. When a good performance management policy is in place, effective targets can be set



and monitored regularly. These records are crucial when staffing levels need to be reduced or disciplinary proceedings are instituted.

Managing Inter-Personal Relationships

A secondary role of HRM is in the management of inter-personal relationships. This covers staff within departments as well as at an organizational level. The relationship between staff and management is an important factor in the success of an organization. It sets pace for how the organization will move forward in achieving their vision. As far as this secondary function is concerned, the objectives and outcomes, are designed to help employees and the management grow employees and ensure that the interactions within the organization are fulfilling for every member of staff from the bottom up. The ultimate focus of HRM is the people within an organization. Regular planning, monitoring and evaluation are important for the success of HRM. Successful implementation ensures that all employees know their role, career path and also feel part of an organization which is able to manage and reconcile their expectations as well as those of the organization and its objectives. In the current global work environment, all global companies are focused on retaining the talent and knowledge held by the workforce. All companies are focused on lowering the employee turnover and preserving knowledge. New hiring not only entails a high cost but also increases the risk of the newcomer not being able to replace the person who was working in that position before. HR departments also strive to offer benefits that will appeal to workers, thus reducing the risk of losing knowledge.

Successful Organization

A successful organization makes maximum use of the abilities and talents of each individual, not just a chosen few, or the few who chose to apply the effort necessary to do the job. While not everyone has the same impact on the success of the organization, everyone does contribute to that success. If anyone does not, either they are not doing their job or their job is not necessary to the success of the organization. Either case will have a negative impact on the organization because resources are being wasted. This element also means helping individuals develop their abilities and talents by creating an honest, open environment in which they can learn and grow. While such growth demands understanding and praise of people's successes, it also requires frank, honest appraisal of their mistakes and shortcomings. It is too easy to sympathize and emphasize and damn hard to honestly appraise. We must be careful not to substitute the trappings of human relations and emotions for an appreciation for human needs and those of the organization.

Conclusion

Human resources have become increasingly integral to the success of firms. Human resource management field is a multidisciplinary field with roots in psychology, sociology, management, education, economics, etc. The field of HRM continues to evolve in practice as it does as an area of research and scholarship. There should be more collaboration between nonacademic and academic field. HRM researchers should recognize the importance of such collaborations. The focus of today's HR Manager is on



strategic personnel retention and talents development. HR professionals are coaches, counselors, mentors, and succession planners to help motivate organizations and its members with their loyalty. The HR manager needs to promote and fight for values, ethics, beliefs, and spirituality within their organizations, especially in the management of workplace diversity. The system of the higher education certainly affects rest of the systems operating in the country. But while doing so, it also gets influenced by the situations and realities prevalent in other systems. With a view to ensure greater influences of higher education on the rest of systems, it is essential that a positive intervention is attempted. The recent government policy cut-in-allocation of the resources of higher education has further affected the efforts improvement of quality of higher education. The HR function of 21st century India has made a transition from being 'behind-the scenes' support appendage to becoming the critical differentiator in business and in education field. Rapid globalization has made companies realize people are the key to growth, the only strategic resource that any enterprise truly needs. The purpose of Human Resource Management programme should personal culture, , an awareness of the principles which underlines good human relations and a sense of the responsibility to contribute both by teaching and leading as an example to social, cultural and economic progress in the society. The nation building task will be performed under the leadership of a brilliant set of educators and leaders who will prepare and motivate the young talented people and who in turn will develop the creative abilities of the teeming millions of youth of the country.

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ROLE OF JUDICIARY ON COMMERCIAL SURROGACY: A NEW ERA OF HUMAN REPRODUCTIVE SYSTEM

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Introduction:

In the era of 21st century, we have reached to the space, we have advanced in every field of technology, to such an extent that we have our work done through artificial means, we have also developed in the field of nuclear weapon with which one can destroy the world with an blink of an eye. But here the question arises have modernity really been able to eradicate the darkness of our mind? “Lakshmi”, “Durga” “Saraswati”, “Kali” and so on, so many ‘Women’ we worship, we call the “Maa” means mother. Women are creator of human race. Women are the artificer of the human civilisation. But when this ‘women’ is declared ‘infertile’ she has to bear the shadow of misery and pain.

Where the world has reached the moon. It is very unfortunate that India still has places where female feticide is in practice. Sometime, it is found that in the greed of a male child they remain childless throughout their lives. Where few couple kill the foetus in the womb, there the few of them desires for a child so dearly. Surrogacy has made it possible to bring a ray of light to many people’s lives. Although surrogacy is a boon to medical science, but unfortunately this “Gift of Science” has become a means of trade for few people and made this only a means to satisfy their illegal demands.

Even though the word “Commercial” literally means for the purpose of trade, yet commercial surrogacy does not come under the ambit of trade. It is in fact one of the noblest thing. Commercial surrogacy is to do with only such couples who are incapable of attaining natural biological parenthood.

The moral, ethical and religious objections to surrogacy are based on the premise that life is a creation of God and human beings should not attempt to play God by interfering in the natural processes. Another serious objection in this regard is the fact that surrogacy procedure involves repeated trials which use either male or female genetic material or the human embryo. The wastage of human embryo is criticized as similar to murder, because according to some scholars human life begins at fertilization.

Meaning and Concept of Surrogacy:

The word surrogate originates from Latin word ‘*substitution*’.¹Surrogacy is an amazing gift that one person can give a couple that are not able to have children of their own. Surrogacy can be defined as: “Bearing a child on request for another family or person”. A child, in this case, is born not out of the maternal instinct of the surrogate but due to the commissioning couple’s or individual’s intention to become parents. The term

¹ Anil Malhotra & Ranjit Malhotra, Surrogacy in India, 2ndedn., Universal Law Publishing House, P 108.



'surrogate' means someone acting as a substitute or depute in place of another. In medical parlance, it means using of a substitute mother in the place of the natural mother. It is a well known method of reproduction whereby a woman agrees to become pregnant for the purpose of gestating and giving birth to a child, she will not raise but handover to a contracted party. She may be the child's genetic mother or she may be as a gestational carrier, carry the pregnancy to delivery after having been implanted with an embryo. Surrogate mother may be relatives, friends, or strangers for a fee. The agencies often help manage the complex medical and legal aspects involved. Surrogacy arrangements can also be made independently. Surrogates who carry a baby for a family member usually do so for expenses only.²

Legal framework of surrogacy in India:

"Salus Populi Suprema Lex"

--- 'The Welfare of the People is the Supreme Law'

Jeremy Bentham looked upon 'law' as an instrument for securing the "greatest good of the greatest number" and correctly so. Law, at a particular time, showcases the societal mindset and undergoes radical metamorphosis to align itself with social change. The question of 'when to' employ this instrument for addressing social issues is beset with many conceptual uncertainties. This article seeks to address one such question with regard to the issue of surrogacy in India and, in the process, analyzes its various dimensions in order to ascertain the basis which makes it imperative for the legislature to pass a law and properly implement the law to explicitly address the issue.³

The roots of Indian surrogacy have its traces in the history and provided evidences of being a century old procedure. The procedure became a successful practice in India with the birth of world's second and India's first IVF baby Kanupriya alias Durga who was born in Kolkata on October 3, 1978. Since then the field of Assisted Reproductive Technology or called ART in short has shown fastest developments.⁴

India is emerging as a leader in international surrogacy. Indian surrogates have been increasingly popular with fertile couples in industrialized nations because of the relatively low cost. Indian clinics are at the same time becoming more competitive, not just in the pricing, but in the hiring and retention of Indian females as surrogates. Clinics charge a bulk amount from patients for the complete package, including fertilization, the surrogate's fees, and delivery of the baby at a hospital. Surrogacy in India is much simpler and cost effective than anywhere else in the world. There is an increasing amount of Intended Parents who choose India as their surrogacy destination. The main reason for this increase is the less costly surrogacy and better flexible laws.

The Supreme Court on 29th September, 2008 in *Baby Manji Yamada vs. Union of India*⁵ it was observed that "commercial surrogacy" reaching "industry proportions is sometimes referred to by the emotionally charged and potentially offensive terms

²Dr.S.A.K.Azad, "Surrogacy in India – Problems & Law", Indian Bar Review, Vol. XL (1) 2013, Bar Council of India Trust, p 63.

³Raghav Sharma, "An International, Moral & Legal Perspective: The Call For Legalization of Surrogacy in India", available at <http://ssrn.com/abstract=997923>, Jul, 19, 2020, 7:30 PM.

⁴"History of Surrogacy in India", available at <http://indiansurrogatemothers.com/history-surrogacy-india/>, June, 10, 2020, 11:15 AM.

⁵(2008) 13 SCC 518.



wombs for rent, outsourced pregnancies or baby farms”. It is presumably considered legitimate because no Indian law prohibits surrogacy. However, the changing face of law is now going to usher in a new rent-a-womb law as India is set to be the only country in the world to legalise commercial surrogacy.⁶

The complicated case of Japanese Baby Manji born on 25th July, 2008 to an Indian surrogate mother with In Vitro Fertilization or IVF technology upon fertilisation of her Japanese parent’s eggs and sperms in Tokyo and the embryo being implanted in Ahmedabad, triggered off complex knotty issues. The Japanese biological parents divorced and the mother disowned the infant upon its birth in India. The grandmother of the infant petitioned the Supreme Court challenging the directions given by the Rajasthan High Court relating to production and custody of baby Manji Yamada. Her request to the Apex Court for permission for the infant to travel with her and for issuance of a passport under consideration with the Central Government was directed to be disposed off expeditiously. Following the directions of the Supreme Court dated 29th September, 2008, the Regional Passport Officer in Jaipur issued an “Identity Certificate” to the baby on 01st November, 2008. Thereupon, the grandmother Emiko Yamada flew out to Japan with the baby. A Pandora’s box has opened with a floodgate of questions and issues related to ethics and legality surrounding surrogacy with Japanese *Baby Manji’s case* and even her citizenship status remained unclear.

In India, we do not have any specific legislation on legal parentage as a result of surrogacy arrangements. At the moment, in India we have the Registration of the Births and Deaths Act, 1969, which does not contain any provision regarding parentage as a result of a surrogacy arrangement. The said enactment laid down by the Parliament of India came into force on 31st May, 1969. Surrogacy parentage was not an issue at the time the said legislation came into being. Neither, have there been any amendments or additions with regard to any surrogacy issues in the said enactment pertaining to the registration of births and deaths in the Indian jurisdiction. That in so far relating to arrangements for registration of births of children born out of surrogacy arrangement are concerned, in India reference is drawn to the relevant provisions of the ICMR Guidelines, 2005 and the ART Bill, 2014. Hence, from a combined reading of the relevant provisions in the ICMR Guidelines, 2005, and the ART Bill, 2014, it can be safely asserted that the birth certificates of children born out of surrogacy arrangements should be in the name of the commissioning parents.

The said certificates are issued under Section 12 and Section 17 of the Registration of Births and Deaths Act, 1969. It is important to mention, normally the practice followed by Government hospitals and nursing homes in India, is that they forward particulars of all births with the relevant details to the designated authorities under the provisions of the Registration of Births and Deaths Act, 1969. This is a mandatory and a statutory duty of the medical officer of such an institution, prescribed under Section 8 of the Registration of Births and Deaths Act, 1969. Furthermore, the certified copy of the birth certificate is a public document in terms of Section 76 of the Indian Evidence Act, 1872. Here it is submitted that in terms of clause 2 of Section 17 of the said Act of 1969, a birth certificate is admissible in evidence as far as the factum of birth is concerned. So, it

⁶ ibid 5.



can be argued that this is the legal position as to the parentage of children born as a result of surrogacy arrangements in the Indian jurisdiction.

The legislation which deals with the acquisition and determination of Indian citizenship is the Citizenship Act, 1955. This enactment provides four modes of acquisition of citizenship which are contained in Sections 3, 4, 5 and 6 of the Citizenship Act, 1955. Since there is no exclusive and separate legislation governing nationality and citizenship issues of children born out of surrogacy arrangements in India, hence, in such a situation all nationality and citizenship issues will be governed by the abovementioned provisions of the Indian Citizenship Act, 1955.

Commercial surrogacy has been a silently-operating booming industry in India. Even the Law commission of India in its 228th Report submitted on 5th August, 2009, recommended an urgent need for proper law for surrogacy in the country. The Report was titled as “Need for Legislation to regulate Assisted Reproductive Technology Clinics as well as Rights and Obligations of parties to a Surrogacy”. The Indian Council of Medical Research (ICMR) which works under Ministry of Health & Family welfare formulated the Assisted Reproductive Technologies (Regulation), ART Bill, 2008, which has been revised time and again by the Ministry of Law & Justice in 2010, 2013 & 2016 as well, but throughout all these years the legislation has been amended and proposed, but never passed.

However, in 2013, surrogacy by foreign homosexual couples and single parents was banned followed by a ban on commercial surrogacy in 2015 for foreign nationals and permitted entry of embryos only for research purposes. Shortly thereafter in 2016, Surrogacy (Regulation) Bill, 2016 was introduced and passed by the Lok Sabha which proposed to legalize altruistic, domestic surrogacy, but the bill lapsed owing to adjournment of the Parliament session. However, the industry of Commercial surrogacy has been largely unregulated and perceived to be the root cause of all evil that plagues surrogacy in India. Therefore, the Bill of 2020 highlights that the legislation aims to curb the unethical practices of commercial surrogacy including the exploitation of surrogate mothers. Here are several significant and historic changes brought in by this 2020 bill⁷, which are:

- ❖ The Bill completely prohibits commercial surrogacy and only allows altruistic surrogacy, meaning that the surrogate mother would not receive any financial compensation and awards for her pregnancy, except for the basic medical expenses and insurance coverage. Commercial surrogacy will be prohibited, including the sale and purchase of human embryos and gametes.
- ❖ The present bill also deletes the definition of ‘infertility’ which was previously defined as the inability to conceive after five years of unprotected intercourse. The select committee was of the view that five years is too long a period for a couple to wait for a child and regarded it as unreasonable and against the objectives of the act.
- ❖ The Bill allows surrogacy to Indian married (heterosexual) couples (between 23 to 50 years for wife and 26 to 55 years for husband) and widens the applicability to include Indian-origin married couples, and Indian single woman (only widows and divorcees between the age of 35 and 45 years).

⁷<https://blog.ipleaders.in/surrogacy-regulation-bill-2020-way-forward/>, Jul, 10, 2020, 11:15 AM.



- ❖ The proposed Insurance cover for surrogate mothers has been increased from 16 months to 36 months, to counter the high risks of medical complications even after pregnancy.
- ❖ It is mandatory for the couple to obtain a certificate of essentiality and also a certificate of eligibility (proven infertility) before going ahead with surrogacy. It also provides that intending couples should not abandon the child born out of surrogacy under any condition. The new-born child shall be entitled to all rights and privileges that are available to a natural child and no sex selection can be done in this process.
- ❖ The bill also regulates the functioning of surrogacy clinics by making a mandatory registration for them with the appropriate authority.
- ❖ The offenses under the bill include advertising or undertaking for commercial surrogacy, selling or importing human embryos for surrogacy, exploiting the surrogating mother or the surrogate child and disowning the child. The penalties for such offenses attract imprisonments upto 10 years and 10 lakh rupees fines.
- ❖ The bill also proposes to regulate surrogacy by establishing a National Surrogacy Board (NSB), and State Surrogacy Board (SSB), whose function would be to advise the government on policy matters and supervising the functioning of the clinics.⁸

Constitutional Aspect and role of Judiciary:

The Constitution doesn't provide any explicit provision for 'reproductive rights'. But it has wide scope for the materialization of this type of rights. Many Constitutional provisions can be invoked for this purpose. To begin with, the preamble comprises paramount objectives of the Constitution as to secure social, economic and political justice through protection of basic human rights⁹. It can be meant in a way that reproductive rights are also integral parts of the basic human rights and without their protection and promotion the paramount goal of social justice cannot be secured.

The Fundamental Rights which are mentioned in Part III of the Constitution form the basis for incorporating a globally recognized reproductive rights framework into the Indian context. The key provisions for these purposes include, right to equality before the law and equal protection of the laws, prohibition of discrimination on the grounds of sex, protection of life and personal liberty - which the Court has interpreted to include the rights to human dignity, health, and privacy, and prohibition of trafficking in human beings¹⁰. While interpreting these provisions the Courts have repeatedly stated that right to life "does not connote mere animal existence or continued drudgery through life", but rather, implies "a right to live with human dignity" and "all that goes along with it, namely, the bare necessities of life".

⁸ibid 8.

⁹ The Constitution of India, 1949, Preamble. It provides that, "We the people of India, having solemnly resolved to constitute India into a Sovereign, Socialist, Secular, Democratic, Republic and to secure to all its citizens - justice, social, economic and political; Liberty of thought, expression, belief, faith and worship; equality of status and of opportunity; and to promote among them all fraternity assuring the dignity of the individual and the unity and integrity of the Nation".

¹⁰ The Constitution of India, Articles 14, 15, 21 and 23.



The Judiciary in India has recognized the reproductive right of individuals as a basic right. In *B. K. Parthasarathi vs. Government of Andhra Pradesh*¹¹, the Andhra Pradesh High Court upheld—the right of reproductive autonomy of an individual as an aspect of his “right to privacy” and agreed with the decision of the US Supreme Court in *Jack T. Skinner vs. State of Oklahoma*¹², which characterized the right to reproduce as “one of the basic civil rights of man”. The argument for the contention that right to procreation is recognized in India is further strengthened due to the fact that, the Indian judiciary has abstained from stating that the right to procreation is not a basic human right.

Article 21 also guarantees fundamental right to privacy that could be invoked to protect the right of individuals to reproductive health care information, education and services to a degree of privacy, and to confidentiality with regard to personal information given to service providers. The Supreme Court of India in *Suchita Srivastava & Another vs. Chandigarh Administration*¹³ has declared that, a woman’s right to make reproductive choices is also a dimension of ‘personal liberty’ as understood under Article 21 of the Constitution of India. It is important to recognize that reproductive choices can be exercised to procreate as well as to abstain from procreation. The crucial consideration is that a woman’s right to privacy, dignity and bodily integrity should be respected. In this case, the Court struck down the decision of the High Court to terminate the pregnancy of a mentally retarded woman against her will.

In *Devika Biswas vs. Union of India*¹⁴ the Supreme Court recognized the right to reproduction as an important component of the ‘right to life’ under Article 21. These reproductive rights of women include the right to carrying a baby to term, giving birth, and raising children. They also include rights to privacy, dignity, and integrity of the body.

It can therefore be pointed out that right to procreation is one of the most fundamental and basic human right. However, a large section of individuals in the society are unable to enjoy this right and fulfil their dream for a biological child due to various barriers. The inability to beget a child has a very serious impact on the individuals and needs to be addressed properly.

Rights of the Surrogate Mother:

The rights of surrogate mother are enumerated as below:-

- 1) Right of the husband of Surrogate Mother to give consent for Surrogacy;
- 2) Human Rights of the Surrogate;
- 3) Right of Surrogate to health;
- 4) Right to companionship/visiting rights of surrogate mother to the child;
- 5) Right to have legal advice for entering into Surrogacy Arrangement;
- 6) Right of surrogate mother to be aware of the psychological and medical risks involved in the surrogacy arrangement¹⁵.

¹¹ 2000 (1) A.L.D. 199 and 1999 (5) A.L.T. 715.

¹² 316 U.S. 535 (1942).

¹³ (2009) 9 S.C.C. 1.

¹⁴ (2016) 10 SCC 726.

¹⁵ <https://shodhganga.inflibnet.ac.in>, “Law and Policy on Surrogacy: A Socio-Legal Study in India”, Jul, 10, 2020, 11:15 AM.



Corresponding Duties of the Intended Parents:

This category includes following obligations:

- 1) Obligation of intended parents to bear all costs of surrogate mothers' medical examination;
- 2) Obligation of intended parents to undergo medical examination under the direction of the expert treating physician so as to determine their satisfactory health (HIV+ and AIDS etc.) prior to IVF procedure;
- 3) Duty of intended parents to bear the cost of any miscarriage or abortion if necessary;
- 4) Duty of the intended parents to pay forthwith the obstetrical, nursing, hospital and maternity care, pharmaceuticals and paediatric care or any other basic medical expenses;
- 5) Duty of each party to facilitate the obtaining of birth certificate, citizenship certificate or any other document requested by the government.¹⁶

Rights of the Intended Parents:

This category includes the following rights:

- 1) Right of Intended Parents to have a Child;
- 2) Right to Hire a Sperm, an Egg and a Womb;
- 3) Right of Intended Parents to conceive a child by IVF into the Surrogate Mother;
- 4) Right to have Visa and Passport for enjoying the facility of Surrogacy;
- 5) Right to have Legal Advice for entering into Surrogacy Arrangement¹⁷.

Corresponding Duties of Surrogate Mother:

This category includes the following obligations of surrogate mother:-

- 1) Surrogate mother's obligation not to be lawful parent of the child;
- 2) Duty of surrogate mother not to interfere with the upbringing of the child after birth;
- 3) Duty of surrogate mother to surrender all her rights upon the surrogate child;
- 4) Obligation of Surrogate Mother to carry the child for full term and give birth to a child for Intended Parents;
- 5) Obligation of surrogate mother to relinquish parental rights, custody and/or control over the child;
- 6) Obligation of surrogate mother to undergo medical examination under the direction of the expert treating physician prior to IVF procedure, so as to determine that her health is satisfactory (HIV and AIDS etc.) to conceive and deliver a child¹⁸.

Conclusion:

The claim that a woman has a right to rent her womb or to act as a surrogate can be justified on the ground that such right originates from two basic human rights i.e. right to personal liberty and right to privacy. At the same time this right to act as a surrogate is not an absolute right and can be restricted like any other human rights. An analysis of legal provisions in different countries shows that, a surrogate mother is entitled to have

¹⁶ ibid 15.

¹⁷ ibid 16.

¹⁸ ibid 17.



the following rights such as, right to an informed consent, right to receive expenses of pregnancy and hospital treatments, right to receive reasonable insurance expenses, right to compensation, right to remain anonymous, and right to maternity benefits. Though these rights are important to protect the interests and rights of surrogate women, most of the countries have not recognized all these rights. However, in India, the ICMR Guidelines recognizes most of these rights except, right to receive reasonable insurance expenses and right to maternity benefits.

The children are the brightest treasures we bring forth in this world. The love and happiness which is spread by innocent children is incomparable in the world. The birth of children is celebrated as a joyous occasion and gifts and offerings are made to God to express one's gratitude and happiness. Surrogacy is a way to bring the happiness of parenthood to a couple who would otherwise not have been able to enjoy it, either due to biological circumstances or due to the unavailability of a child for adoption. The joy of parenthood is something that every couple should be able to experience.



UNDERSTANDING THE FLIPPED CLASSROOM PEDAGOGY IN ELT: CONCEPT AND USEFULNESS

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Abstract:

The present-day trends in the education community have been drastically changing across the world. One such “trendy” pedagogy is the “flipped classroom” or “inverted classroom.” A flipped classroom, as its name suggests, is a class where the lecture and home-assignment have been upturned. The present paper provides the comprehensive understanding of the flipped classroom and its relevance in the field of English Language Teaching. The aim of this study is to examine the concept and usefulness of flipped classroom training in the context of ELT.

Key Words: Flipped Learning, ELT, Interaction, Analysis, Multilingual, Foreign Language Learning, Approach.

In present-day education systems, learners are expected to possess an increased degree of independence and show initiative in learning practices, inspecting learning materials and understanding contents. Existing psychological and pedagogical research focuses on students’ learning processes in general and also on which learning strategies students should be introduced to enable effective and autonomous learning. The term learning strategies does not describe any one uniform, scientific theory. However, all of them are useful to the learners in one or the other ways. One such recent strategy is flipped learning pedagogy.

The flipped classroom, a teaching method that delivers lecture materials to students at home through electronic means and uses class time for practical application activities, may be useful for information literacy education. The Flipped Classroom is a blended learning model in which traditional ideas about classroom activities and homework are reversed, or “flipped.” In this model, instructors have students interact with new material for homework first. They then use class time to discuss the new information and put those ideas into practice. The most commonly used research methods in flipped classroom in ELT studies were found to be mixed and measureable methods. In the examined studies, speaking and writing abilities were the most commonly studied language skills. Further analysis revealed challenges, as well as benefits related to the use of the flipped classroom method in English as a foreign language (EFL) classroom.

Flipped classroom is a model of delivering instruction that shifts lectures from a class time activity to an at home activity and shifts “homework” from an at home activity to an in-class, critical thinking set of activities.

According to Yarbrow and McKnight,



“Flipped learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter” (YarbroandMcKnight. 5).

To better facilitate educators in properly implementing an effective model of the flipped classroom, the Flipped Learning Network established four pillars of flipped learning that represent key practices in this model of teaching.

According to Hamdan, McKnight, &Arfstrom “FLIP” gives an overview of these elements:

F: Flexible Environment

When the traditional lecture is excluded, one also loses the stagnant rows of seating in favor of flexible arrangements. Furniture can be rearranged and allow for a variety of group and individual work. Likewise, the timing of lessons is flexible to allow for students to fully explore a topic and comprehend it at their own pace.

L: Learning Culture Shift

The flipped classroom puts students at the center of the lesson. Students get to guide the steps and style of learning, and instructors play the role of the "guide on the side." The teachers help the students during the experiments or direct them through a practice set when they need support applying new information.

I: Intentional Content

Instructors who embraced the flipped learning model are always on the lookout for ways to maximize their classroom time so that students are actively engaged in learning and hands-on practice. This approach requires ranking lessons that work in such a model and figuring out ways to inspire learners to work autonomously.

P: Professional Educators

The flipped model requires the instructors to continuously monitor their students in order to identify who needs help with what and why. In this method, the instructors need to be approachable and flexible, and they must understand that this highly active style of teaching takes great pedagogical skill. Despite being less visible, instructors need to be at the top of their game to encourage students in a flipped classroom.

Hence, a flipped classroom offers the students the benefit of greater control over their learning. They navigate the class dialogue to ask instructors for explanation, so their needs guide class time. When conducting hands-on experiments and practicing new skills in class, students can have more autonomy. They can discover new concepts in their own way, at their own pace, in a controlled yet sympathetic environment.

There are certain steps that the flipped teaching model follows. They are,

First step is to determine the technology. Since flipped teaching depends on so heavily on technology to create and share videos of lectures. Choosing the technology that can help the film, edit, and share the videos is an important first step. The mentor



also needs to select a hosting service and determine how the students will access all of the content. Moreover, the teacher needs a proper way to track development.

Secondly, to create own videos and content. When it's time to film, the instructor needs to keep it short and clear and very well explained with appropriate examples.

Thirdly, to maintain transparency with students and parents. It is necessary to clearly explain what flipped learning is and why it is used. Making a major change in your classroom culture is tough work, and flipping the approach is not easy for both students and parents. One has to be ready to address apprehensions and to reexamine the "how" and the "why" often.

Fourth is to make the students responsible. One must not forget that the flipped learning model depends on student involvement. If they're not keeping up with the at-home learning, the whole class will grind to a halt because students won't be prepared to engage with your hands-on activities. It is necessary to plan a system that tracks and holds students accountable for watching all shared videos.

Thus, it is required to find a schedule and system that works for the instructor so that filming, lesson planning and assessment all become a routine.

Eliminating teacher-centered lecture from class time is a major paradigm shift for most instructors, and designing lessons that put students front and center takes practice. A few flipped classroom activities are as follows.

- It is required to make sure that the students come to class with the background information they need. In addition to making sure the homework materials should be engaging. This can be a single problem to solve, a smartphone or clicker review, or a quick quiz that the instructor reviews on the spot. If suitable, one can do some re-teaching before moving on.
- Give your students a chance to clear up confusion early in the lesson with an active Q&A session. Have students write questions on a whiteboard, or provide the top five questions on a stand pad and have students vote via sticker for the ones they want answered. The teacher can give the answers in general or break students into groups to help each other fill in the gaps.
- For complex humanities subjects, a role play can let students get to the heart of an issue by representing different viewpoints. Assign roles and have students face off in debate or discussion. For deeper thinking, make them switch roles midway through the exercise to experience new points of view.
- Allow students to apply concepts in class where they can ask peers or instructors for feedback and clarification.
- Students can teach each other by explaining concepts or working on small problems.
- Collaborative learning activities could increase student engagement, enhance student understanding, and promote collective intelligence.
- Class time can be spent working on problems that can last for the duration of a semester.



- Give students the opportunity to articulate their thoughts on the spot and to develop their arguments in support of their opinions or claims.

Active learning is key to keeping students engaged with new material during class time. Be sure to create plenty of space for moving around the room and working in pairs and groups.

Today's students grew up with internet access, YouTube, Facebook, Instagram, Hangout, Myspace, and a host of other digital resources. Many of these students' report that when they come to school, they have to turn off and dumb down because their schools ban cell phones, iPods, and any other digital devices. The bad thing is that most students are carrying in their pockets a more prevailing computing device than the vast majority of computers in the underfunded schools/colleges. However, they don't get the permission to use them.

When we walk into our classrooms, we see students engaged in a variety of activities using different digital devices. Students are working on our (outdated) class computers, they are using their iPods, they are working together, they are experimenting, and they are interacting with their teacher. We encourage our students to bring in their own electronic equipment because, frankly, it is better than our school's/colleges' old-fashioned technology.

A flexible learning environment means adaptability to learning styles as well as teacher accommodations in the classroom. The classroom is manipulated to best suit the learning activities that are taking place during any given lesson. Students may be given the flexibility to choose the order and importance of their learning activities. This elasticity can also apply to the assessment and evaluation tools that the teacher uses to assess student learning. Summative assessment has the aptitude to move away from a traditional, multiple-choice or essay response test. Students can be allotted the freedom to write, create, or converse in the classroom setting to show their mastery of a given concept. The learning culture shift refers to the idea of the teacher's role shifting from the main source from which students receive information, to a guide. The teacher, as a guide, creates meaningful exercises and allows students to construct their own understandings during supervised, critical thinking, in class activities. Intentional content speaks directly to teachers understanding, evaluating, and focusing on the key learning content that needs to be provided and available to the students. Once the essential material is identified, teachers decide what material can be delivered via recorded initial lectures, and which material is best suited and can be best supported during in class activities.

The teacher plays a crucial role in the flipped classroom too. To fully understand how vital, the role of the skilled, professional, classroom teacher is in a flipped model, one must understand the differences in the role the teacher plays in each type of classroom set up: the traditional classroom and the flipped classroom. The teacher is present in both situations to teach and guide the students, but the focus shifts from the teacher being the main vehicle of information to the teacher being a guide to help students develop an understanding of content.

Whereas in mainstream education a teacher will lecture their learners on a given topic, an English language teacher will provide learners with target language presented



in a clear context, such as a text. So, it is this text which can be taken outside of the classroom, to be read at home and prepared in advance of class. Alternatively, a teacher in ELT might want to go down the path of creating videos with language explanations and examples.

Conclusion:

Flipped classroom gives the prospects to do more meaningful and creative activities inside the classroom, where one can give learners the opportunity to practice and develop their linguistic abilities, while leaving the more basic part of language learning to be done at home, making use of modern day technology and encouraging independent learning. With available technology, expertise, and ambition, a teacher can effectively deliver instructional materials to students outside of the classroom then use available class time to enrich student learning, provide instant feedback, and readily clear up misconceptions that stand in the way of true understanding and learning. Though there are some concerns, criticisms, and improper implementation, there is research and support for this modern pedagogy. It is critical that instructors do their own research before implementing this type of model in their classroom. Teacher, administrator, and classroom flexibility are essential to the success of a flipped classroom.

The flipped classroom approach encourages individualized learning for students as some of the students used the opportunity to replay and pause the online lecture to understand it better. Students get the opportunity to learn and comprehend the topic before the class discussion. The flipped classroom method helps the students to take the initiative and take responsibility for their own learning.

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A STUDY ON SOME PROPERTIES OF REPRESENTATION OF QUATERNION GROUP

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Abstract

The quaternions are a number system in the form $a + bi + cj + dk$. The quaternions $\pm 1, \pm i, \pm j, \pm k$ form a non-abelian group of order eight called quaternion group. Quaternion group can be represented as a subgroup of the general linear group $GL_2(\mathbb{C})$. In this paper, we discuss some group properties of representation of quaternion group related to Hamiltonian group, solvable group, nilpotent group, and metacyclic group.

Keywords: Quaternion group, Representation, non-abelian,

Introduction:

First we review that quaternion group, denoted by Q_8 , was obtained based on the calculation of quaternions $a + bi + cj + dk$. Quaternions were first described by William Rowan Hamilton on October 1843¹. The quaternion group is a *non-abelian* group of order eight. The quaternion group is one of the few examples of a rational group that is not a rational-representation group. In other words, all its characters over the complex numbers are rational-valued, but not every representation of it can be realized over the rationals. The character table of the quaternion group is the same as that of the dihedral group of order eight.

Methods:

Here we provide Definitions of quaternion group and matrix representation.

Definition 1.1.² The *quaternion group*, Q_8 , is defined by

$$Q_8 = \{1, -1, i, -i, j, -j, k, -k\} \dots\dots(1)$$

with product computed as follows:

- $1 \cdot x = x \cdot 1 = x$, for all $x \in Q_8$
- $(-1) \cdot x = x \cdot (-1) = -x$, for all $x \in Q_8$
- $i \cdot i = j \cdot j = k \cdot k = -1$
- $i \cdot j = k, j \cdot i = -k$
- $j \cdot k = i, k \cdot j = -i$
- $k \cdot i = j, i \cdot k = -j$

For every $x, y \in Q_8, x \cdot y \neq y \cdot x$. Thus Q_8 is a *non-abelian* group.

Definition 1.2.³ A *matrix representation* of degree of a group G is a *homomorphism* of G into general linear group $GL_n(\mathbb{F})$ over a field \mathbb{F} .

It means that for every $g \in G$ there corresponds an $n \times n$ matrix $\rho(g)$ with entries in \mathbb{F} , and for all $g, h \in G$,

$$\rho(gh) = \rho(g)\rho(h) \dots\dots(2)$$



Quaternion group 8 can be represented by matrices, i.e. matrices of general linear group $_2(\mathbb{C})$ over complex vector space \mathbb{C} .

According to Marius Tarnauceanu⁵ quaternion group is usually defined as a sub-group of the general linear group $_2(\mathbb{C})$ consisting of 2×2 matrices with unit determinant called special linear group $_2(\mathbb{C})$.

A homomorphism $: 8 \rightarrow _2(\mathbb{C})$ of quaternion group 8 into the special linear group $_2(\mathbb{C})$ over a complex vector space is given by:

$$1 \rightarrow \begin{Bmatrix} 1 & 0 \\ 0 & 1 \end{Bmatrix} = \quad -1 \rightarrow \begin{Bmatrix} -1 & 0 \\ 0 & -1 \end{Bmatrix}$$

$$\rightarrow \begin{Bmatrix} 0 & 1 \\ 1 & 0 \end{Bmatrix} = \quad - \rightarrow \begin{Bmatrix} -0 & 1 \\ 1 & 0 \end{Bmatrix} =$$

$$\rightarrow \begin{Bmatrix} 0 & 1 \\ -1 & 0 \end{Bmatrix} = \quad - \rightarrow \begin{Bmatrix} -1 & 0 \\ 0 & -1 \end{Bmatrix}$$

$$\rightarrow \begin{Bmatrix} 0 & 1 \\ 0 & 0 \end{Bmatrix} = \quad - \rightarrow \begin{Bmatrix} 0 & -1 \\ -0 & 0 \end{Bmatrix} =$$

Since all of the matrices above have unit determinant, the homomorphism is the representation of quaternion group into $_2(\mathbb{C})$ under matrix multiplication. Suppose $\{ , -, , -, , -, , - \}$ be a representation of quaternion group given by

$$(1) = \begin{Bmatrix} 1 & 0 \\ 0 & 1 \end{Bmatrix} = \quad (-1) = \begin{Bmatrix} -1 & 0 \\ 0 & -1 \end{Bmatrix}$$

$$(i) = \begin{Bmatrix} 0 & 1 \\ 1 & 0 \end{Bmatrix} = \quad (-i) = \begin{Bmatrix} -0 & 1 \\ 1 & 0 \end{Bmatrix} =$$

$$(j) = \begin{Bmatrix} 0 & 1 \\ -1 & 0 \end{Bmatrix} = \quad (-j) = \begin{Bmatrix} -1 & 0 \\ 0 & -1 \end{Bmatrix}$$

$$(k) = \begin{Bmatrix} 0 & 1 \\ 0 & 0 \end{Bmatrix} = \quad (-k) = \begin{Bmatrix} 0 & -1 \\ -0 & 0 \end{Bmatrix} =$$

Definition 1.3.⁶ A non-abelian Dedekind group is called a *Hamiltonian* group. Let H be a normal subgroup of G . For any \in , the set $= \{ h \mid h \in \}$ is called the *left coset* of G in H . And the set $= \{ h \mid h \in \}$ is called the *right coset* of G in H . Let H be a normal subgroup of



G, then the set of right (or left) cosets of H in G is itself a group called the factor group of G by H, denoted by /.

Definition 1.4.³ A group G is called solvable if there exist a normal series from group G = 0 ⊃ 1 ⊃ 2 ⊃ ... ⊃ { } (3)

such that each is normal in -1 and the factor group -1/ is abelian.

Definition 1.5.⁷ If subgroup ≤ and subgroup ≤, then commutator subgroup

$$[,] = \{ [h,] | h \in \text{and } \in \} \dots\dots (4)$$

where [h,] is the commutator hh-1-1.

Let the (ascending) central series of a finite group G be the sequence of subgroups

$$\{ \} = 0() \subset 1() \subset 2() \subset \dots \dots\dots (5)$$

And the characteristic subgroups () of group is defined by induction:

$$1() = ; +1() = [(),] \text{ for } \geq 1. \dots\dots (6)$$

The commutator subgroup, characteristic subgroups (), and the central series of a group G lead to the following definition.

Definition 1.6.⁷ A group G is called nilpotent if there is an integer such that +1() = { }, and the least such is called the class of the nilpotent group G.

Definition 1.7.⁸ A group G is called cyclic if can be generated by an element ∈ such that = { | ∈ Z}, n is an element of integers.

Such an element is called a generator of . is a cyclic group generated by is indicated by writing = ⟨ ⟩.

Definition 1.8.⁹ A group G is metacyclic if it contains a cyclic normal subgroup such that / is also cyclic.

Result and Discussion:

Here we present the results from our studies related to some properties of representation of quaternion group are contained in some following Propositions.

Proposition 1. Representation of quaternion group is Hamiltonian.

Proof. Let = { , - , , - , , - } be a representation of quaternion group.

There are six normal subgroups of representation of quaternion group, which are 1 =

$$\{ \}, 2 = \{ , - \}, 3 = \{ , - , , - \}, 4 = \{ , - , , - \}, 5 = \{ , - , , - \}, \text{ and } 6 = \{ , - , , - , , - \}.$$

A Dedekind group is a group G such that every subgroup of G is normal.

According to Definition 1.3, then representation of quaternion group is Hamiltonian.

Proposition 2. Representation of quaternion group is solvable.

Proof. Let = { , - , , - , , - } be a representation of quaternion group.

One of the normal series for is 6 ⊃ 3 ⊃ 2 ⊃ 1 in which 2Δ 1, 3Δ 2, and 6Δ 3. There are three factor groups in that normal series, which are 2/ 1, 3/ 2, and 6/ 3.

For all matrices ∈ 2/ 1, = under matrix multiplication. Hence 1/ 2 is abelian. For all matrices ∈ 3/ 2, = under matrix multiplication. Hence / 2 is abelian. And for all matrices ∈ 6/ 3, = under matrix multiplication. Hence 6/ 3 is abelian. Hence all of the factor groups in normal series

$$6 \supset 3 \supset 2 \supset 1 \text{ of are abelian.}$$

According to Definition 1.4, since there exists a normal series from such that each factor group is *abelian*, thus is solvable.

Proposition 3. The representation of quaternion group is nilpotent.

Proof. Let $\rho = \{ \rho_1, \rho_2, \rho_3, \rho_4 \}$ be a representation of quaternion group.

The sequence of subgroups of ρ in given by $\rho_0 = \{ 1 \} \subset \rho_1 \subset \rho_2 \subset \dots$. And the characteristic subgroups ρ_i is defined by induction $\rho_1 = \rho_0$, and $\rho_{i+1} = \langle \rho_i, \rho_i \rangle$.

Thus we have the following results:

- We have $\rho_2 = \langle \rho_1, \rho_1 \rangle = \{ 1, \rho_1 \}$. Notice that the commutator subgroup $\langle \rho_1, \rho_1 \rangle$ is the set of all commutator $\langle \rho_1, \rho_1 \rangle = \{ \rho_1^{-1} \rho_1^{-1} \mid \text{matrix } X \in \rho_1, \text{ matrix } Y \in \rho_1 \}$

$$\begin{aligned} \langle \rho_1, \rho_1 \rangle &= \{ \rho_1^{-1} \rho_1^{-1} \mid \text{matrix } X \in \rho_1, \text{ matrix } Y \in \rho_1 \} \\ &= \{ 1, \rho_1^{-1} \} \\ &= \rho_2 \end{aligned}$$

Hence we have $\rho_2 = \rho_2$

- Next we have $\rho_3 = \langle \rho_2, \rho_2 \rangle = \langle \rho_2, \rho_2 \rangle$.

$$\begin{aligned} \langle \rho_2, \rho_2 \rangle &= \{ \langle \rho_2, \rho_2 \rangle \mid \text{matrix } X \in \rho_2, \text{ matrix } Y \in \rho_2 \} \\ &= \{ 1 \} \\ &= \rho_3 \end{aligned}$$

Hence we have $\rho_3 = \{ 1 \}$.

According to Definition 1.6, since there is an integer $n = 2$ such that $\rho_3 = \rho_{2+1} = \{ 1 \}$, thus is nilpotent, and the class of the nilpotent group is 2.

Proposition 4. Representation of quaternion group is metacyclic.

Proof. Let $\rho = \{ \rho_1, \rho_2, \rho_3, \rho_4 \}$ be a representation of quaternion group.

Based on Proposition 1, normal subgroups of representation of quaternion group are

$$\begin{aligned} 1 &= \{ 1 \}, 2 = \{ 1, \rho_1 \}, 3 = \{ 1, \rho_1, \rho_2, \rho_3 \}, 4 = \{ 1, \rho_1, \rho_2, \rho_3, \rho_4 \}, 5 = \{ 1, \rho_1, \rho_2, \rho_3, \rho_4 \}, \\ &\text{and } 6 = \{ 1, \rho_1, \rho_2, \rho_3, \rho_4, \rho_5 \}. \end{aligned}$$

Generators of normal subgroups of representation of quaternion group can be described as follows:

$$\begin{aligned} \rho_1 &= \{ \dots, \rho_1^0, \rho_1^1, \rho_1^2, \dots \} \\ &= \langle \rho_1 \rangle \\ &= 1 \end{aligned}$$

We have $\rho_1 = \langle \rho_1 \rangle$, hence ρ_1 is cyclic.

$$\begin{aligned} \rho_2 &= \{ \dots, \rho_2^0, \rho_2^1, \rho_2^2, \rho_2^3, \dots \} \\ &= \langle \rho_2 \rangle \\ &= 2 \end{aligned}$$

We have $\rho_2 = \langle \rho_2 \rangle$, hence ρ_2 is cyclic.

$$\begin{aligned} \rho_3 &= \{ \dots, \rho_3^0, \rho_3^1, \rho_3^2, \rho_3^3, \dots \} \\ &= \langle \rho_3 \rangle \\ &= 3 \\ \rho_4 &= \{ \dots, \rho_4^0, \rho_4^1, \rho_4^2, \rho_4^3, \dots \} \\ &= \langle \rho_4 \rangle \\ &= 3 \end{aligned}$$

We have $\rho_3 = \langle \rho_3 \rangle$ and $\rho_4 = \langle \rho_4 \rangle$, hence ρ_3 is a cyclic group which has two Generators.

$$\rho_3 = \{ \dots, \rho_3^0, \rho_3^1, \rho_3^2, \rho_3^3, \dots \}$$



$$= \{ , -, - \}$$

$$= 4$$

$$(-) = \{ \dots, (-)0, (-)1, (-)2, (-)3, \dots \}$$

$$= \{ , -, - \}$$

$$= 4$$

We have $4 = \langle \rangle$ and $4 = \langle - \rangle$, hence 4 is a cyclic group which has two Generators.

$$() = \{ \dots, ()0, ()1, ()2, ()3, \dots \}$$

$$= \{ , -, - \}$$

$$= 5$$

$$(-) = \{ \dots, (-)0, (-)1, (-)2, (-)3, \dots \}$$

$$= \{ , -, - \}$$

$$= 5$$

We have $5 = \langle \rangle$ and $5 = \langle - \rangle$, hence 5 is a cyclic group which has two generators.

In the other hand, normal subgroup 6 is not cyclic because $6 \neq \langle \rangle$ for any matrix $\in 6$.

Next, the factor group / of normal subgroups of representation of quaternion group can be described as follows:

• Factor group

$$/ 1 = \{ 1 \mid \text{matrix} \in \}$$

$$= \{ 1, -1, 1, -1, 1, -1 \}$$

Factor group / 1 is not cyclic because $/ 1 \neq \langle \rangle$ for any matrix $\in / 1$.

• Factor group

$$/ 2 = \{ 2 \mid \text{matrix} \in \}$$

$$= \{ 2, 2, 2, 2 \}$$

Factor group / 2 is not cyclic because $/ 2 \neq \langle \rangle$ for any matrix $\in / 2$.

• Factor group

$$/ 3 = \{ 3 \mid \text{matrix} \in \}$$

$$= \{ 3, 3 \}$$

We have $/ 3 = \langle 3 \rangle$, hence factor group / 3 is cyclic.

• Factor group

$$/ 4 = \{ 4 \mid \text{matrix} \in \}$$

$$= \{ 4, 4 \}$$

We have $/ 4 = \langle 4 \rangle$, hence factor group / 4 is cyclic.

• Factor group

$$/ 5 = \{ 5 \mid \text{matrix} \in \}$$

$$= \{ 5, 5 \}$$

We have $/ 5 = \langle 5 \rangle$, hence factor group / 5 is cyclic.

• Factor group

$$/ 6 = \{ 6 \mid \text{matrix} \in \}$$

$$= \{ 6 \}$$

We have $/ 6 = \langle 6 \rangle$, hence factor group / 6 is cyclic.

Thus, representation of quaternion group contains cyclic normal subgroups 3, 4, and 5 such that factor groups / 3, / 4, and / 5 are also cyclic.



Conclusions:

From our results, some properties of representation of quaternion group are proved to be contained in the Propositions above, which are:

- Representation of quaternion group is Hamiltonian.
- Representation of quaternion group is solvable.
- Representation of quaternion group is nilpotent.
- Representation of quaternion group is metacyclic.

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IMPACT OF COVID-19 ON RETAIL MARKETING INDUSTRY IN INDIA

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ABSTRACT

The entire country is facing a situation where everyone is recommended to stay at home to curb the spread of corona virus. The Indian Government has requested people to avoid human contact and maintain social distancing. A nationwide lockdown was imposed due to which businesses and retail sectors have been most impacted. The economy is at stake as most of the offices and production companies are shutdown. Companies ready with products for sale are unable to send it to the retailer because of the weak supply chain. Numerous reports suggest that the lockdown is going to impact consumer behaviour, retail stores, product demand, logistics, and more. It seems that the growth expected by the companies in 2020 is going to be affected by COVID-19.

Keywords: Retail Marketing, Lockdown, Covid-19.

INTRODUCTION

Retail is the sale of goods and services from businesses to an end user or a customer. Retail marketing is the process by which retailers promote awareness and interest of their goods and services in an effort to generate sales from their consumers. There are many different approaches and strategies retailers can use to market their goods and services. Retail marketing refers to the range of activities undertaken in the retail store by the retailers as well as the brand to promote the products to the customers in order to generate awareness, interest, and sales. In simple words, everything from the interior and exterior of the retail store, to in-store advertisements, product placements, offers and promotions, and the behaviour of store representatives comes under retail marketing. Different retail marketing strategies can be planned and employed for different types of retail outlets.

IMPORTANCE OF RETAIL MARKETING

The traditional dependency of retailers on manufacturers has been reversed. Today's retailers have their own brand, their own loyal customers, and even have the power to sell, to up sell, to cross-sell or to down sell any product using smart retail marketing strategies. Smart retail marketing strategies help the retailers enhance the customer's journey in a retail store and make him perceive that his money is spent on the right products.

- ✓ A good retail shopping experience motivates the customers to buy a product even when they have no intention to do so.



- ✓ Shopping from a branded retail store generates a feeling of satisfaction and confidence among the customers.
- ✓ Strategic placements and strategic store design improves the customer's experience and help the retailers sell the products which provide them with the most profits.
- ✓ Purchasing during limited period offers make the customers feel they have achieved a great feat by saving money.

STATEGIES OF RETAIL MARKETING

The main objective of the retail marketing strategy is to differentiate the retail store from the competition by setting up and promoting a sustainable competitive advantage which leads to increased sales. The contours of the retail marketing strategy include:

1. Retail Branding

Setting up a good brand name, logo, and positioning of the retail store is among the topmost priorities of a retail marketer. Customers are more motivated to buy a product from a branded retail store than an unbranded one.

2. Price Drops

A great way to attract customers is to provide the same quality and quantity of goods at a lesser price than the competition.

3. Limited Period Discounts and Offers

Limited period discounts and offers increase the sales temporarily and can help in word of mouth marketing and getting more customers and returning customers.

4. Strategic Placements

Strategically placing items to where the customers are most likely to buy them is a great strategy to increase the sales. A perfect example is the placement of small inexpensive products also called parasites at the billing counter.

5. Strategic Store Design

The store design is the first touchpoint for the customers. The store designed for the people it serves to perform better than the one which isn't. A colorful and kids friendly products placement suits a toyshop while classy look and colours suit a store selling men's suits.

6. Loyalty Programs

Loyalty programs are designed for better company customer relationships. These programs involve exclusive discounts and offers for regular customers.

7. Strategic In-Store Advertisements

People often prefer the advertised brand over the non-advertised brand in the store. Strategic placements of such advertisements can substantially increase the sale of a specific brand or a product.



8. Training Employees to Be Smarter

Retail store employees play a very important role in the decision making process of customers. They can make or break a product decision of the customer with the help of their relationship and selling skills.

IMPACT OF COVID-19 ON INDIAN RETAIL MARKETING

According to Vikram Kumar, Founder and CEO of Letstrack in his response to COVID-19, Vikram stated that "COVID 19 has no doubt created a significant disruption in the consumer's purchasing power and has influenced the shopping habits of the individuals. The impact on the businesses and economy is crystal clear, the face of the supply chain is the retailer and due to the complete lockdown, the chain is broken into a lot of pieces." He also added that the small-scale retailers who don't deal with essential goods are going to suffer a lot. Vikram suggested that banks and Government should come up with various policies to help small and medium scale enterprises. "The dent occurred by lockdown during COVID-19 is getting deeper day by day in the offline sales channel, the retailers should strive to maintain a higher level of e-commerce sales to mitigate the impact of store closures," he added further.

The lockdown implemented by the Government to prevent the spread of COVID-19 in the country has greatly affected the retail business. Most stores, except stores selling Essential Food and Grocery, have been shut across the country. Garments, Saris, Electronics, Mobile Phones, Furniture, Hardware, etc. almost all stores are closed. Non-Grocery/Food Retailers are reporting 80% to 100% reduction in sales. Even retailers of essential items are facing losses as they aren't allowed to sell non-essential items, which would bring them higher margins. 85% of the retail costs are fixed costs, which is putting several financial pressures on retailers. The industry is experiencing severe liquidity challenges, which can lead to large scale unemployment. The cash inflow of the industry has come to a standstill, while the fixed operating costs remain intact, as per the survey conducted by Retailers Association of India which was filled by 768 respondents across India.

1. **Impact on Non-Food Retailers:** More than 95% of Non-Food Retailers has their shops closed in the lockdown and are looking at practically no revenues till the lockdown is in place. In the next 6 months, Non-Food Retailers expect to earn 40% as compared to last year's revenues.
2. **Impact on Food Retailers:** Most of Food Retailers also sell non-essential goods in the same and different stores. The non-food business in the stores has come to a standstill in the lockdown leading to revenue loss. Additionally, 25% of these retailers have non-food stores that have been closed leading to further losses. In the next 6 months, Food Retailers expect to earn 56% as compared to last year's revenues.



- 3. Overall Business Outlook:** 70% of retailers expect the business recovery to happen in more than 6 months, 20% expect it to take more than a year. More than 10% of Medium and Large Retailers expect to earn any profits till Aug'20, 26% of Small Retailers expect to earn profits in the same time period.
- 4. Manpower rationalization:** Small Retailers are expecting to lay-off 30% of their manpower going forward, this number falls to 12% for Medium Retailers and 5% for Large Retailers. On the whole, retailers who responded to the survey expect a layoff of about 20% of their manpower.

IMPACT ON KEY SEGMENTS

The impact of these variables on the key segments of Indian retail would be as follows:

- 1. Kirana or the small standalone stores:** The impact on them might be minimal and could even be positive to an extent. Their business model has a tight OPEX and core base of regular shoppers. If the supply side is sustained, these stores might even see a growth in patronage. Supply chain constraints might also not hit them very hard as manufacturers always focus on distribution to this segment since it constitutes a significant majority of the retail sector. The only downside they might face is a cash-flow crunch. *Kirana* stores are known to offer rotational credit. Even if they reduce this during this period, their cash flow might be affected because many of them have to go and pick up the stocks paying cash.
- 2. Mass merchandise stores:** Supermarkets might have a relatively lesser impact because they are largely selling essential products. However, hypermarkets might face the brunt of this shutdown because most of them are in malls. Even the standalone ones need to sell food and FMCG categories. As hypermarkets tend to have much higher inventory levels, that is going to be a serious issue. In the food segment itself, many products with shorter shelf life like juices are going to expire and might have to be written off. Returning such stocks to vendors appears farfetched. Their profitability would also be hit because the higher margin categories like apparel would not sell in the lockdown and might have lower sales even after the lockdown. The inventory of various other categories like apparel, etc., in a hypermarket would have to be liquidated through massive discounts.
- 3. Consumer durables & IT product stores:** These stores would also be hit hard. First is the loss of sale from the seasonal high of certain categories linked to summer like air-conditioners. Next would be the supply chain bottlenecks that manufacturers would face because of disruption from Chinese vendors. Last but not the least is the shopper behaviour of postponing high ticket purchases in a period of uncertainty and gloom.
- 4. Apparel and other lifestyle stores:** One of their biggest challenges is going to be excess stocks. The existing stocks from the previous season plus the summer lines would put tremendous pressure on these businesses. Physical stores would have to liquidate stocks of the previous season to create space for fresh stocks. End-of-



season sales and massive discounts might have a very limited effect because of the current sentiment. If the next season lines are usually sourced from China, the retailer might have some relief as orders might not have been placed or the stocks might not have been even sent by the vendor. The other dimension of inventory from China is the sentiment and concern about products from China. Any retailer who has inventory of such products might be affected. Apparel as a category might escape such a situation to some extent as a lot of products are being sourced from Tirupur as also countries like Bangladesh and Taiwan. Discount formats might benefit as they would be able to source inventory at throwaway prices as their shoppers are drawn by low prices and not the latest fashion or trend.

5. **Online retail:** Online retail is again not a single segment and most of what I have mentioned earlier about the various categories and segments would apply to the different online retailers. In addition to this would be the challenge to restart supplies from their various smaller non-food vendors. Medium and small-scale enterprises are being hit hard by this crisis and lockdown. They form a significant chunk of the vendor base for various non-food categories. Their business impact would trickle down to the online retailer.

CONCLUSION

Retailing in India has seen an appreciable boom in the recent past. The Covid-19 has been humanity's biggest disruptor of life and businesses is an understatement. In the context where the online and multi channel impact were being seen accord the world on physical retails including malls, the corona scare might become a game changer with regard to retail across the world. In short, the future is not easy to predict, even though a lot of gloomy reports about retail are doing the rounds. As retail has four important variables which have very different dynamics, one single outlook for the sector will not work.

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MATERNAL NEAR MISS MORBIDITY-AN ANALYSIS OF 37 CASES

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ABSTRACT

- **Introduction:** Maternal near miss is defined as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth, or within 42 days of termination of pregnancy.” We conducted a study to determine the frequency and incidence of near-miss, maternal death and mortality index and to compare near-miss cases as per WHO criteria with that of maternal mortality in a tertiary care hospital.
- **Material and Methods:** A retrospective cohort of emergency obstetric admission in our hospital during the study period was followed till 42 days after delivery, and cases who fulfilled WHO set of severity markers for near-miss cases for severe acute maternal morbidity (SAMM) and mortality were taken into study.
- **Results:** During study period, 1929 live births, 37 near-miss cases and 2 maternal deaths occurred. Calculated MNM ratio was 19.18 /1000 live births, the ratio of maternal death to MNM event was 0.05. Out of 37 MNM, pregnancies were continued in 6 while 31 pregnancies were terminated. (26 live births, 5IUD, 6 abortions). Amongst near-miss cases, hemorrhage, Pre-eclampsia, eclampsia and severe anemia were leading causes, while causes for maternal mortality were Pre-eclampsia, eclampsia, hemorrhage, severe anemia and hepatitis.
- **Conclusion:** Hypertensive disorders, hemorrhage and severe anemia remain the leading obstetric causes of near-miss and maternal mortality, despite the improvements in quality of health care. All of these causes can be prevented by definite protocols and standards of management of SAMM should be established, especially in rural Indian settings.

Keywords: Maternal death, SAMM, WHO index, MNM

Introduction

Maternal mortality remains a public health problem throughout the world, and largely affects low- income countries. In order to reduce the global maternal mortality, the Millennium Development Goals 5 sought to improve maternal health by reducing MMR by three quarters, between 1990 and 2015.¹

A maternal death is defined as “the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.



A maternal near-miss(MNM) is defined as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy”.² The prevalence of severe maternal outcomes is estimated to be **7.5 cases/1000 deliveries**.²

Postpartum hemorrhage (PPH) is still the most common direct cause of maternal death in the world.²In practice, maternal near misses denote women who survive life-threatening events (i.e. organ dysfunction).³ Maternal deaths are considered “**the tip of the iceberg**” of maternal severe morbidity (MNM).⁴ For every woman who dies many more will survive serious complications during pregnancy, delivery, and the puerperium.⁵ Examination of Maternal Near Miss evaluates the quality of obstetric care and may contribute to maternal mortality reduction.^{6,7}

Because maternal morbidity may precede maternal deaths, the systematic identification and the study of near miss cases provide further understanding of the determinants of maternal mortality.⁶**Waterstone's criteria** of severe preeclampsia, eclampsia, hemolysis, elevated liver enzymes and low platelet count (HELLP) syndrome, severe hemorrhage, severe sepsis and uterine rupture are used to initially identify and classify "near miss" cases.⁸

Materials and Methods

A **retrospective cohort** of emergency obstetric admission in our hospital during the study period (**01 July 2019 to 30 September 2019**) was followed till 42 days after delivery.Cases who fulfilled WHO set of severity markers for near-miss cases for severe acute maternal morbidity (**SAMM**) and mortality were taken into study.

Women who developed conditions unrelated to pregnancy (not during pregnancy or 42 days after termination of pregnancy) were **excluded** from the study. Patient characteristics including age, parity, gestational age, mode of delivery, ICU admission and surgical intervention to save the life of mother were noted.

Information during the study period was obtained from case records, labour room and ICU registers. Privacy and confidentiality were ensured throughout the study.

Results

During study period, **1929 live births, 37 near-miss cases and 2 maternal deaths**occurred.Calculated**MNM ratio** was 19.18/1000 live births. The ratio of Maternal death to MNM event was 0.05. Out of 37 MNM, pregnancies were continued in 6 while 31 pregnancies were terminated (26 live births, 5 IUD, 6 abortions).

Table 1. Demographic profile of patients

Age in years	Number of cases (n=37)
15-20	2
21-25	20
26-30	12
31-35	3
Parity	



Primi	12
Multi	25
Gestational age	
Term	30
Preterm	7
Socio economic status	
Low income group	19
Medium income group	11
High income group	7
Residence	
Urban	10
Rural	27

Table 2. Clinical presentation at the time of admission

Signs and symptoms	Number of cases(n=37)
Bleeding PV	11
High Blood Pressure	12
Dizziness and weakness	06
Icterus	02
Distension of abdomen	02
Seizure Episode	04

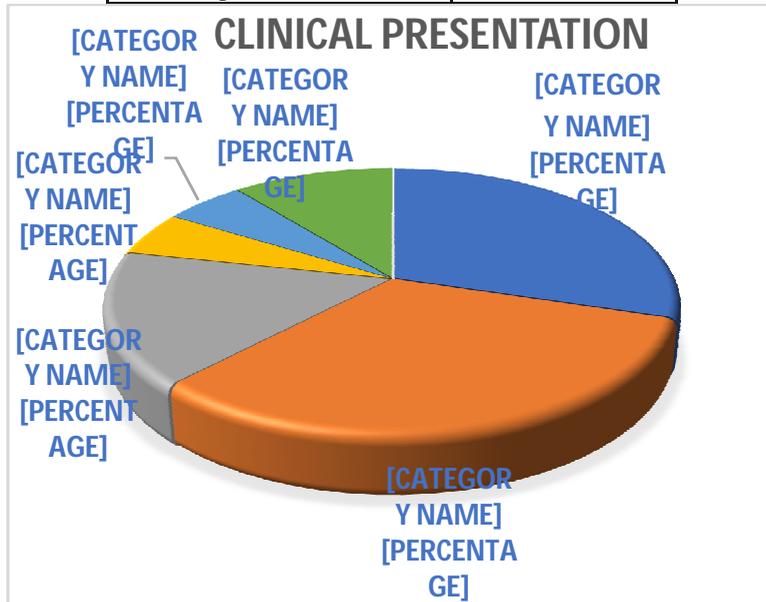




Table 3. Distribution of cases depending on diagnosis

Diagnosis	Number of cases (n=37)
Preeclampsia-eclampsia	12
Severe Anaemia	09
Ruptures Ectopic	06
Severe PPH	04
Placenta Previa with active bleeding p/v	04
Post D & E Uterine Perforation	02

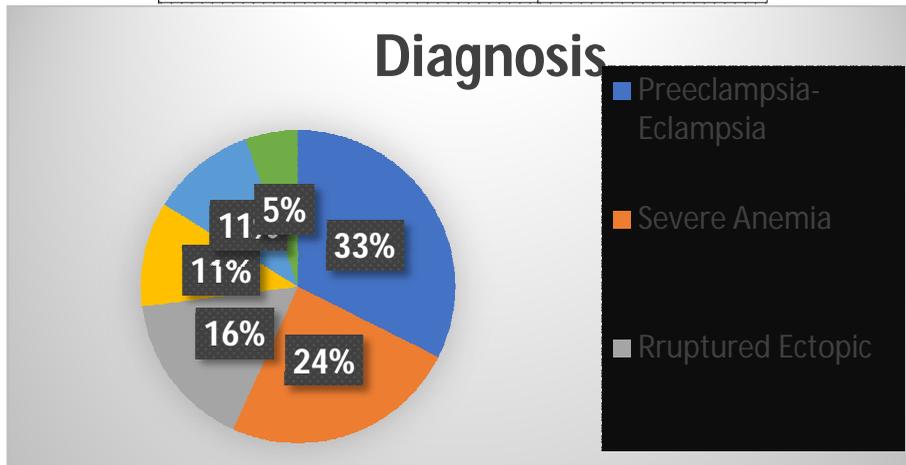
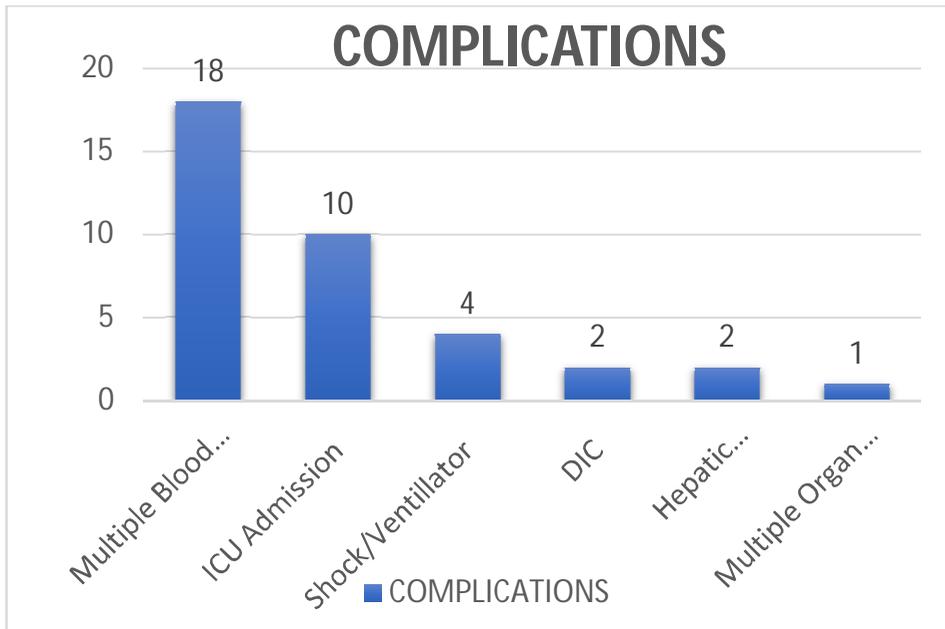


Table 4. Distribution of cases based on complications

Complications	Number of cases (n=37)
DIC	02
Multiorgan dysfunction	01
ICU admission	10
Multiple blood transfusions	18
Shock/ventilator	04
Hepatic dysfunction (serum bilirubin elevated)	02



I. Discussion

Even though pregnancy is a physiological process, many complications can develop during and after delivery leading on to morbidity and mortality. **Severe systemic hypertensive disorders** (severe preeclampsia/eclampsia), **severe anemia**, **ruptured ectopic** and **postpartum hemorrhage**, were the leading conditions associated with MNM and mortality.

In our study majority of mothers who either died or experienced near misses were in the 21–30 age group, (78.37%). In our study majority of near miss cases were from **low socio economic** (51.35%) and **rural** (72.97%) background. **Multigravida** patients experienced higher near miss incidences (67.56%) as compared to **primigravida** (32.43%) patients.

Most common presenting symptom was **High blood Pressure** (32.43%), followed by **Bleeding P/V** (29.72%). **Pre-Eclampsia and Eclampsia** were the most common diagnosis for maternal near miss in our study (32.43%), followed by **severe anemia** (24.32) and **ruptured ectopic** (16.21%). Majority of these adverse outcomes are **preventable** and early identification of high-risk pregnancies can help in reducing maternal mortality and morbidity.

Skilled care before, during and after childbirth can help in reducing these adverse events. Lower levels of maternal education have been reported to be associated with higher MMR, even amongst women with access to obstetric health care, so increasing the level of maternal education will have a positive effect.



II. Conclusion

The study of maternal near-miss cases is important to identify lacunae in the health care system and plan effective strategies for preventing maternal mortality and morbidity. Hypertensive disorders, hemorrhage, severe anemia and ruptured ectopic remain the leading obstetric causes of near-miss and maternal mortality, despite the improvements in quality of health care. All of these causes can be prevented by definite protocols and standards of management of SAMM should be established, especially in rural Indian settings.

Based on our study we recommend the following actions to improve maternal health and prevent maternal mortality:

- Early identification of high-risk pregnancies.
- To manage PPH by using active management of third stage of labor.
- Strengthening health systems and providers.
- Education, gender equity, poverty reduction, and improvements in quality of health care need to happen simultaneously.
- Family planning, as it is vital in order to avoid unwanted pregnancies, because both teenage pregnancies and multiparity carry a high risk of maternal death.
- All women, including adolescents, should have access to contraception, safe abortion, and post-abortion care.

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UNTOLD VOICE OF UPROOTED LIVES : PINJAR

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Abstract

The partition of India became a life changing event for the millions of people who were displaced and forced to migrate from the both side of the nations – India and Pakistan. Like any other dispute, here also women and her sexuality became the target of attack by different agencies of the patriarchal society. Thousand women were raped, abducted or killed during partition. Through different creative forms of art, human sufferings and harrowing experiences of women came to light. Literature is one of the strong medium which depicted the real agony and pain of the time. There are many writers like Khushwant Singh, Saadat Hassan Manto and Amrita Pritam dealt with the theme of partition and extensively portrayed it in their writings. Amrita Pritam's novel *Pinjar* is one of the best novels which deals with the theme especially portrayed the violence and brutalities women were subjected. *Pinjar* portrays the real picture of the helplessness of women and their struggle for survival amidst communal riots and violence through the main protagonist Pooro. Through the female characters of the novel, paper tries to throw light on the account of brutalities committed to the women during the partition.

Keywords: Partition, Religion, Woman, Violence, Female Sexuality.

The partition of India became a life changing event for the millions of people who were displaced and forced to migrate from the both side of the nations – India and Pakistan. It was the biggest mass migration ever happened in the history world of about twelve million people, around ten million migrations from the Punjab province only. Around one million people died in the midst of their journey to a safe place. Like any other dispute, here also women and her sexuality became the target of attack by different agencies of the patriarchal society. It is believed that around seventy-five thousand women were raped, abducted or killed during the ordeal. Women were subjected to various kinds of violence; thousands of women, estimates range from 25000 to 29000 Hindu and Sikh women, and 12000 to 15000 Muslim women were abducted, forced convert religion, and killed on both side of the boarder.¹ The brutality against women continued in different forms; they were also mutilated, their breasts cut off, stripped naked and paraded down the streets and their bodies carved with religious symbols of the 'other' religious community.

On both side of the boarder, the patriarchal notions of society always acted like the protectors of women and believed that honour of the family or community resting on the chastity of the women. During this period, violence was also inflicted on women by their own men in the name honour. Women had varying experiences depending on their position; they were forced to commit suicide or compelled to die or killed by their own men but there were also women who committed suicide of their own volition to keep



their 'purity'. The mass suicides in Thoa Khalsa, Rawalpindi, with 90 women jumping in the well are an example of such an act. Through the interview of one of the three survivors (Basant Kaur) of the Thoa Khalsa incident, Urvashi Butalia deconstructs the conventional view of women being always perceived as victims in an ethnic conflict. She argues that while some women were forced and compelled to die, if the accounts of the survivors are to be believed, there were some who voluntarily took this decision.ⁱⁱ All these cruel incidents show that by carrying the burden of the honour of the family or community, how women were reduced to their bodies and they were to be conquered, claimed or marked to attack that honour. All these painful experiences of women faced during partition came to light through different forms of literature.

Literature is one of the strong medium which depicted the real agony and pain of the time. They are many writers extensively portrayed the theme of partition. Many have written memories describing the experiences of abducted women; short stories like *Thanda gosht*, *Khol do*, *Tassels* written by Saadat Hasan Manto portrays the brutalities committed to the women; novels like *Train to Pakistan* by Khushwant Singh and *Midnight's Children* by Salman Rushdie deals the theme of partition and *Difficult Daughters* by Manju Kapur and *Pinjar* by Amrita Pritam depicted the violence that women were subjected during the partition.

Pinjar (The Skeleton) one of the most powerful novels on the background of Indo-Pak partition by Amrita Pritam. Setting between 1935 and 1947, she throws light on the predicament of women who were abducted, raped and forcibly married during partition. Women happened to be the worst victim of it. Violence was directly against women by attacking their sexuality. *Pinjar* portrays the helplessness of women and their struggle for survival amidst communal riots and violence through the main protagonist Poro who belongs to a Hindu family of moneylenders of Chatto village in Gujarat district of Pakistani Punjab. She is abducted by Rashida, a Muslim youth. After keeping her fourteen days at his home, he decides to marry her. She makes an attempt to escape from there on the night before her marriage. She runs away from Rashida's home in the night to her parents. But they close their door against her because they are too afraid of Rashid's family and the social stigma of abduction as well. It is clear from her mother's words: "Who will marry you now? You have lost your religion and your birthright. If we dare to help you, we will be wiped out without a trace of blood left behind to tell of our fate."ⁱⁱⁱ Without her willingness, the very next day she has to marry Rashida and then after few days converted to Muslim by accepting the new name Hamida. Thus, now Poro became Hamida and everyone begins to call her by that name. But it was very difficult for her to get use to the Muslim way of living: "In her dreams, when she met her old friends and played in her parent's home, everyone still called her Poro. At other times she was Hamida. It was a double life: Hamida by day, Poro by night. In reality, she was neither one nor the other; she was just a skeleton, without a shape or a name."^{iv} She recalls Ramchand with whom she was engaged. She likes to believe that one day he would come and take her from Rashid's home.

As, wifhood was forced on Hamida by Rashid within few months, motherhood was also forced on her. However, she gives birth to a baby boy who makes her husband feel proud of his triumph over a Hindu girl: "The gamble had paid off. Poro was no longer the girl he had abducted and made his mistress... not a woman he had brought in as a



housekeeper. She was Hamida, the mother of his son.”^v But Hamida’s reaction is very different which reflects her sense of defeat. Looking at Rashida, she thinks: “What more do you want of me? I have given you my person and I have given you a son. I have nothing more to give.”^{vi} The ambivalence of being a mother of an unwanted child is reflected in her thinking towards her new-born baby. When the baby first sucks milk from her, she felt as if the boy is sucking it out from her veins with force and thinks: “All said and done, he was his father’s son, his father’s flesh and blood and shaped like him. He had been planted inside her by force, nourished inside her womb against her will -- and was now sucking the milk from her breasts, whether she liked it or not.”^{vii} Through Puroo, here Amrita Pritam throws light on the psychic dilemma of women who face exploitation in every walk of life in the male-dominated society. In the conflict of love and hate, hate and love Hamida wants to forget that once Rashida had abducted her because she feels that she is in a far better condition than the females like Kammo, Taro, and the mad woman, all face the ugly exploitation at the hand of men and living in a very pathetic conditions. She thinks Rashida’s home as a heaven of refuge and starts loving him: “She longed fervently to make love to him. After all, he was her husband and the father of her son. This alone was true; this alone mattered the rest was mere prattle and a lie.”^{viii} When Hamida takes the new born baby of the mad woman who dies in an extremely pitiable condition Rashida supports her for bringing it up. With respect and pride she thinks: “He had not left her, nor thrown her out. She was safely installed in his house. He was a kind husband. He had given her the handsome, curly-headed Javed.”^{ix} Hamida’s changing psyche and the acceptance of her husband with her mind and body is very clear here. And she settled down in Rashida’s village as if she had always been belonging to that village only and “Puroo has been dead a long time.”^x After eleven years of Hamida’s marriage, there breaks out a communal riot between Hindus and Muslims. The declaration of Independence and partition of India heat up the waves of riot again. Meanwhile, Hamida’s brother sets fire to the stack and destroy the entire harvest of the year. Mixed feelings and arguments have gone in her mind because she does not know that to whom she wants to support, brother or husband. But she realizes that now she belongs to the people whose year’s harvest has been reduced to ashes. When Hamida hears about the abduction of girls by Muslims and Hindus, she could not sleep for many nights she thinks about the plight of the girls - daughter, sisters and wives – who are forcibly taken by strangers to their home like hers. The author portrays all forms of violence against women here: “Some had been forced into marriage, some murdered, some stripped and paraded naked in the streets”^{xi} One day Hamida sees a group of men pushing a girl before them, beat drums and dance. There was not thread of cloth on her body. Seeing this barbaric act she thinks: “It was a sin to be alive in a world so full of evil.... It was a crime to be born a girl.”^{xii} At amidst of riot and bloodsheds, she meets Ramchand and comes to know about the missing of his sister Lajo, wife of Hamida’s brother. Meanwhile, she makes an effort to send back a girl who is raped continuously by different men in nine nights, to her family with Ramchand. With Rashida’s help Hamida finds Lajo and takes her to home. She treats her as her own daughter and informs Ramchand.

In the meantime, immediately after the violence during the partition, the governments on both sides help abducted or missing women to return to their families and now most



of the families are also ready to accept their daughters. In 1947, the Abducted Persons (Recovery and Restoration) Act passed for the purpose of recovering abducted or missing women from both sides. When Hamida comes to know about it, for a moment she thinks of her past. Once she had faced the same situation by then religion became a big obstacle. There was nobody to accept her. But now the same religion is doing it willingly. Ramchand and Hamida's brother come to Lahore to take Lajo home. She meets her brother after such a long time. For Hamida, it is a good opportunity to go back to her family like Lajo or other thousands of women. She knows that she has just to say that she is a Hindu but she does not. But at the same time she finds herself in the most complicated situation. It is difficult for her to choose between her husband and her own family. Eventually she takes the decision of staying back to Pakistan with her husband and sons, and she says to her brother: "When Lajo is welcomed back in her home, then you can take it that Pooro has also returned to you. My home is now in Pakistan."^{xiii} Now Hamida accepts the truth but not as a victim of religious hegemony or patriarchy, like she finds herself in the beginning of the novel.

Thus, Amrita Pritam depicts the complexities of Hamida's psyche and her reconciliation of the present situation in a very realistic way. When the Abducted Persons (Recovery and Restoration) Act implemented, there the right of the women was completely disregarded because according to the act, the government could itself decide that who was to be considered an 'abducted person'. The recovery of abducted women went on for nine years after the partition. Many women were happy to be reunited with their family and loved ones, but many were forcefully taken by the officials because many of the abducted women were adapted to their new circumstances. Therefore, many had the fear that once again their life would be uprooted. Through the female characters of the novel, the author portrayed this predicament of women. Ajeet Kaur opines: "It is very touching, deeply emotional and extremely human ending. People are like trees and plants. They either die when uprooted from their soil, or they take new roots in another soil if replanted with love and care. Love surpasses all filial commitments and makes the person liberated a strong, the way it did strengthen Pooro. Bonds of love have made independent and free."^{xiv}

Except Hamida, through the characters like Lajo, Kammo, Taro, the mad woman and the girl saved by Hamida, Amrita Pritam portrays the exploitation and sexual violence against women during those days. All these women are emotionally or sexually exploited in the hands of men. Taro who lives next door to Hamida, suffers some unknown disease since her wedding day because the very day she comes to know that her husband loves another woman and he forces her to become a prostitute. She says to Hamida: "When a girl is given away in marriage, God drives her of her tongue, so that she may not complain.... For two years I have had to sell my body for a mess of pottage and a few rags. I am like a whore... like a common prostitute..."^{xv} When Taro's mother supports the acts of her son-in-law like he has the right to treat his wife as he wants and that is a man's privilege. But Taro says to her mother: "Only my lips are sealed and my feet put in fetters. There is no justice in the world; nor any God. He can do what he likes; there is no God to stop him. God's fetters were meant only for my feet."^{xvi} Hamida thinks that these are the words she often wanted to say loudly but she could not say a single word like thousands of other women who silently suffer all the



tortures.

The story of the mad woman who comes to the village is yet another example of sexual exploitation of women. She roams around the village in the day time and lives in a shed outside the village gates in the night and eats whatever she gets from the villagers. With time she becomes a part of the villages and one day the villagers find that she is pregnant. Seeing the pathetic condition of her, Hamida unconsciously identifies herself with the mad woman and thinks: "She is neither young nor attractive; she is just a lump of flesh without a mind to go with it... a living skeleton... a lunatic skeleton... a skeleton picked to its bones by kites and vultures."^{xvii} Eventually the mad woman gives birth to a child and dies. Yet another example Lajo, Amrita Pritam portrays the predicament of abducted wives. To get a chance to run away from the Muslim man who abducts her, she has to sleep with him one night. Exploitation of abducted woman is very clearly highlighted here by the author. To accept the reality of their life, they have to kill their feelings and emotions and live in the world like mere skeletons. While talking about the women victims of communal riots and partition, Amrita Pritam says: "I have seen many such women. Whenever communal violence occurs, it's the women who have to bear the brunt of it. I wrote the narrative in 1970. Most of the characters especially that of a mad pregnant woman are real."^{xviii} Throughout the novel, again and again the author tries to show the predicament of women during communal riots and partition of India and how they are sexually and emotionally exploited by men in the name of customs, castes, religions and relationships.

ⁱ <http://feminisminindia.com/2017/06/27/partition-punjab-violation-women>

ⁱⁱ <http://feminisminindia.com/2017/06/27/partition-punjab-violation-women>

ⁱⁱⁱ Amrita Pritam, "The Skeleton," in *The Skeleton and That Man* (Sterling Paperbacks, New Delhi, 1987), p. 10.

^{iv} *Ibid.*, p. 11.

^v *Ibid.*, p. 14.

^{vi} *Ibid.*, p. 14.

^{vii} *Ibid.*, p. 15.

^{viii} *Ibid.*, p. 20.

^{ix} *Ibid.*, p. 23.

^x *Ibid.*, p. 31.

^{xi} *Ibid.*, p. 34.

^{xii} *Ibid.*, p. 35.

^{xiii} *Ibid.*, pp. 49-50.

^{xiv} Dr. Ashok K Chaudhari, *Nursling of Immorality: A Panorama of Modern Indian Writers* (Bharatiya Kala Publication, New Delhi, 2006), p. 21.

^{xv} Amrita Pritam, "The Skeleton," in *The Skeleton and That Man* (Sterling Paperbacks, New Delhi, 1987), p. 19.

^{xvi} *Ibid.*, p. 19.

^{xvii} *Ibid.*, p. 22.

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SRI NARAYANA GURU: HIS VISION OF DEVELOPMENT THROUGH SUSTAINABILITY

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Abstract

Sri Narayana Guru is one of the great visionaries of Kerala who has made significant contributions to the social and cultural development of Kerala. Guru's lectures and poems contain messages for the sustainable living of man. Sustainable development gives thrust on factors like Precautionary, Integration, Strategic and Adaptive which are relevant in the present context. It is worthwhile to notice that Guru's vision on religion, education, industry, environment are all pointing towards concern for the future wellbeing of humanity.

Introduction

Sri Narayana Guru is a great, unique visionary in whom one can see the spiritual depths of a seer and the passionate zeal of a reformer. His was an all comprehensive philosophy comprising of the entire humanity regarding the individual and the society which was at once totally scientific, pragmatic and one leading to the highest being of man. He was indeed a practical idealist. By the purity of his living, simplicity of his message and sublimity of his thoughts he captured the imagination of people and wrought a social revolution by consent. Today his words are recognized as the most modern echo of the ancient wisdom of the orient.

It may be said that a philosopher's genius lies not only in establishing new theories or systems but also in interpreting and evaluating the existing ones in a manner conducive to the changing milieu of the times. Again, a true social reformer is one who not only has a passionate zeal and commitment to strict action programs but an in-depth vision and philosophical outlook of the social conditions. Considered in this direction, Sri Narayana Guru was the rare combination of both. Guru was a happy harmony of both spirituality and social reform which makes his contributions to humanity everlasting. It may be because of this that he could clearly discriminate and distinguish between what is essential and what is non essential for humanity. Being a philosopher he had the extra ordinary acumen to visualize the mode of development that society needs. In this respect he was progressive but his progressive developmental ideas were not exclusively "modern" in the strict sense of the term. It was not a mad scientific chase after luxuries but one sustaining the essential resources and he found the solid basis for it in the traditional philosophical and religious speculations.



Being a visionary, Guru had a clear and definite method to fulfill his mission of life. He always went to the root of the problems and find solutions therefrom. He always preferred a root and branch reform and his method was one disregarding the unnecessary aspects and retaining the essential ones. He found that the most crucial problem that lay before him was the upliftment of the society, especially the development of the masses. He went to the root of the problem and found that the society could be elevated and development could be achieved only through the propagation of a true religious understanding, imparting of education and promotion of industries. Thus one can see that the Guru's connotation of the term 'development' is much wider in its outlook than its ordinary sense.

Development- A General Outlook

Before going into a detailed analysis of Sri Narayana Guru's concept of development through sustainability, it is better to have an idea of the general understanding of the concept. Development is any activity or progress which increases the well being of humans and the environment.¹ Unfortunately, it is accidentally or deliberately confused with concepts and growth particularly economic growth, including consumerism, commercialism and techno centism. But growth or development is that which includes things like reduction of poverty and increased quality of life, equity, health, democracy, freedom, conservation etc. Again it should be sustainable in the sense that where all good requirements are met for sustaining natural resources and maintain human well being. It may be said that Guru's vision of development is very much in line with the above mentioned view.

Addressing a conference of the SNDP on the 7th & 8th January, 1905 at Quilon Guru was spreading the chart of his plan of action². He launched the campaign for his 'developmental programme' through lectures on religion, ethics or morality, education, industry & environmental concerns.

Religion

Guru found in religion the true basis for all progressiveness. He exhorted men to discard all forms of superstitions and worship of lower deities with animal sacrifices and other inauspicious rites. Yet he wanted people to sustain their beliefs in the greatness of the higher modes of worshipping God. With no hesitation he attacked the caste system and proclaimed that there exists only one caste-the humanity- for all men are essentially divine. Through this he was trying to establish oneness of existence, the first sign of true development. Guru advised his fellowmen to stress the necessity of rejecting the meaningless old customs and adopting civilized and refined ones suitable to the times. Time and again he raised his voice against laziness, ignorance and extravagance. He denounced certain meaningless social customs and ceremonies. For instance, he made it a point that marriage ceremony should be less expensive but culturally more elevating. At the same time, he wanted to retain the traditional way of chanting of Sanskrit verses which are simple and sublime.



Education

The chief objective of Guru's campaign was the attainment of spiritual and social liberation of man. He found in education the key for this. His ideal of education was that of sustaining the traditional spiritual learning combining it with the modern scientific ones. The ambit of his educational ideals included Sanskrit, English and other higher learning programs. He was very particular in educating the masses of the society for he saw that they could be elevated only through education . He also stressed women's education. "Educate & be free" was his chief exhortation.

Industry & Economy

Guru repeatedly said that each individual be made aware that it is a social sin to lead a lazy life. Transform the very nature of the community into one of energy and enthusiastic action, he commentated. That he gave utmost importance to the need of promoting agriculture, industry and economy is clear from the circular he released to the SNDP workers once. It states: "Agriculture, trade and industry should be promoted as far as possible, the importance of which should be made aware among the masses. Measures should be taken for beginning new scientific and technological industrial sectors wherever necessary³.

It is interesting to note here that he always encouraged small scale industries like farming, choir & coconut industries which are in no way causing environmental pollutions or exploiting the natural resources. He also encouraged women to engage their time and manage the available recourses in hand weaving, choir manufacturing, tailoring nursing, child rearing etc.

Though Guru was welcoming whole heartedly the progressive industrialized economy, he anchored it on the principle of sustainability. This is clear from the following lines:" Nature's laws cannot be violated. The gravitational pull to earth is a law of nature and hydraulic pressure is another law of nature. By using the two laws of nature we can control the flight of aircrafts. However, the slightest mistake can make the plane crash."⁴

Narayana Guru does not stop a person from his mundane pursuits but he cautions people that they are to be aware of the sacredness of nature while taking advantage of it. He says that there exists a well knit interrelationship between all living forms; everything exists in the universal order of functional harmony or rhythm which we might respect.⁵ Again in the third verse of the Daivadasakam he reminds us that whatever earthly resources we have food, clothing etc. are all God given and sacred. Hence no single activity of man be destructive or disrespectful to nature or earth.

Environmental Concerns

Guru's love and concern for the protection and preservation of nature and environment is clear from some of the exhortations he has made on different occasions. In a meeting held at AluvaAdvaita ashram the Guru says: "To destruct nature, the forests and trees is a heinous crime committed by man. There is no end to the greed of man. He is transforming the fertile forests into barren deserts, the disastrous consequences of which man is going to suffer in the future times. It may even threaten the very existence of life



on this earth. ⁶ The above words have come true today when man is subjected to the disastrous consequences of environmental catastrophes like environmental pollution, global warming etc.

Again in the Guruvarul, Natarja Guru quotes the words of Narayana Guru.” As man’s greed knows no boundaries he exploits not only nature and the environment but also deep into the inner layers of earth. He is even ready to make with disturbances there and thereby shaken the foundations of the earthly system. Man does not know what he is doing. But unfortunately all these diabolic activities of man are going to affect not only him but also other earthly creatures.”⁷ In the 24th sloka of Atmopadesa Satakam Guru exhorts us to live in harmony with all beings. Whatever one does for one’s own happiness must be for the happiness of others also. Here he reminds man of his serious responsibility of taking the stewardship of nature for he says that man must realize that he belongs to one universal whole of which he is a part. Therefore each and every one has to contribute constructively for the proper functioning and sustainability of the whole.

Analysis of Guru’s Vision of Development in the Modern Dimensions of Sustainability

The modern concept of sustainable development is one which is integral, broad and all-inclusive. It gives equal importance to the ecological, social, cultural and economic aspects. Viewed in the above light Sri Narayana Guru’s vision of development is one giving due emphasis to all the above four aspects but establishing them in a firm footing of religion.

Sustainable management and sustainable planning involve using several norms like precautionary, integrated, strategic and adaptive principles. Guru’s farsightedness, it seems, finds room for these norms. The precautionary principle is a caution against serious or irreversible damages beforehand. In fact, Guru’s exhortation at to the masses for making themselves equipped for the future times by gaining education and engaging in industrial activities is a precautionary measure. Integrated principle is very much echoed in Guru’s writings as we have seen that he is giving equal emphasis to the religious, social, cultural and economic development of man and society. Strategic means well coordinated and goal-directed. In Guru’s scheme, religious life and empirical life are well coordinated and ultimately directed to the goal of highest realization of being. Adaptive means responsive to changing circumstances. Sri Narayana Guru belonged to a period when science and industrialization were making its way. Though a spiritual seeker, he was well aware of the social and cultural milieu of the times and could unite people in that direction.

Thus it may be said that though sustainable development is a buzz word of the modern times the ideal involved in it are implied in Guru’s words and messages.



Conclusion

It may be said that the contributions given by Narayana Guru are highly relevant to our times. His vision of development is one which is all comprehensive for he includes in it the all round development of a person physically, intellectually and spiritually and thereby the society through his ideals of industrialization, education and religion. His reform movements derive their strength and succor from the life-spring of the spirit. Therefore it is enduring and highly influencing. His idea of development is pragmatic and scientific but at the same time keeps the ideal of sustainability and simplicity which are firmly rooted in a spiritual foundation. It is one which sustains what is essential in the tradition but discards the non-essentials paving ways for new developments whether it be in the field of religion, education or industry.

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FOLKJATRA OF MEDINIPUR: A STUDY

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Abstract:

There is need to focus special light on two subjects if we discuss the Folkjatra of Medinipur district. First I focus the geographical position and culture of the district. The geographical position is the Bay of Bengal is at the South, Orissa district is at the south-west, Jharkhand is at the west, Bankura and Purulia are at the north-east, Hugly is at the north, Howrah is at the north-east and at the east there is south 24 Pargana. The geographical position of the district really notable. This district is enriched in agriculture and art. And there are many antiquities which draw our attention. Besides these, many fairs and festivals are there that occur in different places in different times. The identity of Folkculture of Medinipur district is the overall graph of many living groups of people in society i.e. overall representation of many tribes' own place of living, food, education, clothing, art, literature etc.

Keywords-Mongalkabya, Mythical, Curia, Folk Jatra, Dashera, Performed, Chandimangal, Sostimangal, Sitlamangal, PujaManabhanjan

1. Introduction:

Medinipur is the district at the west of west Bengal. This district has recently been divided into two for administrative purpose. Contai, Tamruk, Haldia and Egra subdivisions form Purba Medinipur; and Ghatal Medinipur Sadar, Jhargram, and Kharagpur subdivision form Paschim Medinipur. These two districts have been united and for the sake of research the Folkjatra of united Medinipur has been discussed here.

There is need to focus special light on two subjects if we discuss the Folkjatra of Medinipur district. First I focus the geographical position and culture of the district. The geographical position is the Bay of Bengal is at the South, Orissa district is at the south-west, Jharkhand is at the west, Bankura and Purulia are at the north-east, Hugly is at the north, Howrah is at the north-east and at the east there is south 24 Pargana. The geographical position of the district really notable. This district is enriched in agriculture and art. And there are many antiquities which draw our attention. Besides these, many fairs and festivals are there that occur in different places in different times.

The identity of Folkculture of Medinipur district is the overall graph of many living groups of people in society i.e. overall representation of many tribes' own place of living, food, education, clothing, art, literature etc.

The trend of performing Folkjatra that began with general costumes and one individual person with different tone, has come to the present state thorough the evolution of Folkjatra. Before 30 years, there was no trend of acting in the character female. All characters were played by the male actors. Now the female actors play in the roles of female character. But still there is no female musician in any troupe of 'Jatra'.



The Folkjatrass that are spread over Medinipur district, are not pure ‘drama’ or pure ‘Jatra’, ‘drama’ and ‘Jatra’ have mixed together now. The troupes that acted in different times termed these ‘drama’. But, audience and the people of this district name this ‘Folkjatra’ .

There is no story in written letter so far. But hearing the record of the story the written form of the story has been made over the night due to reputation and they have performed different story. It is unknown that who is or are the writers of those stories. Though we get some names of the actors during the prologue of the story, but there is no identity of writer or group of writers.

2. Statement of the problem:

There are the identities of different kinds of Folkjatra in West Bengal. Though in the history of Bengali literature there has been discussed the Folkjatra of different districts of West Bengal, yet there has been no discussion on the Folkjatra of Medinipur district. In this respect, I am the first to pay attention to this. Various kinds of Folkjatra have been performing since for five hundred years. Living in poverty, the inhabitants of Medinipur who are fond of acting can’t keep away the laborious acting in Folkjatra from their way of life. They have acted in many diverse situations of their lives. The Folk-artists, on the one side, fought against the British ruler, and on the other side they gave pleasure to the common people of there country through their performance.

3. Objectives:

Folkjatra is the only medium of recreation of the large part of undivided Medinipur; on other hand Folkjatra is also the medium and Solidarity. Hundreds of people in this region are involved in present Folkjatra. This Folkjatra is antique by a number of centuries, and it has no written history, no ancient document. This anicentFolkjatra has almost lost its heritage or it is on that way. So to save its heritage and to develop it , it is essential to research thoroughly on this subject. Because the informations derived from this research would survive or remain as the history of past and present. And this history will give birth to many new information and aspects for research on this subject.

4. Research Methodology:

There is no helpful effective document or history about this purposed subject of research. So this research will mainly depends on the persons involved in ancient Folkjatra, or the interview of the audience and hearers fond of Folkjatra, the examination on different Folkjatra, and the subjective discussion of various performed opera. Besides this, there is the study of the operas those have written document. Discussion on the subject with the artists who were involved or now is involved in the Folkjatra of Medinipur, the still photographs which are with them, examination on the audio-visual document and the treatise or written document scattered here and there these are essential for the research. Those treatise and written documents are very few in number.

- Primary data: fieldwork and statement collection 100 performers.
- Secondary data: Online data and library study, news paper, recherché paper study and journal .



5. Analy sis:

Folkjatra has been formed of the legends of gods and goddesses, mythology, and romantic incidents etc. So in the research paper of the title 'Folkjatra of Medinipur', there will be discussed thoroughly various issues of mutation from the very beginning. The information that will be gathered except the told chapter will be discussed in detail in the main research paper.

- The rise of Folkjatra

The impact of jatra can be found in dramatic Folk aspects. Those aspects are called Folkjatra. 'Folk' and 'Jatra' make Folkjatra. Here common peasant people of villages lead their lives by making Folkjatra as their sub-profession with their main profession. Once there prevailed a great debate with word 'Folkjatra'. Generally these are composed, directed and performed by common people. Now, the presence of song, dance and dialogue is much in Folkjatra. In ancient time Folkjatra meant musical and poetic performance. There the owner of the opera added many songs and needed dialogue to the performance and communicated with the audience. The language of Folkjatra was the local language.

The impact of gods and goddesses – Since ancient days there could be found many rituals and going on processions, and those can be found even now. 'Doljatra', 'Rathjatra', going on procession on 'Dashera' – these carry the proof now. In these processions the grace of god is spread through the music and dance.

In the ancient time, those festivals were called Folkjatra. In fact, 'Jatra' - this very word is used in sense of 'going'. It has been derived from the – 'Ja'. But due to the want of place, these festivals with process have been stopped. The procession has been stopped but those festivals are still known as 'Jatra'. Gradually, with those ritualistic festivals the elements of acting have been added, and in this way arrives Folkjatra. In this regard Ashutosh Bhattacharya says – “ The subject matter of Folkjatra based on various incidents of the live of people, orally written and performed aspect; it is nor relevant to add my historical fact with it”. To keep the tradition of Folkjatra, the Hindus arrange religions festivals; and in those festivals Folkjatra is performed.

The impact of religious festivals – The common people of this district call the festival of god – 'jat', and the word 'jatra' has come from 'jat'. This 'jatra' is the 'jatra' of common people or Folk people, and in this regard it is called 'Folkjatra'. In this 'Folkjatra', different incidents of different taste are presented. The stories of 'Folkjatra' are taken from big stories. 'Folkjatra' is totally centered. The real source of Folkjatra is not known. There is no accepted information about it. Some people think that it has come from men's wandering of forest, some think, from the festival of sun. Some are on the view that it has come from the festival of moon. But I think, the influence of epic is much in 'Folkjatra'. In Folkjatrathere many facts and incidents of epic, and there is the presence of verse as in epic. So, it can be said that 'Folkjatra' is more influenced by epic.



- **The classification of folkjatra**

What is folkjatra

Like many other countries of the world, people spread the grace and religion and God in our country through dancing and singing. On the occasion religious festivals, going on processions were arranged. In those processions, the grace of God was spread through dancing and singing. In ancient time, this type of festivals was called 'Jatra' that was derived from 'Ja'. Gradually the procession on those festivals was stopped and those dancing and singing were performed in a constant place. Though the journey was stopped but the named 'jatra' remained. Later, with those singing and dancing the element of acting are added, and in this way arrives 'Folkjatra'.

The 'jatra' of present day is considered as 'Folkjatra' on the basis of the analysis of presentation, performance, story and fact etc. The form of 'jatra' found in ancient time is entirely the antique form of 'folkjatra'. In present day, 'folkjatra' maintains a kind of difference or individuality from modern opera 'jatra'. In 'Biswakosh' it has been said: "To remember the miraculous deeds or facts of Gods and Goddesses, the devout Hindus in the festivals presented the performance in association with musical instruments that is named as folkjatra."

'Folkjatra' is by the lok, of the lok, for the lok. This 'lok' is common people, they will be concert, they will play music, they will play role, they will be audience, and even they will take part in the performance or in question –answer from the place of audience. In this way, with such co-operation the performance is done, and this whole process is 'Folkjatra'.

- **The classes of 'folkjatra'**

The folkjatra of Medinipur district can be divided into four classes:

- 1)Mangalkabya based folkjatra.
- 2)Mythical folkjatra.
- 3)Domestic folkjatra.
- 4)Churiafolkjatra.

- **Mangalkabya based Folkjatra**

Mangalkabya has attained much reputation as drama in Indian Hindu society rather than it has as literature. But Mangalkabya has become successful to establish its heritage on the mind of human being in the form of Folkjatra. There are many stories of which important stories are- 1)Chandimangal 2)Shitalamangal 3)Manasamangal 4)Shasthimangal. Manasamangal and Shasthimangal are divided into two sections. These mangalkabya based Folkjatra are performed mainly on the occasion of puja.

- **Mythical Folkjatra**

These stories are taken from our epics Ramayana and Mahabharata. In this district the running Folkjatra is 'Sitachuri'. This story is also called 'Ramjatra'. This 'Sitachuri' is based on the facts and incidents occurred from the exile of Ramchandra to the kidnapping of Sita by Ravana. In this story, to play the characters of Hanuman, Monstar, Golden deer and Jatayu masks are used.



i)Ramayana Centred Folkjatra:- ‘Sitachuri’, ‘Ramjatra’, ‘Ramer Banabas’, ‘Ramlila’, ‘Lanka vijoy’.

ii)Mahabharata Centred Folkjatra:-The stories are based on the incident in Mahabharata, and the stories are named-‘Krisnasarathi Arjun’, ‘DroupadirBastraharan’, ‘AbhimonnuBadh’, ‘Shakunir Pasha’ etc.

- **Domestic Folkjatra**

This domestic is based on life stories of special person. In domestic Folkjatra, is included ‘Jugijatra’ of Medinipur district. Though the central character is Jugi, its main story shelters a Folkjatra named ‘Shahara Sundari’. The locks of hair of young prince’s newly married beautiful wife Shaharasundari fall into a stream of a river. Jugi then kidnaps Shahara in the disguise of prince by the hint of the locks of hair. The character Champabati is as it the companion of Shaharasundari. In this story, there are kings, queen, colonel, minister, businessman, oracle, magical rope, golden stick, silver stick, magical flower etc. Except domestic Folkjatra there is Lalchandchurijatra which is based on the story of Satyapir.

- **ChuriaFolkjatra**

These stories are based on many incidents in the life on Krishna. This Folkjatra is divided into many parts according to the stories – ‘ Manabhanjan’, ‘Noukabilas’, ‘Kaliadaman’, ‘Kansabadh’, ‘Golajatra’ etc. Each story is formed of the incidents in Krishna’s life.

6.The subject of Folkjatra

The special trend to the aspect of preference of people and indefinite or partly undersigned thinking of subject - in between these two there is the subject of folkjatra. There are no responsibility in producing folkjatra, in the subject matter and in the performance of it; there is no limitation to direct it in any planned way. The primary condition of any Folkjatra is to reflect the society of life struggle through the presentation of folkjatra and through the connection with audience.Exceptthis,the subject of local problem is raised in the performance of folkjatra and also in folkjatra there are the hope for the goodness and bless for everybody.

Folkjatra in social context

Folkjatra is formed of society with common people.This is not the creation of an individual but of all society.This society is united,this society is not ancient and it is not urban.This society has some social customs.This is formed of educated and little educated persons.In the past,the stories written by traditional poets of the society and performed by professional rural actors are now considered to be folkjatra.Instead of the difference between the folkjatra formed of the religious festive of society and the folkjatra written by rural traditional poets,the main trend or characteristic is same i.e. the trend of folkculture are tradition.

Present folkjatra

Present folkjatra has come through many influential incidents. The Folkjatra of this district has been influenced by many outward waves. But, instead of this influence, thisfolkjatra has been maintaining its own heritage.There is the professional impact of in



this tradition of folkjatra. As the folkjatra of this district has become professional, the effect of other drama can be traced in it.

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7. Conclusion:

The folkjatra of this district is created sheltering the folkjatra and myths. The trend of folkjatra is spread from Gopiballavpur at West to Nandi gram at East. The folkjatra developed in the places - Karbania, Shasar, Nayabasam, Gopiballavpur, Kakra, Nayagram, Yamiyapaul, Belda, Contai, Panskura, Ghatal, Debra, Narayangar, Pingla etc. with the improvement of communication, the influence of the jatra of Chitpur is to be found in all kinds of folkjatra. Naturally the archetype of folkjatra has been confined to certain groups of people. And in some places, this tradition of Folkjatra has been flowed through modern opera jattras. The educated persons along with the uneducated, have taken part in it. And gradually, the influence of modernism is being found in folkjatra with the mutation of it. Women are coming forward to play the roles of female characters. Now we find here the co-existence of modern musical instruments and old instruments. In some places, at the centre of the gathering the stage is made high for acting. Thus, gradually folkjatra has flowed rhythmically with the modern jatra.

As a result, the sanctity, the ownness of folkjatra is being lost by the influence of Chitpur. The main reason for this is economic. Because unlike the artists of other jattras, the income of the artists of folkjatra is not much/enough. Besides, there is the lack of administrative enthusiasm. So, to restore the sanctity of folkjatra, the coming forward of culture loving people is very necessary. And thinking about the pain and misery of the artists, economic help is also needed.



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SOCIAL CONDITIONS IN RAJAHMUNDRY MUNICIPALITY DURING THE TIME OF BRITISH RAJ

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Introduction

In the early part of the 19th century, the social conditions in the Godavari District like that of the Indian society were marked by the following features. A significant characteristic of the Indian society is the hierarchical organization of the caste system. Hierarchical gradation, social and other inequalities, restrictions on dining and traditional association with an occupation were the main features of the caste system. Originally, the Hindu Society seems to have been differentiated into four castes. In order of precedence they were (1) the Brahmins, the priestly and the learned class; (2) the Kshatriya, the military and governing class; (3) the Vaisyas, traders and bankers and (4) the Sudras or the Peasants, farm workers and servants. The society was in a total state of chaos with the prevalence of widespread inequalities, superstitions, orthodoxy, exploitation and tyranny of the rich in money and high in the caste.

A kind of social change took place in the urban areas after the emergence of the municipalities. After 1870 the Municipalities implemented several measures which slowly improved the conditions of the lower class people and women. Almost all the municipalities of Andhra were dominated by caste politics. Women had no entry in the Municipal Councils up to 1922; low class people had no voice in the councils. Only the tax payers had right to franchise. Rajahmundry municipality was no exception.

The British controlled power in the Municipality for 22 years i.e. from 1866 to 1888. When the elections were introduced to the councils Indians became the official chairmen. From 1888 to 1906 the Municipal Chairmanship was in the hands of Brahmins. Nyapati Subba Rao Pantulu, Eluri Lakshmi Narasimham, Nidamarti Jala Durga Prasad, Mocherla Ramachandra Rao Panthulu, Tanguturi Prakasam Pantulu were all Brahmins who took over the charge of Chairmanship of Rajahmundry Municipal Council.¹ Ganti Venkataramayya was the first non-brahmin Chairman. From 1907 to 1920 some prominent figures became chairman from the non-Brahmin caste Venkateswara Rao Naidu, R. Jaya Ramaswamy Naidu, Ganti Venkata Ramana and others. Even from the Non-Brahmin Caste most of the Chairman sprang from Velema Caste. After 1920 except Solasa Bapanayya, Ch. Appalaswamy Reddy, almost all Chairmen hailed from the Brahmin caste. They were Palakodeti Gurumurthy Pantulu, Krovvidi Linga Raju, Ambadipudi Nageswara Rao Pantulu. Though the Brahmins were not in power for some time they became the Kingmakers and made others Chairman using their influence. After 1920 when the Justice Party came into existence Brahmins had to face Challenges from it.

The members of the Municipal Councils hailed from several castes. There were Muslims and European Christians. In the later stages i.e. during 1920s reservation system came into existence.² Women and other low caste people were given membership in the Municipal Council. The Municipal Council was mainly dominated



by the above mentioned castes. Up to 1947 the Chairmen came from four castes including Brahmins. They were Kapus, Adi Velamas and Reddis. Madireddy Venkata Ratnam Naidu, Madireddy Venkateswara Rao Naidu and Pokala Govinda Rao Naidu were all Adivelamas. The population of Adivelama was very small in the town. Rayapu Reddy Jaya Rama Swamy, Kandula Veera Raghava Swamy was from Kapu Caste. The Kapus of Rajahmundry were regarded as rich and led a comfortable life. A Chairman candidate from Reddy caste was Chukka Appalaswamy.³ During the medieval period Rajahmundry was ruled by Reddis. But the Reddis migrated to Konaseema area and their population in the town was considerably small.

In the case of Councilors members from Adivelama, Koppala Velama, Vysya and Devanga became members of the Council. The town was dominated by Devangas who were well known for weaving. Though their number was very high Rajahmundry had not witnessed any Chairman candidate from Devanga till 1947. These are all sub-castes among Hindus which formed the largest proportion of population i.e., 80% in the town. As Hindus were in large number it is natural that they got control of the Council.

Muslims: From the pages of history of Rajahmundry it is evident that for several years before the advent of Europeans into the Godavari district the district was ruled by Muslims. Some local legends give us the information about the destruction of a temple and construction of a mosque on the ruins by Md. Tughlaq.⁴ Rajahmundry was taken by Muslims from Gajapathis and was made their centre. For some time it was under the control of Golkonda Nawabs and Muslim Faujdars. After the capture of Rajahmundry by the British the Muslim domination ended. Their population also came down to a small number. The Muslims formed only 10% of the entire population of the town.

After the emergence of Municipality in Rajahmundry there was very little Muslim domination in the Council. Right from the beginning i.e., from 1866 at least one Muslim was present in the council. For example the following members acted as the Municipal Councilors; K.E. Shaik Abdul Khaddar Saheb, Nayab Md. Kasim Saheb, Rahimtullah and Azamalkhan Saheb.⁵ The British Government appointed one or two members from the Muslim Community till the election system was introduced to the Council. At least one member could be seen in the Municipal Council during the full period of 80 years from 1866-1947. But in 1938 during the regime of Krovvidi Lingaraju four members from the Muslim Community entered the Council.ⁱ Muslim Councilors were appointed as members in the sub-committees which were formed to look after the various subjects of the administration. A separate site was allotted to the Muslims to construct tombs. Some of the streets of Rajahmundry were named after the famous Muslim leaders, for example, Khazee Gari Street.

The relations between the Hindus and the Muslims were generally cordial. Both the Communities exchanged greetings on the occasion of festivals. The Council also celebrated some festivals and all the Councilors, irrespective of their community attended them. The Muslims generally spoke Telugu along with their mother tongue. As the Muslims population was very small they have given reservation after the enforcement of Madras Districts Municipalities Act. It was unfortunate that Muslims did not have a single candidate as Chairman. Even after 1947 luck was not with them to occupy the Chairman post.



Christians: The Christian domination was witnessed by the town only after the advent of Europeans. The European Christian missions started several social activities in the towns of the Godavari Districts along with Rajahmundry.⁶ As the administrators were the Christians in both India and Madras Presidency it is natural for them to carry on the Municipal administration by themselves. For 20 years till the general election system was introduced the headship of the Council was in the hands of Christians. The first Vice-President of Rajahmundry Municipal Council was H. Vigram. Till 1910 there were only two or three Christian members in the Council, for example Bride wood, Robson, and Wilkins. In the absence of the Chairman the Christians became presiding Councilors several times. But after the election system was introduced Christians were not elected to the Chairman post. Here an attempt should be made to know the various social activities started by various missions that came from different countries of Europe.

There are four Christian missions in the district, namely, the Roman Catholics and the Canadian Baptist Mission with their head-quarters at Cocanada, the American Evangelical Lutheran Mission of Rajahmundry, and the Church Missionary Society, which worked in a small district from Dummagudem in Bhadrachalam Taluk.⁷ The American Evangelical Lutheran Mission was founded by the North German Mission Society in 1844. The first missionary sent out was the Rev. L.M. Valette. He selected Rajahmundry as his head quarters and took up his residence there in 1844. Soon after, due the unsettled conditions in Germany and financial difficulties in the Church, the North German mission Society found it unable to support the mission; and in 1851 transferred its care to General Synod of the American Lutheran Church, which was working in the Krishna district with head quarters at Guntur.

The mission started a number of schools to encourage education among the children of the town. This mission also provided medical facilities to the population of the Rajahmundry town. For this purpose it supported a large dispensary and a hospital. The Canadian Baptist mission owed its origin to Revs. Thomas Gabriel and John Mclaurin D.D, who started work in Cocanada in 1869. This mission also had its unit in Rajahmundry. It was responsible for starting a training school for the nurses. Nursing profession was given high priority by this mission.

After the Canadian Baptist Mission another mission called European Church Mission came into existence. Dummagudem and Bhadrachalam were selected as its headquarters. This mission particularly worked for the upliftment of Malas and Koyas of upper Godavari District. This mission had maintained some educational institutions throughout the district apart from Bhadrachalam and Dummagudem. The Roman Catholic Mission was also known for its social activities throughout India. This mission established its headquarters at Cocanada.⁸ This mission erected few chapels in both Kakinada and Rajahmundry. This mission worked for the social and educational development of the people of Godavari District. These missions played their role in making Rajahmundry a famous cultural and educational centre.

As stated already the European Christians dominated the Municipal Council a British were the sovereigns of India. But after the election system was introduced no single candidate from Christian Councilors became Chairman. The Christians occupied important positions in the district such as District Magistrate, Police Superintendent, and



superintendent of Hospitals and so on. They were paid high salaries in comparison with the Indian officers. The Christian were not employed in low cadres. All the labourers of the town were only Indians. Thus the Christians enjoyed a highly respectable position in the society even though they were foreigners.

Position of lower caste: Indian caste system was a rigid one. Brahmins dominated all walks of life. They were high professional, lawyers and lecturers. Among the Brahmins Ksheerasagaram Sundararao Pantulu worked as a professor in the Rajahmundry Arts College and also worked as a Chairman of Municipal Council. C. Nagoji Rao Pantulu who was a lecturer of the same college served as a Councilor for a long time.⁹ The Vysyas had no proper education. They were regarded as traders. Other castes were engaged in different professions such as fishermen and potters and had a separated place near potter's tank. Rajahmundry was dominated by Devangas who were engaged in weaving.

The position of malas and madigas was regrettable. They were completely suppressed by high castes. They were treated as untouchables. They had no voice in the local administration. They had no right of franchise. They were completely illiterate. Polyandry and polygamy prevailed among these castes. They lived in the outskirts of the town. Some area was acquired at Jamipet by Municipal Council for housing these castes. This area was named as Turpugudem. Apart from this area separate petas were arranged for the malas and madigas. Those were mala gudem and madigagudem. Some more areas were acquired near kotilingalu for the settlement of these castes. This area was named as Kotilingalu Panchama area.¹⁰

People of these castes were appointed as low-waged labourers, and scavengers who were engaged in cleaning garbage on the roads. They were paid one anna to three annas. They were paid maximum one rupee a month. In the first half of the 20th century separate hospitals were set up for the treatment of low castes. Missionaries, particularly Roman Catholics and Canadian Baptist Mission gave there unfortunate people a good treatment. Some Municipal Chairmen, who were doctors like Rayapareddy Jayaramaswami and Palakodeti Gurumurthy Pantulu did exemplary service to these people by giving free treatment and taking proper care of their health.¹¹ Kandukuri Veeresalingam who was recognized as father of Andhra renaissance had really fought for the cause of Harijans. Separate schools were set up for them. He called upon his fellows to treat Harijans as equal citizens along with other castes. He pleaded against the discrimination shown by the society towards them. All these efforts made the British Government give certain reservations to these castes. In 1930 one seat was reserved to the malas and one was reserved to the madigas in the Council. Some discrimination prevailed till universal franchise was introduced.

Position of women: In general the position of women in Indian Society was changing from time to time. During the Vedic period they enjoyed full liberty and freedom. In the later Vedic period their position became submissive. Purdah system, Sati practice slowly came into existence. After the implementation of Hindu code, i.e., Manudharma Sastra their position reached the lowest level. They had no right to property.¹² They had to depend on their father, husband and son throughout their life time. They had no freedom to do anything without the consent of the male member. In some castes ladies were used as devadasis and prostitutes. They had no choice in selecting their husbands.



Under these circumstances in the Middle Ages some Bhakti Saints like Kabir, Ramanada, Vallabhacharya preached equality and tried to raise the status of women.

After the advent of Europeans, particularly during the British rule, impact of Christianity played a dominant role in changing the status of women. Rajarammohan Roy and Eswarachandra Vidyasagar started reform movements in Bengal. Raghupati Venkataratnam Naidu, Kandukuri Veeresalingam Pantulu did yeoman service for the upliftment of women in Andhra. Rajahmundry Municipal town had witnessed remarkable changes during its initial year of establishment. The father of Andhra renaissance Kandukuri Veerasalingam, who was also a Councilor from 1881 to 1888 performed nearly 20 widow marriages, in this Municipal town from 1881 to 1901 which deserve to be mentioned in detail.

During the 1880s Veerasalingam extended his contacts with both British and Indian Government Officials and with Indians residing in Madras.¹³ As a result of the widow marriage movement in Rajahmundry, his local reputation spread throughout the Presidency. Despite intimidating threats from the anti-reform party on the evening of December 11, 1881, the first widow marriage took place. The District Judge John Kelsall, the Superintendent of Police, the District Medical Officer, and the Chaplain attended the ceremony. After the wedding on December 11, festivities and celebrations continued for several days. On December 15, a second widow marriage originally unplanned, took place amidst great pomp. In addition to the British officials who had attended the first ceremony, the Collector came from Kakinada to witness the second one.

A few days after the second widow remarriage, the anti-reform party mustered seventy two members and convened a meeting to condemn the reformers. C. Yaganna Sastri presided over this session, which included many Brahmin lawyers and officials, as well as merchants like Saripalle Gopala Krishnamma, a former partner in Veeresalingam's printing press and a powerful figure in the Municipal Council. These men sent a petition to Sankaracharya requesting him to censure the reformers. On 31 December Sankaracharya's proclamation "brought terror upon the people. It proclaimed that the two widow marriages performed at K. Veeresalingam's house were against the Vedas, the Shastras and the honoured customs of the Hindus; so all those "that went to the wedding for meals, for betel-leaves, or who assisted the cause, are hereby excommunicated."¹⁴

Individual reformers were sent postcards stating that they had been excommunicated and would not be allowed to re-enter their caste and participate as members of good standing. Veeresalingam's fate was more severe, for Sankaracharya declared that "the two bridegrooms and brides and K. Veeresalingam and his wife are entirely excommunicated and can never be received back in society by any penance". The reformers and their supporters reacted to these pressures in several ways on January 11, 1882, Atmkuri Lakshminarasimham filed a suit against Sankaracharya in the court of the Joint Magistrate, Rajahmundry. But the judgment was not favourable to them.

Perhaps "the most serious result of Sankaracharya's proclamation occurred in April, 1882 when Veeresalingam found itself cut off from his major sources of funds". Paidaramakrishnayya the wealthy merchant from Kakinada had paid him Rs. 2,000 to celebrate the two widow marriages and Rs.10 per month to maintain the priests, servants



and families involved in the widow marriages. But Rama Krishna was unable to withstand the terrible pressure on him to conform and so he submitted to the Rajahmundry Brahman priests. One of the conditions was to stop sending money to Veeresalingam. Ramakrishnayya complied with this. As a result the social reform leaders in Rajahmundry were beset with doubts about the future of widow marriage reforms. Neither Veeresalingam nor AtmkuriLakshminarasimham possessed any personal money that would be necessary to celebrate widow marriages in a grand manner.

Again in August 1883, and January 1884 widow marriages were performed in Rajahmundry.¹⁵ These made a total of ten; eight of them were Brahman couples and two were Vaisyas. One marriage had featured an inter-Sectarian between a Niyogi Brahman and a Vaidiki Brahman. In 1884, the widow marriage reform movement gained a great deal of publicity in India due to the work of the Bombay Parsi, Behramji Malabari. Malabair's proposal that the Government should enact marriage laws for Indians which would eliminate child marriages, thus preventing child widowhood, aroused great contention. At a meeting of the Madras Hindu Widow Remarriage Association in late December 1884, Raghunatha Rao a Brahman interested in social reform spoke out against interference from the government, urging that reform must come from within the Hindu Community. S. SubrahmaniaIyer, a distinguished lawyer and later High Court Justice, argued for establishment of a government commission to ascertain the exact laws bearing on these issues.

The change in attitudes from 1883, when many Hindus accepted a government legislative role in the sphere of social change, was marked. At that time, after the widow marriage in June, 1883, Veeresalingam's old rival and former scourge of social reform KokkondaVenkataraman had remarked that "under the protection of the English Government, Hindu widows have the opportunity of freeing themselves from the despotism of religious custom". Veeresalingam himself then had urged Lord Ripon to improve "the miserable state of Hindu widows by enacting legislation, as Lord Bentinck had done with Sati."¹⁶ The funds to support widow marriages did not flow in as Veeresalingam had expected. From Madras old friends of Veeresalingam like P. Rangayya Chetty and K. Krishnaswamy Rao sent money to support widow marriages. SubhaPatiMudaliar promised Rs. 100 for each widow marriage performed. But the funds came nowhere near the sum of Rs. 10,000 that Paida Rama Krsihnayya had initially donated. He had promised a further Rs. 10,000 once the first sum was expended. But by the end of 1885 he had not provided it.¹⁷

On December 13, 1885 another widow marriage, the thirteenth, was performed in Rajahmundry. No widow marriages took place in 1886 or 1887. With no activity, and scarce funds the Brahman priests and servants were relieved, donors stopped contributing money, as there were no widow marriages. Meetings were meagerly attended. When the National Social Conference was founded in December, 1887, the Rajahmundry widow marriage Association did elect delegates, although no one attended the conference. After six years, the widow marriage campaign became dormant. In the Council politics women played no role till 1922. After the implementation of madras Districts Municipalities Act reservation was given to women. KanchumartiBabayamma was the first woman Councilor in the Rajahmundry Municipal Council. She was



followed by Palakodeti Vankata Ratnamma and some other ladies. After the right to franchise was given to ladies, their participation in the politics gained momentum. Separate schools were set up for girls, which would be discussed in another chapter. The Rajahmundry Municipal town did not witness a lady candidate as a chairman so far. Since the establishment of Rajahmundry Municipality till the dawn of independence, the Hindu Women were not seen in high professions as were their Christian compatriots. European ladies were engaged in nursing, teaching, medicine and some other professions. But in the Municipal Council the Hindu ladies became councilors, after the reservation system was implemented.

Social Activities of the Municipality: Though the Municipality was an administrative body it under-took some social activities, particularly the great Hindu fair, pushkarams were organized by the Municipal Council. The Pushkaram will be celebrated once in 12 years. When the teacher of Gods Brihaspati entered in Simharashi the Pushkaram would start and continue for 12 days. The people believe that the Hindu Gods take a holy bath in the river and remain in that river for one year and Antyapushkaram will be celebrated once a year after the pushkaram was started. The Rajahmundry Municipal Council arranged all facilities to the people coming from different parts of the country to take a holy dip in the Godavari during the pushkaram days. A kind of festive look could be seen in the Municipal town during these days. In 1874 for the Pushakaram Rajahmundry Municipality spent nearly Rs. 600 to ensure smooth conduct. The amount was increased in 1896 by the Council to Rs. 1000. In 1920 during the short tenure of Gajivelli Rao as Chairman the Council granted Rs. 8,000/-. The Government grant for the pushkaram was Rs. 20,000/- and that of the District Board Rs. 4,000/-.¹⁹

The Municipal Council took care of lunatics, those who suffered dog bites and others. During the tenure of Nidamrti Jaladurga Prasad Raidu one lunatic was taken care of by the Council. In 1934 when a severe earth quake hit Bihar State, the Municipal Council donated Rs. 5,000/- to the relief fund. During 1920's the Municipal Council granted Rs. 400 to the women and Child Association to undertake developmental activities. The Municipal Council also exempted taxes on the stage dramas if their purpose was to help the poor. After the implementation of Madras District Municipalities Act the house tax and property tax were reduced in order to give rights of franchise to more and more people. Thus the Council had under taken several social activities though it was a purely administrative body. So after the establishment of the Municipality the Rajahmundry Municipal town had witnessed several changes.

As mentioned earlier the schedule castes and schedule tribes had no say in the administration. They hardly entered into the Council in the second and third decades of the present century. Then the Government implemented reservation i.e., one seat each for Malas and Madigas. Gradually they were given preference as B.Cs and S.Ts were treated as vote bank. The slum dwellers and the scavengers were looked inferior. They were not allowed to enter into the streets where the rich and upper caste people were living. But the society in the Municipal town is linked with the sanitation which was entrusted to the scavengers. The scavengers were ordered to sweep the roads at 6 in the morning. The house holders, who wanted to throw away the rubbish, should do so only after 9.00 P.M. The scavengers and totties were kept under the supervision of the Councilors and sanitary inspectors. To maintain proper sanitary conditions the



Municipality moved the slums to the outskirts of the town. There was further improvement of sanitation by 1888. The sanitation of the town was good and several sanitary works Viz, ten Pucca incinerators, seven latrines, forty dustbins, both movable and fixed, and platforms to several wells, costing Rs. 1,560/- were constructed.²⁰

The Municipal Council took steps to keep roads clean by employing motor vehicles to remove rubbish and night soil. This was done by hired carts. Extra carts were used during Pushkaram Festival. The street rubbish was removed mostly by Lorries and by hired carts from places to which the Lorries could not go. Night soil was carried to the trenching ground and thrown into the rubbish depot, and allowed to mixup with earth and turn into the manure. The rubbish carried by hired carts was taken into the fields belonging to the cart owners, outside the Municipal limits. After the end of the 1st World War the Municipality concentrated on sanitation after getting powers from the Madras Government. The council took a keen interest in trying to eradicate cholera by keeping the town clean. The Madras District Municipality Act had given some powers to the Council to deal with the local needs. In 1920 the sanitary conditions of the town were good, according to the reports.²¹

The street rubbish was removed from the dust bins in double bullock-carts which were hired by the council and the same was utilized by the contractor for fields and gardens. Night soil was carried to the Municipal trenching ground in baskets on double bullock carts by contractors where it was trenched. The number of public latrines was 20, and there was need for increasing the number, but for want of funds, and to a small extent lack of suitable places for their construction in required areas, the number was not increased. The bulls as well as carts were hired. By the year 1925, there were 21 public latrines in the city. A motor truck was maintained by the Council for the speedy removal of rubbish. The establishment had one driver, one cleaner and four scavengers. The truck covered half of the city through streets which had good roads. The rubbish was deposited in pits near the Nagula tank and one person was specially employed to rake up the deposited rubbish. The rubbish from the remaining portions of the city was removed on contract system on eleven double-bullock carts to the contractor's fields outside the Municipal limits, where it was used as manure.²²

Conclusion

The society in Rajahmundry was linked with the sanitary conditions. All the people irrespective of their position have involved keeping town clean. The Rajahmundry people including the Chairperson were very much keen to maintain proper sanitary conditions. The chairperson used to meet the persons to know their problems. During the social fares the people from all walks of life had closely intimated with each other and involved to maintain holiness of the town. Does the social conditions and the sanitation were linked with each other to attract the visitors to Rajahmundry.

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ELECTRIC VEHICLES AN EVOLUTION FOR UPCOMING FUTURE WHILE MAKING ENVIRONMENTAL BENEFITS

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Abstract: Electric Vehicle Technology is fastly growing with increasing number of Car Models day by day due to concerned savings of non- renewable energy sources and considering the environmental protection measures. In this paper, a work is done to figure out different car models with cost, Power, KWh capacity and miles.

Keywords: Electric Vehicles EV's, Energy Storage Systems (ESS), Society of Automotive Engineers (SAE), New Energy Finance Limited (NEF)

INTRODUCTION

Electric cars are now becoming a tremendous mainstay on the roads with a growing number of different types of electric models being available to buy right now. Prices are falling, models are diversifying and it's all going hand in hand with increased investment and roll-out of charging networks. There are around 50 plug-in models to choose from today, but that is about to increase about by 34 in this year 2020 and around 160 more in 2021, with plug-in car grant it is imperative that the Government steps in to subsidize these new technologies to drive consumer demand. As Electric vehicle (EV) is one that operates on an electric motor, instead of an internal combustion engine that generates power by burning a mix of fuel and gases. These vehicles have become as a possible replacement for current generation automobiles in order to address the issue of rising pollution, global warming, depleting natural resources, etc. It's getting easier, slowly but surely, to plug into electric motoring. To come up on direct line we can say Electric vehicles are becoming an increasingly common sight on every road in the world, along with charging stations needed to keep up this on going revolution. In this paper a step ahead work is done by calculating the procedures and measurement of cost with distance and with a comparison done in between Vehicle Battery Capacity, Miles, and Power.

Literature Review

Electric cars rated Profile is Estimated to be Cheaper

Though EV approach and development market as the ultimate status symbol of the campaign environmentalist, but that could be very close to changing and whether



subsidized adoption is sustainable depends largely on consumers perceptions and motivations inclined towards purchasing an Electric Vehicle [1], and is described in a theoretical way about subsidies provided by the government might only be attractive when they are large enough to compensate the disadvantage relative to EVs performance. As per Bloomberg NEF says they could be cheaper than combustion engine cars by 2020. Ten years ago, few could have predicted the meteoric rise of the electric vehicle industry. The latter two points are often moot- the range of most electric vehicles is measured in hundreds of miles, which is much further than most people drive in a day, through range anxiety of price and maintenance is still a concern for many consumers. But difference in price is often enough to make all, Bloomberg NEF energy analyst Nathaniel Bullard notes that in 2017 the point at which an electric vehicle was cheaper than a combustion engine vehicle of the same size was estimated to be 2026 and for European Union 2022 will be largely for Electric Vehicles.

Identifying Research Based Gaps and Objective outcomes

Purchase based behavior remains attention-able in the previous studies of Electric Vehicles. But these resulted in influential factors on the uptake of electric vehicles and paid significantly less attention to the transitions of potential Electric behavioral overtime. Specifically, the potential purchase of Electric Vehicle can result in several stage experiences from beginning stages at when Electric Vehicles are quite new to Market purchase and to the finals when decided to purchase. An insight in this paper into Rate Profile, Innovations, Technologies Grid Integration, Cost Companies and Model systems are innovation terms for Electric Vehicle Technology.

Innovations in the Electric Vehicle creation would be a Hefley Support

Innovation has made a rapid transformation while facing and solving challenges on the horizon for the industry by telling governments to de-carbonize the transport sector through electric vehicles launch. In US more than 200,000 vehicles are sold and bill to extend the measures is in the works, but at the same time it has an uncertain future. But some countries are becoming more instrumental through EV market growths and now the electric vehicle subsidies which are useful will be slashed/removed completely by zero. More and more nations, states and cities are announcing plans for the ramping up of EV adoption.

Technology to Electric Vehicles with Grid Integration

Electric Vehicle adoption and integration into the grids is now demanding to customers the benefits of going electric and is figuring out that how EV owners will charge and fit EV's into their everyday lives. Going electric resembles now a betterment and a smooth transition without a lot of hassle. Implementation of Smart grids and upgraded investments in campaign to technically expensive alternatives based on grid digitalization and algorithms need to be further confirmed for their reliability for power sharing and energy management. Large scale integration of Electric vehicles is changing the electrical energy consumption patterns of the distribution grids through:

- 1) The Running Cost is certainly a major benefit of young electric. Electricity is the most efficient energy fuel, about three times more efficient than gasoline or diesel.



Electric Vehicles are now as prominent green technologies, touted to help global energy consumption

- 2) Policies Related to Electric Vehicles with Adoption Measures in Promoting Electric Vehicles
- 3) Purchase is a driving factor and convenience policy and financial subsidy are now-a-days most important policy measures in Electric Vehicle growth and information policy on environmental protection and publicity is conducive to the marketing of electric vehicles.

Measurement of Electricity Costs for Charging of Electric Vehicles

Fuel efficiency of an electric vehicle may be measured in kilo-watt hours (kwh) per 100 miles. Cost per mile of an electric vehicle, The cost of electricity (in dollars per kwh) The efficiency of the electric vehicle (how much electricity is used to travel in hundred miles) must be known.

Example 1 If Transformation Efficiency costs \$0.11 per kilowatt hour and vehicles consumes 34kwh to travel 100 miles, the cost per mile is about \$0.04

Battery Capacity = 13.9kwh

1 kwh power price = 1.45 Rupees

Electricity Price = $13.9 \times 1.45 = 20.155$ Rupees

For 30 days it will be = $20.155 \times 30 = 604$ Rupees

Average electric vehicle needs an average of about 30kwh of electricity to power the vehicle for 100miles.

The energy required to move an electric car from one location to another mainly includes the following components.

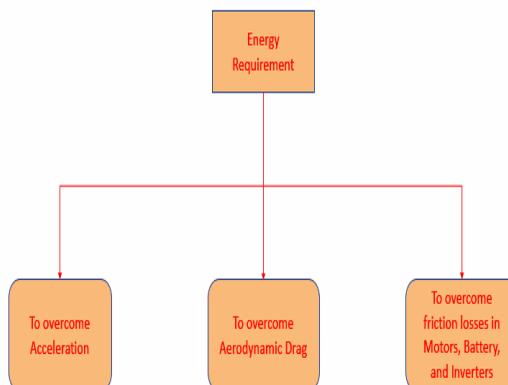


Figure 1 Energy Requirement



Energy consumption of an electric vehicle affects the range of the vehicle. The total distance that could travel by an electric vehicle with a fully charged battery can be analyzed based on the energy consumption of the vehicle. On favorable environmental conditions the consumption can be even 0,15Kwh or less but year around average is closer to 0,2 Kwh's. In consumption this means 282kwh of electricity in one month as an Example 2 like below:

42 euros per month

0,15 €/kwh

Annual costs will be 500 euros

From the above below the Table shows details of Car Model, Battery Capacity, range in kilometers and Power in Bhp are listed which clearly reveal that an electric vehicle is an important in terms of energy utilization and backup of the same energy part.

The Chart below shows the energy use comparisons among various Electric car models and also a Bar Diagram is shown for the properties ie; kwh, miles/km, and Bhp

Energy Efficiency of Electric Vehicles

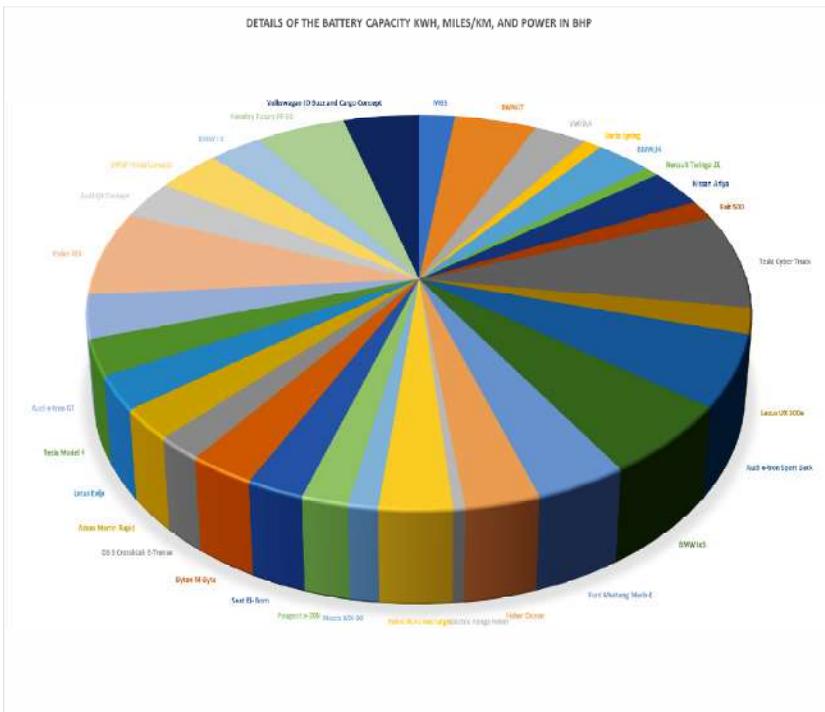
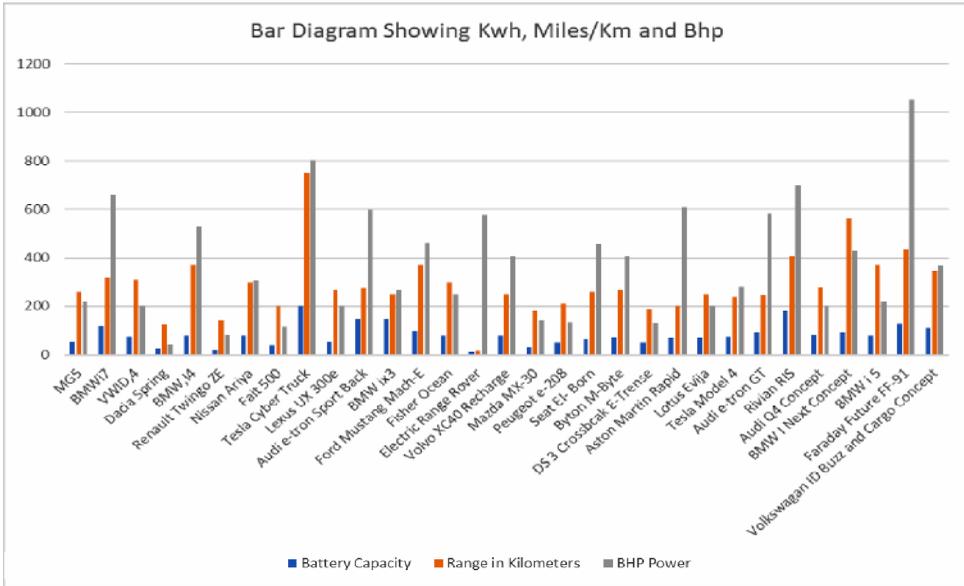
Today's technological pace of electric Vehicles is highly considered for energy savings for increasing the car performance range within the given initial and final resources and conditions through:

- Using Energy under braking
- Using waste heat energy
- Additional Supply solar cells
- Improved mechanical energy transmission system
- Improved shell design
- Increasing of efficiency of power converters
- Special design of electric engines
- Using supercapacitors, fuel cells and new generation batteries.
- Route selection on the criterion of minimum consumption in real



Table 1 Shows the Battery Capacity, Miles, and Power

Car Model Name	Battery Capacity	Range in Kilometers	BHP Power
MG5	52.5 KWh	260 miles	220BHp
BMW i7	120 KWh	320 miles	660 BHp
VW ID,4	77KWh	310 miles	201 BHp
Dacia Spring	26.8 KWh	125 miles	44.2 BHp
BMW, i4	80 KWh	370 miles	530 BHP
Renault Twingo ZE	22KWH	143 miles	80.44 BHP
Nissan Ariya	80KWh	300 miles	309 BHp
Fiat 500	42 KWh	199 miles	117 BHp
Tesla Cyber Truck	200KWh	750 km	804 BHp
Lexus UX 300e	54.3KWh	270 miles	201 BHp
Audi e-tron Sport Back	150KWh	277miles	598BHp
BMW ix3	150KWh	249 miles	270BHp
Ford Mustang Mach-E	98.8KWh	370 miles	459BHp
Fisher Ocean	80KWh	300 miles	250 BHp
Electric Range Rover	12.4KWh	18 miles	577.86BHp
Volvo XC40 Recharge	78KWh	250 miles	408BHp
Mazda MX-30	32KWh	180miles	142BHp
Peugeot e-208	50KWh	211 miles	136BHp
Seat EI- Born	62KWh	260 miles	453BHp
Byton M-Byte	71KWh	270 miles	408BHp
DS 3 Crossback E-Trense	50KWh	186miles	134BHp
Aston Martin Rapid	65KWh	200miles	610BHP
Lotus Evija	70KWh	250miles	200BHp
Tesla Model 4	75KWh	242miles	283BHp
Audi e-tron GT	90KWh	248miles	582BHp
Rivian R1S	180KWh	410miles	700BHP
Audi Q4 Concept	82KWh	280miles	201BHp
BMW i Next Concept	92KWh	563 miles	429.02BHp
BMW i 5	78.75KWh	372miles	220BHp
Faraday Future FF-91	130KWh	435miles	1050BHp
Volkswagan ID Buzz and Cargo Concept	111KWh	342 miles	369 BHp





Systems, Firms and Standards used in Electric Vehicle Technology Till Now

- Renewable Energy Sources in Electric Vehicles
- Low voltage distribution systems LVDS used by introducing Energy storage System
- ESS enables to maintain the feeder capacity and grid voltage within the allowable limit by appropriate operation of the ESS
- ESS increases the capacity of EV
- RES connected to LVDS solves the voltage and feeder capacity problems that may occur at this time
- Voltage and power of each section can be controlled to satisfy the allowable limit by changing the mode of ESS when the PV generation is twice the capacity of the pole transformer
- Adoption of electric vehicles EVs are increasingly popular and are contributed to reducing the green-house gases.
- Driving range of EVs strongly depends on the capacity of the battery, and battery research is so significantly increasing
- Limitation of EVs strongly depends on the capacity of the battery, and battery research is also significantly
- The limitations of present EV technology are the high cost of the battery and their relatively limited driving range. And to overcome these issues, hybrid electric vehicles (HEVs) and plugin hybrid electric vehicles (PHEVs) have been introduced
- The Society of Automotive Engineers (SAE) is a US Based professional association and standards development organization for engineering professionals in various industries
- The de jure international standards for electric vehicle magnetic field wireless power transfer (EV MF_WPT) are international organizations for Standardization (ISO)/technical Committees (TC)
- Growing importance of Internet of Energy (IOE) brands the high-renewables electricity system a realistic scenario for the future electricity system market design.
- Social consideration for a sustainable future lead to market demands for the electromobility. Hence electrical power distribution operators are concerned about the real ongoing problem of the electrification of the transport sector
- Society of Motor Manufacturers and Traders (SMMT)

VI. Conclusion

In this paper all the car models have been selected and their costs, capacities as per wattages, miles, and power have been checked and compared so that the performance can be evaluated for future energy consumption through stabilization measures. The paper clearly reveals that we are in a search of these electric products which can minimize the environmental pollution by minimizing the use of fossil fuels and also, we can handle the future energy crises with these electric vehicles.



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A CIRCUMSTANTIAL STUDY ON HANDOVER MECHANISM IN MANET'S FOR DISTRIBUTED MOBILITY MANAGEMENT (DMM)

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Abstract: Mobile Adhoc Networks are one of the emerging mechanisms in wireless networks, here an on demand network will be formed when it is required. One of the main concept regarding MANETS are network issues. Handover over technique was one mechanism used to handle the network issues in the MANETS. Here we have discussed various theories regarding network issues.

Keywords: MANETs, SDN,sink protocol etc.,

Introduction of Mobile Ad hoc Network (MANET):

MANET stands for Mobile adhoc Network also called as wireless adhoc network or adhoc wireless network that usually has a routable networking environment on top of a Link Layer ad hoc network.. They consist of set of mobile nodes connected wirelessly in a self configured, self healing network without having a fixed infrastructure. MANET nodes are free to move randomly as the network topology changes frequently. Each node behave as a router as they forward traffic to other specified node in the network [2][7].

MANET may operate as standalone fashion or they can be the part of larger internet. They form highly dynamic autonomous topology with the presence of one or multiple different transceivers between nodes. The main challenge for the MANET is to equipped each devices to continuously maintain the information required to properly route traffic. MANETs consist of a peer-to-peer, self-forming, self-healing network MANET's circa 2000-2015 typically communicate at radio frequencies (30MHz-5GHz). This can be used in road safety, ranging from sensors for environment, home, health, disaster rescue operations, air/land/navy defense, weapons, robots, etc [2][7].

Characteristics of MANET [1]–

- **Dynamic Topologies:** Network topology which is typically multihops, may change randomly and rapidly with time, it can form unidirectional or bi-directional links.
- **Bandwidth constrained, variable capacity links:** Wireless links usually have lower reliability, efficiency, stability and capacity as compared to wired network. The throughput of wireless communication is even less than a radio's maximum transmission rate after dealing with the constraints like multiple access, noise, interference conditions, etc.
- **Autonomous Behaviour:** Each nodes can act as a host and router, which shows its autonomous behaviour.



- **Energy Constrained Operation:** As some or all the nodes rely on batteries or other exhaustible means for their energy. Mobile nodes are characterized with less memory, power and light weight features.
- **Limited Security:** Wireless network are more prone to security threats. A centralized firewall is absent due to its distributed nature of operation for security, routing and host configuration.
- **Less Human Intervention:** They require minimum human intervention to configure the network, therefore they are dynamically autonomous in nature[1].

Challenges in MANET[1]:

A. Autonomous-

No centralized administration entity is available to manage the operation of the different mobile nodes.

B. Dynamic topology-

Nodes are mobile and can be connected dynamically in an arbitrary manner. Links of the network vary timely and are based on the proximity of one node to another node

C. Device discovery-

Identifying relevant newly moved in nodes and informing about their existence need dynamic update to facilitate automatic optimal route selection.

D. Bandwidth optimization-

Wireless links have significantly lower capacity than the wired links. Routing protocols in wireless networks always use the bandwidth in an optimal manner by keeping the overhead as low as possible. The limited transmission range also imposes a constraint on routing protocols in maintaining the topological information. Especially in MANETS due to frequent changes in topology, maintaining the topological information at all nodes involves more control overhead which, in turn, results in more bandwidth wastage [1].

E. Limited resources –

Mobile nodes rely on battery power, which is a scarce resource. Also storage capacity and power are severely limited.

F. Scalability

Scalability can be broadly defined as whether the network is able to provide an acceptable level of service even in the presence of a large number of nodes.

G. Limited physical security-

Mobility implies higher security risks such as peer-to- peer network architecture or a shared wireless medium accessible to both legitimate network users and malicious attackers. Eavesdropping, spoofing and denial-of-service attacks should be considered.

H. Infrastructure

less and self operated- Self healing feature demands MANET should realign itself to blanket any node moving out of its range.

I. Poor Transmission Quality

This is an inherent problem of wireless communication caused by several error sources that result in degradation of the received signal.



J. Ad hoc addressing

Challenges in standard addressing scheme to be implemented. K. Network configuration- The whole MANET infrastructure is dynamic and is the reason for dynamic connection and disconnection of the variable links.

K. Topology maintenance

Updating information of dynamic links among nodes in MANETs is a major challenge[1].

Issues in MANETS:

If there are only two nodes to communicate with each other and are located very closely to each other, then no specific routing protocols or routing decisions are necessary. On the other hand, if there are a number of mobile hosts wishing to communicate, then the routing protocols come into picture, in this case some critical decisions have to be made such as which is the optimal route from the source to the destination which is very important because, the mobile nodes operate on battery power. Thus it becomes necessary to transfer the data with the minimal delay to loss less power. There will be kind of compression involved in which it could be provided by the protocol to loss less bandwidth. Further, there is need of encryption to protect the data from prying eyes. In addition to this, Quality of Service support is also needed so that the least packet drop can be obtained. The other factors which need to be considered while choosing a protocol for MANETs are as follows [1]:

i. Multicasting:

The ability to send packets to multiple nodes at once. This is similar to broadcasting except the fact that the broadcasting is done to all the nodes in the network. This is important as it takes less time to transfer data to multiple nodes.

ii. Loop Free:

A path taken by a packet never transits the same intermediate node twice before it arrives at the destination. To improve the overall performance in the routing protocol to guarantee that the routes supplied are loop free. This avoids any loss of bandwidth or CPU consumption.

iii. Multiple routes:

If one route gets broken due to some disaster, then the data could be sent through some other route. Thus the protocol should allow creating multiple routes.

iv. Distributed Operation:

The protocol should be distributed. It should not be dependent on a centralized node.

v. Physical security:

Mobile networks are more vulnerable to physical security threats such as eavesdropping and jamming attacks.

vi. On demand operation:

Since a uniform traffic distribution cannot be assumed within the network, the routing algorithm must adapt to the traffic pattern on a demand or need basis, thereby utilizing power and bandwidth resources more efficiently.

vii. Unidirectional Link Support:

The radio environment can cause the formation of unidirectional links. Utilization of these links and not only the bi-directional links improves the routing protocol performance.



viii. Entering/Departing nodes:

A routing protocol should be able to quickly adapt to entering or departing nodes in the network, without having to restructure the entire network [1].

Routing Protocol with Mobile Sink:

Wireless sensor network consists of large no of hub covered over wide area. Data is sent through these nodes from source to destination for this there will be routes which are dynamically keep on changing because of hubs or sensor failure. The wireless sensor networks application is keep on observing, controlling and updating. If any sensor is down, the sink response and communicate with the neighbouring sensor nodes. These wireless sensor networks works on batteries so the consumption of power by the sensors in the network should be minimal so that longer battery life can be achieved. For the sinking purpose tree based routing protocols are used in mobile sink, in the development of the tree a node is selected which is the relay node to get the list of neighbours nodes. load balancing of the tree reconstruction is used for the management of mobile sink. Clustering tree based routing protocol is more flexible for heat sink and the path length of the route is comparable less, the framework of the this tree protocol is based on the problem divided into networks that are evaluated as distinct and the meetings are surrounded by each system ,the system combines the choice of head of the cluster and the process of union between head of the event of individual group. The control system exchanges the support, relay sink, tree development and maintenance. It is called routing overhead and direct effects on frame life of the proposed plan framework [4].

Distributed mobility management (DMM), which is a promising mobility management protocol, is designed for fattening the network architecture to resolve the problems of scalability and reliability existed in mobile Internet. Although software defined network (SDN) has been applied to network-based mobility management protocols to enhance the performance, the current network-based mobility management schemes still suffer the high signaling cost, handover delay and packet loss during the handover processing. In this paper, an software defined network (SDN)-based fast handover with the optimal routing control method for distributed mobility management (DMM) was proposed. SDN-FHOR-DMM can (i) let MNs have the higher chance of being in the predictive mode, in which the handover preparation processing can be finished before MN disconnecting from the current Mobility Anchor and Access Router's (MAAR's) domain and connecting with the new MAAR's domain, (ii) support the optimal routing between MN and corresponding node (CN) through the help of the SDN Controller to have the optimal transmission path for the on-going packets from CN to MN to improve the handover performance. The performance analysis has shown that the proposed SDN-FHOR-DMM method has the better performance than the traditional DMM method and other method in terms of signalling overhead, handover latency, throughput and packets loss[4]. IETF has developed and standardized a network-based DMM protocol called the partial DMM[4].

The fundamental concept of the traditional partial DMM method is to centralize the control plane and to distribute the data plane among several mobility anchors .The role of handover mobility manager for the IPv6 prefixes and forwarding packets to a new MAAR through an established tunnel for MN. For the partial DMM method, the control



plane has the Centralized Mobility Database (CMD) to handle session managing, to store the binding cache entry (BCE) allocated for MNs, and to provide the requested MN's mobility context for updating the network routing state of MN. CMD's main functionalities are storing MNs' ongoing mobility sessions and storing the current HNPs assigned to MNs. CMD executes the handover processing by sending and parsing proxy binding update (PBU) messages and proxy binding acknowledgement (PBA) messages with MAARs[4].

Software-defined networking (SDN) technology is an approach to network management that enables dynamic, programmatically efficient network configuration in order to improve network performance and monitoring, making it more like cloud computing than traditional network management. SDN is meant to address the fact that the static architecture of traditional networks is decentralized and complex while current networks require more flexibility and easy troubleshooting. SDN attempts to centralize network intelligence in one network component by disassociating the forwarding process of network packets (data plane) from the routing process (control plane). The control plane consists of one or more controllers, which are considered the brain of the SDN network where the whole intelligence is incorporated. However, the intelligent centralization has its own drawbacks when it comes to security, scalability and elasticity and this is the main issue of SDN[6].

SDN was commonly associated with the OpenFlow protocol (for remote communication with network plane elements for the purpose of determining the path of network packets across network switches) since the latter's emergence in 2011. However, since 2012 OpenFlow for many companies is no longer an exclusive solution, they added proprietary techniques. These include Cisco Systems' Open Network Environment and Nicira's network virtualization platform. SD-WAN applies similar technology to a wide area network (WAN) SDN technology is currently available for industrial control applications that require extremely fast failover. One company boasts 100x Faster Failover for Mission-critical processes (fails over in less than 100 μ s, compared to 10 ms for traditional networks) along with the elimination of certain Cyber Vulnerabilities that are associated with traditional network management switches[6].

Research of SDN continues as many emulators are being developed for research purposes, like vSDNEmul,EstiNet,Mininet etc[6].

Mobility management applied to the traditional architecture of the Internet has become a great challenge because of the exponential growth in the number of devices that can connect to the network. This article proposes a Software Defined Networking (SDN) based architecture, called SDNDMM (SDD Distributed Mobility Management) that deals with the distributed mode of mobility management in heterogeneous access networks in a simplified and efficient way, ensuring mainly the continuity of IP sessions. Intent based mobility management with an IP mapping schema for mobile node identification offers optimized routing without tunnelling techniques, hence, an efficient use of the network infrastructure. The simplified mobility control API reduces both signaling and handover latency costs and provides a better scalability and performance



in comparison with traditional and SDN based DMM approaches. An analytical evaluation of such costs demonstrated the better performance of SDNDMM, and a proof of concept of the proposal was implemented in a real environment[6].

Mobility management solutions lie at the center of the wireless Internet and enable mobile devices to partake in IP networks anytime and anywhere. The IETF Distributed Mobility Management (DMM) working group (WG) specifies solutions for IP networks so that traffic between mobile and correspondent nodes can take an optimal route. DMM solutions aim for transparency above the IP layer, including maintenance of active transport level sessions when mobile hosts or mobile networks change their point of attachment to the Internet. Wireless network deployments have traditionally relied on hierarchical schemes that often lead to centralized deployment models, where a small number of mobility anchors manage both mobility and reachability for a mobile node. The DMM WG will consider the latest developments in mobile networking research and operational practice (i.e. flattening network architectures, the impact of virtualization, new deployment needs as wireless access technologies evolve in the coming years) and will describe how distributed mobility management addresses the new needs in this area better than previously standardized solutions. A topic of particular focus will be mobility anchoring in this new context, and the DMM working group is chartered to work on maintenance-oriented extensions of the Mobile IPv6 protocol family (RFC 5213, RFC 5844, RFC 5555, RFC 5568, and RFC 6275) as well as new approaches which capitalize on other protocols specified by the IETF. For example, mobility management in a limited area, such as within an autonomous system, is not strictly limited to mentioned IP mobility protocols but can be any existing or a new protocol solution enabling the movement of a mobile node such as routing protocols. When extending protocols that are not based on Mobile IP, DMM solutions will have to be reviewed by the corresponding WGs. IPv6 is assumed to be present in both the mobile host/router and the access networks. DMM solutions are primarily targeted at IPv6 deployments and are not required to support IPv4, in particular for the case where private IPv4 addresses and/or NATs are used. DMM solutions must maintain backward compatibility: If the network or the mobile host/router does not support the distributed mobility management protocol that should not prevent the mobile host/router gaining basic access (i.e., nomadic) to the network[6].

Contrary to earlier IP mobility protocols, mobility management signalling paths and end-user traffic forwarding paths may differ. Further, mobility-related functions may be located in separate network nodes. DMM solutions should not distinguish between physical or virtualized networking functions. Whenever applicable, clarifications and additional features/capabilities for specific networking function deployment models, e.g. in virtualized environments, are in-scope and encouraged. Solutions may also specify the selection between the care-of addresses and home address (es) / prefix(es) for different application use cases. The working group will produce one or more documents on the following work item topics[6].



Distributed mobility management deployment models and scenarios: describe the target high-level network architectures and deployment models where distributed mobility management protocol solutions would apply [6].

Enhanced mobility anchoring: define protocol solutions for a gateway and mobility anchor assignment and mid-session mobility anchor switching that go beyond what has been specified, for example, in RFC 6097, 6463, and 5142. Traffic steering associated with the anchor switch is also in-scope if deemed appropriate [6].

Forwarding path and signalling management: the function that handles mobility management signalling interacts with the DMM network elements for managing the forwarding state associated with a mobile node's IP traffic. These two functions may or may not be collocated. Furthermore, the forwarding state may also be distributed into multiple network elements instead of a single network element (e.g., anchor). Protocol extensions or new protocols will be specified to allow the above mentioned forwarding path and signalling management [6].

Exposing mobility state to mobile nodes and network nodes: define solutions that allow, for example, mobile nodes to select either a care-of address or a home address depending on an application's mobility needs. In order to enable this functionality, the network-side control functions and other networking nodes must also be able to exchange appropriate control information, as well as to the mobile nodes and their applications [6].

The working group may decide to extend the current milestones based on the new information and knowledge gained during working on other documents listed in the initial milestones. Possible new documents and milestones must still fit into the overall DMM charter scope as outlined above [6].

CAN Protocol

The main advantage of CAN Bus was it is a Multi-master capable communication which means it can be implemented on multiple Base stations and cover large range areas and the data can be exchanged between participants, Field devices and control stations [5].

PRIMITIVE SYSTEM: The handoff in a cellular network is like a hexagonal cell is allotted with a list of potential target cells. When a call came from more than one factor then signal in the source cell is monitored and accessed by a handover because the call must be taken [5].

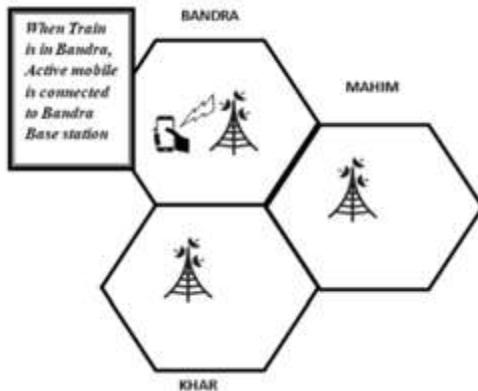


Fig 1: call progress in bandra

If the user travels in train, when the user reaches Bandra, he will get a call, it is served by Bandra base station. when the train is moving then the user position will get changed he will reach at a point where Bandra base station signal gets weak and it no longer can serve the user. The Signal is monitored and assessed by the handover it take place from the base station whose signal is stronger than Bandra base station. During the handover process was not implemented properly then the call may drop from it. It occurs due to low frequency signals from the adjacent towers. When the user reaches the Mahim station then the call is served by corresponding base station. A handoff can be requested by the Mobile user or a BTS [5].

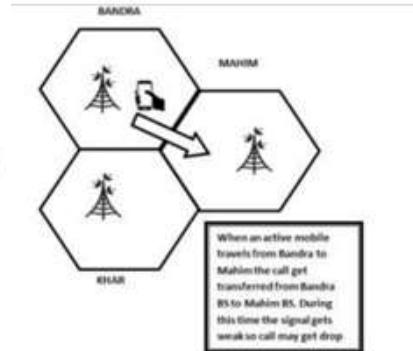


Fig 2: Typical Handover situations

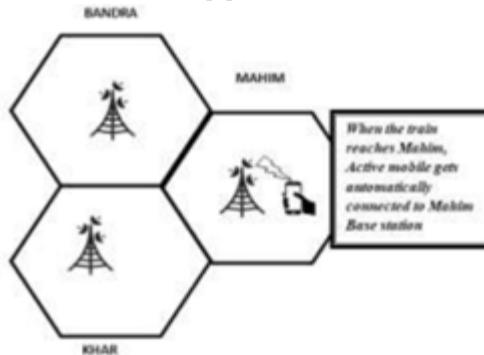


Fig 3: call progress in Mahim

Proposed system using can protocol [5]:-

CAN Protocol:- A Controller Area Network (CAN bus) is a robust vehicle bus standard designed to allow microcontrollers and devices to communicate with each other's applications without a host computer. It is a message-based protocol, designed originally for multiplex electrical wiring within automobiles to save on copper, but can also be used in many other contexts. For each device the data in a frame is transmitted sequentially but in such a way that if more than one device transmits at the same time



the highest priority device is able to continue while the others back off. Frames are received by all devices, including by the transmitting device..

Need of control area network in our system [5]: - In cellular communication the users send messages from base station according to their position. The signal came from the base station may request to take or make a call.

Advantage of can protocol [5]:-

1. It is very cheap to implement.
2. It is reliable with appropriate error detection.
3. We can connect or disconnect in any mode.

CONCLUSIONS:

In coming years, mobile computing will keep flourishing, and an eventual seamless integration of MANET with other wireless networks, and the fixed Internet infrastructure, appears inevitable. The opportunity and importance of ad hoc networks is being increasingly recognized by both the research and industry community. In moving forward towards fulfilling this opportunity, the successful addressing of open technical and economic issues will play a critical role in achieving the eventual success and potential of MANET technology. Much work remains to be done on cost-effective implementation issues to bring the promise of ad hoc networks within the reach of the public.

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CONTRIBUTION OF MAULANA ABUL KALAM AZAD TOWARDS AN ALL-INCLUSIVE POLICY OF EDUCATION

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ABSTRACT

India at the time of independence was a society riddled with differences because of caste, creed, and gender. Education was mostly restricted to upper caste males, although social reformers across the country were calling for equality. Abul Kalam was sensitive to the needs of the destitute and sought to do away with the inequalities prevalent at that time. It was Abul Kalam who first raised the issue of the National System of Education, which was the foundation of the National Policy on Education 1986 that called for equality and quality of education to all students irrespective of caste, creed, location, or gender. Maulana Azad was one of the uncommon identities raised for a learning society through liberal way, present day and all inclusive instruction consolidating the humanism of Indian expressions and the logic of western sciences a general public where the powerless secure, where the young is restrained and the ladies lead an existence of nobility. The objective of the paper is to study how Abul Kalam was the first to raise the issue of the National System of Education which is today the bedrock of the National Policy on Education (1986) refreshed in 1992. The concept implies that, up to a given level, all students, irrespective of caste, creed, region, or gender have access to education of a comparable quality.

Keywords: National System of Education, National Policy on Education, equality and quality of education, education system.

INTRODUCTION:

India at the time of independence was a society riddled with differences because of caste, creed, and gender. Education was mostly restricted to upper caste males, although social reformers across the country were calling for equality. Abul Kalam was sensitive to the needs of the destitute and sought to do away with the inequalities prevalent at that time. It was Abul Kalam who first raised the issue of the National System of Education, which was the foundation of the National Policy on Education 1986 that called for equality and quality of education to all students irrespective of caste, creed, location, or gender. Azad was known as the face of communal harmony and advocated a unified nation where Hindus and Muslims can co-exist and prosper together. He preferred humanism over uncompromising rationalism and also struck a balance between traditionalism and modernism. Maulana Azad as a great versatile genius created a clear



distinction between the three reformist trends of modernism, nationalism and fundamentalism.

Maulana Azad became the first Minister of Education in independent India. He served in the Constituent Assembly formed to draft India's constitution and was elected to the Lok Sabha in 1952 and in 1957. In 1956, he served as president of the UNESCO General Conference in Delhi. He was the Chairman of the Central Advisory Board of Education where he gave thrust to adult literacy, universal primary education, free and compulsory for all children up to the age of 14, girls' education, and diversification of secondary education and vocational training in addition to scientific education.

He oversaw the setting up of the Central Institute of Education, Delhi, as "a research centre for solving new educational problems of the country". Under his leadership, the Ministry of Education established the first IIT in 1951 and the UGC in 1953 and also promoted research. He laid emphasis on the development of the Indian Institute of Science, Bangalore. He foresaw a great future in the IITs for India and envisioned that the establishment of this institute will prove a landmark in the progress of higher technological education and research in the country. Azad believed and stressed that we must not for a moment forget, it is a birthright of every individual to receive at least the basic education without which one cannot fully discharge ones duties as a citizen.

Azad which were inevitable in laying down the foundation for Nation Building Process. It comprises diverse issues of Maulana Azad's vision about Nation Building:

- Vision of Maulana Azad for Post-Independence Nation Building
- The mass communicator - through journals and print media communications
- Understanding politico-economic dominions of post-Independence India
- Beginning of the end of the British Raj: Friendship and faith with Gandhi, Nehru & Patel
- Post-Independence nationalism, decentralization and provincial autonomy - a solution to satisfy political aspirations of states and communities.

CONTRIBUTION OF MAULANA AZAD IN SHAPING AN ALL-INCLUSIVE POLICY OF EDUCATION:

It was his early efforts that helped shape an all-inclusive policy of education, the benefits of which being reaped today. For democratic approach and universalization of education, he focused on following issues:

1. Primary education all over the country
2. There should be three languages, the state languages and Hindi will be medium for instruction but English will be as an important second language.
3. Universalization of elementary education, that means elimination of illiteracy up to secondary standard and education for adults and women.



Maulana Azad was one of the uncommon identities raised for a learning society through liberal way, present day and all inclusive instruction consolidating the humanism of Indian expressions and the logic of western sciences a general public where the powerless secure, where the young is restrained and the ladies lead an existence of nobility. He was the first to raise the issue of the National System of Education which is today the bedrock of the National Policy on Education (1986) refreshed in 1992. The concept implies that, up to a given level, all students, irrespective of caste, creed, region, or gender have access to education of a comparable quality. Every single instructive program he said must do in strict congruity with common esteems and established system. He remained for a typical instructive structure of 10+2+3 throughout India. In case Maulana Azad were alive today, he would have been the most joyful to see the Right to Free Education Bill implemented in India. The Right to Education Bill gives right to every Indian child free and compulsory education up to elementary level. The great visionary Maulana Azad contributed the idea of Neighborhoods schools and the Common School System. In the meeting of the Central Advisory Board Education in January 1949, he talked about the National Approach of Government towards the Education. He presented:

“The first and foremost task of the National Government is the provision of free and compulsory basic education for all.”

This golden dream of Azad converted into reality now as the historic RTE Act 2009, which makes free and compulsory primary education for children between 6 to 14 years. According to him, the planning of education at the national level was more important than economic and industrial planning. He put that if education could not inculcate right values and ideas. Then welfare and security of the state will be meaningless. Azad’s commitment to provide secular, liberal, modern, and universal education is relevant today and continues to guide us for achieving education for all. The contribution of his education policy was his conviction that democracy cannot function without the eradication of illiteracy. His philosophy on education has reflected in the National Policy on Education and remained a corner stone for many commissions and committees that built upon the broad framework of that policy.

CONTRIBUTION OF MAULANA AZAD ON VARIOUS EDUCATIONAL CHANGES AND MEASURES OF RECONSTRUCTION OF NATIONAL LIFE:

Maulana Azad’s policies were not restricted to mass-based education alone, rather he appreciated the need for setting up centres of excellence in diverse fields. Apart from the *University Grants Commission* (UGC), he also set up the *Indian Council for Cultural Relations* (ICCR) that has made a significant contribution in the academic growth of the country. He also assisted Jawaharlal Nehru in establishing the *Council of Scientific and Industrial Research* (CSIR) that helps carrying out some pioneering research in science. He also strengthened the *All India Council for Technical Education* gauging the need for technical and vocational skills that would be needed in building a nation. The tremendous economic growth witnessed over the past couple of decades would not have been possible without our engineers and technically



skilled workers. During his tenure as education minister, the Indian Institute of Technology (IIT) was established in Kharagpur in 1951, followed by similar institutes in Mumbai, Chennai, Kanpur, and Delhi. Even today, the IITs considered premier institutions of higher education not just in India, but the all over the world. Along with science and technology, and the social sciences, Maulana Azad laid equal emphasis on art, music, and literature. He founded the *Sangeet Natak Academy* in 1953, *Sahitya Academy* in 1954, and the *Lalit Kala Academy* in 1954 that protected and promoted Indian Culture over the decades.

Maulana Azad also focused about girl's education, vocational training, agricultural education, and technical education. All this has found a place in the agenda of Government of India today. This shows the great visionary power he had and how relevant it is today. He established UGC for disbursement of grants and maintenance of standards in Indian universities. He firmly believed with Pt. Nehru that if the universities discharged their functions well, all will be well with the Nation. Even today 70 years after the independence we are talking the same. According to him, the universities have not only academic functions; they have social responsibilities as well. This is very true even today. He was pioneer in the field of adult education. Now we realized how important it is. He realized it seven decades ago. His greatest contribution, however, is that in spite of being an eminent scholar of Urdu, Persian, and Arabic, he stood for the retention of English language for educational advantages and national and international needs. Its relevance can be seen in the decision of government regarding starting English subject, semi English medium, starting more English medium schools in different parts of the country. Imparting primary education in mother tongue also found to be relevant even today. He said, "*What worries me most is that the extent and magnitude of the student's unrest is very often without any relation whatsoever to the supposed cause.*" It seems hundred percent true in current scenario.

The contribution to education of Maulana Azad can be studied in two different ways. One may be the study of his general educational ideas as derived from his basic philosophy of life and the other may be the various educational changes and measures of reconstruction in making education adequately responsive to the needs and challenges of the national life.

CONTRIBUTION OF MAULANA AZAD ON CURRICULUM:

Maulana was clear that content and curriculum of education at every level has to be distinctively different from what it used to be in the colonial era and it should address to the objectives of education defined by him. He repeatedly stressed following ideas to alter and enrich the content and scope of curriculum.

1. Educational standards needed to be raised at the university stage and curricula should be broadened and enriched.
2. Adult literacy and social education programmers should be suitably devised so as to create awareness and productivity.



3. Women's education should be given special attention.
4. The needs of rural areas with emphasis on agriculture and craft should be given due focus.
5. Physical education, recreation, and opportunities for games and sports should be incorporated at all levels.
6. Research and evaluation should test the effectiveness of curriculum and guide for future educational planning.

CONTRIBUTION OF MAULANA AZAD ON PEDAGOGY:

Maulana repeatedly stressed following ideas for our school teachers to acquire these seven pedagogic skills to be effective classroom "skilled teachers.

1. Classroom communication for effective oral communication,
2. Effective use of board for visual communication,
3. Questioning for initiation of pupils' thinking on the topic or concept being taught,
4. Explaining for developing understanding of the concept,
5. Illustrating with examples for better understanding,
6. Reinforcement for strengthening the learning,
7. Regulating attending behaviour for securing and sustaining learners' attention which is basic for any learning.

CONCLUSION:

Azad Vision yielded many public policy initiatives such as the creation of Central and State lists for administering welfare activities and also left an undying impact on both higher level and mass education system across India. Azad's life and works call for re-visiting and re-evaluation again and again by the new generations of India. Maulana Abul Kalam Azad, a multi-dimensional personality, bloomed into a valiant freedom fighter; an apostle of Hindu -Muslim unity and one of the pioneer nation builders of modern India. He is remembered in the history of India not only for the role he played in the freedom struggle of the country, but also as the first Education Minister of independent India. He made exemplary contributions in nation-building leaving his indelible imprints in the field of education. He believed that materialization of India as a developed nation is possible only through unity, solidarity and communal harmony.

Maulana Azad visualized that nation building is possible only through holistic and secular education and communal harmony. He kept on promoting and protecting the secular character of the nation despite adverse situations and resistance from within and outside India. He designed the education policy of the country. His secular, liberal, modern and universal education is relevant even today. His vision paved the way for achieving education for all. The clue of his education policy was his conviction that democracy cannot function without the eradication of illiteracy. He realized that the introduction of adult franchise needed a national programme of mass education.



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INTRAUTERINE FETAL RESUSCITATION, A MIDWIFE'S ROLE

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Abstract:-

Labor is a life threatening event in women's life. In underdeveloped countries, the Perinatal mortality due to intrapartum events is high. Non reassuring fetal status or fetal distress is a serious obstetrical emergency. If not intervened, it causes intrapartum mortality or morbidity. Fetal distress accounts for 40% of instrumental deliveries and 30% of cesarean sections. The goal of intrapartum fetal resuscitation is to optimize the fetal condition in utero, so that labor may continue safely or improve fetalwell being prior to emergency delivery. Fetal distress - progressive fetal asphyxia, if not corrected or circumvented will result in decompensation of physiologic responses and cause permanent central nervous system damage or death.

Keywords:-Perinatal mortality, fetal distress, fetal hypoxia, decompensation

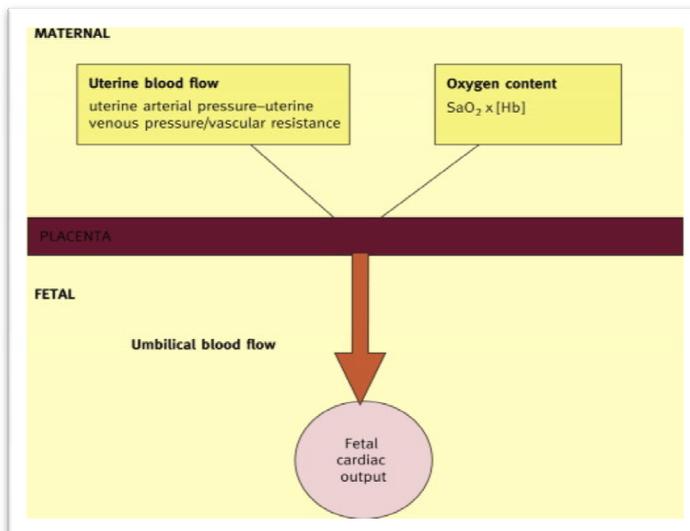
The delivery of oxygen to the fetus is dependent on adequate maternal blood oxygen concentration, uterine blood supply, placental transfer and fetal gas transport. Any disturbance in these factors, singly or together , may result in progressive fetal hypoxia and acidosis. The term fetal distress is non-specific but is typically applied to certain characteristic features on electronic fetal monitoring, confirmed if possible by fetal blood sampling. The aim of intrauterine fetal resuscitation (IUF) measures is to extend oxygen delivery to the placenta and umbilical blood flow in an effort to reverse fetal hypoxia and acidosis, so that labour may continue safely or to enhance the fetal condition whilst arranging urgent delivery. IUF measures include maternal re-positioning into left lateral (or alternatives, i.e. right lateral or knee-elbow if necessary), maternal oxygen administration at 15 litres/minute via non-rebreathing mask, rapid infusion of 1000 ml crystalloid (except in fluid restricted or pre-eclamptic patients), reducing uterine contractions by stopping oxytocics and administering acute tocolytics (terbutaline 250 µg subcutaneously or intravenously (IV), nitroglycerin 60–180 µg IV or sublingual spray, two puffs). A vasopressor (i.e. ephedrine) may be required in cases of maternal hypotension.

Etiology owing to fetal distress leads to fetal hypoxia :-

Systemic causes:

- Respiratory decompression
- Cardiac failure
- Chest infection

- Hypertension
- Eclampsia
- Hemorrhage and shock
- Spinal anesthesia
- Supine hypotension
- Severe anemia
- Maternal acidosis



Uterine causes:

- Prolonged labor
- over use of oxytocin

Cord and placental causes:

- Abruption placenta
- Placental insufficiency
- Cord prolapse
- Entanglement of cord

Fetal causes:

- Excessive moulding
- Fetal congenital heart lesions

Diagnosis

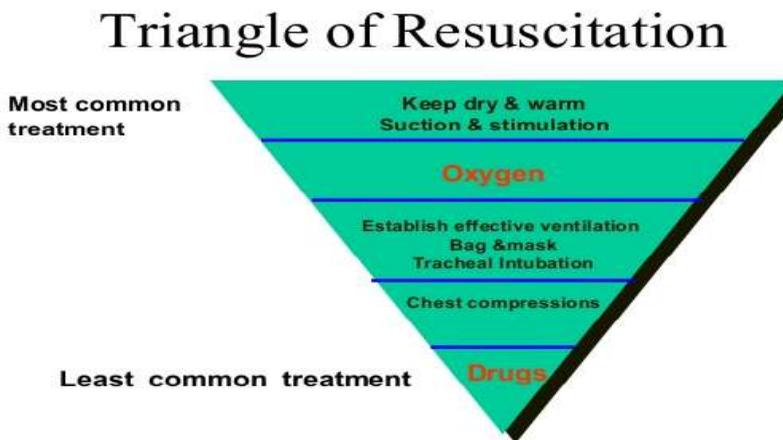
- Meconium stained amniotic fluid

- Intermittent or continuous fetal heart rate monitoring
- Fetal blood sampling

Resuscitative measures

Several resuscitative measures have been shown to be beneficial in the presence of fetal heart rate abnormalities or non reassuring fetal status. Often a combination of these measures is required to effect resuscitation. These may produce long lasting effect allowing the labor to continue or allowing optimal arrangement made for operative delivery.

Following are few resuscitative methods.



Changing maternal position - Improving blood supply to the uterus

Maternal position can influence fetal well being without uterine contraction. Change in maternal position improves blood supply to the uterus. Aorta caval compression describes compression of the inferior vena cava and the aorta by the gravid uterus in women at term. Acute fetal distress can be caused by hypo perfusion to the aorta caval compression. Encouraging the mother to be ambulant minimizes the incidence of supine hypotension. When fetal heart rate abnormality is noted in women with supine position, merely changing position to left or right lateral position restores the venous return and uterine perfusion. Left lateral tilt is better for fetus. This tilt to 30 degree during labor, if applied correctly during labor, reduces inferior vena cava compression.

Stopping uterine contraction - Improving placental perfusion

Uterine contraction causes cessation of maternal intervillous placental blood flow resulting in relative fetal hypoxia with recovery taking 60 - 90 seconds. Reducing contractions and increasing the relaxation time alleviates distress. In case of uterine



hyper stimulation where the uterine contraction is very frequent, the fetus is at risk for hypoxemia. Oxytocin infusion is the main cause of uterine hyper stimulation resulting in fetal distress. Reducing the frequency and intensity of uterine contraction will improve placental perfusion. This is achieved either by reducing or discontinuing oxytocin infusion or administering tocolytic drugs (terbutaline is commonly used).

Pacheco et al(2006) showed that subcutaneous terbutaline without discontinuation of oxytocin is more effective. Nice (2000) currently recommends a subcutaneous dose of 250 mcg of terbutaline.

Intravenous fluids - Hydration

Intravenous crystalloids increases maternal arterial blood pressure and placental site blood flow and decreased vascular resistance. A bolus of 500 ml of lactate ringer solution over 20 minutes significantly increases fetal oxygen saturation.

Maternal hypovolemia can decrease utero placental blood flow resulting in fetal distress. Assessing for dehydration and hydrating the mother with oral fluids and intravenous fluids helps to treat hypovolemia. Glucose containing fluids should be avoided because it causes increase fetal lactate and leads to acidosis

Amnioinfusion - Improving funic blood flow

The umbilical cord is prone for compression during uterine contraction when there is oligohydramnias. Cord compression causes fetal heart rate abnormality. When maternal reposition fails to resolve cord compression, amnioinfusion is given. Instillation of normal saline or ringer lactate solution through a catheter into the uterine cavity is called amnioinfusion. Amnioinfusion prevents or relieves umbilical cord compression and reduces the incidence of variable fetal heart deceleration. The volume of saline depends on the degree of oligohydramnias. The complications include uterine over distension, cord prolapse, amniotic fluid embolism.

Maternal oxygenation

Maternal oxygen administration is a traditional management, perceived that increased maternal oxygen saturation leads to increased fetal oxygen supply by increasing the oxygen from mother to the baby. Currently there is no evidence to support the use of maternal oxygen therapy in the management of non reassuring fetal status (Hofmeyer 2000).

Nurse's/Midwives role

- Monitoring fetal heart rate periodically
- Ambulating the mother in first stage of labor
- Encouraging left lateral position
- Changing the mother to right or left lateral position if fetal heart rate abnormality is noted
- Maintaining left lateral tilt to 30 degree in laboring women
- Hydrating the mother adequately in labor
- Assessing the color and amount of liquor after rupture of membranes



- Monitoring uterine contractions periodically to exclude uterine hyper stimulation
- Administering tocolytic with doctor's order in case of uterine hyper stimulation
- Maintaining oxytocin infusion as per the order
- Discontinuing oxytocin infusion when there is hyper stimulation and fetal heart rate abnormality
- Administering intravenous fluids to hydrate the mother in case of dehydration and fetal heart abnormality with doctor's order
- Assisting with amnioinfusion
- Administration of oxygen to the laboring women if indicated with the physician's order

Conclusion

Fetal resuscitation may improve fetal conditions in many cases. It helps to 'buy time' to optimize fetal condition while preparing for an impending delivery or emergency cesarean section. Nurses play a very important role in intrapartum care. Neonatal mortality and morbidity can be prevented to a greater extent with good intrapartum monitoring. Knowledge and skills are required for nurses who provide intrapartum care to identify and manage fetal distress. Nurses should be trained in maternal, fetal and neonatal resuscitation techniques, and should maintain their skills with regular updating which will bring good outcomes in laboring women.

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IMPACT OF EDUCATIONAL ADVERTISEMENTS THROUGH SOCIAL MEDIA ON YOUTH WITH SPECIAL REFERENCE TO PROFESSIONAL COURSE STUDENTS IN VISAKHAPATNAM

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Abstract

The present study was an attempt to ascertain the Impact of Educational Advertisements through Social Media on Youth with Special Reference to Professional Courses Students. Various Indian and foreign studies were reviewed. The main aim of this research was to find out the attitude and behaviour change in Professional students of Visakhapatnam regarding advertisements on social media. Descriptive Survey method has been used in this study. The sample consists of 300 Professional course students from Visakhapatnam district. The investigator used a stratified random sampling technique for selecting the sample. The questionnaire was constructed for the Professional course students to find out the opinions of students on the Impact of Educational Advertisements through Social Media on Youth with Special Reference to Professional Courses Student. Data was collected through different means some of them are 1) Personal administration of questionnaire with 300 professional students; 2) Secondary data collected from websites and journals; and 3) Informal interview, survey with individuals who use to follow ads. The data were analyzed using various statistical methods like Mean, Standard Deviation, t-test and F-test (ANOVA) by SPSS package. The mean score obtained by different groups is compared across the variables like age, gender, Caste, Religion, Family Income, Size of the family, Nativity, Educational Qualifications, and Occupation. The results are discussed in light of previous research studied; Implications and Recommendations for further research were also suggested.

Keywords: Advertising, Social Media, Professional Course, Students, Visakhapatnam

Introduction

Advertising is the means of informing as well as influencing the general public to buy a product or services through visual or oral messages. The advertising message is considered as an important component in the advertising communication process. It is the thought, idea, attitude, image, or other information that the advertiser wish to convey to the target audience. How an advertising message is presented is critically important in determining its effectiveness. An ideal advertising message should command and draw



attention, hold the interest, arouse desire for possession of the product, and elicit an action (Gupta,2012). The effectiveness of an advertising message depends to a large extent on its visual contents. The advertiser must locate an appeal, theme, idea or a unique selling proposition. An advertising appeal refers to the approach used by an advertiser to attract the attention or interest of the consumer and influence their feelings towards the product, service or idea. Through the use of different kinds of appeals, advertising attempts to persuade and influence. The visual and non-verbal elements in advertising play a dominant role in attracting consumers. A good number of advertisements uses very little written information and mainly focus on the visual elements to convey the message. The visual elements used in the advertisements not only convey the information but also reinforce the advertising claims. Audiences often develop impressions or image based on certain illustrations and pictorial representation depicted in advertisements which increases immediate recall value. It ensures good connectivity and trust between the advertiser and the consumers and adds value to the product. Since the advertiser expects to create a favourable attitude about the product which will lead to positive actions in the mind of the consumer, a unique visual attribute is required to enhance the taste and acceptance of the consumer about the product thus advertised. The study focuses on the application and relevance of two distinct visual elements - cartoons and caricatures, which need to be discussed for a better understanding of the application and importance of humour in Indian advertising.

Impact of Educational Advertisement through Social Media on Youth

Social media advancement has deeply transformed the communication landscape picture. Social media is the name of the social networking sites such as Facebook, Twitter, LinkedIn, Myspace and blogs, these websites are the important websites for companies so they can maintain direct relationships with their customers. Companies have built entire departments who design and control social media according to their companies needs and promotional activities. Social media is different from traditional media because it is generated by users of these websites and users have more control over its use and they also generate content by themselves at times. According to Tuten, if social media became a part of a promotional campaign it can increase brand awareness and it can also improve its image and reputation. He has also mentioned that the traffic to a retail website can be increased, there could be an increment in the sales and overall basic advertisements strategy could be enhanced. To conduct information searches about a product and to make purchasing decisions customers are attracting to several types of social media on the internet.



Need and Importance of the study

Social media refers to all applications and websites or blogs that enable people around the globe to interconnect via the internet, chat, and share content, video call among many other functionalities it offers to its users (Mageto, 2017). For a person to be a member of any social media, he or she has to first signup and then sign in to access content and be able to share and chat with other users of that social media platform. Some of the common and widely used social media platforms include Facebook, Twitter, WhatsApp, Snapchat many among others. The use of social media has both negative and positive impacts on our youths today. In this paper, I aim to bring to light the impacts of social media specifically to the youth of this generation. These impacts are both positive and negative. The positive impacts of social media on the youth today include making them update on the events happening around the globe and also enables the network and stay connected with their fellow youths and friends without physical meetings. Additionally, youths can create pages and groups in the social media platforms based on their professions, faith among other dimensions of their lives and this leads to more connections being built and more opportunities being opened for their respective disciplines. This can even lead to more employment opportunities being created for unemployed youths. Hence, the present study examines the Impact of Educational Advertisements through Social Media on Youth with Special Reference to Professional Course Students in Visakhapatnam.

Statement of Problem

This study aims to examine the attitude of professional course students towards the Impact of Educational Advertisements through Social Media on Youth targeted advertising on their homepage. It will measure the behavioural adaptations and changes in user's attitude towards these advertisements. There is a rise in advertisements of online social networks, and perception of professional course students regarding targeted messages on the popular network like Facebook is not known to a greater extent. Marketers should be enabled to reach users with relevant advertisements and personalized messages. Such targeting will increase the value of advertising for both advertisers and social network users.

Objectives of the study

- To study the Impact of Educational Advertisements through Social Media on Youth with special reference to professional course students in Visakhapatnam.
- To study the significant differences in the perceptions of the students towards Impact of Educational Advertisements through Social Media on Youth with special reference to professional course students in Visakhapatnam based on their socio-



economic backgrounds viz., Age, Gender, Caste, Religion, Family Income, Size of the family, Nativity, Qualification and Occupation.

- To find remedial measures to benefit the professional course students more from the provision.

Hypotheses of the present study

- There will be no significant difference in the perceptions of the students towards Impact of Educational Advertisements through Social Media on Youth with special reference to professional course students in Visakhapatnam basing on their socio-economic backgrounds viz., Age, Gender, Caste, Religion, Family Income, Size of the family, Nativity, Qualification and Occupation.

Review of Related Literature

Kuppuswamy and Narayan (2010) reviewed on “The Impact of Social Networking Websites on the Education of Youth”. Social networking websites like Orkut, Facebook, Myspace and Youtube are becoming more and more popular and has become part of daily life for an increasing number of people. Because of their features, young people are attracted to social networking sites. In this paper, the authors explore the impact of social networking sites on the education of youth. The study argues that these social networking websites distract students from their studies, but these websites can be useful for education based on sound pedagogical principles and proper supervision by the teachers. Moreover, the research concludes that social networking websites have both positive as well as the negative impact on the education of youth, depending on one’s interest to use it in a positive manner for his or her education and vice versa.

Ali Sarıkaş et al., (2016) studied on “Impact Of Advertisements In Social Media On Purchasing Behaviour Of Associate Students”. With the widespread use of smartphones, immediate access to information, rapid communication and social media with it, has led to changes in consumer shopping habits. Individuals are now questioning their purchasing decisions through social media, discussing within their communities or forming their preferences by advertising and campaigns of companies in social media. Companies which are aware of this, are making efforts to use social media most effectively. In this study, the impact of advertisements of companies in social media, also commonly used by university students, on the purchasing behaviour of consumers in this group was investigated. According to the results, in social media, students do research on products, gather preliminary information by following advertisements, are affected by the comments, and evaluate the recommendations. It was also observed that the positive effect on the purchasing behaviour answered by company officials to students’ questions or comments for any products.



Shabnoor Siddiqui and Tajinder Singh (2016) studied on “Social Media its Impact with Positive and Negative Aspects”. Social media is a platform for people to discuss their issues and opinions. Before knowing the aspects of social media people must have to know what is social media? Social media are computer tools that allow people to share or exchange information’s, ideas, images, videos and even more with each other through a particular network. In this paper, we cover all aspects of social media with a positive and negative effect. Focus is on a particular field like business, education, society and youth. During this paper, we describe how these media will broadly affect society.

Akashdeep Bhardwaj. and VinayAvasthi, Sam Goundar (2017) studied on “Impact of Social Networking on Indian Youth - A Survey”. The extensive use of Social Networking in India has been on the rise among the new generation youths. In today's world, life cannot be imagined without Facebook, YouTube, Instagram, What's App, LinkedIn or Twitter accounts and online handles. The new age social networking culture has been well accepted and has met an enthusiastic response and acceptance. There are reports of cultural changes and in the way, traditional interactions and social communications are conducted in India.

Variables: Age, Gender, Caste, Religion, Family Income, Size of the family, Nativity, Qualification and Occupation.

Design of the Study

The investigator followed the survey method of descriptive research. For this investigation, the questionnaire had been considered as a suitable tool for the collection of data.

Research Tool

The present investigation is collected from the perceptions of professional course students towards Impact of Educational Advertisements through Social Media on Youth, Questionnaire was constructed and administered to find out the Impact of Educational Advertisements through Social Media on Youth.

Sample

According to the research, the survey will be conducted amongst the (200) students one who belongs to professional courses from UG to PG courses which are located in Visakhapatnam district of Andhra Pradesh.

Statistical Techniques Used

The investigation has been carried out by the descriptive statistical analysis, such as calculating measures of central tendency like Mean and calculating measures of



dispersion like Standard Deviation. For testing the null hypothesis, the 't' - test and Analysis of Variance have been used by the investigator. The 't' test is used to test the null hypothesis when the data is correlated from matched groups. Analysis of (ANOVA) variance is used to find out the effect, if any, of the variables studied.

Data Analysis

Table 1: Mean, SD, and 'F'/'t' Values on the perceptions of Professional course students based on their Socio-Economic variables towards the Impact of Educational Advertisements through Social Media on Youth

Table with 6 columns: Variable, Category, Mean, S.D., F/t-value, p-value. Rows include Age, Gender, Caste, Religion, Family Income, Size of the Family, and Nativity.



Qualification	Under Graduation	22.23	6.67	3.40*	0.02
	Post Graduation	22.34	6.71		
	M.Phil. / Ph.D.	25.00	7.67		
	Professional Courses	27.20	6.92		
Occupation	Job	22.72	5.81	3.49*	0.02
	Business	24.58	6.95		
	Self Employed	23.86	6.46		
	Unemployed	21.93	6.84		

**Significant at 0.01, *Significant at 0.05 level and NS: Not Significant

Table 1 revealed that, the mean perceptual scores of students towards the Impact of Educational Advertisements through Social Media on Youth. The mean perceptual scores for below 15-20 years age group was 22.42, for 21 to 25 years age group students was 22.87 and it was for 26-30 years age group students was 20.43, whereas it is for the More than 30 years age group students was 19.67. The Standard Deviations for 15-20, 21-25, 26-30 and More than 30 years age group students were 7.10, 6.51, 3.69 and 4.03 respectively. The 'F'-value was 6.77 and the p-value was 0.00, which was statistically significant at 0.05 level. This shows that there is a significant difference among the perceptions of students based on their age group and 21-25 years age group students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of 15-20, 26-30 and more than 30 years age group students.

With regard to Gender revealed that, the mean perceptual score of male students was 24.05, whereas it is for the female category students was 20.83. The Standard Deviations for male and female students were 7.00 and 6.08 respectively. The derived t – value was 6.74 and the p-value was 0.00 which was statistically significant at 0.01 level. This shows that there is a significant difference between the perceptions of male and female students and male category students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of female category students..

With regard to Caste, the mean perceptual scores for OC caste students was 23.33, for BC caste students was 21.94 and it was for SC caste students was 19.54, whereas it was for ST caste students was 18.00. The Standard Deviations for OC, BC, SC and ST caste students were 6.54, 6.79, 6.35 and 3.12 respectively. The 'F'-value was 8.12 and the p-value was 0.00, which was statistically significant at 0.01 level. This shows that, there is a significant difference among the perceptions of students based on their caste and OC



caste students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of BC, SC and ST caste students.

With regard to Religion, the mean perceptual scores for Hindu religion students was 24.90, and it was for Muslim religion students was 22.40, whereas it was for Christian religion students was 19.64. The Standard Deviations for Hindu, Muslim and Christian religion students were 6.65, 6.76 and 7.48 respectively. The 'F'-value was 4.19 and the p-value was 0.02, which was statistically significant at 0.05 level. This shows that, there is a significant difference among the perceptions of students based on their Religion and Hindu religion students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of Christian and Muslim religion students.

With regard to Family Income, the mean perceptual scores for Less than Rs. 1 lakh family income students was 23.08, and it was for Rs. 1 Lakh to Rs. 5 Lakh family income of students was 21.39, whereas it was for More than Rs. 5 Lakh family income of students was 22.26. The Standard Deviations for Less than Rs. 1 Lakh, Rs. 1 lakh to 5 Laks and More than Rs. 5 Lakhs family income students were 6.66, 6.62 and 6.89 respectively. The 'F'-value was 4.89 and the p-value was 0.01, which was statistically significant at 0.05 level. This shows that, there is a significant difference among the perceptions of students based on their family income and less than Rs. 1 Lakh family income of students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of Rs. 1 Lakh to 5 Lakhs and More than Rs. 5 Lakhs family income of students.

With regard to Size of the family, the mean perceptual scores for 2 members of family size of students was 24.18, for 3 members of family size of students was 21.86 and it was for 4 members of family size of students was 23.10, and for five members of family size of students was 21.06, whereas it was for more than five members of family size of students was 19.55. The Standard Deviations for 2, 3, 4, 5 and more than 5 member of family size of students were 6.73, 6.33, 6.79, 6.51 and 5.85 respectively. The 'F'-value was 5.97 and the p-value was 0.00, which was statistically significant at 0.01 level. This shows that, there is a significant difference among the perceptions of students based on their family size and two members of family size of students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of 3, 4, 5 and more than 5 members of family size of students.

With regard to Nativity, the mean perceptual scores for rural area students was 22.64, and it was for Semi Urban area students was 21.71, whereas it was for urban area students was 22.26. The Standard Deviations for rural, semi urban and urban area students were 7.12, 5.87 and 6.60 respectively. The 'F'-value was 0.48 and the p-value



was 0.70, which was statistically not significant. This shows that, there is no significant difference among the perceptions of students based on their Nativity and they perceived similar opinion towards Impact of Educational Advertisements through Social Media on Youth.

With regard to Qualification, the mean perceptual scores for Under Graduation students was 22.23, for Post Graduation students was 22.34 and it was for M.Phil./Ph.D. qualified students was 25.00, whereas it was for Professional course students was 27.20. The Standard Deviations for Under Graduation, Post Graduation, M.Phil./Ph.D. and Professional course students were 6.67, 6.71, 7.67 and 6.92 respectively. The 'F'-value was 3.40 and the p-value was 0.02, which was statistically significant at 0.05 level. This shows that, there is a significant difference among the perceptions of students based on their qualification and Professional course students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of Under Graduation, Post Graduation and M.Phil./Ph.D. qualified students.

With regard to Occupation, the mean perceptual scores for students who are employed was 22.72, and for s students who are doing business was 24.58 and it was for Self employed students was 23.86, whereas it was for Unemployed students was 21.93. The Standard Deviations for Job, Business, Self Employed and Unemployed students were 5.81, 6.95, 6.46 and 6.84 respectively. The 'F'-value was 3.49 and the p-value was 0.02, which was statistically significant at 0.05 level. This shows that, there is a significant difference among the perceptions of students based on their occupation and Business occupation of students perceived high towards Impact of Educational Advertisements through Social Media on Youth than that of the rest of occupations of the students.

Findings and Conclusions

- It was noticed that, a significant difference was found among the perceptions of students based on their age, gender, caste, religion, family income, size of the family, qualification and occupation towards Impact of Educational Advertisements through Social Media on Youth. According to their age, 21 to 25 years age group students perceived high than that of 1-20, 26-30 and more than 30 years age group students, basing on their gender, male category students perceived high than that of female category students, according to their caste, OC category students perceived high than that of BC, SC and ST category students, with respect to their religion, Hindu religion students perceived high than that of the rest, with regard to size of the family, two members of family size of students perceived high than that of 3, 4, 5 and more than 5 members of family size of students, according to their



qualification, Professional course students perceived high than that of UG, PG and M.Phil./Ph.D. qualified students and also according to their occupation, Business occupation of students perceived high than that of Job, Self Employed and Unemployed of the students.

- No significant were found between the perceptions of students based on their nativity towards Impact of Educational Advertisements through Social Media on Youth and they perceived similar opinion.

Recommendations

- Parents should guide and advise their children on current matters like the usage of social media and warn them of its negative impacts to them when misused or overused.
- The education curriculum also should be revised so that it can include social media studies in its disciplines so as to alert students that they need to be careful in their social media usage.
- It is further recommended that social media should to be seen as the prophet to media solution to advertising communications issues, but rather, the choice of social media should be made in understanding of the fact that it is best used in conjunctions with other advertising communications.

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dLrjick xlkth 1/869&1944% egkRek xkq/kh dh iRuh Jh tks Hkkjr ea ck ds uke l s fo[; kr gA dLrjick xkq/kh dk tle 11 viSy l u-1869 bD ea dFV; kokM+ ds i k j c n j uxj ea gupk FkA dLrjick xkq/kh ds fir k xkchynkl eduth l k k j .k l Fkfr ds 0; k i k j h FkA xkchynkl eduth dh dLrjick xkq/kh rhl jh l arku FkA ml tekuse adkbz yMfd; ka dks i < l r k r s Fk ugh] fookg Hk vYio; eagh dj fn; k tkrk FkA bl fy, dLrjick xkq/kh Hk cpiu eafuj (kj Fkha vls] l k r l ky dh voLFk ea ekgunkl ds l k Fk mudh l xkbz dj nh xbA r j g l ky dh vk; qea mu n k s u k a d k f o o k g g l s x ; k A i f r & i R u h 1 8 8 8 b D r d y x l k x l k F k & l k F k g h j g s f d a r q c k i w d s b i y M i o k l d s c k n l s y x l k x v x y s c j j g o " l z r d n k s u k a i k ; % v y x & v y x l s j g A d L r j i c k d k ' l q v k r h x g L F k t h o u c g q g h d f B u F k A m u d s i f r e g k R e k x l k t h m u d h f u j (k j r k l s v i a U u j g r s F k s v l s r i k u k n r s j g r s F k A e g k R e k x l k t h d k s d L r j i c k d k l a t u k l l o j u k v l s ? k j l s c k g j f u d y u k f c y d t y H k i l a n u g h a F k A m l g h a u s ' c k ' i j v k j k k l s v a d t k j [k u s d k i z k l f d ; k i j o s T ; k n k l Q y u g h a g l s i k ; A

b i y M i o k l l s y k s u s d s c k n ' k h ? l z g h c k i w d k s v f Y d k t k u k i M A e s v d d h i j h k i k i k d j u s d s i ' p k r x l k t h t h c s j L V j h i e u s d s f y , f o y k ; r p y s x , A r h u p k j o " k a d s c k n o s c s j L V j h i j h d j H k k j r y k s / s v l s j m l g h a u s c s j L V j h i k j k k d h l i j l Q y r k i k t r u g h a g l s j g h F k A b l l s m u d s d t y / q ; k a d k s c M t e f u j k ' k g b A d L r j i c k d k s c M t e v k / p ; l g p k l o s l k p H k u g h a l d r h F k h f d j a c h k n d s d k j .k d k b z e u t ; d s l k F k , d k f u m u h ; 0 ; o g k j d j l d r k g A o s l j y a n ; d h v k l R d H k k j r h ; u k j h F k A o s N y & d i v l s n j l a k j d s l H k i k f . k ; k a d k s b z o j d h l a r r e k u r h F k A x l k t h t h n k s r h u o " k a r d v d s y s g h n f (k . k v Y h d k e a j g A b l d s c k n m l g h a u s d L r j i c k v l s j c P p k a d k s H k o g h a c y k f y ; k A d L r j i c k d s d t y i k p i e i n k g q F k A i F k e i e d k t l e l s y g o " l z d h v o L F k e a g u p k F k l i j d N f n u a c k n g h o g d k y d s x l y e a f o y h u g l s x ; k A m l d s i ' p k r - g j y k y l e f . k y k y v l s j k e n k l x l k t h d k t l e g u p k A n o n k l x l k t h d k t l e m l l e ; g u p k l t c d L r j i c k n f (k . k v Y h d k e a t k d j x l k t h t h d s l k F k j g u s y x h A d L r j i c k x l k t h y x l k x 1 7 & 1 8 o " k a r d n f (k . k v Y h d k e a j g h A ; s o " l z m u d s f y , c M s m i ; l s x h l k f c r g q A m l g h a u s c g r l h l k e k f t d v l s j k t u h i r d c k r a l h [h v l s j r j g & r j g d h l e L ; k v k a d k K k u i k t r f d ; k A b l g h a f n u a m u d s H k k j r f N i h g b z ' k f D r d k



perdjk Hh nskus dks feykA os xglFkh dk l pkyu djrth cPpla dk ikyu&i ksk.k djrth vfrffk; ka dk Lokxr l Rdkj djrth vki nkvla l s t w r h vlg xkakh th ds dk; ka ea mudk gkfk cvk; k djrh FkA

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jkt&w l jdkj dh fgfer u g&z fd og l kjh jkr mlga l Mel ij jgus n&A os okil jktegy ys tkbz x ; h v&g ml ds ckn n& j s fnu os ckd& ; nk fjk dh x ; h&A 9 vxLr 1942 dks cki w vkfn ds fxj&lrkj g&s tkus ij "ck" us f'okth i kd& ea tg&k Lo ; a cki w Hk&k.k nus okys F& l Hk& ea Hk&k.k djus dk fu'p fd ; k fdrq i kd& ds }kj ij igpus ij fxj&lrkj dj yh x&A nls fnu ckn os i w&k ds vl&ck [k&eagy ea Hkst nh x&A cki w fxj&lrkj dj igys og&k Hkst tk p&ts F&A ml l e ; os vl&LFk F&A 15 vxLr dks tc , dk , d egkn& nd kbz us egkiz k.k fd ; k rks os ck&ckj ; gh drh jgh egkn& D ; ka x ; kj e& D ; ka ugh& ckn ea egkn& nd kbz dk fpr&LFku mudsfy , 'k&dj egkn& dk einj l k cu x ; ka os fur& ; og&k tkr&j l ekf/k dh inf&k.k dj ml s uel&dj djrh&A os ml ij nhi Hk& tyokrh&A

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SUBMARINE OPTICAL COMMUNICATION: AN INVESTIGATE APPRAISAL

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Abstract - The future of tactical ocean environment will be increasingly complicated. In addition to traditional communication links there will be a proliferation of unmanned vehicles in space, in the air, on the surface, and underwater. To effectively utilize these systems improvements in underwater communication systems are needed. Since radio waves do not propagate in sea water and acoustic communication systems are relatively low bandwidths, the possibility of high speed underwater optical communication systems are considered. In this paper we discuss the research aspects of submarine optical communication, its design issues and the implementation parameters.

Keywords: Amplified spontaneous emission (ASE), Polarization hole burning, Submarine Optical Communication, Trans-oceanic fiber-optic link (TAT-8).

1-INTRODUCTION

The advances in the technology of satellite & submarine cable media during the past two decades have been breathtaking. The improvements and the innovation in the submarine cable technology have surpassed those in satellite technology. The submarine cable technology has evolved over the years, whereas satellite technology is a relatively new phenomenon. The main advantages of underwater fiber communication is high reliability due to extended repeater spacing; easy handling characteristics like smaller cable diameter. In submarine cables systems, optical fiber is needed which combine low losses with low chromatic dispersion and have quite a good mechanical strength for use in demanding environment. [1-2]

Optical communication has the potential to provide data rates that are higher than acoustic rates by orders of Mb/s to Gb/s, if laser is employed. [3] The possibility of using relatively low-power components and circuits equipped with LEDs and photodiodes; the possibility of targeting relatively small dimensions and low costs for the communication system [4].

Optical underwater communication is an effective alternative to current underwater technology especially in some particular environments such as shallow, coastal and fresh inland water where the use of this approach is useful to overcome all the shortcomings related to the use of acoustic communication and to allow a wide adoption of underwater monitoring systems [5]. In particular the possibility of transferring high amount of data in a limited amount of time reducing power consumption can support the transmission of short video and pictures for a reliable monitoring and surveillance. Small dimensions and low-cost components allow establishing a dense deployed networks performing an effective fine grained sampling in the area of interest. It could be possible, for instance, to perform pollution monitoring and frequent data collection (water temperature, specific conductivity, pH, turbidity, and possibly oxygen concentration) and, by using a high-data rate optical link, periodically deliver data reducing the time devoted to transmission and network congestion.

Acoustic waves are the most popular method to achieve targeting signals in underwater over long distances with low latency and high spreading delay. Looking back in the history of acoustic communication, acoustic waves were introduced through an experimental work by Leonardo da Vinci in the 15th century. In 1750, the first partial differential equation of motion based on the sound wave was introduced. The speed of sound in a lake was experimented by J.D.Colladon [4] in 1826 using optical flash as a reference where the approximate velocity was measured as 1435 m/s. Rayleigh published the entire related work of sound in an underwater medium in 1862. The hydrophones were introduced in the late 18th century to convert underwater sound energy into an electrical signal and vice versa [4]. In the late 19th century, acoustic waves were proposed with data rates of 8 kbps in underwater for 20 m depth approximately and 13 km over the water surface [5]. A high speed underwater acoustic communication (UAC) system was proposed in 2005 that recorded 125 kbp/s data rate using 32-quadrature amplitude modulation technique (QAM). Furthermore, a 60 kbps UAC system was demonstrated using 32 QAM that supported communication up to 3 km horizontally and 100 m of depth in underwater.

UNDERWATER WIRELESS COMMUNICATION OVERVIEW

UWC is the most challenging and comprehensive technology for wired and wireless communications. UWC networks are necessarily important approaches to accessing data in an unguided water medium of the deep ocean. It has been an essential field for researchers and among academicians in recent years. The deployable technologies are advantageous to use in oceanographic data analysis, observing water pollution, environment



monitoring, and early warning of natural disasters such as floods and tsunamis. They are also used to get to know the phenomena of rising water levels in the oceans. Thus, in UWC we use the three customized existing approaches available for underwater wireless signal transmission.

The first technology is Electromagnetic waves (in form of Radio Frequencies) that enable a feature of high data rate over short ranges. Secondly, the Optical signal transmission (OPT) technique in underwater to achieve high bandwidth and data rate, which needs a line attenuating position during signal propagation over moderate distances. The third and most widely employable technology is Acoustic waves use for the longest range of communication. The drawback of acoustic waves is to achieve low throughput which affects by large delay spread. This means it leads to severe inter-symbol interference (ISI). In above-mentioned technologies, the most important point is to consider the cost of implementation. The cost of implementation is associated with required data throughput for a prescribed communication range and the

CURRENT PROJECTS ON UNDERWATER WIRELESS COMMUNICATIONS

UWC plays a significant role that serves most relatively applications, such as in the detection of mineral, oil and gas sources, coastal security, seismic detection, environmental impact on ecological system, navigation and water pollution control [16]. The data transmission possibilities are communication-based between two corresponding nodes in the underwater environment through distinct sensor nodes. In UWC a sensor network deploys for signal transmission. The deployment of configurations in underwater system consists of fixed and anchored sensor nodes such as floating unmanned underwater vehicle nodes (UUVs) or AUVs, signal receiver processing towers, floating buoys, submarines, ship, and onshore base station [14]. The current underwater communication project schemes are providing future research and innovative track for underwater communication wirelessly. Most recent work and contribution of current projects are summarized in this article as follows.

Most of the underwater communication implies with the acoustic system, considering radio frequencies for underwater vehicles cannot comply with the imposed requisites. The limited range of communication, signal attenuation is the main factors that influence the transformation of information in the marine environment. Hence, the requirement of the UnderWorld project scheme is to re-evaluated by electromagnetic communication throughout UWSNs. UnderWorld project scheme is co-funded by "Spanish Ministry of Economics and European Regional Development fund" [41] in the scope of research, development and innovation program focused on the society challenges in the research framework.

2. Design Issues

Implantation of the submarine optical system encounter the problems like Chromatic Dispersion of the transmission fiber, Nonlinearities of transmission fiber, Optical noise accumulation, Polarization dependent loss, Polarization hole burning (it is an critical parameter; influencing the performance of an underwater optical system) and Polarization modal dispersion. The variations in the optical properties of ocean water lead to interesting problems when considering the feasibility and reliability of underwater optical links. Radio waves do not propagate underwater, however with the proliferation of unmanned autonomous vehicles the need to communicate large amounts of data is quickly increasing. Making physical connections underwater to transfer data is often impractical operationally or technically hard to do. [6]

3. How it can be implemented

One of the first oceanic optical systems intended for commercial applications was deployed in the Okinawa-Kagoshima route, which traveled over 900km. This system was the first to employ EDFAs for undersea repeaters. The incorporation of EDFAs made the transmission of high speed rates with a relatively simple system configuration possible. The two main advantages of the system are the capability of transmitting at either 2.5 Gb/s and the ability to upgrade through WDM. [7]

Underwater optical communication is implemented using different methods like submarine optical cable, reflection communication and wireless optical communication.

3.1 Using Reflection Communication:

In some communication scenarios LOS is not available due to obstructions, misalignment, or random orientation of the transceivers. This would be a common circumstance for underwater sensor nodes or in the case of mobile users and leads us to propose an inventive method for achieving a communication link. In addition, the proposed method affords the advantages of point-to-multipoint links and hence facilitates broadcast communication. The fundamental idea of reflective communication is illustrated in figure 1. The laser transmitter emits a cone of light in the upward direction. It assumes that the sensor nodes self align so that the transmitter faces vertically upward

at all times. The light reaching the ocean-air surface illuminates an annular area and is partially bounced back in accordance with the reflectivity property described below. Each sensor node will be able to receive signal & transmit a further population of nodes. Hence, by multiple hops, the signal can propagate long distances despite the limitations on the range of each reflective communication link.

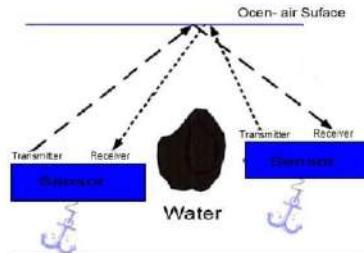


Figure 1: Concept of Reflection Communication for Underwater Optical Communication

3.2 Using Wireless Communication:

In this system, a continuous wave (CW) laser is modulated at radio frequencies between 10-100MHz by an electro-optic modulator. The return signal from the target is detected with a photomultiplier tube and demodulated by a coherent receiver (figure 2.). Magnitude and phase information of the target of interest is then determined. [8]

3.3 Using Submarine Cable:

With the help of submarine optical cable, repeaters underwater optical communication system can be established.

In the evolution stage trans-oceanic fiber-optic link (TAT-8) was installed for connecting US, France and Britain. TAT-8 initially carried 40,000 telephone circuits (simultaneous calls) between USA, England and France. TAT-8 had two service fiber pairs with the capacity of 280 Mbps each and another fiber pair with similar capacity was available for back-up purposes [(2+1)*280 Mbps]. Signals on each fiber were fully regenerated in equipment placed in pressure housings separated by about 40 km. Cable capacity filled in 1990 six times faster than the expected as in 2000. [9] A typical arrangement is shown in the figure 3.

Submarine optical communication system performance is limited by certain parameters

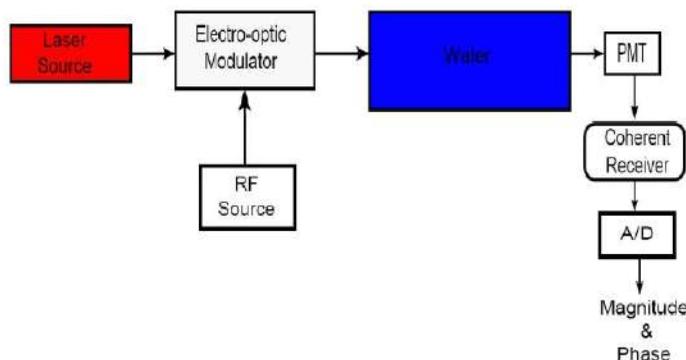


FIGURE 2: SIMPLE BLOCK DIAGRAM OF SUBMARINE OPTICAL COMMUNICATION

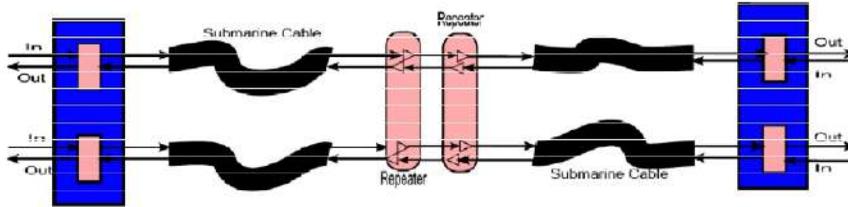


FIGURE 3: UNDERWATER OPTICAL COMMUNICATION USING SUBMARINE CABLE

4. Oceanic Channel Quality Parameters

Light propagation in seawater is highly wavelength sensitive, with transmittance falling from near 100% over several meters in clear ocean water for light of wavelengths 400–500 nm to near zero for turbid waters and wavelengths below 300 nm and above 700 nm. This is due to the spectral dependence of scattering and absorption caused by aquatic molecules and suspended particles. These properties display high variability that is depth dependent (up to an order of magnitude) as well as varying over time because of changing oceanic composition and prevailing weather [10]. Some of the key quality parameters are illustrated below.

SNR: the SNR of the repeater is depending on the input power of laser, which is effect by the ASE (Amplifiedspontaneous emission). The progressive increase in ASE decrease noise, therefore 1470 nm wave length window is suitable for increase in SNR **(ii)Adjacent channel:** To increase the channel bit rate, an increase in the numbers of channel is required, which isresponsible for the non linear adjacent channel interference. **(iii)EDFA gain bandwidth limitation:** EDFAs employed in WDM submarine optical system requires largebandwidth. The bandwidth expansion can be accomplished through gain equalization, but it reduces repeater gain bandwidth product.

(iv)Repeater Optical power limitation: To increase number of channel, as increase in the optical power to be launched into the fiber is require [7].

Table 1: Comparative Study of Submarine Communication Quality Parameters.

Parameter	Reflection communication	Wireless underwater optical Communication	Underwater optical Communication using submarine cable
Source	Nd: YAG pulsed laser used at 532 nm. Output power:1000KW	Continuous Laser source is used. Output power of 5W.	DFB or Pump laser is used
SNR	Very less SNR Due to high attenuation	Less SNR due to absorption & scattering.	High SNR
Adjacent channel	Bit rate: 400 b/s	Bit rate: up to 50 Mb/s	Bit rate: 5.3 Gb/s No. of Channel: 22
EDFA gain bandwidth limitation	No	EO Modulator is used.	980 nm Laser diode pump Operating bandwidth: ~1500-1600 nm
Repeater Optical power limitation	Required sensor node for each 20 m.	30dB low noise amplifier and a 50dB Variable gain amplifier.	Repeater Power o/p: 8dBm Repeate:19
Distance Travel	~200 m	~100 m for error free communication	~9000 KM



5. Future Scope

Currently, eight trans-atlantic fiber optics cable systems like AMENCAS-I, COLUMBUS-II, CARAC, BAHAMAS etc. connecting Europe and North America are either in operation or under construction. [11] The Japanese have laid extensive underwater fiber-optic cables to connect their various islands, besides other forms of communication with neighboring nations. In future Submarine optical communication can be utilized in the area of diver-to-diver communication links, diver-to-submarine links, submarine-to-UAV(Unmanned Aerial Vehicles) links, Submarine-to-submarine links, UAV-to-UAV links & Submarine-to-satellite links etc.

RF communication offers great prospective aspects for UWC that permit to explore the forbidden field of ocean and underwater environment. Electromagnetic signaling enables to lower distance signal propagation that was unaffected by harsh conditions and noises in shallow water. The intention of deployment RF communication for acquiring high band-width data rates along with the possibilities to eliminates the challenges in shallow and congested water. Extremely low frequencies (ELF) cover long distances while the high frequency (HF) has high attenuation cause of losses. The utilization of ultra-high frequency (ULF) to medium frequency (ME) ranges as future aspect and widely discussed in [53]. Electromagnetic waves used for a limited range of underwater communication that could be improved and implement to long-range in deep ocean through specific design of antennas. EM communication technological scheme in underwater would be considered of antenna design, transmitting power, bandwidth, and noise as major factors to resolve.

6. Conclusion

There is several underwater fiber optics already installed in several parts of the world which are working satisfactory. The pace at which the trans-oceanic cable systems are being fibrized is increasing rapidly. In recent decades, there has been a great development in the field of trans-oceanic fiber optic link. From various experiment results & comparative studies (summarized in table 1) of different submarine optical communication. We can conclude that using submarine optical cable the system can achieve like high bandwidth, large repeaters less spacing etc. The underwater communication that enables a platform to build up a network connection among floating devices where the channel and communication environment having crucial difficult properties and challenges. The technologies discussed are the possible solution and clear understanding of the mechanism of deployment. 5G wireless networking technique proposed to support RF, acoustic and optical signal carrier for improving communication probabilities. The emerging technologies including the architecture of UWSNs are challenging and more sophisticated for signal propagation, but the appropriate network nodes design has an important key to understand and determine effective data analysis between source and receiver with required data rates for the necessary possible communication. According to the relevant communication technologies requirement, a distinct channel modeling to setup conceiving network communication to flexible or fixed network nodes are quite challenging. This paper has been contributing and providing a survey of the technical issues, challenges and future directions in underwater environmental communication.

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ANALYSIS OF AGRICULTURAL SOIL FROM DEFFERENT AREAS OF GADARPUR REGION IN UDHAM SINGH NAGAR- UTTARAKHAND

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Abstract

Soil is a essential for life sustainability in the universe. Soil clay big role for better fertility in the forest as well as farmland. Soil analysis is valuable to for farms as it determine the input required for efficient and economic production. Proper soil test with help to ensure the application of use of fertilizer to meet the requirement of crops while lacking advantage of nutrients already present in the soil. The essential parameter pH , electrical conductivity (EC), organic carbon (OC), Sulpher (S), Zinc (Zn), Boron (B), Phosphors (P), Nitrogen (N) etc, were measured with nutrients and micronutrients of farmland in Gadarpur region of Udham Singh Nagar which is basically well known for fertility of crops-wheat, rice, maize and sugarcane.

Keywords:Analysis, Gadarpur, Micro nutrient, NPK,pH, Nutrient, Soil.

1. Introduction:

Soil is natural body developed by natural forces acting on natural materials. It is usually differentiated into horizon from mineral and organic constituent of variable depth which differ from the parent material below in morphology, physical property, chemical property and composition of biological characteristics (Joffe, 1965). The soil consist of four major component i.e. mineral matter-45%, organic matter-05%, soil water-25% and solor air-25%. Micro organism like rodent, insects and worms, micro organism and like bacteria, fungi, algae live in soil in large numbers. Soil water dissolves salts and make up the soil solution, which is important as medium for supplying nutrients to growing plants. There is a exchange of nutrients between the soil solution and plants (Sahi,2011). There are three criteria for essentiality of an element for plant nutrients- (i) in absence of the element it is not possible for the plant to complete its vegetative or reproductive cycles, (ii) The role play by an element is specific and it can not be replaced by any other element and (iii) The element are carbon, hydrogen, nitrogen, phosphorus, potassium, calcium, magnesium, iron, sulphur, boron, manganese, copper, zink, molybdenum and chloride, (Arnon& Stout, 1939). The various type of nutrients and micro nutrients are influenced by various factors such as acidity, alkanity, fertilizer, bio-fertilizer, soil pH, various cations and anion (Sahi, 2011).

Gadarpur located in Udham Singh Nagar, Uttarakhand which falls in Tarai region of Kumaun Division. The Geographical area of district is 3055 Km² . It is located between latitude 28⁰ 53' N and 29⁰ 23' N, and longitude 78⁰ 45' E and 80⁰ 08' E. Agriculture is primary occupation of the people as its justify the title '*Chawal ki Nagri*'.



About 64% of total work force is engaged in farming. Khariff and Rabi are two major cropping season. The main Khariff crops are rice, soya been, urad, moong and Till, and Rabi crops are wheat, barley, gram, masoor, mustard, sunflower. Sugarcane crop is known as cash crop (Udham Singh Nagar at a Glance). Presently the area of Gadarpur is on progress of agricultural sector, real estate and industrial sector. The quality of fertile land is influence by various factors. So soil analysis is necessary to proved the information of nutrients and micro nutrients. The recommendations will be useful to farmers of Gadarpur region in Udham Singh Nagar, Uttarakhand.

2. Literature Review:

The physico - chemical characterization is a important part of soil which provide the basic needful information about farmland. The major elements are nitrogen, phosphorous, potassium, calcium, magnesium, sulphur and micro elements are iron, manganese, boron, copper, molybdenum, chloride, zinc (Sahi, 2011). The phsio chemical characterarization of farmland in Mahisagar (Gujrat) India played important role in fertility (Jain, Jagtap & Patel, 2014). Plant unhealthiness may be caused by living organism like insects, fungi, bacteria or non living factors like nutrients, micro nutrients imbalances, drought, excess of soil moisture (Jeyalakshami& Radha, 2017). Nutrient deficiency and toxicities causes crop health and productivity to decrease and may result in appearance of unusual visual system understanding each essential nutrients role and mobility in the plant can help determine which nutrient is responsible for deficiency or toxicity symptoms. General deficiency symptoms includes stunted growth chlorosis, intervenial chlorosis, perpal or red discoloration and necrosis. Deficiencies of immobile nutrients first appear in older, lower leaf whereas deficiencies of immobile nutrients which occur in younger, upper leaf. The visual observation can be limited by various factors so soil testing is required to verify the nutrients (McCauley, Jones & Jacobsen, 2011). The soil fertility of Golpura village of Dhar district of Western Madhya Pradesh, India so low value of nutrient and micro nutrient. The integrated nutrient management is necessary for sustainable soil fertility management (Lohiya, Unni& Sharma, 2018)

3. Methodology:

The soil samples collected from soil surface and different sites from farmland of Gadarpur region in depth of one feet. The Gadarpur bus stop is consider as main central point. The four villages considered as sample in different directions as mentioned in below the table.

Table 1: Selected Villages

Sr.No.	Direction	Name of Village and code	Longitude	Latitude
1	North	Nandpur (NANDGPUR)	29.0783 ⁰	79.2342 ⁰
2	South	Ramjeevenpur (RVNGPUR)	29.423 ⁰	79.2362 ⁰
3	East	Barakhera (BRKHGPUR)	29.0574 ⁰	79.2506 ⁰
4	West	Motiyapur (MOTIGPUR)	29.0719 ⁰	79.2113 ⁰



All samples were collected and dried under shade and analysed at Regional Soil Testing Rudrapur (Udham Singh Nagar) with help of these available instruments in there laboratory. The instruments are pH Meter- pH determination, Electrical Conductivity Meter- EC determination, Colorimeter- Phosphate, Boron determination, Flame Photometer- Potash determination, Atomic Absorption Spectrophotometer (AAS)- Micronutrient determination, Spectrophotometer- Sulphur determination, Organic Carbon - Titration methods.

4. Result and Discussion

The obtain results are summarized below these tables.

TABLE:2 Site -1 Nandpur Village (NANDGPUR)

S. No.	Parameters	Result	Unit	Evaluation
1	Ph	7.9		Normal
2	Electrical Conductor (EC)	0.9		Normal
3	Organic Carbon (OC)	0.54	%	Low
4	Phosphorous	4.5	Kg/h	Low
5	Potassium	121	Kg/h	Medium
6	Sulphur	16	ppm	Normal
7	Zinc	8.42	ppm	Low
8	Boron	0.45	ppm	Low
9	Iron	10.44	ppm	Normal
10	Manganese	5.48	ppm	Normal
11	Copper	1.182	ppm	Normal

TABLE :3 Site -2 Ramjivanpur Village (RJVNGPUR)

S. No.	Parameters	Result	Unit	Evaluation
1	Ph	7.8		Normal
2	Electrical Conductor (EC)	0.91		Normal
3	Organic Carbon (OC)	0.40	%	Low
4	Phosphorous	13.5	Kg/h	Low
5	Potassium	116	Kg/h	Low
6	Sulphur	14.05	ppm	Normal
7	Zinc	0.42	ppm	Low
8	Boron	0.77	ppm	Low
9	Iron	7.70	ppm	Normal
10	Manganese	5.70	ppm	Normal
11	Copper	1.35	ppm	Normal



TABLE :4 Site -3 Barakhera Village (BRKHGPUR)

S. No.	Parameters	Result	Unit	Evaluation
1	Ph	7.9		Normal
2	Electrical Conductor (EC)	0.88		Normal
3	Organic Carbon (OC)	0.49	%	Low
4	Phosphorous	13.5	Kg/h	Medium
5	Potassium	134	Kg/h	Medium
6	Sulphur	16.55	ppm	Normal
7	Zinc	0.684	ppm	Low
8	Boron	0.32	ppm	Low
9	Iron	15.90	ppm	Medium
10	Manganese	2.130	ppm	Normal
11	Copper	1.354	ppm	Normal

TABLE : 5 Site -4 Motiyapur Village (MOTIGPUR)

S. No.	Parameters	Result	Unit	Evaluation
1	Ph	8.0		Normal
2	Electrical Conductor (EC)	1.02		Normal
3	Organic Carbon (OC)	0.63	%	Medium
4	Phosphorous	9.0	Kg/h	Low
5	Potassium	19.0	Kg/h	Low
6	Sulphur	12.28	ppm	Normal
7	Zinc	0.684	ppm	Low
8	Boron	0.64	ppm	Low
9	Iron	51.42	ppm	Normal
10	Manganese	1.263	ppm	Low
11	Copper	1.464	ppm	Normal

5. Conclusion

Very interesting result were obtained from soil analysis as regulated in above tables. Soil pH, electrical conductence, sulphur, copper are normal in almost all sites with small variation which respect to each other. The variation of soil in potassium, phosphorus, iron, manganese. The soil quality can be improve by using the suitable fertilizer as recommended by soil testing laboratory in the given table-6. The farmer can improve there productivity for betterment.



TABLE :6 Recommendation of Fertilizer

Site	Diammonium Phosphate (DAP)	Urea	Mutrate of Potash (MoP)	Zinc Sulphate (ZnSO ₄)	Borax	Manganese Sulphate (MgSO ₄)	Compost
Site 1	61 kg/hect.	103.9 kg/hect.	26.7 kg/hect.	6-10 kg/hect.	2-4 kg/hect.	-	26 qtl./hect.
Site 2	52 kg/hect.	149 kg/hect.	26.7 kg/hect.	-	2-4 kg/hect.	-	40 qtl./hect.
Site 3	52 kg/hect.	149 kg/hect.	34.87kg/hect.	6-10 kg/hect.	-	-	40 qtl./hect.
Site 4	67 kg/hect.	103.9 kg/hect.	34.7 kg/hect.	-	-	49 kg/hect.	28 qtl./hect.

6. Acknowledgement

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Cyberchondria in social media has drastically boost up public health awareness during Covid-19: A pedagogic case study in 10 Indian metro cities

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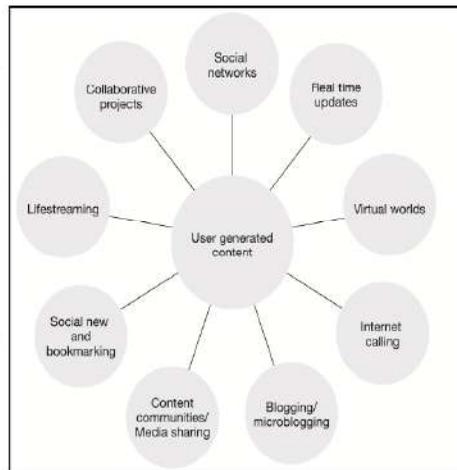
Abstract: At the time of global pandemic situation of Covid-19, search in the social media is still king for helping consumers research and evaluate products and services. Fueled by mobile and messaging, dark social is gaining ground at the time of corona virus spreading situation. On 30 January 2020, Director-General WHO declared that the outbreak of novel corona virus (2019-nCoV) constitutes a Public Health Emergency of International Concern (PHEIC) as per the advice of International Health Regulations (IHR) Emergency Committee. The World Health Organization (WHO) has already declared the corona virus outbreak as global pandemic of international concern and to curb the scourge of the disease 2019-nCoV acute respiratory disease, Government of India has already declared national lockdown-1 for 21 days on 24th March, 2020. Consecutive lockdown 2, 3 and 4 was also happened followed by unlock 1,2, and 3 is going on. Here, total no of days, under research was considered from 24th March to 10th August, 2020 i.e. 140 days. People, staying at home, searching several subjects in social media and among those searching, only public health related issues have drastically boosted up with almost 4 times increase. Here, in this research paper, 10 metropolitan cities Delhi, Kolkata, Mumbai, Chennai, Guwahati, Bhubaneswar, Bangalore, Jaipur, Chandigarh and Srinagar were chosen and from each city, 50 people of different ages were chosen at random age and specific questionnaire on covid related issues were sent. It was found that, with respect to 13 percent as on 1st April 2020, searching on public health related issues to authentic websites in India has drastically jumped to 54 percent i.e. 4 times increase. Among the popular social media facebook, twitter, instagram whatsapp, linkedin and YouTube were considered.

Key words: Communication, corona virus, lockdown, epidemics, social media, WHO, Covid-19

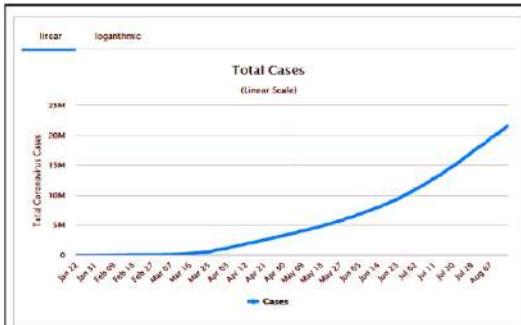
Introduction



Although the term social media has taken on numerous meanings and is somewhat open to interpretation as the domain is constantly reinventing itself, generally the term refers to “websites and applications used for social networking” (Oxford Dictionaries 2012). Given that definition, one would wonder what the term “social networking” really means. Social media encompasses social networks, as well as content oriented networks (Euromonitor International 2010). A McKinsey (2011) study of 792 marketing executives from a broad range of industries, regions, and company sizes found that digital media and online tools are barely tapped by companies, and, while most believe that an online presence is a must, few are taking active steps in engaging consumers using social media. The marketing practitioners are still attempting to find out how digital media can be used to improve their return on investment, how they should use the data to produce meaningful customer insights in order to drive sales and increase customer engagement. The best-known examples in recent past are facebook, twitter, instagram whatsapp, linkedin and YouTube.



On 30 January 2020, Director-General WHO declared that the outbreak of novel coronavirus (2019-nCoV) constitutes a Public Health Emergency of International Concern (PHEIC) as per the advice of International Health Regulations (IHR) Emergency Committee. As on 31th January 2020, Outside of China, 19 countries have reported a total of 106 confirmed cases, most with travel history from China. These countries are Australia (9), Cambodia (1), Canada (3), Finland (1), France (6), Germany (5), India (1), Italy (2), Japan (14), Malaysia (8), Nepal (1), Philippines (1), Singapore (13), South Korea (11), Sri Lanka (1), Thailand (14), UAE (4), USA (6) and Vietnam (5) It is to be mentioned that science communication through the social media, has various forms like news on science, science graphics, science features, pictures on science, articles from scientific institutions,



science awareness advertisements, editorials and letters to editors etc all have been used in this pandemic period to make updated and informative to the people.

It is evident that social media as a whole is becoming increasingly prevalent in our society, and continues to impact the ways in which people communicate with one another.

Not as certain is where social media is in its

overall life cycle, and what kind of innovation will come along in the market in coming years. The current analyses and trend suggest that the future of social media will become a more seamlessly integrated networking platform that will enable companies to keep pace with users' increasingly mobile existence. The world is facing the extensive spread of severe acute respiratory syndrome-coronavirus 2. This epidemic puts intensive pressure on healthcare, economic, and social structures. Commitment to implementing effective approaches for public health will take bold interventions by public health professionals and strong leadership by the nation's governing bodies. During this crisis, lack of awareness, knowledge, and preparedness would put people and health care staff at risk. The dilemma is how to pass the knowledge of current disease statistics and its prevention to the general population at a rate equivalent to or better than the spreading epidemic. At the same time, a huge amount of health-threatening misinformation is spreading at a faster rate than the disease itself. The major proportion of this false rumor is disseminated in the web-2 era through social media. Thus, delivering fast, accurate and reliable information addressing critical problems of infection control is, therefore, of key importance.

Background

Corona viruses cause disease in a wide variety of animal species. SARS-CoV was transmitted from civet cats to humans in China in 2002 and MERS-CoV from dromedary camels to humans in Saudi Arabia in 2012. Several known corona viruses are circulating in animals that have not yet infected humans. A spillover event is when a virus that is circulating in an animal species is found to have been transmitted to human(s). Based on current available information, corona viruses may be transmitted from person to person either through droplets or contact. On 30 January 2020, a laboratory confirmed case of 2019-nCoV was reported in Kerala. The patient, a student returning from Wuhan, is currently in stable condition and cared for in hospital isolation. The National Centre for Disease Control (NCDC) has activated Strategic Health

India
1 695 988 Confirmed Cases
36 511 Total Deaths
South East Asia Region
2 072 194 Confirmed Cases
44 900 Total Deaths
World
17 396 943 Confirmed Cases
675 060 Deaths



Operations Centre (SHOC) room to provide command and control functions. Helpline has opened to answer public queries. Similarly WHO along with central and state government has tried their level best to make campaign in different social media for public health related issues and also against infodemic. WHO Country Office for India (WCO) continues to work closely with MoHFW, on preparedness and response measures including epidemiological assessment, surveillance, testing, case management, and containment and research activities for COVID-19 at the national, state and district level.

Prior to the outbreak of COVID-19, people already relied on social media to gather information and news, and since the outbreak in December 2019, people in India have relied on social media to obtain information about the virus. In addition, people in India depend on social media. Internet use is strongly associated with behaviors related to health information; users write about their health on various social media platforms.

Corona virus and social media: Different observations

Social media engagement rates during corona virus continue to shift as brands and agencies respond to the pandemic. Let's check in on the latest corona virus social media engagement rate impacts.

- After consecutive month's bump in engagement rates, channels and industries including advertisements are trending down.
- Different matters related to public health has increased day by day and searching of those subjects have also increased which is increasing public awareness day by day
- Birthday and anniversary wishes including posting of quotations have decreased also
- Non covid related news searching has decreased and only covid related news searching has increased in different social media
- A decrease in posting frequency coupled with more intentional and resonant posts towards the end of March led to some of the highest engagement rates brands had seen all year across Facebook, Instagram, and Twitter. As brands adjust to the "new normal" and get back to posting more frequently during the pandemic, it makes good sense that consumers may not be quite ready to engage on social in the same ways they did pre-coronavirus.
- Many alcohol brands are trying to be playful on social in this stressful time. Alcohol's performance brings a little levity to the chaos and heartbreak. Perhaps their sharp engagement increase a few weeks ago was from people needing a stiff drink due to election stress and the threat of corona virus spreading.

And Higher Ed is helping keep the all-industry Facebook average up with a return to their all-time high for 2020 in the last week.

- Higher Education specifically is already seeing increased volatility in their engagement rate. This is a great example of what will work for brands to maintain engagement: utility. As schools delay and cancel classes, stakeholders have questions and are vocal. With so much communicating to do about school closures and classes moving online, colleges and universities are clearly finding success on Facebook.

Visualizing different media through social media during the pandemic

Social media is a crucial source of information nowadays; twitter has the potential to provide real-time content analysis acknowledging the public health authorities to answer the queries of the people quickly. During COVID-19 pandemic, social media have offered immediate disease-related information to exchange among the people in real-time. It was found in a study that the H1N1 flu outbreak was also first accounted in social media. Consequently, government organizations such as the Centers for Disease Control and Prevention (CDC) began using social media to notify people of the apparent infections like the Zika and Ebola outbreaks . The continually evolving social media has become a key platform for communication during a crisis. Social media platforms are increasingly used by public health departments and individuals to communicate and exchange information during public health emergencies. Popular social media platforms such as Twitter, TikTok, YouTube and Facebook have contributed to educating people regarding the measures to avoid misinformation during COVID-19 pandemic. However, their roles remain questionable. The social media platform can be used to overcome mental strains during the mass quarantine. However, social media should be used for wiser reasons, since it provides an opportunity to acknowledge the measures to be undertaken, and to advice to prevent misinformation and panic.



Usage by world leaders

On 7 April 2020, U.S. President Donald Trump tweeted the *#America Works Together* hashtag to promote companies that are hiring employees in the middle of the economic turmoil caused by the virus and those who are donating food and other supplies to front line health care workers. According to a White House official who spoke on the condition of anonymity. Trump will also encourage people to use the hashtag when posting examples of Americans helping others during the crisis. Queen Elizabeth II and other members of the English Royal family have used social media to post comments to the public along with multiple family members participating in Zoom calls to nurse to celebrate International Nurses Day, which was later posted on their

YouTube page. Prince William and Catherine Middleton, allowed for their Instagram account to be "taken over" for 24-hours by Shout85258, the UK's first 24/7 crisis text line that they launched with Prince Harry and Meghan Markle in May 2019. The Dutch Royal Family, used their Instagram account to share a video of King Willem-Alexander, Queen Máxima and their teenage daughters clapping for first responders along with a small speech by the King.

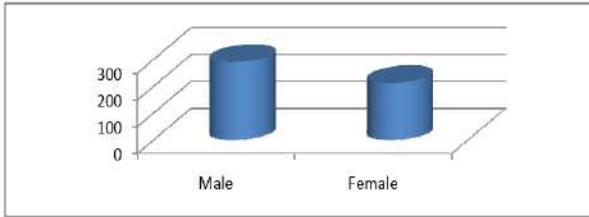
Cyberchondria and covid-19

Cyberchondria and information overload were observed from excessive internet use during COVID-19 pandemic. Cyberchondria is characterized as obsessive online searching for information related to health, usually about specific symptoms. Information overload is a situation in which all communications and information inputs can not be processed, resulting in the process of gathering information being terminated or the whole process becoming ineffective. Both cyberchondria and information overload have been found to impair human cognitive reasoning. During the novel, atypical and potentially lethal pandemic circumstances such as COVID-19 pandemic, a lack of clear communication can lead to confusion and even panic among people. Social media usage as a source of information raises both cyberchondria and information overload that can be clarified by the fact that social media news is more sensitive to individual biases and lacks the impartial and comprehensive approach unlike the reports of journalists. Social networking sites and search engine developers should take steps to ensure users as transparent and understandable information as possible to prevent the adverse effects of information overload and cyberchondria, while also communicating the seriousness of the pandemic and suggested health measures to citizens. Educating people on the responsible and safe use of social media may, therefore, help to mitigate the negative impacts observed. Among those who used social media as an information source, both cyberchondria and information overload were found to raise.



Research Methodology

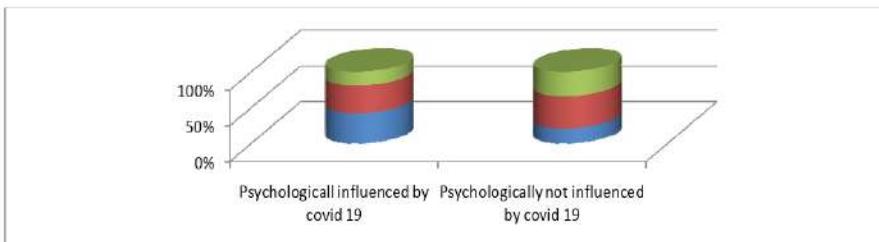
Here, total no of days, under research was considered from 24th March to 10th August, 2020 i.e. 140 days. To explain more, in March it was last 8 days, in April it was 30 days, in May it was 31 days, in June 30 days, in July 31 days and in August, upto 10th August 10 days i.e. in total 140 days. Among the popular social media facebook, twitter, instagram whatsapp, linkedin and YouTube were considered. 10 metropolitan cities Delhi, Kolkata, Mumbai, Chennai, Guwahati, Bhubaneswar, Bangalore, Jaipur, Chandigarh and Srinagar were chosen and from each city, 50 people of different ages were chosen at random age and specific questionnaire on covid



related issues were sent. Hence, total sample size was 500 people were surveyed from 10 cities and time period was 140 days of the year 2020, during covid-19 pandemic time.

Research questions and research analysis

Among total 500 respondents, 289 were male and 211 were female in this research work. Also when asked that whether covid-19 global pandemic situation affected psychologically to them, 73 percent respondent said yes and rest 27 percent said no. Also when asked to the persons who were affected psychologically by covid 19 situation, among them, 67 percent said that they are searching social media continuously for any news-informations related to corona virus and rest 33 percent were not searching. Also among the persons who were not affected psychologically by covid 19 situation, among them, 58 percent said that they are searching social media anonymously for any news- informations related to corona virus and rest 44 percent were not searching on that issue. All these are shown in the graph below:



Among all the questions of the questionnaire sent to the respondents, below analyzed questions were mentioned and after analysis, graphical representation were done and most important questions were mentioned here:

1. Among the social media mentioned (facebook, twitter, instagram whatsapp, linkedin and YouTube), which one is the most popular and which is least, according to you, in searching public health related issues?

Last week of March 2020 (8 days)

S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	32.2	Twitter	7.5	Instagram	4.1	WhatsApp	18.6	Linkedin	3.8	YouTube	33.8

Last week of April 2020 (30 days)

S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	34.1	Twitter	7.2	Instagram	4.2	WhatsApp	19.5	Linkedin	3.6	YouTube	31.4

Last week of May 2020 (31 days)

S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	36.0	Twitter	7.3	Instagram	4.1	WhatsApp	20.2	Linkedian	1.1	YouTube	31.3

Last week of June 2020 (30 days)

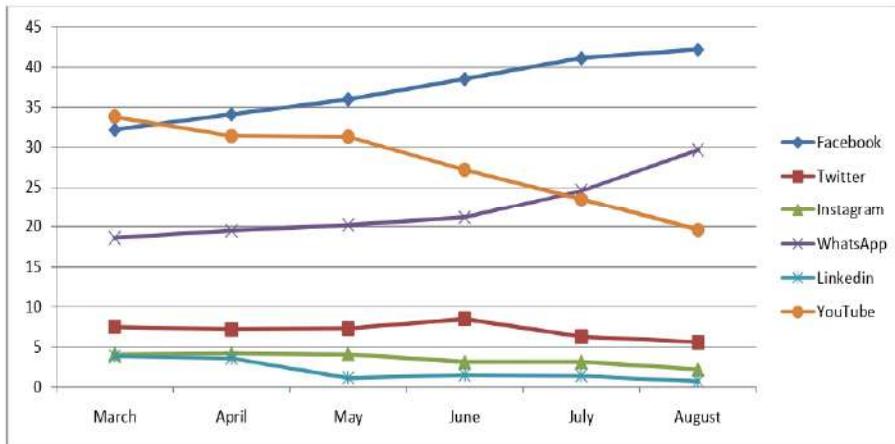
S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	38.5	S.Media	8.5	Instagram	3.1	WhatsApp	21.2	Linkedian	1.5	YouTube	27.2

Last week of July 2020 (31 days)

S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	41.1	Twitter	6.3	Instagram	3.1	WhatsApp	24.6	Linkedian	1.4	YouTube	23.5

1st week of August 2020 (10 days)

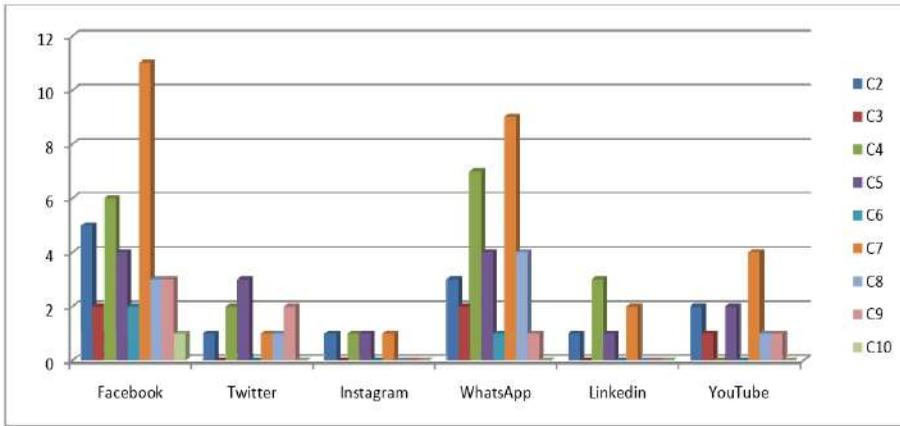
S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%	S.Media	%
Facebook	42.2	Twitter	5.6	Instagram	2.2	WhatsApp	29.7	Linkedian	0.7	YouTube	19.6



2. Among all types of uploaded matter, on which subject people has the most interest to see and read?

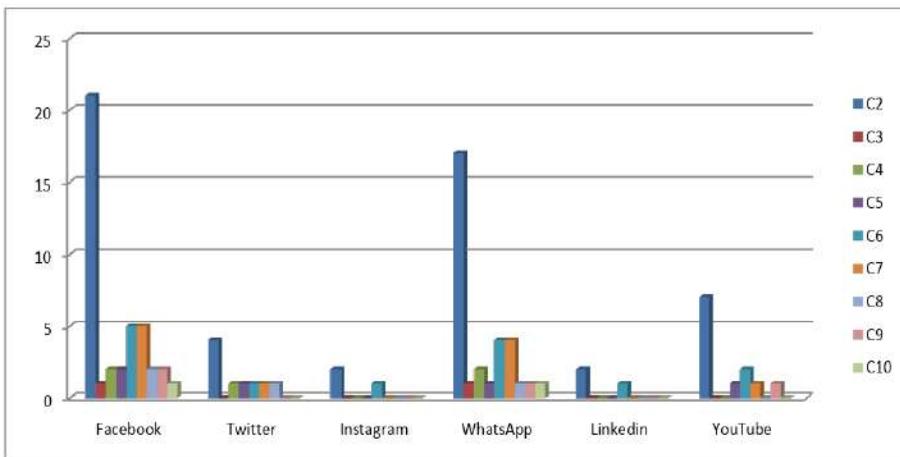
Last week of March 2020

	Public health related (%) C ₂	Advt (%) C ₃	Wishes and Quotation (%) C ₄	News excluding covid-19 (%) C ₅	News on covid-19 (%) C ₆	Different pictures (%) C ₇	Incident (%) C ₈	Govt order (%) C ₉	Other (%) C ₁₀
Facebook	5	2	6	4	2	11	3	3	1
Twitter	1	0	2	3	0	1	1	2	0
Instagram	1	0	1	1	0	1	0	0	0
WhatsApp	3	2	7	4	1	9	4	1	0
Linkedian	1	0	3	1	0	2	0	0	0
YouTube	2	1	0	2	0	4	1	1	0
Total	13	5	19	15	3	28	9	7	1



1st week of August 2020

	Public health related (%)	Advt (%)	Wishes and Quotation (%)	News excluding covid-19 (%)	News on covid-19 (%)	Different pictures (%)	Incident (%)	Govt order (%)	Other (%)
Facebook	21	1	2	2	5	5	2	2	1
Twitter	4	0	1	1	1	1	1	0	0
Instagram	2	0	0	0	1	0	0	0	0
WhatsApp	17	1	2	1	4	4	1	1	1
LinkedIn	2	0	0	0	1	0	0	0	0
YouTube	7	0	0	1	2	1	0	1	0
Total	53	2	5	5	14	11	4	4	2





Conclusion

As media professional working on Covid 19 global pandemic situation, we conclude from the study results that social media has played a significant role in affecting the public during the COVID-19 crisis. It is important to communicate this to health professionals in the region and for media experts to work with these professionals to ensure that only well-vetted information is disseminated to the public. It is also important to engage the Ministry of Health and the Ministry of Education in this effort to be prepared for future epidemics or health situations. This pandemic has certainly helped the authors identify the need for educating consumers on health topics found through social media. The usage of messaging apps the world over has increased, as people now seek solace in virtual socialising. As India practises social distancing to limit Covid-19 pandemic, Facebook is witnessing a surge in the number of active users and in the time people are spending on social media. In many of the states hit hardest by the virus, total messaging has increased more than 50 per cent over the last few months. Moreover, the usage of voice and video calling has more than doubled in the corona virus-hit states.

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ROLE OF EDUCATION IN PROMOTION OF MENTAL HEALTH AMONG STUDENTS DURING THE PANDEMIC TIMES

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Abstract

Our world is changing, and in order to prepare our children for this new world we need to change the way we educate them. In the 21st Century educators must design and develop classrooms that will help students connect with the world and understand the issues that our world faces. With this growing concern, it is essential to deliberate and to create a platform where various stakeholders of education share their experiences, and exchange their ideas and opinions to prepare today's students for success in life, with the capacity to think, solve problems and respond to and thrive within a changing society. During the pandemic time the feeling of inferiority causes frustration and a sense of unworthiness in humans, which is difficult to root out even with the most stimulating environment. This feeling of inferiority is dangerous and results in repressions and inhibitions of certain reactions which strike at the very root of harmonious development. Proper situations should be provided to the children for cultivating the qualities of punctuality sincerity, self-reliance, co-operation, sympathy and good will. The children should be trained to adjust themselves with the environment, to be cheerful, to avoid worrying and to see things in the right perspective in the pandemic times. The key for the betterment and completeness of modern living is education. This paper discusses the key role of education and well being through mental health education.

Key Words: Mental Health, Stress, Well Being, Pandemic, Personality.

Introduction

Mental health promotion aims to protect, support and sustain the emotional and social wellbeing of the population, from the earliest years through adult life to old age. It should address people who are currently well, those at risk of developing a mental health problem, and those experiencing mental health problems or mental illness. A range of factors influences mental health. Public policies in sectors such as health, housing, welfare, education, employment, justice and corrections, art, sport and recreation, and the media impact on mental health. Supportive social, economic, educational, cultural and physical environments provide a basic framework for developing and maintaining mental health, particularly for children and adolescents whose early experiences shape their later mental health. Communities that recognise and accept diversity also contribute to social and emotional wellbeing. Communities in which people feel involved, included and empowered to influence decisions that affect them are supportive of mental health.



Knowledge about risk and protective factors for mental health, symptoms of mental health problems and mental illness, and sources of help and self-help contribute to emotional resilience. Such knowledge is also essential in order to dispel the stigma of mental illness. The media have a major role to play in community education regarding mental health, but there are opportunities for all sectors to contribute to improving the mental health knowledge and skills of individuals, groups and communities.

Much of the activity in mental health promotion needs to occur beyond the system of direct mental health service provision, in other sectors that impact on the daily lives of individuals and communities. However, those who work in mental health have an important role to play in engaging these other sectors and alerting them to their capacity to impact positively upon mental health. Mental health services need to embrace mental health promotion in their own settings, by adopting a recovery orientation for students. Furthermore, mental health services should consider their wider role in terms of promoting mental health. Attitudes of the mental health workforce can perpetuate the stigma of mental illness. Improved attitudes towards students, their families and careers, along with continuous professional development that emphasises the priority of student rights and participation, are urgently needed. Promoting good emotional health is an increasingly important function among students. Promoting the psychological wellbeing of children and young people is recognised as a shared responsibility.

Consequently, better basic knowledge of mental health is needed across the children's work force. Teaching staff require sufficient support, time and resources to develop their knowledge and expertise.

Positive mental health and healthy development: Promotion

- ❖ Identification and effective management of emotions;
- ❖ Promotion of normal and healthy child and adolescent development;
- ❖ Exploration and use of children and youth's strengths and capacities;
- ❖ Development of meaningful family, school, and community relationships;
- ❖ Enhancement of positive coping and problem-solving skills;
- ❖ Creation of meaningful and positive learning environments;
- ❖ Increased participation in structured community recreational and leisure activities;
- ❖ Enhanced respect and appreciation for diversity and individual differences;
- ❖ Increased understanding and de-stigmatization of mental health conditions;
- ❖ Enhanced opportunities for children and youth to demonstrate age-appropriate Autonomy and choice;
- ❖ Heightened sensitivity to the needs of others and demonstration of pro-social Behaviours;
- ❖ Increased involvement in structured and unstructured physical activities.

Mental health education aims to protect, support and sustain the emotional and social wellbeing of the population, from the earliest years through adult life to old age. When we are free of depression, anxiety, excessive stress and worry, addictions, and other psychological problems, we are more able to live our lives to the fullest. Peace of mind is a natural condition, and is available to everyone. For example, stress can lead to hypertension or stomach ulcers. People who are mentally healthy are at a lower risk for many health complications.



The importance of mental health helps / leads the individual in:

- Developing a desired / harmonious personality
- Proper emotional development
- Proper social development
- Proper moral development
- Proper aesthetic development
- Seeking goals of life
- Actualizing one's potentialities
- Progress of the society

Life Skills Education for Psychosocial Competence

One of the methods by which promotion of child mental health can lead to prevention of mental illness is by the promotion of 'Life Skills Education for Psychosocial Competence' thereby promoting mental health, as a whole. This is a program designed by the World Health Organization (WHO), the rationale for which is the imparting of life skills education in order to improve individual psychosocial competence (PSC), given that most people in this world have average intelligence, although they may differ vastly and widely in their self-image and self-esteem and in being successful in education, work or relationship. However, one would need to first understand what psychosocial competence is and how life skills education can help in improving it. Psychosocial competence is a person's ability to deal effectively with the demands and challenges of everyday life. It is a person's ability to maintain a state of mental well-being and demonstrate this in an adaptive and positive behavior, while interacting with others and his / her culture and environment. PSC has an important role to play in the promotion of health in its broadest sense; which includes physical, mental, and social well being. The most direct interventions for promotion of PSC are those that enhance the individuals' coping resources, and personal and social competencies. PSC also encourages peoples to live happily in co-existence with their surroundings.

Life Skills, being skills of adaptive and positive behaviors, enable individuals to enhance psychosocial competence. The nature and definition of life skills are likely to differ across different cultures and societies. Life skills are innumerable; however, analysis of life skills suggests that there are core set of skills, which are the heart of skills-based initiatives for the promotion of mental health and well being. These core life skills are Decision making, Problem solving, Creative thinking, Critical thinking, Effective communication, Interpersonal relationship skills, Self-awareness, Empathy, Coping with emotions, and Coping with stress.

Life skills enable individuals to translate knowledge, attitudes, and values into actual abilities — that is, '*what to do and how to do it*'. Life skills are skills that enable individuals to behave in a healthy manner, given the desire to do so and given the scope and opportunity to do so. Life skills improve the perceptions of self-efficacy, self-confidence, and self-esteem. Therefore, life skills play an important role in the promotion of mental well-being. The promotion of mental well-being contributes to our motivation to look after ourselves and others, the prevention of mental disorders, and of health, as well as behavior problems.



Teacher as Facilitator

Teacher has to recognise that in learner centered learning situation, curriculum ‘evolves’ and is not ‘pre designed’; teacher is merely ‘prepared’ for providing possible supports in the process of learning by learners. Every subsequent learning situation cumulatively provides better insight to teacher in discerning learner needs and, creates pool and identifies varied learning supports.

- There is no one ‘method’ that is effective in causing all learners to learn in similar ways. Each teacher has to find one’s own ‘style’ of learning through perceptive practice but recognise the fact that all learners learn in their own ways.
- Teacher needs to recognise him or herself as a ‘professional’ endowed with the necessary knowledge, attitude, competence, commitment, enthusiasm, spirit of seeking new ways and means, capable of reflection, sensitive and perceptive to not only the learners and the institution but also the emergent concerns in the larger social perspective within which one functions.
- The need in the pandemic times for a teacher is to develop learners instead of teaching them, helping their students to become independent (learning to learn) and autonomous learners. Teaching should be practical, flexible and child-centered.
- Teachers must provide students with motivation and interest for life-long learning and urge them to become mentally balanced, for the future. The responsibility of governments, higher education institutions, and mostly teachers need to play a major role towards this development in the pandemic times.

Educational Implications for Students

Students with mental health problems may have difficulty maintaining regular progress at school. Students with severe mental disorders often struggle academically and may need educational supports guided by an individualized education plan (IEP). Plans should include provision of supports to help students develop the social skills, self-awareness, self-control, and self-esteem they need to succeed academically. These skills are important to all students, but students with mental health problems often have difficulty developing them at the same pace as other students. As well, students with developmental, physical, or learning problems often need special support and remediation to enable them to build social and interpersonal skills.

Building Mental Health Promotion among students: Key Processes

- ❖ Beginning interventions early
- ❖ Particular and distinctive attention in respect to age
- ❖ Promoting self-esteem, self-confidence and life skills
- ❖ Giving personal support, guidance and counselling
- ❖ Building warm relationships
- ❖ Set up clear rules and boundaries
- ❖ Encourage participation and autonomy
- ❖ Involve peers and parents in the process
- ❖ Create a positive climate
- ❖ Take a long term, developmental approach



❖ Avoid language which is stigmatizing

Student in his attempts to satisfy his / her needs in this fast moving complex world need to make continuous attempts to adjust to the environment accordingly. The process of adjustments is due to the individual's attempts to adapt to the circumstances. A harmonious personality among students is capable of making good adjustments.

Conclusion

Society is changing rapidly and children and adolescents face challenges that their parents could not even imagine. Comprehensive Guidance and Counseling approaches continue to hold much promise for helping today's students in dealing more successfully with the challenges associated with making transitions into adult living with keeping their mental health well balanced. Today the world is interconnected and interdependent. We are facing the challenges such as climate change, health epidemics, global poverty, global economic recessions and trade imbalances, assaults on human rights, terrorism, political instability, and international conflicts. It is important to recognize the crucial role of education in contributing to building a culture of peace and condemning instances in which education is undermined in order to attack democracy and tolerance. Education is the key to uniting nations and bringing children together. In many parts of the world, civil society suffers because of situations of violent conflicts and war. It is important to recognize the crucial role of education in contributing to building a culture of peace and balanced environment in and around the world. It is education that enables man to harness nature and utilize his / her resources for the well-being and improvement of owns one life.

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xk/khth ds ; k=k ny ea i Hkkorh Hk jgrh FkA 1925 bz ea muds fcglj vku/ka nsk rFkk mlkj insk ds nls ; ea Hk os xk/khth ds l kfk jghA ik; % l Hk dlejd vf/koskuka ea mlga tkus dk vol j fey tkr FkA 1930 bz ea i Hkkorh t; idk" k th ds l kfk bygkcln ea d n fnu frnk; A deyk ug; ds l kfk i Hkkorh nplkula ij /kjuk nrh FkA⁹

Qojh 1932 dls iq 'kklke nkl VmU dsedku ij ehfVx py jgh FkA ml h l e; i f y l us vl; efgykva ds l kfk i Hkkorh dls fxj'rkj dj fy; kA¹⁰ v k B Qojh dls mudk Vh; y gqk vlg mlga dVh l tk fey hA ty l s N v us ij os xk/khth ds l kfk jgrh FkA 1934 bz ea xk/khth ds l kfk fcglj ds nls k ij vk; hA t; idk" k ds g ykus ij os fcglj vrh Fk i Qj v k J e y k V tkrh FkA



1940 bZ ds jkex<+dłpłd ea iHkrorh dks Lo; d fodk ny dk iez[k cuk; k x; kA młgłaus cgr yxu ls Lo; a l fodkva dh Hkrtz rFkk if"kk.k dk dk; Z fd; kA muds bu dk; k l s fcgkj dh efgykvla ea txfv vk; hA¹¹ muds iz; Rula ds QyLo: i 26 tu 1940 bZ dks iVuk eafcgkj efgyk p[kkZ Dykl dsuke ls, d l k.Fkk dh LFkki uk ghpA 1941 bZ ea x; kj gtiJhcx rFkk cfr; k ftys ea p[kkZ Dykl [kly s x; A vxLr 1942 ea p[kkZ Dykl }kjk l xBr nls lKs efgykvla dk tyñ i Hkrorh ds usRo ea iVuk l QVfj; V ij frjck Qgjkus ds fy, fudykA¹² i jUr q i Hkrorh ds fxj qrkjh ds ckn dk; Z f"kkFky i M+ x; kA 1946 bZ ea i Hkrorh ds usRo ea p[kkZ Dykl dh vlg l s vLirky ea Hkrtz fd; s x; s nck fi fMra dh l ok dhA¹³ vktlnh ds ckn os ukjh ttxj.k rFkk Hkpkv vñksyu ea yxh jghA

"kkjnk dèkjñ nòh & "kkjnk dèkjñ nòh , d l kgl h efgyk FkA budk tle eqt QQjij ea vxLr 1908 bZ ea gvk FkA buds fir k Hkxorh pj.k fcgkj ds ifl) odhy FkA 12 o'kZ ds mez ea budk fookg Nijk ds enu id kn l sgvk vlg dñ gh fnula eafokok gks xBA¹⁴ 1920 bZ ea blgłaus i nł& i Fkk dk ifjR; kx dj vñksyu ea Hkx ysuk i kkk fd; kA l u-1922 bZ ea eqt QQjij "kgj ea ?kj & ?kj ?medj [kknh dk ipkj fd; k rFkk l Hkx ifjokj dh efgykvla dks drtkbz cnpkbZ fl [kk; kA¹⁵

1930 bZ l fou; voKk vñksyu ea l fO; ; ksnku fn; k rFkk N%efgus dñ dh l tk Hkxruh i MhA 1934 bZ ea HkqEi fi fMra ds fy, cgr dke fd; kA 1936 bZ ea dlpłd ds fvdV ij tc i Fke kj fo'ku l Hk ea efgykvla dk i osk gsjgk Fk ml l e; ; seft Qjij ngkrh {s- l spudj vk; hA 13 vDVñj 1939 dks ngst fojkkh fo/ks d 11 ds f[kyQ 5-55 cgr l s i kfr gks x; kA ft l dk "kkjnk dèkjñ nòh us tñkjñ l eFlu fd; kA¹⁶

"kkjnk dèkjñ nòh efgykvla ds mRFku ds fy, Yefgyk ni.kz uked if=dk fudkyrh FkA blgłaus cEcbZ dlpłd vf/ko'sku ea Hk Hkx fy; k FkA 1939 bZ ea tc fcgkj ds jkex<+dłpłd dh r'kjñ py jgh Fk "kkjnk dèkjñ nòh ijs i kar ea /ne&/medj fcgkj efgykvla dks dlpłd ea Hkx ysus ds fy, mRi fjr djñ jghA 31 vDVñj 1939 bZ dks Nijk ea efgykvla dh , d egroi wZ l Hk dks blgłaus l cks/kf fd; k FkA ifj.kelO: i ifr'Br ifjokj dh efgykvla us cMh l q; k ea jkex<+dłpłd vf/ko'sku ea Lo; a l fodkva ds : i ea dke djus ds fy, vius dks i lnr fd; kA 1940 bD ds l R; kxg ea blga N eghus dh ty dh l tk ghpA ; s gtiJhcx l vV'y ty ea FkA fl rEej] 1970 bZ ea budk fu/ku gks x; kA¹⁷

jkeLo: i nòh & jkeLo: i nòh dks fcgkj dh y{ehcbZ dgk tkrk gñ mudk tle 1884 bZ dks Hkxyij ftys ds dgyxlp ea, d Hñegkj cte.k ifjokj ea gvk FkA budk fookg uls o'kZ dh voLFkk ea gh Nijk ds gj ek/ko id kn l s dj nh xBA 1922 ea blgłaus x; k ea efgyk dlpłd dh v/; {rk dh FkA fQj ifr ds fxjQrkjh ds ckn młgłaus Lorærk l akte ea Hkx ysuk "kq dj fn; k FkA¹⁸ 1930 l s 1942 bZ rd muds egroi wZ dk; kaus Lorærk l akte ds bfrgl ea dbZ jkpd v/; k; t k/s gñ

1930 bZ dk **ued l R; kxg** dkuu Hkx djus ds vjki ea buds ifr gje/ko id kn dks fxjQrkj dj gtiJhcx ty Hkst fn; k x; kA bl ds ckn blgłaus xlp&xlp dk nlgk dj turk eafonkg dh Toky l gyxkuh "kq dj nhA tuojh 1931 bZ dks młga Hk "l fou; voKk vñksyu" ea fxjQrkj djs Hkxyij l vV'y ty ys tk; k x; kA¹⁹ l u-1932 bZ ea x; k ea vf[ky Hkjrñ; ukjh dlpłd vf/ko'sku dh l Hk urk ds : i ea młga młst d Hk'k.k nus ds vjki ea fxjQrkj dj fy; k x; kA

jkeLo: i nòh use<lgk Fkk ij /ot ygjk dj fey {s- ds ckgj , d l Hk ea viuk Hk'k.k fn; kA ml h l e; fl ikfg; ka dh , d vñh us l Hk ij geyk dj fn; kA młga fxjQrkj djs Nijk ty rFkk fQj ych l tk dVus Hkxyij ty Hkst fn; k x; kA vktlnh feyus ds ckn ty l s epr ikdj os i q% l fO; gks xBA 1952 bZ i Fke puko ea og fcgkj fo'ku l Hk ea ppu dj vk; hA dñ l e; ckn og chekj gks xBZ vlg 29 fnl e] 1953 bZ dks mudk fu/ku gks x; kA

rjkjkñ Jhokro & rjkj jkuh Jhokro , d iez[k Lorærk l s kuh FkA budk tle l kj.k ftys ds egkj txat Fkk ds cky&clajk xlp ds dk; LFk ifjokj ea gvk FkA muds ifr d'ysuk id kn Jhokro Fk t's fd xk/hth ds }kjk pyk; s x; s vfgd d vñksyu ds l s kuh Fk rjkj jkuh dk fookg 12 o'kZ dh mez ea dj fn; k x; kA muds vuq kj i gys gh fnu młgłaus vius ifr l s dgk fd **eñ ns'k ds fy, dke d: xh** ; g oknk og ges'kk fuHkkrh jghA

16 vxLr] 1942 bZ dks , d tyñ earkj jkuh Jhokro muds ifr Jh d'ysuk id kn mudh ekj muds nkn l Hk "kkfey FkA²⁰ tyñ ij Hk'k.k ykñ vlg xlyh pyhA rjkj jkuh Lo; a ykfb; ka dh ekj l s cgs'k gkdj fxjHA fQj muga [kj feyh fd muds ifr xlyh ds f'kdkj gks x, gñ i jUr q os Fkkus ij > ñk yx tkus ds



cln gh ykV/A bl rjg clckj ek; vlg ifr rhula Lorark dh cfy ij p<+x, A rkjk jkuh JhokLro dks nqkjk ty Hst fn; k x; kA fxj rkrjh ds le; og ?kk; y FkA Nijki Hkxyij ty l s Lorark ds cln gh fjpg gbA bl izdkj dkg tk l drk gs fd fl QZ fcgkj gh ugha cfYd ijs nsk ea tS & tS s Kku dk izdk" k c-k oS & oS svlko" okl gVus yxkA efgyk,; ijnk&iFkk rkmelj jk'Vh; tkxj.k ds dk; Z ea Hkh Hkx yus yxkA Hkjr; jk'Vh; vltkyu us fcgkj dh efgyvkla ds vl; iarka dh efgyvkla dh rjg ijnk l sgVkdj jk'Vh; tu&thou ea ykus dk dk; Z fd; kA egkRek xkylh dh vihy us tknw dk vl j fd; k vlg vfoye gh l kj.k dh efgyvkla us dh bl ea Hkx ydj vktknh ds exZ dls i'kLr fd; kA

I nHkZ & I ph

- 1- f"koitu l gk; *Va a/ fcgkj dh efgyk,* i: 331
- 2- l gk;] f"koitu; i nkd r i: 332
- 3- i Hk & Lefr; l oZ l ok l ak izdk"ku] 1974] i: 31
- 4- bM; u l l y fjQgej] 21 tykb] 1928
- 5- n l pykbV] 26 uoEj] 1930 i: 5
- 6- nUkk ds ds] *Omme emel bu fcgkj* [k.M & 2] i: 195
- 7- i Hk & Lefr] l ol ok l ak izdk"ku] 1974 i: 222
- 8- ogh] i: 223
- 9- ogh i: 285
- 10- ogh] i: 232
- 11- l gk;] f"koitu; i nkd r i: 341
- 12- efgyk p[*HkZ l febr if=dk] jtr t; rh vad*] i: 13
- 13 ogh] i: 14
- 14 ogh] i: 15
- 15- JhokLro fot; k; *Jherh "Mjnk dlejh nah dk ifjp;*
- 16- n l pykbV] 10 Qjojhi] 1922
- 17- fcgkj fo/kul Hk okn & foon ok; e & 3 i kV&2] i: 2431&35
- 18- fot; dlejh *Va Eikfnr* "jkeLo: i nah" *fcgkj ds foekl ea efgyvkla dh HmedA* fcgkj jkT; vflky[*Hkxkj*] i Vuk] 2012] i: 187
- 19- fglnrku VkbEl] tuw 14] 1947
- 20- f"koitu l gk; *Va a/ i nkd r*] i: 320



MENTAL HEALTH AND RELIGIOUS ATTITUDE OF UNIVERSITY STUDENTS OF KOLKATA

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Abstract

Introduction and Method The present investigation attempted to study the mental health and religious attitude of university students residing in Kolkata. The sample comprised of students of different departments of university belonging to the age range of 22 to 30 years and all of them were from Hindu religion. Two standardized tools were used to assess their mental health and religious attitude.

Results Statistical analysis done by computing mean, standard deviation, correlations and One-way-ANOVA indicated that the majority of the sample had neutral attitude towards religion and there was little variation in their levels of mental health. Most of the dimensions of religious attitude and mental health were negatively correlated. So the overall findings suggest that there is a significant influence, though negative, of mental health on different dimensions of religiosity. Further there were significant differences in most of the dimensions of religious attitude according to levels of mental health, age and gender.

Conclusion The study implies that since mental health and one dimension of religious attitude, that is, attitude towards future life and morality is significantly and positively associated, morality and desire to perform good deeds may be included in mental health intervention strategies for fostering mental well-being among university students.

Keywords: University students, Mental health, Religiosity, Religious attitude

INTRODUCTION

From the perspective of positive psychology or holism, mental health may include an individual's ability to enjoy life and create a balance between life activities and efforts to achieve psychological resilience^[1]. According to the World Health Organization (WHO), mental health includes "subjective well-being, perceived self-efficacy, autonomy, competence, inter-generational dependence and self-actualization of one's intellectual and emotional potential, among others"^[2].

A holistic model of mental health generally includes concepts based upon anthropological, educational, psychological, religious and sociological perspectives as well as theoretical perspectives from personality, social, clinical, health and developmental psychology. The holistic model emphasizes mental wellness which is a positive attribute of emotional wellbeing and the capacity to live a fruitful life^[3]. An individual's mental health may have many different possible values such as mental wellness, emotional well-being, positive psychology etc. Wellness involves positive



aspects of human life, like happiness, well-being and flourishing^{[4][5]}. Maintaining good mental health is crucial to living a long and healthy life. There are five main aspects of personal health which are interrelated; these are physical, emotional, mental, social and spiritual. In order to be considered “well”, it is imperative for none of these dimensions to be neglected^[6].

There is a speculation whether religiosity or an individual’s religious attitude is associated with one’s mental health. There is a controversy regarding the impact of mental health on one’s religious attitude. Religious attitude is a positive or negative responsive tendency towards various aspects of religion; it may be favourable or unfavourable response involving some kind of actions inherently or overtly towards God etc. Religious attitude is also related to religiosity and spirituality. Religiosity means “piety” or “the state of being religious” or “affection in religion”. It includes experiential, ritualistic, ideological, intellectual, consequential, creedal, communal, doctrinal, moral, and cultural dimensions^[7]. Religiosity is a term used to describe the extent to which religion influences societies and intersects with other areas of public life. It defines the role that religion plays in society, including the extent of people's beliefs, commitments, and levels of engagement with their particular religion. Although it is a rather broad term that can be applied in different contexts, religiosity is generally related to how much a particular religious doctrine is internalized (belief systems, identity, etc.) and is less related to the actual practice of religion, like going to temple. It is a term used to refer to excessive involvement in religion or religious activity. Such involvement goes beyond the norm for a person of a similar faith and is often driven more by individual beliefs than the content of the actual religion. It usually reflects one’s individual beliefs more than those of the religious organization itself. Another term of religiosity is religiousness, “the state of being superficially religious”^[8]. Numerous studies have explored the different components of human religiosity. According to these studies there are multiple dimensions in religiosity^[9].

In general there are five dimensions of religiosity; the first of all is Religious Beliefs or what others have called “**Ideological**” or “**Doctrine**” component. It is the acceptance of a standard set of religious beliefs, such as God, the after-life, the supernatural, etc. It indicates a meaning system that involves a higher power and a sacred or supernatural realm. The second dimension is Religious Exclusivity. It shares much in common with “**Doctrinal orthodoxy**” or “**Dogmatism**”. It means strong beliefs that is passed down and never questioned. It also refers to arrogant opinions based on religious principles and activities. **External Practice** is third dimension of religiosity. It universally includes religious service attendance, group membership, and social activities. The fourth dimension of religion is Personal Practice. This dimension is much like “**Devotionalism**”. It involves religious behaviours usually done on one’s own, thus requiring a level of personal dedication. The fifth and final dimension of religion is “**Religious Salience**”. This is a dimension of religion representing the place in one’s hierarchy of identities that religion holds. These dimensions are all associated with one another^[10].

Psychologically religious attitude is an attitude informed by the careful observation and respect for invisible forces and personal experience. The term “religion” designates the attitude peculiar to a consciousness which has been changed by experience of the



situation. It simply gives expression to a particular collective religious belief^[11]. There are various areas which are related to attitude towards religion, such as, Nature of God, Prayer & Worship, Formal religion, Future life, Priests, Spiritual and Spirits world. Recent researches in this area suggest that there is a significant relationship between religious beliefs and mental health, i.e., when religious attitude is more positive, people will have better mental health. Religious coping and religious practices are significant predictors of all positive well-being outcomes. Against this backdrop the present study tries to find out the mental health and religious attitude of university students of Kolkata. The university students have to meet many demands to fulfill their desires of academic achievement. They must have adequate mental health and positive well-being to face the challenges. So the present investigation was carried out with the following objectives.

Objectives-

- To find out if there is any association between mental health and the different dimensions of religious attitude.
- To find out if there is any influence of levels of mental health on the dimensions of religious attitude.
- To find out the influence of age and gender on different dimensions of religious attitude.

METHOD

Sample-The present study was carried out in Kolkata. The sample consisted of 50 male and 50 female subjects. The subjects were either students or research scholars of different departments of the university and were aged between 22 and 30 years. All the subjects were from Hindu religion and their minimum educational status was graduation. Purposive sampling technique was used to draw the sample from the population.

Tools used-Two standardized tools were used for the present study. These were the Rajamanickam's Religious Attitude Scale (1962)^[12] and Mental Health Battery by Singh & Sengupta (1971)^[13]. The first scale consisted of 60 items and each item had 5 alternatives. There were six dimensions namely (A) Nature of God, (B) Prayer and worship, (C) Formal Religion, (D) Future Life, (E) Priests, (F) Spirits and Spirit World. The second scale consisted of 130 items. There were six areas namely Emotional stability, Over-all adjustment, Autonomy, Security-insecurity, Self-concept and Intelligence.

Procedure-Data were collected by following questionnaire method from different university campuses in Kolkata. Informed consent was obtained from the authority and the participants of the study. They were assured that all information will be used for research purpose and remain confidential. After data collection, the responses were scored according to the norms given in the manuals. Finally, all data were tabulated.

RESULT

Data were analyzed by Mean, Standard deviation, Product moment correlation and One-way-ANOVA. Table 1 represents the descriptive statistics of different dimensions of Religious attitude and its total score. Table 2 shows the descriptive statistics of Religious attitude (total) according to different levels of Mental health. Table 3



represents the correlations between different dimensions of Religious attitude and different areas of Mental health. Tables 4 - 6 represent the summary of One-Way Analysis of Variance including Mental Health, Age and Sex as independent variables respectively, and different dimensions of Religious Attitude as dependent variables.

Table 1: Descriptive statistics of different dimensions of Religious attitude and its total score

Religious attitude	N	Minimum	Maximum	Mean	Std. Deviation
Nature of god	100	16	37	26.69	3.357
Prayer and worship	100	11	36	24.74	4.165
Formal religion	100	19	36	28.52	3.642
Future life	100	18	42	30.03	3.636
Priests	100	23	41	29.67	3.232
Spirits and spirit World	100	24	37	30.01	2.294
Total score	100	127	199	168.82	12.656

Table 2: Descriptive statistics of Religious attitude total scores according to levels of Mental health

Mental health levels	Mean	N	Std. deviation
Good	166.73	15	16.494
Average	164.75	40	14.182
Poor	171.94	16	7.178
Very poor	173.79	29	8.086
Total	168.82	100	12.656

Table 3: Correlations between different dimensions of Religious attitude and different areas of Mental health

Religious Attitude	Emotional stability	Over all adjustment	Autonomy	Security-insecurity	Self-concept	Intelligence	Total score of Mental health
Nature of god	-.351**	-.484**	-.444**	.034	-.118	-.407**	-.486**
Prayer and worship	-.591**	-.555**	-.420**	.089	-.151	-.454**	-.621**
Formal religion	-.606**	-.622**	-.401**	.034	-.134	-.508**	-.663**
Future life	.303**	.310**	.271**	.038	.012	.502**	.433**
Priests	-.395**	-.395**	-.307**	.012	-.185	-.244*	-.412**
Spirits and spirit world	-.115	-.049	.165	.058	-.025	.130	.039
Total Score	-.529**	-.536**	-.373**	.087	-.183	-.304**	-.525**
N	100	100	100	100	100	100	100



Table 4: Summary of One-Way Analysis of Variance including Mental Health as independent variable and different dimensions of Religious Attitude as dependent variables

Dimensions of Religious attitude		Sum of Squares	Df	Mean Squares	F	Sig.
A	Between Groups	167.526	3	55.842	5.656	.001
	Within Groups	947.864	96	9.874		
	Total	1115.390	99			
B	Between Groups	241.831	3	80.610	5.245	.002
	Within Groups	1475.409	96	15.369		
	Total	1717.240	99			
C	Between Groups	272.525	3	90.482	8.382	.000
	Within Groups	1040.435	96	10.838		
	Total	1312.960	99			
D	Between Groups	99.177	3	33.059	2.623	.055
	Within Groups	1209.733	96	12.601		
	Total	1308.910	99			
E	Between Groups	104.505	3	34.385	3.597	0.016
	Within Groups	929.605	96	9.683		
	Total	1034.110	99			
F	Between Groups	52.379	3	17.460	3.577	0.017
	Within Groups	468.611	96	4.881		
	Total	520.990	99			
Total Score	Between Groups	1600.631	3	533.544	3.593	.016
	Within Groups	14256.129	96	148.501		
	Total	158586.780	99			



Table 5: Summary of One-way Analysis of variance including Age as an independent variable and different dimensions of Religious attitude as dependent variables

Dimensions of Religious attitude		Sum of squares	Df	Mean squares	F	Sig.
A	Between Groups	122.780	8	15.347	1.407	.204
	Within Groups	992.610	91	10.908		
	Total	1115.390	99			
B	Between Groups	343.968	8	43.000	2.849	.007
	Within Groups	1373.242	91	15.091		
	Total	1717.240	99			
C	Between Groups	164.400	8	20.550	1.628	.128
	Within Groups	1148.560	91	12.622		
	Total	1312.960	99			
D	Between Groups	104.366	8	13.046	.986	.453
	Within Groups	1204.544	91	13.237		
	Total	1308.910	99			
E	Between Groups	77.427	8	9.678	.921	.503
	Within Groups	956.683	91	10.513		
	Total	1034.110	99			
F	Between Groups	47.386	8	5.923	1.138	.346
	Within Groups	473.604	91	5.204		
	Total	520.990	99			
Total score	Between Groups	2180.538	8	272.567	1.814	.084
	Within Groups	13676.222	91	150.228		
	Total	15856.760	99			



Table 6: Summary of One-way Analysis of variance including Sex as an independent variable and different dimensions of Religious attitude as dependent variables

Religiosity		Sum of Squares	Df	Mean Square	F	Sig
A	Between Groups	90.250	1	90.250	8.628**	.004
	Within Groups	1025.140	98	10.461		
	Total	1115.390	99			
B	Between Groups	331.240	1	331.240	23.41**	.000
	Within Groups	1386.000	98	14.143		
	Total	1717.240	99			
C	Between Groups	207.360	1	207.360	18.380**	.000
	Within Groups	1105.600	98	11.282		
	Total	1312.960	99			
D	Between Groups	1222.420	1	86.490	6.934*	.010
	Within Groups	1308.910	98	12.474		
	Total		99			
E	Between Groups	8.410	1	8.410	.804	.372
	Within Groups	1025.700	98	10.466		
	Total	1034.110	99			
F	Between Groups	2.890	1	2.890	.547	.461
	Within Groups	518.100	98	5.287		
	Total	520.990	99			
TOTAL	Between Groups	1024.000	1	1024.000	6.766*	.011
	Within Groups	14832.760	98	151.355		
	Total	1586.760	99			

DISCUSSION

The present study attempts to investigate the role of mental health and some demographic variables on religiosity or religious attitude of university students (22 to 30 years) residing in Kolkata. Since students pursuing their higher studies often face different kinds of challenges and they have to deal with stressful situations, adequate mental health is necessary. Further it is of interest to examine whether mental health is



associated with religious attitude and if there is any influence of mental health on their religious attitude.

The first table represents descriptive statistics of religious attitude and mental health of the sample. In general it can be said that by observing the means that the sample of this study comprising of educated youth of Kolkata, has a neutral attitude towards religion. Table 2 shows the mean and standard deviation values of the different dimensions of religious attitude according to levels of mental health. This table clearly shows that the mean of religious attitude tends to increase with deterioration in mental health. This finding is consistent with some earlier researches. **Rogers (1995)** in his study has explored constructive and destructive use of religion and the quality of one's self image and relationship with God. His findings suggest that religious attitude may be an ongoing and dynamic part of the experience of mental illness^[14]. **Leondari and Gialamas (2009)** have also found partial support for the hypothesized association between religiosity and psychological wellbeing^[15]. **Koenig (2009)** has stated that religious beliefs and practices are often entangled with neurotic and psychotic disorders^[16].

Table 3 shows the correlations between dimensions of religiosity and the total score with dimensions of mental health and its total score. It is observed from the results that most of the dimensions of religious attitude are negatively correlated with different dimensions as well as total score of mental health at .01 level of confidence. The dimension F (Spirit & spirit world) has negligible correlation, and dimension D (Future Life) is positively correlated with mental health. The different aspects of mental health – emotional stability, autonomy, intelligence and overall adjustment are positively and significantly correlated with this dimension of religious attitude. So the overall correlation results imply that those with higher mental health have neutral or negative attitude towards religion. Further table 4 shows that there is a significant influence of mental health on most of the dimensions of religiosity (except the dimension D) at .05 level of confidence. Thus the findings of the present study are consistent with results of previous researches.

Table 5 is a summary table of One-way-ANOVA representing influence of age on religiosity. The age group of the subjects ranged from 22 to 30 years only and there is not much variation in religious attitude scores according to age. The table suggests that age has significant influence only on dimension B (Prayer and worship) of religiosity at .01 level of confidence. However, **Kalhor, et al. (2014)** has found statistical relationships between age and mental health. It may be mentioned that the age range is narrow in this study and all the subjects belong to the early adulthood stage^[17].

The One-way-ANOVA summary table 6 indicates that sex has significant influence on most of the dimensions of religiosity (dimensions A, B, C & D) at .01 level of confidence. This finding is supported by **Kalhor et al. (2014)** where a significant statistical relationship between sex and mental health has been established. **Leondari and Gialamas (2009)** also have reported that sex is significantly related with three religiosity variables, women being more religious than men.

The overall findings reveal that the mental health of a young person influences his or her beliefs regarding supremacy and omnipresence of God, religious activities of prayer and worship, faith of Hindu scriptures, tendency of visiting temples, faith in the role of



priests or existence of priests, etc. adversely. The influence of mental health on beliefs regarding existence of spirits is not statistically significant and the correlation is negligible. But, on the other hand mental health significantly as well as positively influences the beliefs and attitude regarding future life and spirituality. According to **Rajamanickam (2004)** the future life focuses on the ethical evolution of religion and the fundamental principle of leading a higher moral life and doing good deeds. So it can be said that mental health influences ones moral qualities. This particular finding is to some extent consistent with a number of recent studies that emphasize the importance of religious attitude as mechanism for coping with stress. For instance **Bonelli et al. (2012)** have reported the fact that depressive symptoms and religious/spiritual practices are widespread around the world, but their intersection has received relatively little attention from mainstream mental health professionals. Religious beliefs and practices may help people to cope better with stressful life circumstances, give meaning and hope, and surround depressed persons with a supportive community. Religiosity becomes a defense mechanism for better mental health^[18]. **Mirzayi et al. (2017)** have suggested that there is a significant relationship between religious beliefs and mental health, i.e., when religious attitude is more positive, people will have better mental health^[19]. **Fatima et al. (2018)** have reported that religious coping and religious practices are significant predictors of all positive well-being outcomes^[20].

CONCLUSION

With the increasing recognition of holistic approaches to the understanding and management of mental health, researches are being conducted to demonstrate that mental health and religious attitudes are intricately related with one another. The present study has tried to verify this opinion empirically on a small sample of young graduates pursuing their higher studies in the university. The results suggest that there is significant association between different dimensions of mental health and most of the dimensions of religious attitude but in negative direction. Only the correlation between mental health and future life is found to be significantly positive, which means that good mental health tends to increase higher ethical and moral qualities. Thus mental health intervention strategies in the university campuses may include morality and desire to perform good deeds for fostering mental well-being among students and research scholars. It should be mentioned that large, representative sample across different age group, socioeconomic status, education needs to be studied before drawing generalized conclusions.

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A SURVEY ON FAKE DATA IDENTIFICATION IN BIG DATA USING ARTIFICIAL INTELLIGENCE TECHNIQUES

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ABSTRACT:

The online social media has a mass population of people as its users and also attracts the interest of cyber criminals, who intend to carry out malicious activities. The immense amount of fake data motivates to do a survey on this issue. The issue considered here is to analyze and compare machine learning techniques for better prediction to identify fake data from social media data like Facebook, Twitter, Instagram, Pinterest, etc., The identification of fake data from twitter attributes helps to improve security related premises in social media. To avoid the fake information on social media, Artificial Intelligence techniques helps out the machines to logically predict those data from the large volume of big data. The machine learning techniques as given the best performance compared to the existing work in the perspective of sentiment analysis. This paper summarizes the ML techniques used in fake data identification in the perspective of Sentiment analysis with comparisons.

Keywords: Sentiment Analysis, Machine Learning, Artificial Intelligent, Sentiment Classification, Big Data

I. INTRODUCTION

Artificial intelligence (AI) is an advanced technology which imitates human manners used across various industries because of its unique ability in decision making and solving problems. The internet has played a vital role in the development of technology accessed by people using computer and tablets. Artificial intelligence traditionally refers to an artificial creation of human with intelligence that can learn, reason, plan and natural language decisions. The sentiment analysis is also called as opinion mining. Sometimes the opinion is classified as positive, negative and neutral. The analysis of sentiments here used popular techniques based on natural language processing. The current research area is machine learning which is one of AI Techniques give accurate predictions.

In twitter thousands of data are generated and fake data are created to avoid to use sentiment analysis. The machine learning approach is classified into two categories like Supervised learning and unsupervised learning. The supervised learning technique is target based on the positive and negative like polarity with forecast. The unsupervised learning technique is not possible for training data. Artificial intelligence in security system can be used to reduce the constantly increasing threats in data. The analysis in year 2019 has shown that around 3.2billion people are using social media platforms

(Facebook, Twitter, Instagram, etc.,) which that equals to 42% of world population. In Facebook there are 2.3 billion active data per month and estimate 5% of the data shared are fake. Twitter is one of the largest social media which generated 336 million of data per month. Sentiment analysis is one of the methods that have been used to detect identification of fake data in Social media. The Figure1. Shows Flow of Sentiment analysis in Machine Learning.



Fig.1 Flow Diagram of Sentiment Analysis in Machine Learning

II.BIG DATA ANALYTICS

Big data analytics is the process of examining large data sets containing a variety of data types. “Big data is high-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making”(“Gartner IT Glossary”) . Big Data Characteristics like Variety of big data refers to Structured, Unstructured and Semi-structured data that is gathered from multiple sources. Variety is one of the important characteristics of big data. Velocity essentially refers to the speed at data has created real-time. Volume is one of the characteristic of big data. Big data indicates huge “Volumes” of data that is generated on a daily basis from various sources like social media platforms, business process etc., such a large amount of data are stored data warehouse. The Fig:2 shows Framework of Big Data Analytics discussed given below:

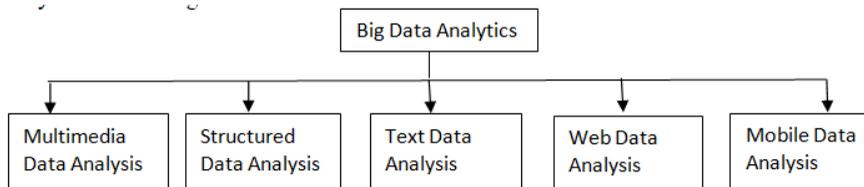


Fig 2. Framework of Analytics Big Data

III. SENTIMENT CLASSIFICATION TECHNIQUES

Sentiment classification can be generally divided into three types of approaches. They are Machine learning approach, lexicon based approach and hybrid approach. The machine learning approach applies the Machine Learning algorithms which uses syntactic features. The machine learning approach can be divided into two parts of methods. Supervised and unsupervised learning methods. The supervised learning methods are make use of a large number of labeled training documents and unsupervised methods are used form labeled training documents. The lexicon based approach can be relies on sentiment lexicon, a collection of known and precompiled for



sentiment terms. They are dictionary based analysis is computational approach to measuring the feeling that a text conveys to the reader. The corpus based approach which use of statistical or semantic methods for finding the sentiment polarity. The hybrid approach combined both approach and is very common with sentiment lexicons playing the key of role in majority of methods.

IV. RELATED WORK

The Artificial Intelligence into security system can be used in reduce the increasing threats in security. All the industries have used the artificial intelligence techniques.

Khan Mohammed Salim et al. [1] had proposed machine learning algorithm for fake news detection using data set. Consequently the main problem with social media is generation of fake news. The Support vector machine method is used to detect identification of user data automatically. The performance increase the credibility focused on social media.

Akash Kumbhar et al. [2] conducted survey on data mining techniques to detect the presence of fake user in Facebook. Front Range Air Pollution and Photochemistry Experiment [FRAppE] technique was used to detect fake user and harmful application. The performance of Facebook application prevention of fake user based upon techniques the user status are identified using this FRAppE technique. The results had shown increasing accuracy and labeling are required.

Christian Jeans et al. [3] had proposed the method how fake news shared on social media platform can be identified. The data post can be addressed by the user community with the help of machine learning algorithm. Classified fake data and the possibility to evidences the fake data, whereas increase count, the loudness that was identified. They are Comment, citation increase number the automatic detection data in social media.

Rohit Raturi et al. [4] had proposed an architecture for identifying the fake accounts in social networks and used machine learning for the better prediction of fake accounts based on the status and posts on the wall of social networks. Twitter had been taken for the security, research purpose and data availability for the proposed system research. Machine learning, Natural language processing had been used for the text data processing and used the sentiment analysis for identifying. The proposed architecture was used to predict the fake accounts, fake status, fake contents on social media. The system had proposed two individual architectures were the first architecture was used to find account details with NLP and network identification if the two or more accounts had accessed from same MAC or IP address then had to ask for authenticate with ID proof. The second architecture used to identify and collect the harmful words and were grouped together as a dataset using Support Vector Machine (SVM) methods. The SVM methods shows the 97% accuracy and Complement Naïve Bayes (CNB) shows the 95% accuracy of fake accounts identification.



Sujithra et al. [5] had proposed method to analyze most popular micro blogging platform twitter used. The sentiment analysis is an application of data from twitter. The algorithm classified into two types they were Naïve Baye's and neural network. This proposed system determine sentiment values from twitter, and verify positive (p), neutral (n) and negative (n).

DeepayanBhavmik et al. [6] had proposed the associated and efficiency for the training data set. The trend has generated much interest from politics, academia and industry. The proposed framework that detects fake data messages from twitter posting using hybrid and Convolutional Neural Network, Recurrent Neural Network models. Deep learning approaches had achieved 82% accuracy in the detection of fake data in twitter spreading both text and image.

Sachin Kumar et al. [7] had proposed the social media has one of popular and sharing of information can be found. Twitter data for the analysis and to develop a model using machine learning to predict a user. Machine learning enables a computer that learn from the historical record and use this knowledge for prediction and decision making for new data. Prediction accuracy is one of important required for a parameter for the prediction model. Considering this phenomena are an ensemble classification approach [ESA] to develop prediction model. ESA certainly enhance the prediction accuracy of the model which is highly desirable.

Jianqiang et al. [8] had proposed method that has discussed the performance of the classifiers like Naïve Bayes (NB), Support Vector Machine (SVM), Random Forest (RF) on different data sets. The results that have to indicate the NB and RF are more sensitive in comparison to other classifiers of varied pre-processing methods. SVM yielded improved accuracy.

Edison et al. [9] had proposed that data analysis is the biggest issue of world expressly huge data. The social media networks [SMN] are generating a massive tome of data which contains structured, unstructured and semi-structured data. Big data consists of different analyses. The sentiment analysis concepts of approach, techniques, models and features have been proposed. The Sentiment analysis and Hadoop ecosystems are explored to solve the text and web based on big data sentiment analysis is useful.

Tekendra Nath Yogi et al. [10] had proposed this research is to evaluate and compare the performance of three classification algorithm using. The Multinomial naïve Bayes [MNB], K-Nearest – Neighbors [KNN] and Support vectors machine [SVM] these are different data set have using different sizes. The classification of algorithm comparing the performance in sentiment analysis. SVM has to found better algorithm to detect sentiment polarity. Where as MNB and KNN have less performance in every aspect as compared to SVM.

Table I. EXISTING MACHINE LEARNING APPROACH ON SENTIMENT ANALYSIS

Title	Approach	Advantages	Limitation
Khan Mohammed Salim et al [1]	Machine learning algorithm in supervised learning methods.	Scalable approach for detecting fake data.	Performance increasing credibility focused any one social media.
Akash Kumbhar et al [2]	Data mining based FRAPF technique.	Spam URL's classification incorporated.	Increasing accuracy and labeling.
Christian Jeans et al [3]	Machine learning approach	Increasing comment, citation, and automatic detection of values.	Real time streaming data had not used.
Robit Raturi et al [4]	Machine learning with natural language processing.	SVM and CNB classifiers, along with sentiment analysis was done.	Content validation was based on only text classification.
Sujithra et al [5]	Machine Learning algorithm.	Microblogging platform used	Find out the value of positive (p), neutral (n) and negative (n).
Deepayan bhaynik et al [6]	Deep learning approaches detection of fake data.	Hybrid of CNN and RNN model used.	Profound learning accomplished the exactness was used
Sachin Kumar et al [7]	Machine learning algorithm used ensemble classification approach.	ESA enhanced prediction accuracy.	Exceedingly desirable.
Jiangjiang et al [8]	NB, SVM, RF approach the algorithm.	SVM yielded improving accuracy.	NB, RF more sensitive comparison was classifiers.
Edison et al.[9]	Sentiment analysis and Hadoop ecosystem using.	Large data sets efficiently stored and retrieved from Hadoop.	The business and industrial according to our data required and processing the data.
Takendra nath yogi et al [10]	MNB, KNN, SVM using this approach.	SVM algorithm has better performance.	Predict the better values.

V.CONCLUSION

Fake data have been increasing day to day. The Analysis of sentiment that extracted from twitter and determine its positive negative, neutral. The machine learning techniques are good in performance to counter a fake data with effectively result. The machine learning based classification algorithm has been study for sentiment polarity detection in three sentiment labelled sentence data sets. The impact of machine learning techniques has been discussed and can be used as effective mechanism to detect fake data in social media. They are some algorithms can be customized for the specific domain so that sentiment analysis could have more accurate and reliable results.

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INDUSTRIAL POLLUTION
A CASE STUDY OF PANCHARATNA CEMENT FACTORY, TITABOR

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ABSTRACT:

Industries play an important role in the economic development for any nation. Without industries, economic development is impossible. Again, in a backward and developing economy like India, industries are indispensable. At the same time, industrial processes can have negative environmental impacts, causing climate change, air and water pollution and extinction of species. These threaten the global environment as well as economic and social welfare. In this paper, the role of cement industry is reviewed in causing impact on environmental and health. It describes the cement manufacturing process and its emissions which causes adverse impact on the environment and socio-economic conditions.

Keywords: industry, environment, pollution, emission, impact, cement, species.

INTRODUCTION OF THE PROBLEM:

1.1 The problem: It is more often said that industrial pollution has been controlled to a large extent in developed countries. In developing regions, industries have multiplied and operate without much concern for the pollution of air and water. Though strict pollution control laws have been enacted, their implementation has been far from adequate. In addition, the pollution carried by the industries, particularly chemical and manufacturing industries has worsened the situation to a great extent. A study on the affect of pollution showed that the prevalence rate of chronic bronchitis, asthma, acute respiratory, chest illness etc. increased with pollution level. The medical community recognized that meant cardio-respiratory illness and skin ailments were related to higher level of air pollution. As such chronic kidney disorder, pneumonitis, diabetes, hypertension are resulted from large scale air and water pollution.

It is seen that over the three decades air pollution has worsened due to NO₂ and CO₂ emission from the industries and vehicles. Same way suspended particulate matter levels have increased slightly while SO₂ levels have declined because of lower use of coal and high sulphur content fuel. On the other hand water pollution has been increasing at a higher rate which has been observed much more conspicuous in the developing countries particularly in form of chronic health disorder, loss of biodiversity, reduction in agricultural production etc. development in exchange of pollution is now the destiny of Indian people. In the name of so called industrial development government had established industries hazardously in the backward regions with the



slogan of “Remove Regional Imbalances”. Interestingly, the popular debate on ‘industrial development versus environment’ evoke response from all the concerned.

Assam, a backward state in the N.E. India has recently experienced the bitter of industrialization particularly through cement industries located in Titabor of Jorhat and Bokajan of Karbi Anglong district. The Pancharatna Cement Limited established in Titabor during the last part of twentieth century has been taken here to study the effect of the industry on the surrounding environment. The industry, as seen, has already showed an adverse impact on the villages, agricultural field, green cover and aquatic life of the area. The environmental status of the area is fast deteriorating and demand remedial measure immediately to rescue the people from future health hazard. The study, therefore, has taken into consideration to justify the pollution productive measure adopted by the management on the degrading environmental condition of the area.

1.2 The Objectives: The enrichment of the study can be made only with some specific goal which are derived from the problem. The objectives of the study, same way, are formulated to arrived at the required attempt and aims. The objectives are:

- i) to analyse the physical and social set up of the area adjacent to the cement industry,
- ii) to find out locational effect of the industry as well as to identify the basic demerits of affluent and garbage discharge system,
- iii) to extract the ill effect of dumping waste product and emission of toxic gases during the operation of the industry.
- iv) to formulate few suggestive measure to prevent the further degradation of natural environment of the area.

1.3 Data source and methodology: Data for the study collected both from primary and secondary sources. The field survey collected in the nearby village of industry through direct interview aimed at collecting data related to the nature of changing socio-economic set up and the perception of the people on the effect of pollution caused by the newly built cement industry. On the other hand, data related to the industry, its method and management are collected from the secondary source, such as office records and booklets published by the individual management. As such, books and journals and individuals re relevantly consulted for the analytical purpose of the study.

The collecting data relating to the study are processed, summarized and then synthesized to arrived at the required distinction of the problem. A through checking of the findings with ground reality is also preferred at the second stage of the analysis. Descriptive and analytical method is employed in this work with the supplement of inductive approach.

INTRODUCTION OF THE STUDY AREA:

2.1 The study area: Titabor, a sub-division under Jorhat district of Assam is locted at the cross section of 94°10'E. longitude nd 26°37'N. latitude of the globe. The area is situated in the watershed zone of river Kakodunga and Dholi which are running almost



parallel along the northern and southern margin of the location. Having an uniform topographic characteristics it enjoys title of “granary of rice” following a bumper harvesting of rice every year. The cement industry “ Pancharatna Cement Limited” taken for the study is located at the close proximity of urban agglomeration. On the other hand the industry is encircled very closely by four densely populated villages namely Bajalbari, Musalmangaon, Bor-era, and Dholi. With this locational set up the cement industry create a challenge to the social and natural environment of the area. The industry although set up along the river Dholi but it fails to disguise the ill effect of its affluent over the natural green cover of the villages. No doubt, location could be a set back for the industry in the near future in the face of up coming environment conscious generation.

2.2 The industry at a glance:

The cement factory located at Titabor is popularly known as Pancharatna Cement Private Limited. It is a private limited company registered under companies act 1956. The total area under its operation is approximately 3.5 hectares. The company invest near about 4.5 crore rupees in form total capital. With the availability of power supply and locational advantage the industry’s required raw materials are also mostly locally available. The raw materials used in the manufacturing are limestone, silicate, red oxide stone, gypsum, slag, coal and coke bridge. The availability of important raw materials and the broad gauge railway link for transportation favors its easy operation and the marketing of its products the marketing area of its products. The marketing area of PCL factory particularly are districts of upper Assam, Arunachal Pradesh, Nagaland and Manipur

ANALYSIS OF THE STUDY:

3.1 Demerits as suitable industrial site: Pancharatna Cement Factory, as it established in an area of dense population, has at best failed to satisfy the locational advantage from environmental point of view. Four villages mentioned above, mostly rural in character where agriculture is main stay of living, certainly face severe problem in near future. The symptoms of dissatisfaction among people has already started rising the complaints and allegation from a large section of people living around the factory are being registered at different governmental offices and agencies which may in turn move into a mass uprising against the factory management. The people has started feeling the adverses of the cement industry in the form of chronic air and water born diseases, loss of crops and productivity, depletion of forest cover etc. In absence of sound policy to control the pollution the cement factory will have to face a threat from people within and outside of the factory in near future. The trend at present is leading towards such a situation. The main drawback of the industry lies in this aspect that the industry should set up minimum at a five km. distance from residential areas, which possibly could avert such an adverse from the people of the area.



3.2 Industrial operation and pollution control measure: Atmospheric pollutants may be in gaseous state or occur as particulates. Gases and vapours includes gaseous chemicals that are found predominantly in the atmosphere and those substances which have a boiling point more than 200°C. The most common gaseous contaminates air includes SO₂, CO, O₃, NO₂ and other oxidants. Particulate air pollutants include those liquid or solid particles of wide size ranging from 20mm to 100mm. As such water is polluted mostly by sewage industrial waste and wide array of synthetic chemicals.

Pancharatna cement factory uses raw material for manufacturing of cement are limestone, silicate minerals, red oxide stone, gypsum, slag, coal and coke bridge. Combustion of coal releases huge amount sulphur since the coal used in the factory are collected from the coal fields of Assam which contains 6.0-8.0 percent of sulphur and high among all. CO₂ and CO along with nitrus oxide are also released during manufacturing process. All these pollutants mixed with the air enhance the toxication of the local atmosphere. High toxication of atmosphere certainly engraved the health and hygienic situation of the area.

3.3 Deffective sewage and affluent discharge system:

The factory management, as seen during the visit are not aware of high risk of critical discharge of sewage and affluent generated during the operation. All there are discharged near about 80 percent into the nearby running river Dholi. The toxic elements such as heavy metal oxides of molecules and acidic molecules contaminated with the water and damage the aquatic system there in.

It is already proceed that coal contains 0.001-0.048 percent off fluoride, which is liberated as silicon tetrafluoride during the combustion process. It is extremely fatal if the cement industry using silicate as raw materials and dampen the sewage and affluent in the open space. Over-dose of fluorides if enters somehow into the human cell may lead to molting of enamels and bones. Since the cement factory, locating at a very critical settlement areas, discharge all the factory sewage and discharge the affluent in the exposed areas, certainly pollutes the soil and water at a large scale in the nearby areas.

The effect of pollution is now very much conspicuous in and around the cement factory where the agricultural production has started showing a decline and the river Dholi become a highly polluted river. The effect on the various aquatic life form of the river is quite distinct and in consequence some plant species and algae has already disappeared. Worm and insects in the field, which are often called farmer's friend are now non-existent and the productive fields become unfertile. No doubt, the process of deterioration of normal ecological set up will directly results in the slowdown of socio-economic health of the villages. The farmers of the locality, in the interview during the survey, complained that the production of rice, the main staple food of the people has come down from 45.08 quintals per hectare in 1992 to 37.68 quintals in 2005. Alike the rice, the river Dholi is now almost barren particularly in fish production.



3.4 Pollution effects ecology of the area: The important pollutants namely SO₂, CO₂, CO, NO₂ and fluoride are more or less released by the cement factory causes serious damage to the life of both plants and animals. Sulphur dioxide (SO₂), even at very low level, can cause enormous amount of damage to the environment when it gets dissolved in rain water entering the earth. Acid rain is another consequence of maximum concentration of SO₂ in the atmosphere. Rain water gets acidified on its way down to the earth. The acidified rain water eventually mixes with the already existing water in the earth. The resulting pH after this mixing will determine the pH of the aquatic environment, which is very important for the cultivators. As a result, some species of fish die as the pH drops to 5.5. Zooplankton and some susceptible species of algae are also eliminated and affect the food availability of the fish population. Acid rain also decolorizes the leaf pigments, thus rendering them chlorophyll less and result in decreasing agricultural productivity.

Hydrogen sulphide (H₂S) emission result from combustion of fossil fuel. Coal, used in the cement factory releases huge amount of H₂S. The coke oven plants of the factory are merely responsible for H₂S emission. H₂S does not undergo photolysis or react photochemically with oxygen, since it does not absorb solar radiation reaching the troposphere. Man and other animals absorb H₂S in the atmosphere is detected by human nose even at very low levels. The biological effects of H₂S is shown in the following table:

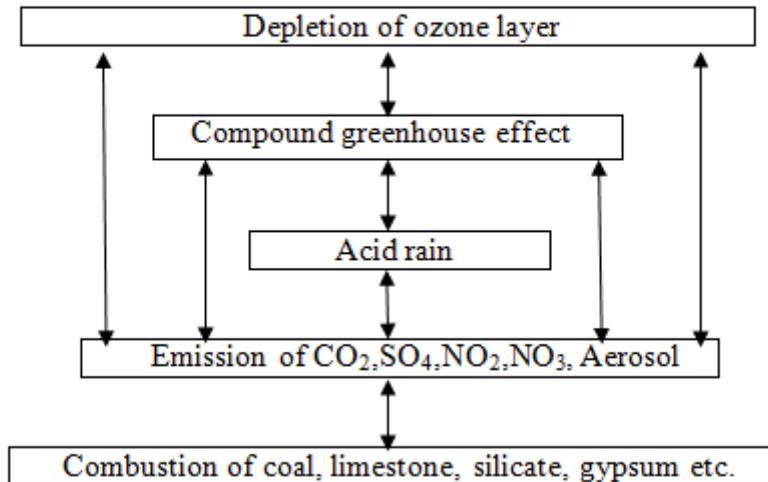
Table 3.1: Biological effects of H₂S.

Concentration (ppm)	Remarks
0.0013	Olfactory threshold
0.02	Odour detectable
10	Minimum allowable concentration
11.0-15.0	Slight physiological damage after few hours inhalation
200	Depression of central nervous system
>600	Acute poisoning
2000	Certain death

Same way, CO₂ causes wild narcotic effects, stimulation of respiratory centre and leads to asphyxiation.

A conceptual model, derived to present an ideal gaseous cycle for the factory in particular reflects three major universal effect along with the change in the behavior of local atmosphere.

Fig 3.1: Conceptual model of possible gaseous cycle.



SUMMARY AND CONCLUSION:

Environmental pollution is the act of introduction of extraneous substances or energies into the environment that induces unfavorable changes. Other changes may affect man directly or indirectly by endangering his health, harming his living resources and ecosystem. Environmental deterioration by man is attributable to three major causative factors: a) over population, b) urbanization and c) industrialization. The increasing amount of water generated by these three phenomena, undoubtedly degrades the quality of land, water, air and food.

Pancharatna cement factory, being located at the midst of densely settled areas of Titabor subdivision was established to match the so called industrialization in Assam. With a major error in the selection of location site, the factory to say frankly could not be able to fulfill the hope and aspiration of people. The primary drawback in supposing to lie in the process of management where more importance is powdered on the achievement in production but take a blind eye on the very harmful aspect like the environmental hazards. The management authority are not all interested to improve the environmental security measure and as a result the outbreak of large scale pollution by pollutant released from the factory causes serious concern of the people living in the nearby villages. Toxication of river water, spreading of cement dust releasing toxic gases into the air etc. have already crossed the tolerable level of nature. Discharging the waste material in open space and drinking the sewage into the river, the cement factory as a whole creates chaos in the existing natural system of the area. Unless the management failed to take remedial measure in this prevailing situation the entire



episode of industrialisation will turn into a fruitless one in front of the strong opposition from the environmental conscious people of the area.

At this back drop, the factory management should take necessary measure to prevent the further deterioration of natural environment, should identify the major problem areas of the environment and should be ready to compensate the damage of the socio-economic foundation of the people. Instead, the life span of the factory will turn into a very pathetic one in form of lifelong closure.

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OVERVIEW OF PLASTIC WASTE IN THE ASPHALT MIX: A STATE OF THE ART REVIEW

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Abstract

India has a road network of over 5,472,144 kilo-metres (3,400,233 mi), the second largest road network in the world. The plastic wastes can be used in road construction and the field tests withstood the stress and proved that plastic wastes used after proper processing as an additive would enhance the life of the roads and also solve environmental problems. Plastic use in road construction is not new. It is already in use as PVC or HDPE pipe mat crossings built by cabling together PVC (polyvinyl chloride) or HDPE (high-density poly-ethylene) pipes to form plastic mats. Waste plastic is ground and made into powder; 3 to 4 % plastic is mixed with the bitumen. The durability of the roads laid out with shredded plastic waste is much more compared with roads with asphalt with the ordinary mix. The use of the innovative technology not only strengthened the road construction but also increased the road life as well as will help to improve the environment and also creating a source of income.

Keywords: Plastic waste, polyvinyl chloride, shredded, innovative technology.

Introduction

Plastic waste is a huge threat to the environment. In 2005, after monsoon rains flooded Mumbai, plastic bags were blamed for clogging the underground drainage system and intensifying the effect of the floods. In areas frequented by tourists, like Goa, heavy consumption of bottled water has resulted in trash on beaches, creating eyesores and endangering marine life.

Even India's cows, considered sacred, have not been spared. After 3,000 cows died in Lucknow in 2000, the city investigated and found plastic bags in their stomachs. Apparently the bags had been ingested as the animals grazed at dump sites. With more than 35 tons of plastic waste generated by every Indian state, each day India is confronted with the big question of how to get rid of this non-biodegradable menace.

Plastic in bituminous concrete

Plastic used in road construction is not new. It is already in use as PVC or HDPE pipe mat crossings built by cabling together PVC (polyvinyl chloride) or HDPE (high-density poly-ethylene) pipes to form plastic mats. The plastic roads include transition mats to ease the passage of tyres up to and down from the crossing. Both options help protect wetland haul roads from rutting by distributing the load across the surface. But



the use of plastic-waste has been a concern for scientists and engineers for a quite long time. Recent studies in this direction have shown some hope in terms of using plastic-waste in road construction i.e., Plastic roads.

Plastic is mixed with the bitumen. Plastic increases the melting point of the bitumen and makes the road retain its flexibility during winters resulting in its long life. Use of shredded plastic waste acts as a strong “binding agent” for tar making the asphalt last long. By mixing plastic with bitumen the ability of the bitumen to withstand high temperature increases. The plastic waste is melted and mixed with bitumen in a particular ratio. Normally, blending takes place when temperature reaches 45.5°C but when plastic is mixed, it remains stable even at 55°C. The vigorous tests at the laboratory level proved that the bituminous concrete mixes prepared using the treated bitumen binder fulfilled all the specified Marshall mix design criteria for surface course of road pavement. There was a substantial increase in Marshall Stability value of the BC mix, of the order of two to three times higher value in comparison with the untreated or ordinary bitumen. Another important observation was that the bituminous mixes prepared using the treated binder could withstand adverse soaking conditions under water for longer duration.

Table 1: Categories of polymers used in BC mix

S. No.	Category	Polymers
1	Thermoplastics Polymers	Poly-ethylene, Poly-propylene, Ethylene-Vinyl-Acetate, PVC
2	Thermoplastic Elastomers	styrene-butadiene-Styrene-Block copolymers, styrene-Isoprene-Styrene-Block copolymers
3	Thermosets	Acrylic & Phenolic resin
4	Bitumen Modifier	Sulphur (S), Polyphosphoric acid (PPA), Reactive Polymers, Maleic Anhydride (MAH), Nanocomposite Modifiers

Salient features of the polymer-waste-bitumen mix road

- Road strength is twice stronger than normal roads;
- Resistance towards water stagnation i.e. no potholes are formed;
- Less bleeding during summer;
- Burning of plastics waste could be avoided
- It doesn't involve any extra machinery;
- It doesn't increase cost of road construction; and
- It helps to reduce the consumption of bituminous mix vis-à-vis reduce cost



Concept of utilization of waste plastic in bituminous mixes for road construction

Materials used:-

Aggregate:-

Aggregates used in surface course can be divided into two types according to their size: coarse aggregates and fine aggregates. Coarse aggregates are generally defined as those retained on the 2.36 mm sieve. Fine aggregates are those that pass through the 2.36 mm sieve and are retained on the 0.075 mm sieve. Aggregates required for the research work will be procured from the local market.

Bitumen:-

Bitumen acts as binding agent for aggregates in bituminous mixes. Generally in India bitumen used in road construction of flexible pavement is of grades 60/70 or 80/100 penetration grade. Both the grade of bitumen conforming to BIS standards will be used for the present studies

Waste plastic modifiers

Modifiers are generally used to enhance the properties of bituminous concrete mixes by reducing the air void present between the aggregates and also to bind them together so that no bleeding of bitumen will occur. For the present study plastic waste such as carry bags, water bottles, milk packets, glasses, cups, etc will be used as a modifier.

Processing details:-

- i. collection of waste plastic
- ii. cleaning and shredding of waste plastic.
- iii. mixing of shredded waste plastic, aggregate and bitumen in central mixing plant.

Collection of waste plastic:-

Waste plastic is collected from roads, garbage trucks, dumpsites or compost plants, or from school collection programs, or by purchase from rag-pickers or waste-buyers at Rs 5-6 per kg Rag-pickers

Cleaning and shredding of waste plastic:-

Waste plastic litter in the form of thin-film carry-bags, use-and-throw cups, PET bottles, etc. these are sorted, de-dusted, washed if necessary. Fig. cleaning process Plastic waste which is cleaned is cut into a size between 1.18mm.

Mixing of shredded waste plastic, aggregate and bitumin in central mixing plant:-

The aggregate mix is heated to 1650c (as per the HRS specification) in central mixing plant. Similarly the bitumen is to be heated up to a maximum of 160°C. The 8% of waste plastic to the weight of bitumen are added in the conveyor belt or special mechanical device is developed which will spray the plastics inside the chamber to coat the plastics effectively. Central mixing plant helps to have better control of temperature and better mixing of this material thus helping to have a uniform coating and heated bitumen is also sprayed. Fig. central mixing plant.

Laying of bituminous mix:

I. Mix design by Marshall method:

- a) Optimum Waste Plastic Content
- b) Comparison of Two Mixes
- c) Volumetric properties of BC Mixes.

I. Mix design by Marshall method

Marshall Test:-



Laboratory studies were carried out at the Centre for Transportation Engineering of Bangalore University on the possible use of the processed plastic bags as an additive in bituminous concrete mixes. The material used in this study was supplied by M/s KK Poly Flex (P) Ltd., Bangalore. The processed plastic was used as an additive with heated bitumen in different proportions (ranging from zero to 12 % by weight of bitumen) and mixed well by hand, to obtain the modified bitumen. The properties of the modified bitumen were compared with ordinary bitumen. It was observed that the penetration and ductility values of the modified bitumen decreased with the increase in proportion of the plastic additive, up to 12 % by weight. The softening point of the modified bitumen increased with the addition of plastic additive, up to 8.0 % by weight. Auto Marshall Compactor Auto Marshall tester 11

Optimum waste plastic content:

Varying percentages of waste plastic by weight of bitumen was added into the heated aggregates Marshall specimen with varying waste plastic content was tested for bulk density and stability. Maximum value of stability was considered as criteria for optimum waste plastic content. Studies were carried out on Bituminous mixes using 60/70 grade bitumen having average Marshall Stability Value (MSV) of 1300 kg at optimum bitumen content of 5.0 % by weight of the mix. Further studies on mixes were carried out using the modified binder obtained by the addition of varying proportions of processed plastic bags (percentage by weight of bitumen) with the conventional 80 /100 grade bitumen. The optimum modified binder content fulfilling the Marshall Mix design criteria was found to be 5.0 % by weight of the mix, consisting of 8.0 % by weight of processed plastic added to the bitumen. The average MSV of the mix using the modified binder was found to be as high as 1750 kg at this optimum binder content, resulting in about three fold increase in stability of the BC mix, which contains 4.6 % bitumen plus 8 % processed plastic by weight of bitumen, i.e., 0.4 % processed plastic by weight of the mix.

In order to evaluate the ability of the mix prepared with the above-modified bitumen to withstand adverse soaking condition under water, Marshall Stability tests were conducted after soaking in water at 60 Co for 24 hours. The average MSV of the BC mix with modified binder (using 8 % processed plastic by weight of bitumen, as above) was found to increase by about 2.6 times of the mix with ordinary bitumen. Further laboratory studies carried out on the BC mixes using this modified binder also indicated noteworthy increase in fatigue life under repeated application of loads.

Dry process is recommended for isolated works.

It is recommended that the percentage of shredded waste plastic will be 8% by CRRI, while the same is specified as 10% by Dr. Vasudevan. However we can adopt 8% as the optimum plastic content for blending the bitumen in the construction of plastic roads. The details of the process are given below. Bitumen of grades 60/70 or 80/100 can be used as binder as in case of conventional method.

With Mini Hot Mix Plant

The stone aggregate mix (as per specification) is transferred to the mix cylinder where it is heated to 165 c (as per the IRC specification) and then it is transferred to the mixing puddler (Temperature can be monitored using IR thermometer), while transferring the hot aggregate into the puddler, calculated quantity of shredded plastics is sprayed over



the hot aggregate within 30seconds. The sprayed plastic films melts and gets coated over the aggregate, thus forming an oily coating. Similarly, the bitumen is to be heated to a maximum of 160 c in a separate chamber and kept ready (The temperature should be monitored to have good binding and to prevent weak bonding).At the mixing puddler, the hot bitumen is added over the plastic coated aggregate and the resulted mix is used for road construction. The road laying temperature is between 110 c to 120 c. The roller used is normal 8-ton capacity.

Economics of Road Construction :Cost Analysis Assuming Cost of plastics waste (collection, segregation and processing) = Rs. 5 per Kg. Cost of Bitumen per drum (200 Kg) =10000 Cost of Bitumen per Kg= 50 Cost of bitumen per ton =50000 Generally roads in India are constructed in basic width of 3.75 m Consider 1 Km length road To lay 1km of road 10 tons of bitumen is required, Cost of bitumen required per Km= Rs. 5,00,000 Assuming Optimum percentage of plastic as per the test results of literature reviewed is around 10% (by % wt. of bitumen) Total quantity of bitumen required = 9 tons Total quantity of plastic waste required = 1 ton Cost of bitumen for 9 tons = Rs. 4,50,000 Cost of plastic waste = Rs. 5000 Total cost of bitumen and plastic = Rs. 4,55,000 Total savings = 5,00,000 - 4,55,000 = Rs.45,000 per Km

Comparison Between normal roads and plastic roads

The durability of the roads laid out with shredded plastic waste is much more compared with roads with asphalt with the ordinary mix. Roads laid with plastic waste mix are found to be better than the conventional ones. The binding property of plastic makes the road last longer besides giving added strength to withstand more loads. While a normal 'highway quality' road lasts four to five years it is claimed that plastic-bitumen roads can last up to 10 years. Rainwater will not seep through because of the plastic in the tar. So, this technology will result in lesser road repairs. And as each km of road with an average width requires over two tones ofpolyblend, using plastic will help reduce non-biodegradable waste. The cost of plastic road construction may be slightly higher compared to the conventional method. However, this should not deter the adoption of the technology as the benefits are much higher than the cost. Plastic roads would be a boon for India's hot and extremely humid climate, where temperatures frequently cross 50°C and torrential rains create havoc, leaving most of the roads with big potholes. Already, a kilometer long test-track has been tested in Karnataka using this technology. The government is keen on encouraging the setting up of small plants for mixing waste plastic and bitumen for road construction. It is hoped that in near future we will have strong, durable and eco-friendly roads which will relieve the earth from all type of plastic-waste.

V. Benefits of modified binder

- Improved resistance to surface-initiated cracking due to high binder content.
- Improved ageing and oxidation resistance.
- Improved resistance to fatigue and reflection cracking due to higher binder contents.
- Improved resistance to rutting due to higher viscosity and softening points.
- Increased night time visibility due to contrast between pavement and striping.
- Reduced tyre noise dur to increased binder film thickness and opening texture.
- Reduced construction time on site.



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- Lower pavement maintenance costs due to improved quality pavement.
 - Help in managing hazardous waste.
 - Eco-friendly method of construction, and helps maintaining balance of environment.

Conclusion:

Plastic used in road construction is not new. It is already in use as PVC or HDPE pipe mat crossings built by cabling together PVC (polyvinyl chloride) or HDPE (high-density poly-ethylene) pipes to form plastic mats. The plastic roads include transition mats to ease the passage of tyres up to and down from the crossing. Both options help protect wetland haul roads from rutting by distributing the load across the surface. But the use of plastic-waste has been a concern for scientists and engineers for a quite long time. Recent studies in this direction have shown some hope in terms of using plastic-waste in road construction i.e., Plastic roads. Waste plastic is ground and made into powder; 3 to 4 % plastic is mixed with the bitumen. The durability of the roads laid out with shredded plastic waste is much more compared with roads with asphalt with the ordinary mix. The use of the innovative technology not only strengthened the road construction but also increased the road life as well as will help to improve the environment and also creating a source of income.

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COMPARATIVE STUDY AND EVALUATING PERFORMANCE OF AN EFFICIENT DATA MINING TECHNIQUES

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Abstract—Data mining, commonly called as “knowledge discovery in data”, used for retrieving relevant patterns or meaningful information for decision making process. Data mining techniques like clustering, regression, prediction, association, sequential patterns and classification in which the Association rule used to find the frequent items and the relationship between them. Most Popular algorithms like FP growth, Apriori, Eclat and DEcalt used to find the frequent items and association rule in a transactional or relational database. In this paper, the comparative study and performance evaluation of mining algorithms like FP growth and Apriori algorithm is done based on execution time and memory utilization for generating the frequent items in a transactional dataset. Different minimum support count value is used to find frequent items in different datasets like market, online retail, food transaction, plant seeds and Tsla stock price. We determine that when the support count is increased, the execution time and memory usage decreases for both the algorithms. Experimental results and discussions show that the FP growth algorithm performs better than the Apriori algorithm in large transactional datasets.

Keywords – Data mining, association rule, Apriori, FP growth, frequent itemset

I. INTRODUCTION

In Retail industry, the primary goal and objective is achieved by following the right business strategy and increase the sales, which can be achieved by analyzing the customer’s behavior i.e. customer’s purchase patterns [1] [4]. Data and technology play an important role to make decision based upon the performance of an organization. Data mining is used to make right decision by extracting or retrieving meaningful information from raw data i.e. converts the raw data to meaningful high-quality data [6]. Data mining technique like association, used to identify the frequent items for better understanding of customer’s buying patterns. The organization of paper is as follows: Section II Survey, Section III Methodology, Section IV Comparative analysis of FP growth and Apriori

Algorithm, Section V Experimental results, Section VI Discussion and Section VII Conclusion is explained.

II. SURVEY

A. Data Mining

Data Mining, process of finding meaningful information from large data source, an iterative process consists of different steps like cleaning, integration, selection, transformation, mining, pattern evaluation and knowledge abstraction [2]. Different kinds of data mining functionalities like characterization, classification, regression, prediction, correlations, association, cluster analysis and outlier analysis used to mine various patterns or data from different data sources like relational databases, transaction databases, web and other repositories for decision making process [2] [4].

B. Association rule

Frequent patterns is defined as “patterns occurs frequently in a data”, consists of different kind of frequent patterns like frequent itemsets, sequential patterns and frequent substructures [10]. Frequent itemset, set of items appear frequently or together in a dataset in which association rule mining, commonly known as “market basket analysis” used to find frequent patterns, correlations and associations [3]. It is defined by, I (set of items), D (database), where each transaction has a TID (unique identifier) and contains set of items. Let consider P and Q are two sets of items and T transaction contain P if $P \subseteq T$. It consists of 2 parts, 1. antecedent (IF) and 2. a consequent (THEN). For example, if a customer buys tomato, he’s 70% likely to buy onion where tomato is an antecedent and onion is a consequent. In general, the association rule consists of 2 phases, (1). find all frequent itemset and (2). create strong association rule from frequent itemset [18]. Important parameters of association rule stands support and confidence. Support is defined as frequent items occur in data and Confidence shows in what way the rules found to be true [12].

$$i. \text{Support} = \frac{\text{Number of transactions with both A and B}}{\text{Total Number of transactions}} = P(A \cap B)$$

$$ii. \text{Confidence} = \frac{\text{Number of transactions with both A and B}}{\text{Total Number of transactions with A}} = \frac{P(A \cap B)}{P(A)}$$

III. METHODOLOGY

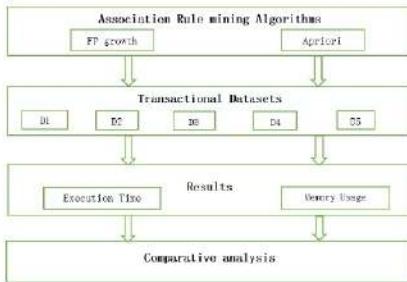


Fig. 1 represents system Architecture

The above Fig. 1 represents the system architecture in which the association rule mining algorithms like frequent pattern (FP) growth and Apriori is applied on 5 different transactional datasets for finding the frequent itemsets and comparative analysis is made on their performances.

A. Apriori Algorithm

It is first introduced by R. Agarwal and R. Srikanth for finding out the frequent itemset based on a level wise search on transactional databases, where k itemsets are used to explore (k+1) itemsets and uses the breadth-first search method to count the candidate itemsets and mainly works on Apriori property [1]. Apriori Property is given by: "All nonempty subsets of a frequent itemset must be also frequent" [20]. The process is done by 2 steps i.e. join and prune, step 1(Join): L_k is found by a set of candidate k itemsets which is generated by joining L_{k-1} with itself and C_k is used to denote the set of candidates and step 2 (Prune): C_k is a superset of L_{k-1} , in which its members may or may not be frequent, but C_k contains all frequent k-itemsets and size of C_k is reduced by using the Apriori property [4].

Algorithm: Apriori Algorithm

- Step 1: Each item is taken as 1 itemset candidate.
- Step 2: Set of 1 itemset must satisfy the minimum support count.
- Step 3: Using join, 2 itemset is generated by combining item itself and pruned according to the minimum support count.
- Step 4: Iteration continues (antimonotone property) until subsets does not satisfy the minimum support count.
- Step 5: Generate frequent itemsets.

B. FP growth Algorithm

It was proposed by Han et al. (2000) for finding out the frequent items in a transaction database [14]. It is an improved version of Apriori algorithm which use divide and conquer method for finding out the F (frequent itemset) without C (candidate generation) [8] [9]. It represents the database in a form of Tree called Frequent Pattern Tree [18]. The process is done by 2 steps: Step 1: scan D (database) once and collect F (frequent items) with the S (support count). sort F in descending order according to S (support) as L (frequent items) and step 2: create a FPTree with root node labelled as 'NULL'.

Algorithm:FP growth Algorithm

- Step 1: scan the database to find the occurrences of the itemsets.
- Step 2: construct a FP tree and create root, named as 'NULL'.
- Step 3: scan database again in order to examine the transactions in which the itemset with the maximum count is arranged to top, the next itemset with minimum count and so on. Branch is constructed with transaction itemsets in descending order.
- Step 4: any itemset is present already in another branch, branch will share a common prefix to the root.
- Step 5: increment the count of the itemset when it occurs in the transactions, new node and common node is increased by 1, create and link according to the transactions.
- Step 6: create a FP tree with lowest node and traverse the path in FP tree.
- Step 7: Construct a conditional database with count of itemsets in path which must satisfy the minimum support count and generate frequent itemsets.

IV. COMPARATIVE ANALYSIS OF FP GROWTH AND APRIORI ALGORITHM

The comparison of Apriori and Frequent pattern (FP) growth algorithm is shown in the below table 1, in which the FP growth has advantages over the Apriori algorithm. Instead of BFS method, FP growth use divide and conquer method for finding the frequent itemsets from the transactional datasets.

Table 1: Comparative Analysis of Apriori and FP growth Algorithm

S.No.	Parameters	Apriori	FP Growth
1.	Method	Breadth - first Search	Divide and Conquer
2.	Procedure	Candidate generation	FP Tree
3.	Database scan	k+1	2
4.	Execution time	More	Less
5.	Memory Usage	More	Less compared to Apriori

V. EXPERIMENTAL RESULT

In this section, the experiment was conducted on INTEL® core™ i5-7300HQ CPU@2.5 GHz 2.50 GHz 8gb, 64bit Windows 10 Operating system, X64 based processor. Programming language and tools used for conducting the experiment are python version 3.7.4 and (IDE) source code editor is Visual Studio code version 1.42.1. The datasets used for the experiment are open source from UCI Machine Learning Repository with different transaction sizes, Online retail, food transaction, Plant Seeds, market basket and Tsla stock price.

Table 2: Dataset description

Dataset	Dataset Characteristics	No. of transaction	Attribute characteristic
Online retail	Multivariate, time series	541910	integer, real
Food	Multivariate	88162	integer, real
Plant seeds	Multivariate	34782	Real
Market	Multivariate	7501	integer, real
Tsla	Multivariate	2417	integer, real

Table 3: Comparison of Memory Usage

Support Count	Dataset	No. of Transaction	Memory Usage (GB)	
			Apriori	FP Growth
3	Online Retail	541910	9.62	4.76
	Food Transaction	88162	4.98	3.94
	Plant Seeds	34782	3.25	2.25
	Market Basket	7501	1.02	0.56
	Tsla Stock Price	2417	0.10	0.03

Table 4: Comparison of Execution time and memory Usage for online retail dataset

Dataset	Support Count	Apriori		FP growth	
		Time (ms)	Mem (GB)	Time (ms)	Mem (GB)
Online Retail	5	6543.25	9.63	1181.12	4.21
	4	7856.25	20.25	1677.21	5.23
	3	10023.56	9.62	2654.23	4.76
	2	26561.02	11.65	6523.21	5.62
	1	96663.32	56.62	9895.36	12.65

Table 5: Comparison of Execution time and memory Usage for foodtransaction

Dataset	Support Count	Apriori		FP growth	
		Time (ms)	Mem (GB)	Time (ms)	Mem (GB)
Food	5	150.63	1.08	125.46	0.93
	4	260.34	2.89	198.90	2.03
	3	790.64	4.98	673.43	3.94
	2	1060.63	9.64	962.83	4.83
	1	1264.63	18.64	1006.84	9.64

Table 6: Comparison of Execution time and memory Usage for plant seeds

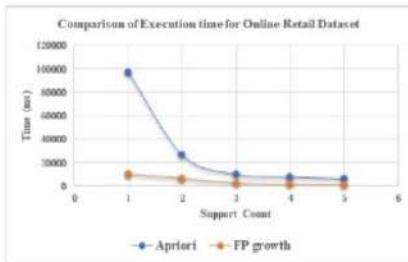
Dataset	Support Count	Apriori		FP growth	
		Time (ms)	Mem (GB)	Time (ms)	Mem (GB)
Plant Seeds	5	98.36	1.02	64.32	0.75
	4	170.45	1.56	78.21	1.02
	3	165.92	3.25	92.56	2.25
	2	465.25	5.23	120.23	3.24
	1	982.26	10.35	456.32	5.26

Table 7 Comparison of Execution time and memory Usage for market basket

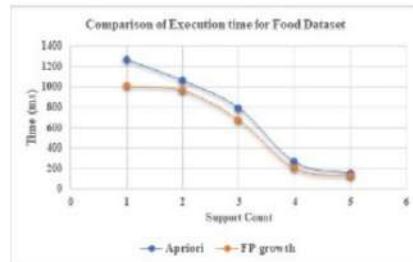
Dataset	Support Count	Apriori		FP growth	
		Time (ms)	Mem (GB)	Time (ms)	Mem (GB)
Market Basket	5	0.56	0.23	0.28	0.52
	4	1.86	0.89	0.29	0.98
	3	2.00	1.02	0.32	0.52
	2	4.97	2.35	0.53	0.65
	1	6.84	5.21	9.31	0.10

Table 8: Comparison of Execution time and memory Usage for Tsla stock

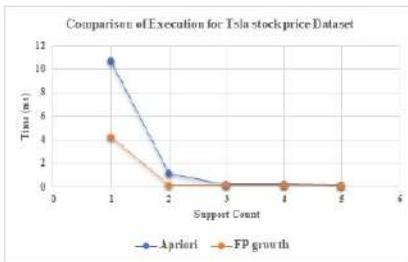
Dataset	Support Count	Apriori		FP growth	
		Time (ms)	Mem (GB)	Time (ms)	Mem (GB)
Tsla	5	0.09	0.04	0.05	0.02
	4	0.17	0.05	0.09	0.04
	3	0.21	0.10	0.10	0.03
	2	1.10	0.42	0.12	0.04
	1	10.64	0.86	4.17	0.08



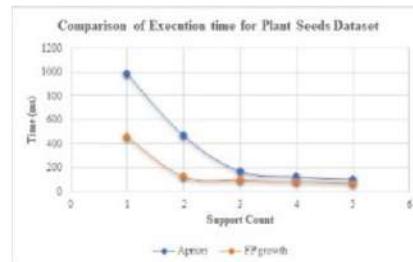
(i)



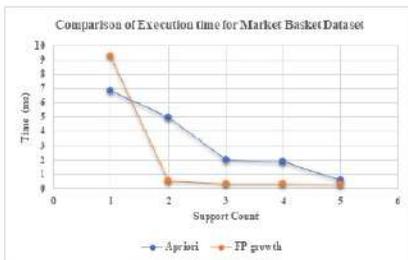
(ii)



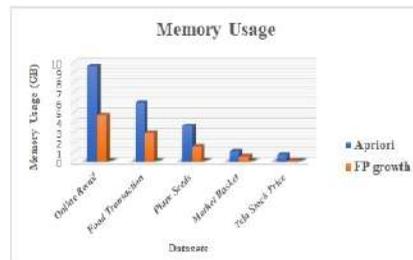
(iii)



(iv)



(v)



(vi)

Fig. 1 represents Comparison of Apriori and FP growth algorithm. (i) Execution time for Online Retail, (ii) Execution time for Food Transaction, (iii) Execution time for Tsla, (iv) Execution time for Plant seeds, (v) Execution time for Market Basket and (vi) Memory usage of datasets.

VI. DISCUSSIONS

From the experiment results, Fig. 2 and table data 3, 4, 5, 6, 7 and 8, we verify the performance of both FP growth and Apriori algorithm. We noticed that, Frequent pattern (FP) growth algorithm performs better than the Apriori algorithm in the terms of execution time and memory consumptions. We determine that when the support count is increased, the execution time and memory usage decreases for both the algorithms. Overall, we may conclude that the FP growth algorithm has more advantage on Apriori algorithm for mining the frequent itemsets from large transactional database.

VII. CONCLUSION

In this survey paper, the comparative study and performance evaluation of Apriori and Frequent Pattern (FP) growth algorithms were discussed. The Apriori and Frequent pattern (FP) growth algorithms is used to find the frequent itemsets and association rules in transactional datasets like Online retail, food transactions, plant seeds, market basket, plant, and Tesla stock price. The performance of both algorithms is compared based upon the execution time and memory usage in which, frequent pattern (FP) growth algorithm performs better than Apriori Algorithm on large transactional datasets. In future work, the FP growth algorithm can be applied on graph-based patterns.

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रस के अंग(अवयव)

रसनिष्पत्ति के सम्बन्ध में भरत का प्रख्यात सिध्दांत विभावानुभाव व्यभिचारिसंयोगाद् रसनिष्पत्तिः। अर्थात् विभाव, अनुभाव, और व्यभिचारिभाव के संयोग से रस की निष्पत्ति होती है। इस कथन का तात्पर्य यह है कि सहृदयों का स्थायिभाव जब विभाव, अनुभाव और संचारीभाव का संयोग प्राप्त कर लेता है तो रस रूप में निष्पन्न हो जाता है। इन चारों को रस के अंग कहते हैं। इनका स्वरूप इस प्रकार है-
स्थायीभाव

सहृदय के अन्तःकरण में जो मनोविकार वासना रूप से सदा विद्यमान रहते हैं तथा जिनमें अन्य कोई भी अविरुद्ध अथवा विरुद्ध भाव दबा नहीं सकता, उन्हें स्थायीभाव कहते हैं। यही स्थायीभाव ही (रस-रूप) आस्वाद को अंकुरकन्द अर्थात् मूलभूत है। स्थायिभावों की संख्या सामान्यतः नौ मानी जाती है- रति, हास, शोक, उत्साह, क्रोध, भय, बुगुदा, विस्मय और निर्वेदा। ये क्रमशः रसों के रूप में निष्पन्न होते हैं- शृंगार, हास्य, करुण, वीर, रोद, भयानक, वीरपत्स, अद्भुत और शान्ता। इनके अतिरिक्त एक अन्य रस वरसल भी माना जाता है जिसका स्थायीभाव 'वासल्य' है। रस का स्थायिभाव के साथ सम्बन्ध सहृदयों के अन्तःकरण में रति आदि स्थायिभाव वासना रूप से सदा उस प्रकार विद्यमान रहते हैं जिस प्रकार मिट्टि में गन्ना। जिस प्रकार मिट्टि में पूर्ण विधमान गन्ध जल का संयोग पाकर प्रकट हो जाता है, उसी प्रकार स्थायीभाव भी विभाव, अनुभाव और व्यभिचारिभाव के संयोग से व्यक्त होने पर 'रस' नाम से पुकारे जाते हैं।

विभाव

रस के कारण को विभाव कहते हैं अर्थात् विभाव का अर्थ है कारण। लोक में जो पदार्थ सामाजिक के हृदय में वासनारूप में स्थित रति, उत्साह, शोक इत्यादि भावों को उद्दीप्त करने के कारण हैं, वे काव्य-नाटकादि में वर्णित होने पर विभाव कहलाते हैं। विभाव के दो भेद हैं- आलम्बनविभाव और उद्दीपनविभाव।

आलम्बनविभाव आलम्बन या विषय तो वह है जिसके प्रति हृदय में भाव जागरित होते हैं और आश्रय वह है जिसके हृदय में किसी के प्रति भाव जागरित होते हैं। उदाहरण के लिए कृष्ण और गोपियों के किसी प्रसंग को लें, यदि कृष्ण के लिए गोपियों में बेचैनी है, या कोई अन्य भाव है, तो वहां कृष्ण आलम्बन हैं, गोपियां आश्रय हैं। यही दोनों मिलकर आलम्बन-विभाव हैं क्योंकि दोनों सामाजिक (सहृदय) के स्थायीभावों को रसास्वाद तक पहुंचाने वाले कारण हैं। उद्दीपन उद्दीपन विभाव वे कहलाते हैं जो रस को उद्दीप करते हैं। अर्थात् जो स्थायीभावों को उद्दीप करके उनकी आस्वादन क्षमता बढ़ाते हैं और उन स्थायीभावों को रसावस्था तक पहुंचाने में सहायक होते हैं। उद्दीपन विभाव दो प्रकार के माने गये हैं- १) आलम्बनगत बाह्य चेष्टाएं २) बाह्य वातावरण। उदाहरणार्थ- १) शृंगार रस में दुष्यन्त (आश्रय) के रतिभाव को अधिक तीव्र करने वाली शकुन्तला (आलम्बन) कटाक्ष, भुजा-विक्षेप आदि चेष्टाएं, रोद रस में परशुराम के क्रोध को उद्दीप करने वाली लक्ष्मण की व्यंथ्यक्तियां आदि आलम्बन-गत बाह्य चेष्टाएं उद्दीपन-विभाव कहलाती हैं। २) शृंगार रस में नदी-तट, पुष्पाटिका, चांदनी रात आदि, भयानक रस में पना वन हिसक पशुओं की आवाजें, आपे मार्ग में ही रात्रि पड़ जाना, आदि बाह्य वातावरण जो कि आश्रय के स्थायीभावों का उद्दीप करता है, उद्दीपन विभाव कहलाता है।

अनुभाव

स्थायीभावों को प्रकाशित करने वाली आश्रय की बाह्य चेष्टाएं 'अनुभाव' कहलाती हैं। अनु का अर्थ है, गिछे, अर्थात् जो स्थायीभावों के पीछे (बाद में) उत्पन्न होते हैं वे अनुभाव हैं। अथवा अनुभावयन्ति इति अनुभाव अर्थात् जो उत्पन्न स्थायीभावों का अनुभव कराते हैं, वे अनुभाव हैं। स्पष्ट है कि उरु



चेष्टाएं दुष्यन्त अथवा परशुराम में क्रमशः रति तथा क्रोधे स्थायिभावों के उद्बुद्ध होने के बाद उत्पन्न हुई हैं, अथवा इन्हीं चेष्टाओं से हम अनुभव कर पाते हैं कि उक्त दोनों आश्रयों में क्रमशः रति तथा क्रोध जाग्रत हो गए हैं, अतः ये अनुभाव कहाती हैं। अनुभाव चार माने गये हैं - १) आंगिक - अर्थात् शरीर सम्बन्धी चेष्टाएं २) वाचिक - अर्थात् वाग्व्यापारा ३) आहार्य - अर्थात् वेश-भूषा, अलंकरण, साजसज्जा आदि ४) साच्चिक - अर्थात् सत्व के योग से उत्पन्न कायिक चेष्टाएं। इनका निर्वहण स्वतः ही, बिना यत्न के आश्रय द्वारा हो जाता है। अतः इस वर्ग में आने वाली आश्रय की सभी चेष्टाएं 'अगत्तज' कहलाती हैं। साच्चिक अनुभाव आठ माने गये हैं- स्तम्भ, रवेद, रोमांच, स्वरधंग, वेपथु, वैवर्ण्य, अश्रु और प्रलय।

संचारिभाव (व्यभिचारीभाव)

संचारी का अर्थ है साथ-साथ चलना और संचरणशील होना। संचारी-भाव स्थायीभावों के सहकारी कारण हैं, यही उन्हें रसावस्था तक ले जाते हैं और स्वयं बीच में ही लुप्त हो जाते हैं। संचारीभाव अस्थिर मनोविकार या चित्रवृत्तियां हैं। ये आश्रय और आलम्बन के मन में उठते और मिटते हैं। अतः अस्थिर मनोविकार या चित्रवृत्तियां 'संचारीभाव' कहलाती हैं। यों संचारीभाव अनगिनत हैं, फिर भी सुविधा की दृष्टि से इनकी संख्या ३३ मानी गई है- निर्वेद, प्लानि, शंका, असूया, मद, श्रम, आलस्य, दीनता, चिंता, मोह, स्मृति, धृति, व्रीडा, चापल्य, हर्ष, आवेग, जड़ता, गर्व, अवमर्ष, अवहित्था, उग्रता, मति, व्याधि, उन्माद, त्रास, वितर्क।

निष्कर्ष- लौकिक कारणादि काव्य-नाटक में विभावादि नामों से अभिलिखित होते हैं। विभावादि सहृदय के स्थायिभाव का संशोधन पाकर जब इसे चर्यमाण स्थिति तक पहुंचा देते हैं, तो यही स्थायिभाव 'रस' नाम से पुकारा जाता है।

संदर्भ-

१. भारतीय तथा पाश्चात्य काव्यशास्त्र---डॉ. सत्यदेव चौधरी, डॉ. शन्तिस्वरूप गुप्ता अशोक प्रकाशन, नवीन संस्करण-२०१८, पृष्ठ--५०-५३

२. भारतीय एवं पाश्चात्य काव्यशास्त्र की पहचान---प्रो. हरिमोहन। वाणी प्रकाशन, प्रथम संस्करण-२०१३, पृष्ठ--३०-३३